Final

GLENDALE 2018 WASTEWATER CHANGE PETITION

Initial Study/Mitigated Negative Declaration

Prepared for
City of Glendale

August 2018

ESA

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Prepared for
City of Glendale
613 E. Broadway
Glendale, CA 91206
Contact: Michael De Ghetto, P.E.

August 2018

2121 Alton Parkway
Suite 100
Irvine, CA 92606
949.753.7001
www.esassoc.com

D170727.02

OUR COMMITMENT TO SUSTAINABILITY | ESA helps a variety of public and private sector clients plan and prepare for climate change and emerging regulations that limit GHG emissions. ESA is a registered assessor with the California Climate Action Registry, a Climate Leader, and founding reporter for the Climate Registry. ESA is also a corporate member of the U.S. Green Building Council and the Business Council on Climate Change (BC3). Internally, ESA has adopted a Sustainability Vision and Policy Statement and a plan to reduce waste and energy within our operations. This document was produced using recycled paper.

Table of Contents

Appendices

List of Figures

List of Tables

Initial Study Checklist

ESA

California Environmental Quality Act

Initial Study

(as required by Sec. 15063 of the Public Resources Code)

1. Project Title: Glendale 2017 Wastewater Change Petition

2. Lead Agency Name and Address: City of Glendale
613 E. Broadway
Glendale, CA 91206

3. Contact Person and Phone Number: Michael DeGhetto, P.E.
Chief Assistant General Manager
Glendale Water & Power
(818) 551-3023

4. Project Location: The proposed project site includes the Glendale Water & Power (GWP) and Pasadena Water & Power (PWP) service areas within the Cities of Glendale and Pasadena, as well as adjacent portions of the City of San Marino, City of Los Angeles, City of La Canada-Flintridge, and unincorporated community of Altadena, and is generally bounded by the San Gabriel Mountains to the north; the City of Sierra Madre to the east; the State Route (SR) 134 (Ventura Freeway), SR-2 (Glendale Freeway), and the Los Angeles River to the south; and the City of Burbank, Griffith Park, and Verdugo Hills to the west.

5. Project Sponsor's Name and Address: City of Glendale
613 E. Broadway
Glendale, CA 91206

6. General Plan Designation: Numerous (varies by location)

7. Zoning: Numerous (varies by location)

8. Description of Project: The City of Glendale proposes to gradually decrease the volume of treated wastewater discharged from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) to the Los Angeles River (River) in order to increase the delivery of recycled water to various users within the GWP and PWP service areas, as well construction and operation of new recycled water distribution facilities to serve new customers within the GWP service area. The construction and operation of the PWP recycled water system is evaluated in the Pasadena Non-Potable Water Project Environmental Impact Report (EIR)[1] certified in 2016.

9. Surrounding Land Uses and Setting: Briefly describe the project's surroundings: The project site is generally bounded by the San Gabriel Mountains to the north; the City of Sierra Madre to the east; the State Route (SR) 134 (Ventura Freeway), SR-2 (Glendale Freeway), and the Los Angeles River to the south; and the City of Burbank, Griffith Park, and Verdugo Hills to the west. The proposed recycled water distribution facilities are proposed within existing public street rights-of-way and adjacent public and private property.

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[1] *City of Pasadena. Pasadena Non-Potable Water Project Draft Environmental Impact Report. SCH #2014081091. June 2015. The Final EIR for the project was certified on February 22, 2016 by the Pasadena City Council.*

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement).

- State Water Resources Control Board – Approval of Wastewater Change Petition

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

ESA, on behalf of the City of Glendale, mailed out formal AB 52 Consultation Request letters to affected tribal groups in the project area, including the Fernandeño Tatavium Band of Mission Indians, on February 12, 2018. Requests for formal government-to-government consultation were not received by these tribes within the stated 30-day consultation request period. Thus, no formal consultation between these tribes and the City regarding the proposed project is necessary.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

PURPOSE OF THE INITIAL STUDY

The proposed project, Glendale Water and Power's 2017 Wastewater Change Petition, is analyzed in this Initial Study/Mitigated Negative Declaration (IS/MND), in accordance with the California Environmental Quality Act (CEQA), to determine if approval of the proposed project would have a significant impact on the environment. This IS/MND has been prepared pursuant to the requirements of the California Environmental Quality Act (CEQA), under Public Resources Code 21000-21177, of the State *CEQA Guidelines* (California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387) and under the guidance of the City of Glendale. The City of Glendale is the Lead Agency under CEQA and is responsible for preparing the IS/MND for the proposed project.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

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

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

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

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

Signature

6/5/18

Date

ERIK KRAUSE

Printed name

For City of Glendale

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
2) A list of "Supporting Information Sources" should be attached, and other sources used or individuals contacted should be cited in the discussion.
3) Impact Columns Heading Definitions:
    a) **"Potentially Significant Impact"** is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
    b) **"Potentially Significant Unless Mitigation Incorporated"** applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The mitigation measures must be described, along with a brief explanation of how they reduce the effect to a less than significant level.
    c) **"Less Than Significant Impact"** applies where the project creates no significant impacts, only Less Than Significant impacts.
    d) **"No Impact"** applies where a project does not create an impact in that category. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one proposed (e.g., the project falls outside of a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
4) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
5) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
6) The explanation of each issue should identify:
    a) The significance criteria or threshold, if any, used to evaluate each question; and
    b) The mitigation measure identified, if any, to reduce the impact to less than significance.

I. AESTHETICS – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

II. AGRICULTURE AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Convert prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
Conflict the existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 1220(g)), timberland (as defined by public resources code section 4526), or timberland zoned timberland production (as defined by government code section 51104(g))?	☐	☐	☐	☒
Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use?	☐	☐	☐	☒

III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

IV. BIOLOGICAL RESOURCES – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐

IV. BIOLOGICAL RESOURCES – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

V. CULTURAL RESOURCES – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

VI. GEOLOGY AND SOILS – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒

VI. GEOLOGY AND SOILS – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
	☐	☐	☒	☐

VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

IX. HYDROLOGY AND WATER QUALITY – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

X. LAND USE AND PLANNING – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

XI. MINERAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

XII. NOISE – Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity due to construction activities above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

XII. NOISE – Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

XIII. POPULATION AND HOUSING – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

XIV. PUBLIC SERVICES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

XV. RECREATION	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

XVI. TRANSPORTATION/TRAFFIC – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

XVII. TRIBAL CULTURAL RESOURCES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒

XVII. TRIBAL CULTURAL RESOURCES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

XVIII. UTILITIES AND SERVICE SYSTEMS – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

XIX. MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

XIX. MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Attachment A
Project Description

ESA

ATTACHMENT A - PROJECT DESCRIPTION

A. INTRODUCTION

The City of Glendale (or Glendale) is proposing to incrementally reduce discharges of tertiary-treated wastewater from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) to the Los Angeles River (River) in order to allow for increased use of recycled water for irrigation and other non-potable uses. The areas of recycled water use lie within the Glendale Water & Power (GWP) and Pasadena Water & Power (PWP) service areas, which includes the majority of the areas within Glendale and Pasadena city boundaries as well as adjacent portions of the City of San Marino, City of Los Angeles, City of La Canada-Flintridge, and unincorporated Los Angeles County community of Altadena. The proposed project includes a reduction in wastewater discharges from the LAGWRP to the River to support increased application of recycled water in the GWP and PWP service areas, construction and operation of three new recycled water distribution pipelines and associated pump stations within the City of Glendale, and a pipeline connection to Pasadena's recycled water distribution system. Pursuant to the City's 2017 Wastewater Change Petition WW0097 and associated change in place of use filed with the State Water Resources Control Board (SWRCB) (Wastewater Change Petition), the proposed wastewater discharge reductions would occur over time with the increased supply of recycled water used to offset and/or supplement potable water use. The following provides a discussion of the project location, existing conditions at the project site, project background and applicable permits, characteristics of the proposed project, and necessary approvals required for the project. It should be noted that construction and operation of the City of Pasadena's (Pasadena) recycled water system improvements, as well as the application of recycled water within the PWP service area, were previously evaluated in the Pasadena Non-Potable Water Project Environmental Impact Report (EIR).[1] As such, those improvements and activities are not addressed in this Initial Study.

B. PROJECT LOCATION AND SURROUNDING USES

The proposed project site includes areas within the Cities of Glendale and Pasadena, as well as adjacent portions of the City of San Marino, City of Los Angeles, City of La Canada-Flintridge, and unincorporated Los Angeles County community of Altadena. The proposed project area is generally bounded by the San Gabriel Mountains to the north; the City of Sierra Madre to the east; the State Route (SR) 134 (Ventura Freeway), SR-2 (Glendale Freeway), and the Los Angeles River to the south; and the City of Burbank, Griffith Park, and Verdugo Hills to the west. The location of the project site is illustrated in **Figure A-1**, *Regional Location Map*, below, while an aerial photograph of LAGWRP and adjacent Channel with surrounding land uses is provided below in **Figure A-2**, *Aerial Photograph*.

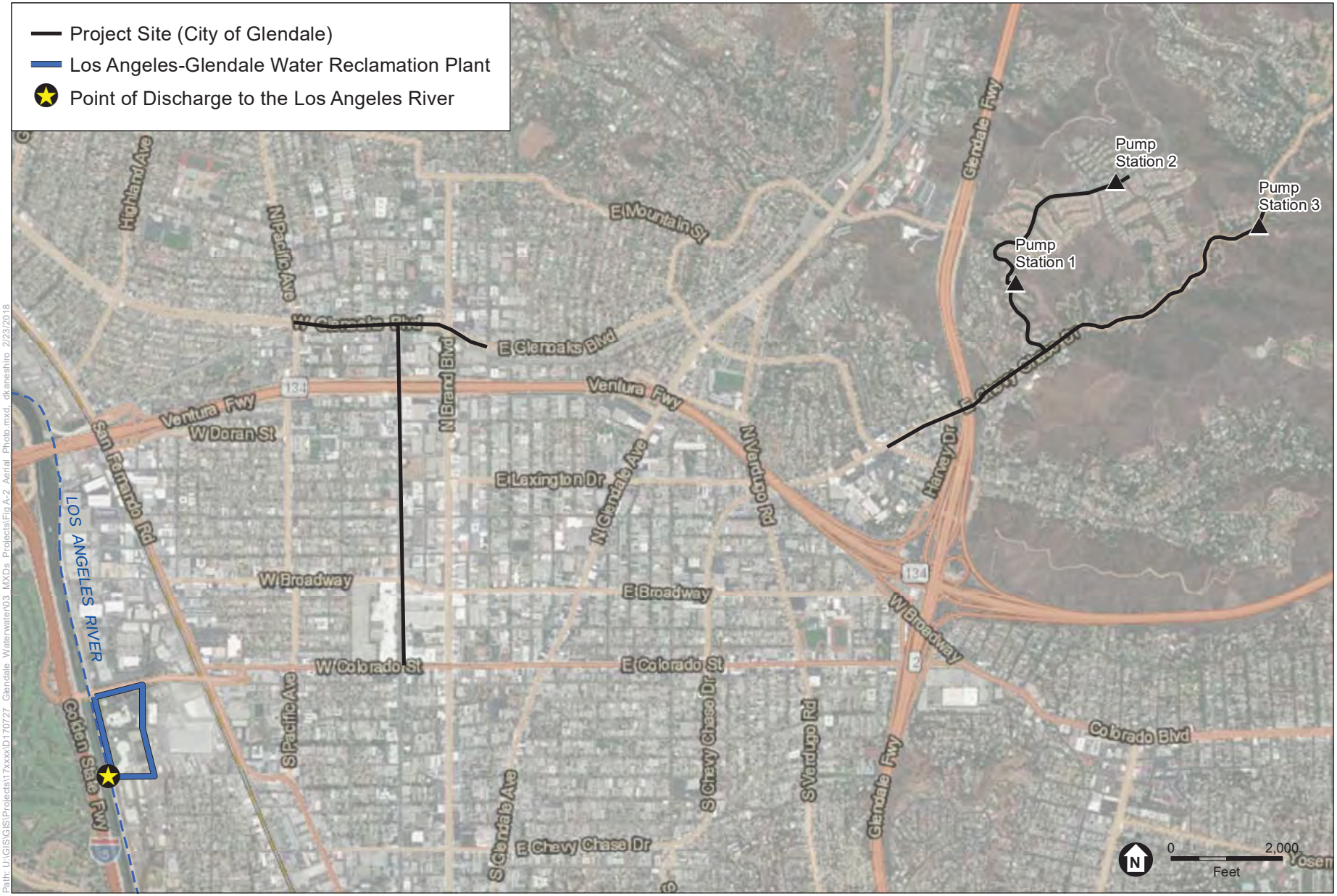
[1] *City of Pasadena. Pasadena Non-Potable Water Project Draft Environmental Impact Report. SCH #2014081091. June 2015. The Final EIR for the project was certified on February 22, 2016 by the Pasadena City Council.*

SOURCE: ESRI

Glendale 2017 Wastewater Change Petition WW0097 Project

Figure A-1
Regional Vicinity Map

ESA



SOURCE: ESRI

Glendale 2017 Wastewater Change Petition WW0097 Project

Figure A-2

Aerial Photograph - LAGWRP and City of Glendale Improvements

ESA

C. ENVIRONMENTAL SETTING

1. Project Background, Existing Conditions and Permits

a. Los Angeles-Glendale Water Reclamation Plant

The following provides a summary of the Glendale's recycled water system, including LAGWRP. LAGWRP is located adjacent to and southwest of the City of Glendale in the City of Los Angeles and is operated by the City of Los Angeles Bureau of Sanitation. LAGWRP was originally built as a "hydraulic relief" plant with a capacity of 20 million gallons per day (mgd) that is designed to decrease sewer flow in the downstream collection system, thereby decreasing sewer flow to the City of Los Angeles' Hyperion Treatment Plant (HTP).[2] LAGWRP produces disinfected tertiary recycled water compliant with California Department of Public Health (CDPH) guidelines for producing and using recycled water, as codified in California Code of Regulations, Title 22, Division 4, Chapter 3, (Water Recycling Criteria). LAGWRP uses screening, primary settling, biological secondary treatment (activated sludge process), nitrification/denitrification, tertiary treatment using sand filters, and chlorine disinfection in its treatment process. The sludge generated at LAGWRP is sent back to the sewer, which conveys the sludge downstream to Hyperion Treatment Plant. Recycled water produced by LAGWRP may be used for irrigation, impoundments, industrial, and other uses under Title 22.[3]

LAGWRP recycled water is currently used for plant operations and supplies the cities of Los Angeles and Glendale recycled water distribution systems. Excess recycled water is discharged to the Los Angeles River, as illustrated above in Figure A-2 and below in **Figure A-3**, *Discharge Location Photos*. The water discharged to the river has the same quality as water sent to the recycled water systems, but it is dechlorinated. The cities of Los Angeles and Glendale each own 50 percent of LAGWRP facility and are each entitled to 50 percent of the produced water.[4] Per the Reclaimed Water System Participation Agreement No. 15,075 between the City of Glendale and City of Pasadena (Glendale-Pasadena Agreement), Pasadena is entitled to up to 6,000 acre-feet per year (AFY), or approximately 60 percent of the City of Glendale's LAGWRP allotment (which is equivalent to 30 percent of total LAGWRP product water or 5.4 mgd). Although Pasadena has paid for this right since inception of the Glendale-Pasadena Agreement, this right is not currently exercised because Pasadena does not currently have recycled water infrastructure. However, it would be exercised in the future with implementation of Pasadena's Non-Potable Water Project components and the recycled water connection to GWP facilities provided by the proposed project.[5]

[2] *City of Pasadena. Pasadena Non-Potable Water Project Draft Environmental Impact Report (SCH #2014081091). June 2015. Pg. 2-14 to 2-17. Available at: https://ww5.cityofpasadena.net/water-and-power/wp-content/uploads/sites/54/2017/08/Pasadena-Non-Potable-Water-Project_Public-Draft-EIR_June2015-1.pdf. Accessed December 2017.*

[3] *Ibid.*

[4] *LA Sanitation. Los Angeles-Glendale Water Reclamation Plant – Background. Available at: https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-cw/s-lsh-wwd-cw-p/s-lsh-wwd-cw-p-lagwrp;jsessionid=tjxs_c4p-MHq7DojYn3mqAwzqowBo-0XNnX4OzJgOTS2MNs1aPIx!708503794!1329830061?_afrLoop=6966895335982871&_afrWindowMode=0&_afrWindowId=cwBqb8T9#!%40%40%3F_afrWindowId%3DcwBqb8T9%26_afrLoop%3D6966895335982871%26_afrWindowMode%3D0%26_adf.ctrl-state%3D18cs7ia6r4_4. Accessed February 2018.*

[5] *City of Pasadena. Pasadena Non-Potable Water Project Draft Environmental Impact Report (SCH #2014081091). June 2015. Pg. 2-14 to 2-17. Available at: https://ww5.cityofpasadena.net/water-and-power/wp-content/uploads/sites/54/2017/08/Pasadena-Non-Potable-Water-Project_Public-Draft-EIR_June2015-1.pdf. Accessed December 2017.*

PHOTOGRAPH 1: Los Angeles River at LAGWRP Discharge Point

PHOTOGRAPH 2: Aerial of LAGWRP and Discharge Point

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SOURCE: City of Glendale, 2016

Glendale 2017 Wastewater Change Petition WW0097 Project

Figure A-3
Discharge Location Photos

ESA

According to the Glendale-Pasadena Agreement, if the available recycled water is insufficient to meet both parties' needs and obligations "the Parties shall share the available reclaimed water on an equal basis".[6] PWP's allotment would be reduced to approximately 4.5 mgd during high demand periods in the summer and after full buildout of both Glendale's and Pasadena's systems. To make up for the difference between the available supply and the high demand, at times PWP will provide drinking water to the non-potable water system customers.[7]

b. Pasadena Non-Potable Water Project

In February 2016, as noted previously, Pasadena approved its Non-Potable Water Project and certified the associated Final Environmental Impact Report (SCH No. 2014081091), which allows Pasadena to build its non-potable water (including recycled/treated wastewater, tunnel water and stream water) storage and distribution infrastructure in order to offset potable water use, which is derived from local groundwater and surface water supplies and imported water from the Metropolitan Water District of Southern California.[8] PWP is currently developing plans to construct the new distribution system to deliver non-potable water from LAGWRP to the PWP's service area. Phase 1 of the Pasadena Non-Potable Water Project includes connections to four customers with large irrigation and cooling demands: Art Center College of Design, Brookside Golf Course, Rose Bowl Stadium, and Brookside Park. Phase 2 will include the Pasadena's Glenarm Power Plant, which will use the water for cooling and processes in place of potable water, saving millions of gallons of potable water annually.[9] The proposed Project could ultimately provide more than 3,000 AF of non-potable water annually for non-potable water use, meeting nearly 10 percent of Pasadena's total water demand.

c. Glendale Recycled Water System

As noted previously, the City of Glendale is entitled to 50 percent of the effluent from LAGWRP, which is a 20-mgd facility co-owned by Glendale and the City of Los Angeles. Its current level of treatment is Title 22 (tertiary) with nitrogen removal (NDN).[10] Recycled water from LAGWRP is used for landscape irrigation at cemeteries, schools, parks, and high rises, and for dual plumbing in several buildings and facilities. In 2014, the Glendale served recycled water to 75 service connections with a combined demand of nearly 1,721 AFY or approximately 1.5 mgd. The Glendale's existing recycled water system consists of approximately 22 miles of purple pipe, five storage facilities, and six pump stations. Existing recycled water system facilities are depicted below in **Figure A-4**, *Glendale Existing Recycled Water Facilities*.

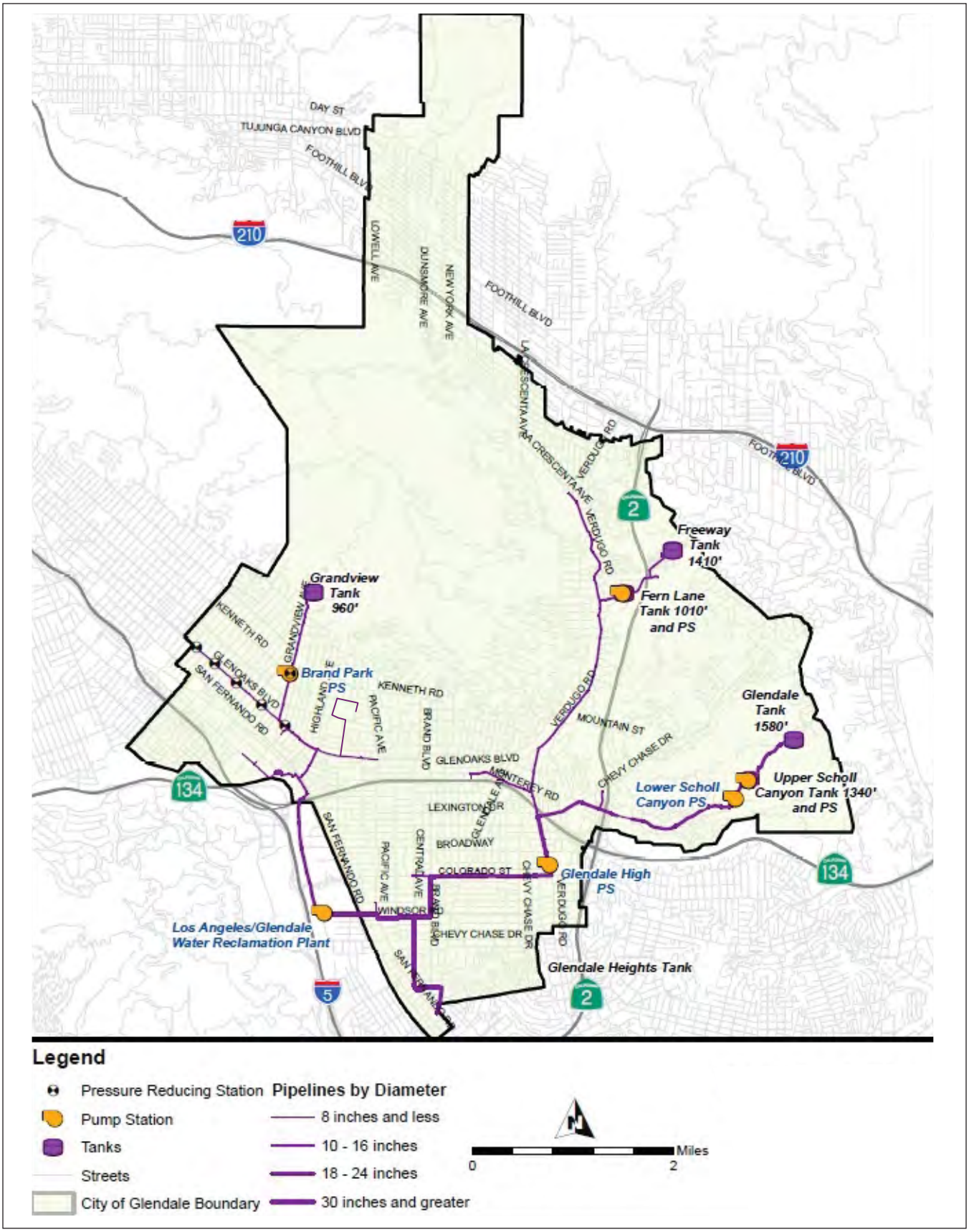
[6] *City of Glendale and City of Pasadena. Reclaimed Water System Participation Agreement No. 15,075. April 1993.*

[7] *City of Pasadena. Pasadena Non-Potable Water Project Draft Environmental Impact Report (SCH #2014081091). June 2015. Pg. 2-14 to 2-17. Available at: https://ww5.cityofpasadena.net/water-and-power/wp-content/uploads/sites/54/2017/08/Pasadena-Non-Potable-Water-Project_Public-Draft-EIR_June2015-1.pdf. Accessed December 2017.*

[8] *Ibid. Page 3.9-5.*

[9] *City of Pasadena. Non-Potable Water Project website. "Project Background". Available at: https://ww5.cityofpasadena.net/water-and-power/recycledwater/. Accessed December 2017.*

[10] *City of Glendale. City of Glendale 2015 Urban Water Management Plan. Available at: http://www.glendaleca.gov/home/showdocument?id=29585. Page 1-7. Accessed December 2017.*



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SOURCE: City of Glendale, 2017

Glendale 2017 Wastewater Change Petition WW0097 Project

Figure A-4
Glendale Existing Recycled Water Facilities

ESA

d. Existing Permits

The City of Los Angeles and the City of Glendale jointly own LAGWRP. However, the City of Los Angeles is the sole operator LAGWRP pursuant to the Joint Powers Agreement between the two cities. LAGWRP currently receives wastewater from the cities of Glendale, Burbank, Los Angeles, and La Canada-Flintridge and from the Los Angeles Zoo. The discharge of wastewater is regulated under Order No. R4-2011-0197 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0053953 adopted on December 8, 2011. This Order was subsequently revised by Order No. R4-2011-0197-A01 adopted by the Los Angeles Regional Water Quality Control Board (LARWQCB) on July 12, 2012. Order No. R4-2011-0197 also serves as a permit under the National Pollutant Discharge Elimination System (NPDES No. CA0053953).[11]

2. Point of Discharge

LAGWRP is permitted by the LARWQCB to discharge directly to the Los Angeles River pursuant to Order No. R4-2011-0197-A01. The latitude and longitude of discharge point is 34°08'13.7"N and 118°16'30.4"W. The location of the discharge point and the River channel are shown in the photographs provided above in Figure A-3. Glendale is not proposing to change its point of discharge.

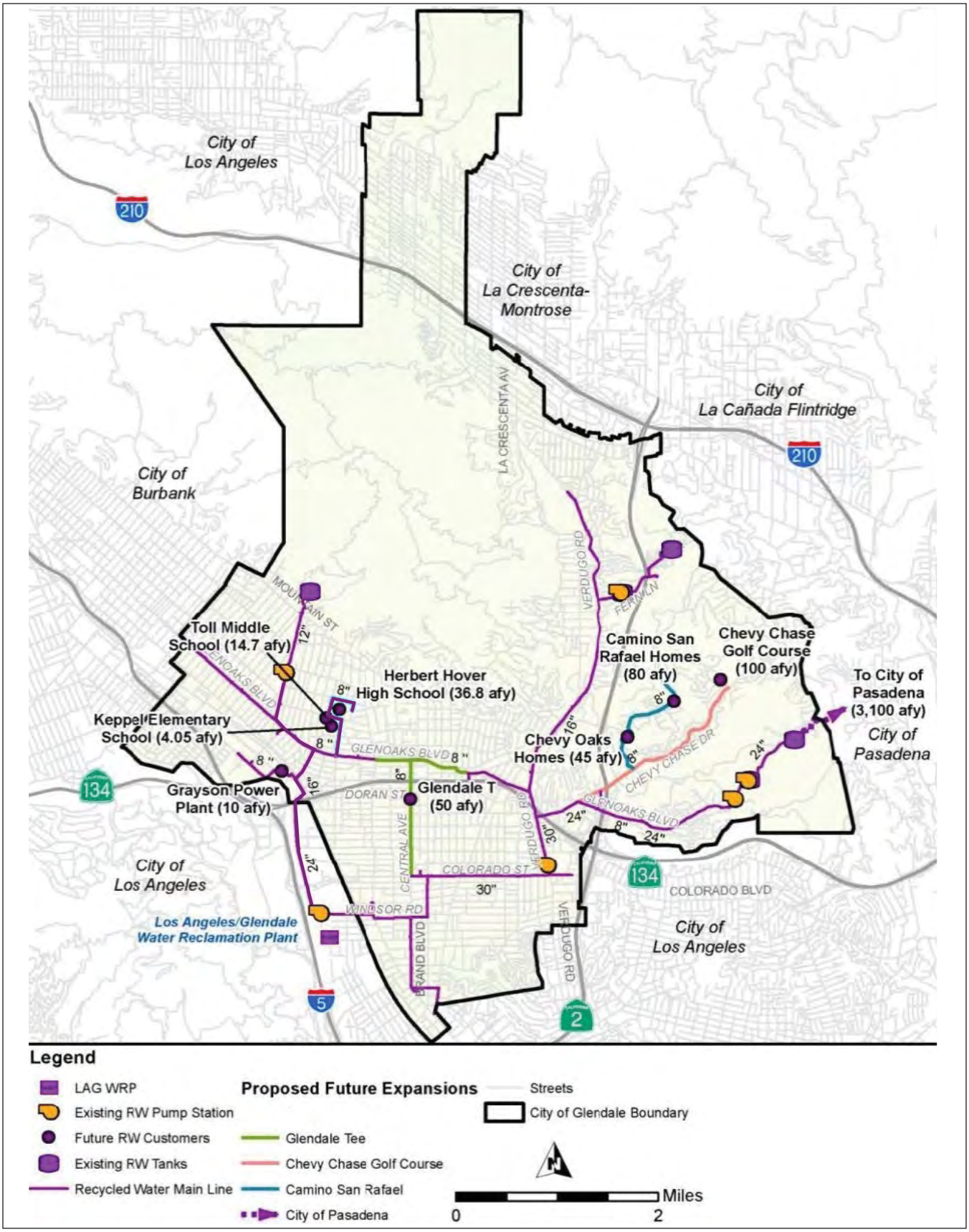
3. Place of Use

Currently, approximately 39% of Glendale's share of the tertiary-treated effluent produced at LAGWRP (approximately 2,000 acre-feet [AF] in 2016) is beneficially reused by GWP for landscape irrigation, soil compaction, and other non-potable applications throughout its service area. **Figure A-5**, *Place of Use – GWP Service Area*, and **Figure A-6**, *Place of Use – PWP Service Area*, below, identify the current place of use within these geographies.

D. LAND USE AND ZONING DESIGNATIONS

The project site includes the entire GWP and PWP recycled water service areas within each respective City, as well as several portions of other adjacent jurisdictions that are supplied with recycled water by the GWP. While the General Plan land use designations and zoning designations within the project site vary substantially, it is important to note that among the existing and anticipated future users of recycled water produced at LAGWRP, those with the highest recycled water demands include Industrial uses (e.g., Grayson Power Plant), Institutional uses (e.g., public schools including Keppel Elementary School, Toll Middle School, and Herbert Hoover High School), Public Park/Open Space/Recreation uses (e.g., various public parks, Chevy Chase Golf Course), and Residential uses (e.g., Chevy Oaks Homes and Camino San Rafael Homes). Refer to Figures A-5 and A-6 above for the location of the various recycled water users within the project site.

[11] *California Regional Water Quality Control Board – Los Angeles Region. Notice of Public Hearing: Proposed Reissuance of Waste Discharge Requirements (National Pollutant Discharge Elimination System). Public Notice No. 17-002, NPDES No. CA0053953. Available at: https://www.waterboards.ca.gov/losangeles/board_decisions/tentative_orders/individual/npdes/City_of_Los_Angeles_-_Glendale /152017/LAGWRPCA0053953NoticeofPublicHearing1-05-2017.pdf. Accessed December 2017.*



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SOURCE: City of Glendale, 2017

Glendale 2017 Wastewater Change Petition WW0097 Project

Figure A-5
Place of Use – GWP Service Area

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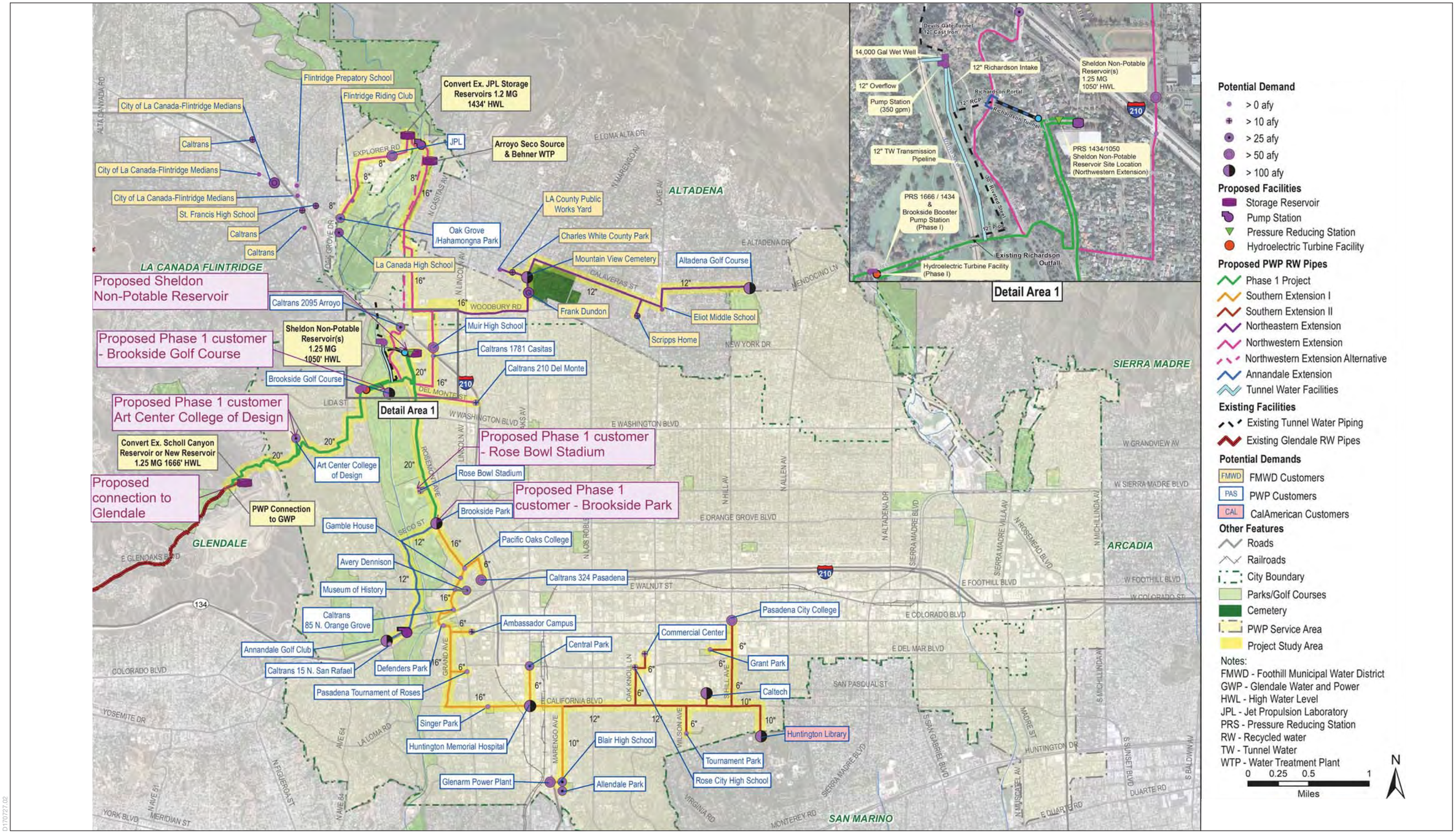

SOURCE: RMC, 2018

Glendale 2017 Wastewater Change Petition WW0097 Project

Figure A-6
Place of Use – PWP Service Area

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E. DESCRIPTION OF THE PROPOSED PROJECT

1. Reason for Proposed Change

Glendale is proposing to continue to implement its recycled water reuse program and sell recycled water to Pasadena in order to increase local water supply reliability and maximize the use of recycled water consistent with state law and policy including, but not limited to Water Code sections 461, 13500 et seq., and 13575 et seq., Government Code section 65601 et seq., the SWRCB's Recycled Water Policy, and the Executive Order issued by the Governor on April 25, 2014.

The SWRCB has set a goal of increasing the use of recycled water over 2002 levels by at least one million AFY by 2020 and by at least two million AFY by 2030. Included in its conservation goals is to substitute as much recycled water for potable water as possible by 2030. "The purpose of the [Board's Recycled Water Policy] is to increase the use of recycled water from municipal wastewater sources…." (SWRCB, Recycled Water Policy, (Jan. 22, 2013), pp. 1-2, available at http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2013/rs2013_0003_a.pdf.)

2. Project Components

a. Wastewater Reuse and Discharge Reductions

As noted above, the City of Glendale and City of Los Angeles jointly own LAGWRP located at 4600 Colorado Boulevard in the City of Los Angeles, California, though the City of Los Angeles has the sole responsibility of operating and maintaining the facility. Most of the water treated at LAGWRP originated as imported water from the Metropolitan Water District.[12]. Pursuant to its Wastewater Change Petition WW0097, the City of Glendale is proposing the sale of additional recycled water to customers within the Upper Los Angeles River Area (ULARA), which would reduce the City's discharge of treated water to the River. This proposed change itself will not require the construction of additional facilities or grading-related activity, though as noted previously the project involves construction of new recycled water distribution facilities (i.e., pipelines and pump stations) within the City of Glendale.[13] In addition, in order to accommodate the additional recycled water flow to the PWP recycled water system, an additional pump would ultimately need to be installed at LAGWRP; however, the pump building and connection point already exist at LAGWRP for this purpose and thus no construction activity would be required. Glendale will continue to discharge treated water at the same point of diversion, but in lesser quantities, as summarized below in **Table A-1**, *Existing and Proposed LAGWRP Discharges*.

[12] *Wastewater flows discharged from the LAGWRP, therefore, are considered developed water supplies and not available for appropriation by others. (See City of Los Angeles v. City of San Fernando (1975) 14 Cal.3d 199, 259-62; see also City of Los Angeles v. City of Burbank (1943) 23 Cal.2d 68, 76.) Glendale has not, and does not, abandon any wastewater flows generated from its importation of water and/or treatment at the LAGWRP. Accordingly, Glendale's proposed change in purpose of use or place of use will not impact any legal user of water.*

[13] *The proposed project involves the reduction in discharges of recycled water to the River, as a result of delivery of additional recycled water within the GWP and PWP service areas, as well as construction of new distribution facilities within the GWP service area. While the expanded delivery of recycled water is the subject of this Initial Study, the construction and operation of recycled water facilities within the PWP service area were the subject of the Pasadena Non-Potable Water Project EIR, which was certified by the Pasadena City Council in 2016.*

Table A-1
Existing and Proposed LAGWRP Discharges

	million gallons per day (mgd)												Acre-Feet (AF)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Present:	11.89	10.19	10.24	8.79	8.04	7.37	7.12	8.08	9.03	9.49	9.88	11.20	10,500
Proposed:	10.98	8.97	8.78	5.91	4.07	2.44	1.27	2.85	4.70	6.49	7.87	10.15	7,000
Change:	*0.91*	*1.22*	*1.46*	*2.88*	*3.97*	*4.93*	*5.85*	*5.23*	*4.33*	*3.00*	*2.01*	*1.05*	*3,500*

Source: City of Glendale, 2017

Pursuant to guidelines established by the California Department of Public Health and the LARWQCB, as discussed in further detail in Appendix A of this Initial Study, LAGWRP treats effluent to a quality sufficient for discharge into the Los Angeles River. Under current conditions, that discharge is released through a point of discharge adjacent to LAGWRP directly into the River. The location of the discharge point is shown above in Figures A-2 (aerial photo) and A-3 (discharge location photos).

As summarized in Table A-1, LAGWRP discharged 10,500 AF to the River in 2017. As a result of increased demand for recycled water within the GWP and PWP service areas, the City is proposing to gradually increase its use of recycled water (from approximately 2,000 AF to approximately 5,500 AF), thereby reducing its discharge of treated wastewater into the channel over the next ten years from 10,500 AF to approximately 7,000 AF.

In addition to the Glendale's own potential re-use of this water, other water agencies and private parties have expressed an interest in obtaining recycled water from LAGWRP for further beneficial uses, including most notably the City of Pasadena. Recycled water conveyed to these agencies (and/or private parties) would be used to meet additional recycled water demands within the ULARA and adjacent portions of the GWP and PWP service areas. The re-use of Glendale's recycled water will reduce demand for imported water. The proposed Wastewater Change Petition is thus consistent with the Executive Order issued by Governor Brown on April 25, 2014, wherein the Governor ordered that those with surplus recycled water attempt to deliver that water to areas in need, and that the State Water Resources Control Board prioritize and expedite processing of recycled water projects.

b. Recycled Water Distribution Facilities (GWP Service Area Only)

The proposed project includes the construction and operation of three new pipelines and pump stations to serve future recycled water users in the City of Glendale. As noted previously, the construction and operation of new recycled water distribution facilities within the PWP service area, the recycled water supply for which would be provided by the proposed project, were evaluated in the Pasadena Non-Potable Water Project EIR, which was certified by the Pasadena City Council in 2016. As such, only those new facilities within the GWP service area are addressed in this Initial Study. The City of Glendale's proposed recycled water distribution facilities are described as follows and are illustrated above in Figures A-2 (aerial photo) and A-5 (GWP place of use):

1. **Glendale Tee (*Total Recycled Water Demand: 50 AFY*) –** Extend current recycled system by installing approximately 10,030 linear feet of 8-inch polyvinyl chloride (PVC) pipeline from Colorado Street along Central Avenue and connecting (loop) the Brand Park and Verdugo Scholl recycled water pipelines via

Glenoaks Boulevard in order to provide recycled water to dual-plumbed office buildings for toilet flushing and to provide landscape irrigation water for commercial buildings in the downtown area of Glendale.

2. **Chevy Chase Country Club (*Total Recycled Water Demand: 100 AFY*) –** Install a pump station and 7,920 linear feet of 8-inch PVC pipeline in Chevy Chase Drive and up Chevy Chase Canyon from Holly Drive to Golf Club Drive.

3. **Chevy Oaks/Camino San Rafael Homes Recycled Water (*Total Recycled Water Demand: 125 AFY*)** – This improvement consists of installing approximately 5,440 feet of 8-inch PVC pipeline and two booster pumps stations. It would connect to the Chevy Chase Country Club pipeline and then extend Glendale's recycled water distribution system to provide recycled water for common area irrigation to the Chevy Oaks and Camino San Rafael residential neighborhoods.

F. CONSTRUCTION METHODS AND ASSUMPTIONS

No construction activities regarding the reduced discharges from LAGWRP to the River would be necessary. However, construction of the new recycled water distribution facilities within the GWP service area described above would involve open-trench construction within existing street rights-of-way and other developed or disturbed public property. Only one improvement would be constructed at any given time, and thus it is anticipated that only one construction crew would be active throughout project construction activities. Pipeline construction, staging, and other active construction-related activities would all occur within the public right-of-way, while construction worker parking, stockpiling, and equipment and material deliveries would occur at existing GWP facilities or other City property. Up to five vendor truck deliveries per day are expected to occur at the active construction site.

The proposed improvements would require up to 20 construction workers on any given day, and take up to 160 work days to complete. Specifically, the Glendale Tee improvements are expected to require up to 20 workers and a total of 160 construction work days, while both the Chevy Chase Country Club and Chevy Oaks/Camino San Rafael Homes improvements would require up to 10 workers and 130 work days to complete. Construction activities would only occur Monday through Friday during daytime hours, with no construction activities occurring at night or on weekends or holidays. Pipeline construction would require excavation of a trench approximately two to five feet wide and between four and ten feet deep along the entire length of each pipeline alignment. The three pump stations would be constructed below-grade adjacent to street rights-of-way (see Figures A-2 and A-5 above), and would require excavation of an area approximately 40 feet by 40 feet with depths of up to 10 feet below existing grade. Once constructed, streets would be repaved/restored to pre-project conditions, and all proposed facilities would operate passively below-grade.

Project-related grading would result in the need for between 2,800 and 4,200 cubic yards (cy) of soil export, and between 2,400 and 3,900 cy of soil import, some of which may be balanced on-site where feasible and appropriate. Construction equipment is anticipated to include the following for each phase of construction:

- Phase 1 (Mobilization): flatbed truck, lowboy truck/trailer.
- Phase 2 (Pavement Cutting): pavement saw, pick-up truck.
- Phase 3 (Excavation, Pipe laying, Backfilling): air compressor, backhoe, dump truck, excavator, forklift, generator, mechanic truck, pick-up truck, welding truck.

- Phase 4 (Paving): grinding machine, paving machine, steam roller
- Phase 5 (Pump Stations): dump truck, excavator, pick-up truck, crane, cement truck.
- Phase 6 (De-mobilization): flatbed truck, lowboy truck/trailer, street sweeper.

None of the proposed construction phases are anticipated to overlap, as each would be completed sequentially as funding is secured.

G. PROJECT SCHEDULE

Implementation of the proposed project will occur as new improvements are constructed and additional recycled water users within both the GWP and PWP service areas receive new connections. Construction of the first phase of improvements is anticipated to commence in 2018 while the final phase of construction is expected to occur in 2028.

H. NECESSARY APPROVALS

Approvals required for implementation of the proposed project include, but are not limited to, the following:

- City of Glendale – Adoption of Mitigated Negative Declaration
- California State Water Resources Control Board – Approval of Wastewater Change Petition WW0097
- Los Angeles Regional Water Quality Control Board – Approval of Stormwater Pollution Prevention Plan (SWPPP) for construction activities

Attachment B
Explanation of Checklist Determinations

ESA

ATTACHMENT B - EXPLANATION OF CHECKLIST DETERMINATIONS

I. AESTHETICS

Would the project:

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

Construction

Less Than Significant Impact. The proposed project includes a reduction in wastewater discharges from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) to the Los Angeles River (River) to support increased application of recycled water in the Glendale Water & Power (GWP) and the Pasadena Water & Power (PWP) service areas, construction and operation of three new recycled water distribution pipelines and associated pump stations within the City of Glendale (or Glendale), and a pipeline connection to Pasadena's recycled water distribution system . The construction and operation of Pasadena's recycled water system improvements, as well as the application of recycled water within the PWP service area, were previously evaluated in the certified Pasadena Non-Potable Water Project Environmental Impact Report (EIR).[1] No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. However, construction of the proposed recycled water distribution facilities (i.e., the Glendale Tee, the Chevy Chase Country Club, and the Chevy Oaks/Camino San Rafael Homes Recycled Water) within the GWP service area would involve open-trench construction within existing street rights-of-way and other developed or disturbed public property. The proposed Glendale Tee facility is located within an urbanized area surrounded by residential uses, commercial uses, office uses, and recreational facilities. The proposed Chevy Chase Country Club and Chevy Oaks/Camino San Rafael Homes Recycled Water facilities are surrounded by residential uses and open space areas including the Chevy Chase Canyon and the San Rafael Hills. Given the sloping topography of the area of the proposed Chevy Chase Country Club and the Chevy Oaks/Camino San Rafael Homes Recycled Water facilities, as well as the availability of panoramic views along these two proposed alignments and pump station locations, a number of scenic vistas are located within the viewshed of this project area. However, despite the presence of scenic vistas that would be accessible from this project area, either from existing street rights-of-way or other public property through which these two recycled water distribution facilities would be located and traverse, project construction of these recycled water distribution facilities, including the proposed Glendale Tee, would be located entirely underground throughout the proposed alignments and pump station locations. Pipeline construction would require excavation of a trench approximately two to five feet wide and between four and ten feet deep along the entire length of each pipeline alignment. The three pump stations would be constructed below-grade adjacent to street rights-of-way, and would require excavation of an area approximately 40 feet by 40 feet with depths of up to 10 feet below existing grade. While short-term construction activities could have the potential to temporarily obstruct or detract from views of scenic resources in the area, such impacts would only occur for a limited time in any one location such that any adverse effects would be of short duration. Only one improvement would be constructed at any given time, and thus it is anticipated that only one construction crew would be active throughout project construction activities. Pipeline construction, staging, and other active construction-related activities would all occur within the public right-of-way, while construction

[1] [1] *City of Pasadena. Pasadena Non-Potable Water Project Draft Environmental Impact Report. SCH #2014081091. June 2015. The Final EIR for the project was certified on February 22, 2016 by the Pasadena City Council.*

worker parking, stockpiling, and equipment and material deliveries would occur at existing GWP facilities or other City property. Up to five vendor truck deliveries per day are expected to occur at the active construction site. Furthermore, upon completion of construction activities along a given pipeline section or pump station location, the streets would be repaved/restored to pre-project conditions. As such, impacts to scenic vistas resulting from construction of the proposed project would be less than significant.

Operation

Less Than Significant Impact. The proposed project includes a reduction in wastewater discharges from the LAGWRP to the River to support increased application of recycled water in the GWP and PWP service areas, construction and operation of three new recycled water distribution pipelines and associated pump stations within the City of Glendale, and a pipeline connection to Pasadena's recycled water distribution system. The City of Glendale will continue to discharge treated water at the same point of diversion, but in lesser quantities. While no portion of the project site or LAGWRP contains a scenic vista of valued scenic resource, portions of the River might be considered a scenic resource as viewed from a public right-of-way, including the Glendale Narrows portion of the River through Griffith Park or other viewpoints in the area such as those available from trails within Griffith Park to the west and south of the River. Despite the conservative assumption that certain portions of the River might be a visually prominent feature when viewed from surrounding publicly available vantage points, implementation of the proposed project would have no measurable effect on the scenic value of the River. This is due to the fact that, as further discussed below under Section IX, Hydrology and Water Quality, the proposed reductions in wastewater discharges from LAGWRP would not result in notable reductions in flow volumes and associated water levels in the River, such that a discernible change in the visual characteristics of this feature would occur. Similarly, as discussed in Section IV, Biological Resources, below, the proposed flow reductions would not result in significant adverse effects on instream habitat downstream of the point of discharge such that visible reduction in vegetation or other visible features of the River would occur. With regard to the proposed recycled water distribution facilities, once constructed, streets would be repaved/restored to pre-project conditions and all proposed facilities would operate passively below-grade. As such, impacts to scenic vistas resulting from operation of the proposed project would be less than significant.

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

Construction

Less Than Significant Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. However, project implementation would require the construction of the proposed recycled water distribution facilities. The area of the proposed Glendale Tee facility is entirely urbanized with little to no vegetation, and no scenic resources including trees, rock outcroppings, or historic buildings. The proposed Chevy Chase Country Club and Chevy Oaks/Camino San Rafael Homes Recycled Water facilities are located within the area of the Chevy Chase Canyon and the San Rafael Hills, which may both be considered scenic resources as viewed from a public right-of-way. As discussed above, despite the presence of scenic resources within the project area, project construction of all three proposed recycled water distribution facilities would be located entirely underground throughout the proposed alignments and pump station locations. Thus, although temporary construction activities in proximity or within the viewshed of scenic resources could adversely detract from or obstruct views of such resources, impacts in this regard would not be substantial given that such effects would be short-term in nature and would only occur in the immediate vicinity of construction activities in a given location for a limited

time. Furthermore, upon completion of construction activities along a given pipeline section or pump station location, the streets would be repaved/restored to pre-project conditions. Therefore, less than significant impacts to scenic resources would result from construction of the proposed project.

Operation

Less Than Significant Impact. The project site includes the entire GWP and PWP service areas within the Cities of Glendale and Pasadena, as well as adjacent portions of the City of San Marino, City of Los Angeles, City of La Canada-Flintridge, and unincorporated Los Angeles County community of Altadena. The project site is mostly urbanized with little to no vegetation, no rock outcroppings, and no historic buildings (including those within a state scenic highway) occur on-site. As discussed above, the proposed project would incrementally reduce wastewater discharges from LAGWRP to the River, portions of which might be considered a valued scenic resource. Nonetheless, as also discussed above, the proposed reductions in discharges to the River are not expected to result in measurable changes to the appearance of the River, as flow reductions and related effects on water levels and vegetation would be nominal and not noticeable to viewers. As such, while the proposed project would incrementally reduce discharges of treated effluent to the River, its implementation would not substantially damage scenic resources in the project area, including the River as viewed from surrounding locations. With regard to the proposed recycled water distribution facilities, once constructed, streets would be repaved/restored to pre-project conditions and all proposed facilities would operate passively below-grade. Therefore, less than significant impacts to scenic resources would result from operation of the proposed project.

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

Construction

Less Than Significant Impact. As discussed above, project construction of the proposed recycled water distribution facilities would be located entirely underground throughout the proposed alignments and pump station locations. Visual impacts to the project site and surrounding community would occur temporarily during the construction phase, and would only occur for a limited time in any one location. Because the proposed recycled water distribution facilities would be placed underground, and the ground surface features returned to pre-project conditions, construction of the project would not affect the visual character of the community in the vicinity of the project. Therefore, construction impacts to the visual character of the surrounding area would be less than significant.

Operation

Less Than Significant Impact. As discussed in Responses I.a. and I.b. above, both the wastewater reuse and discharge reductions and application of recycled water within the project site would not result in visible changes to the project area, and thus the operation of the proposed project would result in less than significant impacts to visual character or quality. Further, the proposed project would not measurably reduce the flow levels or vegetation within the River, and does not involve any other physical changes to the environment such that its implementation could substantially adversely affect visual resources on- or off-site. As noted previously, the project site and LAGWRP is mostly urbanized and lacks any valued scenic resources, while portions of the River, located downstream of the project site, may be considered a valued scenic resource. However, given the minimal effect of the proposed wastewater reuse and discharge reductions on the River's water levels and associated ability to support vegetation, it is anticipated that the reduced flows in the River will not have the potential to substantially degrade the visual character or quality of the project site and its

surroundings. With regard to the proposed recycled water distribution facilities, once constructed, streets would be repaved/restored to pre-project conditions and all proposed facilities would operate passively below-grade and would not affect the visual character of the community in the vicinity of the project. Impacts in this regard would be less than significant.

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

Construction

Less Than Significant Impact. External and internal night and day illumination is already in place within the project area, which is mainly associated with the urbanized area, as well as vehicle headlights, which constitute the majority of light and glare sources in close proximity to proposed recycled water distribution facilities. Project construction of the proposed recycled water distribution facilities would be located entirely underground throughout the proposed alignments and pump station locations. The construction phase would be temporary and activities would generally only occur during daylight hours. However, traffic control and safety measures, such as barriers, reflective signs, and flashing warnings would be implemented, as necessary, and could introduce sources of light and/or glare into the surrounding area, but only on a temporary basis during construction. As such, construction impacts in this regard would be less than significant.

Operation

No Impact. The project site includes the entire GWP and PWP service areas within the Cities of Glendale and Pasadena, as well as adjacent portions of the City of San Marino, City of Los Angeles, City of La Canada-Flintridge, and unincorporated Los Angeles County community of Altadena. The project does not propose development or change in current operations beyond that requested in the City's 2017 Wastewater Change Petition WW0097. This project component would not create a new source of substantial light or glare which would adversely affect the day or nighttime views in the area, as the proposed project would only result in the reduction in wastewater reuse and discharge reductions and the increased application of recycled water for irrigation and other non-potable uses. With regard to the proposed recycled water distribution facilities, once constructed, streets would be repaved/restored to pre-project conditions and all proposed facilities would operate passively below-grade. As such, no operation impacts would occur in this regard.

II. AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire protection regarding the state's inventory of forest land, including the Forest and Range Assessment of and the Forest Legacy Assessment Project; and forest carbon measurements methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

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

No Impact. The project site includes the GWP and PWP recycled water service areas within the Cities of Glendale and Pasadena, as well as adjacent portions of the City of San Marino, City of Los Angeles, City of La Canada-Flintridge, and unincorporated Los Angeles County community of Altadena. The locations of the proposed recycled water distribution facilities are currently developed within existing street rights-of-way and other developed or disturbed public property. The proposed Glendale Tee facility is located within an urbanized area surrounded by residential uses, commercial uses, office uses, and recreational facilities. The proposed Chevy Chase Country Club and Chevy Oaks/Camino San Rafael Homes Recycled Water facilities are surrounded by residential uses and open space areas including the Chevy Chase Canyon and the San Rafael Hills. No agricultural uses or related operations are present within the site or surrounding area. No portion of the project site is located on designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program.[2] While the General Plan land use designations and zoning designations within the project site vary substantially, it is important to note that among the existing and anticipated future users of recycled water produced at LAGWRP with the highest recycled water demands include Industrial uses (e.g., Grayson Power Plant), Institutional uses (e.g., public schools including Keppel Elementary School, Toll Middle School, and Herbert Hoover High School), Public Park/Open Space/Recreation uses (e.g., various public parks, Chevy Chase Golf Course), and residential uses (e.g., Chevy Oaks Homes and Chevy Oaks/Camino San Rafael Homes). The various General Plans do not identify the project site as an area designated for agriculture use. Therefore, the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. As such, no construction or operation impacts would occur in this regard.

b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?

No Impact. As discussed above, project site includes the GWP and PWP recycled water service areas within the Cities of Glendale and Pasadena, as well as adjacent portions of the City of San Marino, City of Los Angeles, City of La Canada-Flintridge, and unincorporated Los Angeles County community of Altadena. The locations of the proposed recycled water distribution facilities are currently developed within existing street rights-of-way and other developed or disturbed public property. No agricultural zoning is present within the project site and no portion of the site is enrolled in a Williamson Act contract. As such, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract and no construction or operation impacts would occur in this regard.

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 1220(g)), timberland (as defined by Public Resources Code

[2] *State of California Department of Conservation, California Important Farmland Finder, https://maps.conservation.ca.gov/dlrp/ciff/, accessed January 2017.*

section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. As noted in Response II.b., above, the project site's existing zoning designations do not include agricultural or forestry-related uses or activities. No forest land or timberland zoning is present on the project site or in the surrounding area. As such, the proposed project would not have the potential to conflict with existing zoning for forest land or timberland and no construction or operation impacts would occur in this regard.

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

No Impact. No forest land exists on the project site or in the surrounding area. The proposed project includes a reduction in wastewater discharges from the LAGWRP to the River to support increased application of recycled water in the GWP and PWP service areas, construction and operation of three new recycled water distribution pipelines and associated pump stations within the City of Glendale, and a pipeline connection to Pasadena's recycled water distribution system. The proposed project would not have the potential to affect forest land. As such, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use and no construction or operation impacts would occur in this regard.

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

No Impact. The proposed project includes a reduction in wastewater discharges from the LAGWRP to the River to support increased application of recycled water in the GWP and PWP service areas, construction and operation of three new recycled water distribution pipelines and associated pump stations within the City of Glendale, and a pipeline connection to Pasadena's recycled water distribution system. Since there are no agricultural uses or related operations on or near the project site, the proposed project would not involve the conversion of farmland to other uses, either directly or indirectly. No construction or operation impacts to farmland or agricultural uses would occur.

III. AIR QUALITY

The following impact analysis pertaining to air quality is based, in part, from air quality modeling prepared by ESA in January 2018 and included as Appendix A.

Where available, the significance criteria established by the South Coast Air Quality Management District (SCAQMD) or air quality management plan may be relied upon to make the following determinations. Would the project:

a. Conflict with or obstruct implementation of the applicable air quality plan?

The project site is located within the South Coast Air Basin (Basin). Air quality planning for the Basin is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The proposed project would be subject to the SCAQMD's Air Quality Management Plan (AQMP), which contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving ambient air quality standards. These

strategies are developed, in part, based on regional population, housing, and employment projections prepared by the Southern California Association of Governments (SCAG).

The 2012 AQMP was prepared to accommodate growth, reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, return clean air to the region, and minimize the impact on the economy. Projects that are consistent with the assumptions used in the AQMP do not interfere with attainment because the growth is included in the projections utilized in the formulation of the AQMP. Thus, projects, uses, and activities that are consistent with the applicable growth projections and control strategies used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if it would individually exceed the SCAQMD's numeric indicators.

The SCAQMD released the Draft 2016 AQMP on June 30, 2016 for public review and comment. A revised Draft 2016 AQMP was released in October 2016 and the SCAQMD Governing Board adopted the 2016 AQMP on March 3, 2017 (SCAQMD 2016). CARB approved the 2016 AQMP on March 23, 2017. USEPA approval is pending and is a necessary requirement before the 2016 AQMP can be incorporated into the SIP. Key elements of the 2016 AQMP include implementing fair-share emissions reductions strategies at the federal, state, and local levels; establishing partnerships, funding, and incentives to accelerate deployment of zero and near-zero-emissions technologies; and taking credit from co-benefits for greenhouse gas (GHG), energy, transportation and other planning efforts. The strategies included in the 2016 AQMP are intended to demonstrate attainment of the National Ambient Air Quality Standards (NAAQS) for the federal O_3 and PM2.5 standards. Until such time as the 2016 AQMP is approved by the USEPA, the 2012 AQMP remains the applicable AQMP. Nonetheless, the proposed project would be consistent with the 2016 AQMP, as the project does not involve the construction or operation of active land uses that could exceed the SCAG regional population, housing, and employment projections that are assumed in the AQMP.

Construction

Less Than Significant Impact. Construction activities associated with the proposed project have the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment and through vehicle trips generated from worker trips and vendor and haul trucks traveling to and from the proposed project area. In addition, fugitive dust emissions would result from demolition and various soil-handling activities. Mobile source emissions, primarily oxides of nitrogen (NO_X), would result from the use of construction equipment such as excavators, forklifts, and cranes. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Under this criterion, the SCAQMD recommends that lead agencies demonstrate that a project would not directly obstruct implementation of an applicable air quality plan and that a project be consistent with the assumptions (typically land-use related, such as resultant employment or residential units) upon which the air quality plan is based. The proposed project would result in an increase in short-term employment compared to existing conditions. Being relatively small in number (maximally 20 workers per day) and temporary in nature, construction jobs under the proposed project would not conflict with the long-term employment projections upon which the AQMP is based. Control strategies in the AQMP, potentially applicable

to control temporary emissions from construction activities, include ONRD-04 and OFFRD-01,[3] which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment by accelerating the replacement of older, emissions-prone engines with newer engines that meet more stringent emission standards. In accordance with such strategies, the proposed project would comply with state regulations to reduce emissions from heavy-duty equipment including the California Air Resources Board (CARB) Air Toxics Control Measure (ATCM) that limits diesel powered equipment and vehicle idling to no more than five minutes at a location. The proposed project would also comply with SCAQMD regulations for controlling fugitive dust pursuant to SCAQMD Rule 403 (Fugitive Dust).

Compliance with these requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. Because the proposed project would not conflict with the control strategies intended to reduce emissions from construction equipment, the project would not conflict with or obstruct implementation of the AQMP, and construction impacts would be less than significant.

Operation

Less Than Significant Impact. Operations of the pump stations would require occasional maintenance and would not occur daily. Maintenance vehicles traveling to and from pump stations would be the only source of criteria pollutant emissions during operations. Based on the sporadic and short-term nature of these emissions, impacts from project operations would be less than significant.

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

As indicated above, the project site is located within the South Coast Air Basin, which is characterized by relatively poor air quality. State and federal air quality standards are often exceeded in many parts of the Basin, including those monitoring stations nearest to the proposed project's location. The proposed project would contribute to local and regional air pollutant emissions during construction (short-term or temporary) and project operations (long-term). However, based on the following analysis, construction and operation of the proposed project would result in less than significant impacts relative to the daily significance thresholds for criteria air pollutant emissions established by the SCAQMD for construction and operational phases.[4]

Construction

Less Than Significant Impact. Based on criteria set forth in the SCAQMD CEQA Air Quality Handbook, a project would have the potential to violate an air quality standard or contribute substantially to an existing violation and result in a significant impact with regard to construction emissions if regional emissions from

[3] *AQMP measure ONRD-04 applies to on-road mobile sources and is the accelerated retirement of older on-road heavy-duty vehicles to reduce emissions of NO_X and particulate matter. AQMP measure OFFRD-01 applies to off-road mobile sources and is the extension of the Surplus Off-Road Opt-In for NO_X (SOON) provision for construction/industrial equipment to encourage the accelerated retirement of older off-road heavy-duty equipment to reduce emissions of NO_X. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2012-air-quality-management-plan/final-2012-aqmp-(february-2013)/chapter-4-final-2012.pdf. Accessed October 2017.*

[4] *South Coast Air Quality Management District, Air Quality Significance Thresholds, (March 2015), http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. Accessed December 2017.*

both direct and indirect sources would exceed any of the following SCAQMD prescribed threshold levels: (1) 75 pounds a day for volatile organic compounds (VOCs), (2) 100 pounds per day for nitrogen oxides (NO_X), (3) 550 pounds per day for carbon monoxide (CO), (4) 150 pounds per day for sulfur oxides (SO_X), (5) 150 pounds per day for respirable particulate matter (PM10), and (6) 55 pounds per day for fine particulate matter (PM2.5).[5]

The proposed project consists of the consecutive construction of three pipe alignments: Glendale Tee (Phase 1), Chevy Chase Country Club (Phase 2), and Chevy Oaks/Camino San Rafael Homes Recycled Water (Phase 3). Construction of the proposed project is estimated to last approximately 21 months. Construction of the proposed project has the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment, such as excavators and forklifts, and through vehicle trips generated from worker, vendor, and haul truck trips traveling to and from the project site. In addition, fugitive dust emissions would result from demolition and various soil-handling activities. Mobile source emissions, primarily NO_X, would result from the use of construction equipment such as excavators and forklifts. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The emissions are estimated using the California Emissions Estimator Model (CalEEMod, Version 2016.3.2) software, an emissions inventory software program recommended by the SCAQMD. CalEEMod is based on outputs from OFFROAD and EMFAC, which are emissions estimation models developed by CARB and used to calculate emissions from construction activities, including on-and off-road vehicles. The input values used in the CalEEMod modeling analysis were adjusted based on construction equipment and schedule information provided by the client. These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate criteria pollutant emissions values for each construction activity. Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in Appendix A.

The maximum daily regional emissions from these activities are estimated by construction phase and compared to the SCAQMD significance thresholds in **Table III-1**, *Maximum Regional Construction Emissions.* Under the assumed scenarios, emissions resulting from the project construction would not exceed any criteria pollutant thresholds established by the SCAQMD. Therefore, construction impacts would be considered less than significant.

Operation

Less Than Significant Impact. As previously discussed, the proposed project would have minimal emissions of criteria pollutions from maintenance vehicles traveling to pump stations during project operations. The maintenance trips would be on an as needed basis and would not occur daily. Therefore, impacts from project operations would be less than significant.

[5] *South Coast Air Quality Management District, Air Quality Significance Thresholds, (March 2015), http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. Accessed December 2017.*

TABLE III-1
MAXIMUM REGIONAL CONSTRUCTION EMISSIONS (POUNDS PER DAY) [A]

Source	VOC	NO_X	CO	SO_2	PM10 [b]	PM2.5 [b]
Phase 1 Mobilization	<1	2	2	<1	1	<1
Phase 1 Pavement Cutting	1	8	7	<1	1	1
Phase 1 Excavation, Pipe Laying, Backfill	4	31	29	<1	2	2
Phase 1 Paving	1	11	11	<1	1	1
Phase 1 De-mobilization	1	5	4	<1	1	<1
Phase 2 Mobilization	<1	2	1	<1	<1	<1
Phase 2 Pavement Cutting	1	8	6	<1	1	1
Phase 2 Excavation, Pipe Laying, Backfill	4	32	28	<1	2	2
Phase 2 Paving	1	10	10	<1	1	1
Phase 2 Pump Station	1	10	7	<1	1	<1
Phase 2 De-mobilization	<1	4	3	<1	1	<1
Phase 3 Mobilization	<1	2	1	<1	<1	<1
Phase 3 Pavement Cutting	1	7	5	<1	1	1
Phase 3 Excavation, Pipe Laying, Backfill	3	31	29	<1	2	2
Phase 3 Paving	1	10	10	<1	1	1
Phase 3 Pump Station	1	10	7	<1	1	<1
Phase 3 De-mobilization	<1	4	3	<1	1	<1
Daily Maximum Emissions	4	32	29	<1	2	2
SCAQMD Regional Threshold	75	100	550	150	150	55
Above/(Under)	(71)	(68)	(521)	(150)	(148)	(53)
Exceeds Threshold?	No	No	No	No	No	No

a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A.
b Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

Source: ESA, 2017

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

Less Than Significant Impact. The proposed project would result in the emission of criteria pollutants during construction and operation for which the proposed project area is in non-attainment. A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. The Air Basin is currently in non-attainment for ozone, PM10, and PM2.5.

There are a number of related projects in the project area that have not yet been built or are currently under construction. Since the Applicant has no control over the timing or sequencing of the related projects, any quantitative analysis to ascertain daily construction emissions that assumes multiple, concurrent construction projects would be speculative. The SCAQMD recommends that project-specific construction air quality impacts be used to determine the potential cumulative impacts to regional air quality.

With regard to project operations, SCAQMD's approach for assessing cumulative impacts related to operations or long-term implementation is based on attainment of ambient air quality standards in accordance with the requirements of the federal and State Clean Air Acts. As discussed earlier, the SCAQMD has developed a comprehensive plan, the AQMP, which addresses the region's cumulative air quality condition.

A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. Because the Los Angeles County portion of the Air Basin is currently in non-attainment for ozone, PM10, and PM2.5, related projects could exceed an air quality standard or contribute to an existing or projected air quality exceedance. Cumulative impacts to air quality are evaluated under two sets of thresholds for CEQA and the SCAQMD. In particular, Section 15064(h)(3) of the CEQA Guidelines provides guidance in determining the significance of cumulative impacts. Specifically, Section 15064(h)(3) states in part that:

> *A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency.*

For purposes of the cumulative air quality analysis with respect to CEQA Guidelines Section 15064(h)(3), the proposed project's incremental contribution to cumulative air quality impacts is determined based on compliance with the SCAQMD adopted 2012 AQMP. As previously stated, the proposed project would comply with and incorporate measures to reduce criteria pollutant emissions during construction. Also, construction jobs would be temporary and project operations would be carried out by current staff at Glendale Water and Power.

Nonetheless, SCAQMD no longer recommends relying solely upon consistency with the AQMP as an appropriate methodology for assessing cumulative air quality impacts. The SCAQMD recommends that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality.

As displayed in Table III-1, regional emissions calculated for project construction would be less than the applicable SCAQMD daily significance thresholds, which are designed to assist the region in attaining the applicable State and national ambient air quality standards. These standards apply to both primary (criteria and precursor) and secondary pollutants (ozone). Although the project site is located in a region that is in non-attainment for ozone, PM10, and PM2.5, the emissions associated with the proposed project would not be cumulatively considerable as the emissions would fall below SCAQMD daily significance thresholds. In addition, the proposed project would be consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants.

Compliance with applicable SCAQMD rules would ensure project construction health risks would be less than significant and related projects would also be required to comply with applicable rules as well as implement mitigation measures, as necessary under CEQA, to mitigate impacts to less than significant. As a result, the proposed project would not result in cumulatively considerable health impacts. Compliance with applicable rules would ensure that the proposed project and related projects would not result in cumulatively considerable odor impacts.

d. Expose sensitive receptors to substantial pollutant concentrations?

Certain population groups are especially sensitive to air pollution and should be given special consideration when evaluating potential air quality impacts. These population groups include children, the elderly, persons with pre-existing respiratory or cardiovascular illness, athletes, and others who engage in frequent exercise. As defined in the SCAQMD CEQA Air Quality Handbook, a sensitive receptor to air quality is defined as any of the following land use categories: (1) long-term health care facilities; (2) rehabilitation centers; (3) convalescent centers; (4) retirement homes; (5) residences; (6) schools; (7) parks and playgrounds; (8) child care centers; and (9) athletic fields.

The localized air quality analysis was conducted using the methodology described in the SCAQMD *Localized Significance Threshold Methodology* (June 2003, revised July 2008),[6] which relies on on-site mass emission rate screening tables and project-specific dispersion modeling typically for sites not greater than five acres, as appropriate (SCAQMD 2008). The localized significance thresholds (LSTs) are applicable to NO_X, CO, PM10, and PM2.5. For NO_X and CO, the thresholds are based on the ambient air quality standards. For PM10 and PM2.5, the thresholds are based on requirements in SCAQMD Rule 403 (Fugitive Dust) for construction. The SCAQMD has established screening criteria that can be used to determine the maximum allowable daily emissions that would satisfy the LSTs and therefore not cause or contribute to an exceedance of the applicable ambient air quality standards without project-specific dispersion modeling. The screening criteria depends on: (1) the area in which the project is located, (2) the size of the project area, and (3) the distance between the project area and the nearest sensitive receptor. SCAQMD's Methodology clearly states that "off-site mobile emissions from the project should not be included in the emissions compared to LSTs." Therefore, for purposes of the LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered, plus the truck idling emissions (e.g., haul trucks and vendor trucks) that were calculated separately using the EMFAC emission factors for heavy-heavy-duty (HHD) vehicles.

The nearest existing sensitive receptors to the project site are residential uses in the surrounding neighborhoods. According to the applicant, the proposed pipe would be installed at a maximum rate of 100 linear feet per day and would require a two-foot wide trench. This daily disturbance area would be less than one acre. Therefore, the LST used for the localized significance impact analysis were based on a one-acre site in the West San Gabriel Valley Source-Receptor Area (the City of Glendale is located within the West San Gabriel Valley Source-Receptor Area) with sensitive receptors located adjacent to the project site (i.e., 25 meters).

[6] *South Coast Air Quality Management District, Localized Significance Thresholds, (2003, revised 2008), http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed October 2017.*

Construction Emissions

Less Than Significant Impact. Table III-2, *Maximum Localized Construction Emissions,* identifies the localized impacts at the nearest receptor location in the vicinity of the project area. The localized emissions during construction activity would not exceed any of the SCAQMD's localized significance thresholds. Therefore, impacts would be considered less than significant.

TABLE III-2
MAXIMUM LOCALIZED CONSTRUCTION EMISSIONS (POUNDS PER DAY) [A]

Source	NO_x	CO	PM10	PM2.5
Phase 1 Mobilization	3	3	1	<1
Phase 1 Pavement Cutting	4	4	1	1
Phase 1 Excavation, Pipe Laying, Backfill	29	27	2	2
Phase 1 Paving	10	9	1	1
Phase 1 De-mobilization	3	2	<1	<1
Phase 2 Mobilization	2	2	<1	<1
Phase 2 Pavement Cutting	5	4	1	1
Phase 2 Excavation, Pipe Laying, Backfill	29	27	2	2
Phase 2 Paving	9	9	1	1
Phase 2 Pump Station	9	6	<1	<1
Phase 2 De-mobilization	3	2	<1	<1
Phase 3 Mobilization	2	1	<1	<1
Phase 3 Pavement Cutting	4	4	1	1
Phase 3 Excavation, Pipe Laying, Backfill	26	27	2	2
Phase 3 Paving	9	9	1	1
Phase 3 Pump Station	9	6	<1	<1
Phase 3 De-mobilization	3	2	<1	<1
Daily Maximum Emissions	**29**	**27**	**2**	**2**
SCAQMD Localized Significance Threshold[b]	69	535	4	3
Above/(Under)	(40)	(508)	(2)	(1)
Exceeds Threshold?	No	No	No	No

a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A.
b Localized Significance Thresholds (LST) were for a 1-acre project site with a 25-meter receptor distance.

Source: ESA, 2017
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Operational Emissions

Less Than Significant Impact. As previously discussed, project operations would result in minimal criteria pollutant emissions from occasional maintenance vehicle trips traveling to pump stations. These trips would be sporadic and would not occur daily. Therefore, project operations would not result in a cumulatively considerable net increase for non-attainment pollutants or ozone precursors and would result in a less than significant impact for construction emissions.

Carbon Monoxide Hotspots

Less Than Significant Impact. A carbon monoxide (CO) hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near intersections. Project operations would emit minimal CO emissions from maintenance vehicles traveling to pump stations. Major roadways or intersections would not be impacted from project operations. Formation of CO hotspots and exceedances of the 1-hour an 8-hour CO federal and state standards are not expected. In summary, the proposed project would result in less than significant impacts with respect to CO hotspots.

Toxic Air Contaminants

Construction

Less Than Significant Impact. Intermittent construction activities associated with the proposed project would result in short-term emissions of diesel particulate matter, which the State has identified as a TAC. During construction, the exhaust of off-road heavy-duty diesel equipment would emit diesel particulate matter during general construction activities, such as site preparation excavation, installation of machinery, materials transport and handling, and building construction.

Diesel particulate matter poses a carcinogenic health risk that is generally measured using an exposure period of 30 years for sensitive residential receptors, according to the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA Guidance), which was updated in 2015 with new exposure parameters including age sensitivity factors. Sensitive receptors would be located to the north and west of the project area; however, localized diesel particulate matter emissions (strongly correlated with PM2.5 emissions) would be minimal and would be below localized thresholds as presented in Table III-2. Although the localized analysis does not directly measure health risk impacts, it does provide data that can be used to evaluate the potential to cause health risk impacts. Furthermore, construction activity would occur for a temporary and short-term duration at any one location as pipeline construction proceeds along a linear path. The low level of PM2.5 emissions coupled with the very short-term duration of construction activity at any one location and the relatively small-scale of the proposed project would result in an overall low level of diesel particulate matter concentrations in the project area. Furthermore, compliance with the CARB ATCM anti-idling measure, which limits idling to no more than five minutes at any location for diesel-fueled commercial vehicles, would further minimize diesel particulate matter emissions in the project area. The proposed project would utilize a construction contractor(s) that complies with required and applicable BACT and the In-Use Off-Road Diesel Vehicle Regulation. Thus, it is expected that sensitive receptors would be exposed to emissions below thresholds and construction TAC impacts would be less than significant.

Operation

Less Than Significant Impact. Project operations would generate minor amounts of diesel emissions from maintenance vehicles traveling to pump stations. Maintenance trips would occur on an as needed basis and would not occur daily. As a result, toxic or carcinogenic air pollutants are not expected to occur in substantial amounts in conjunction with operation of the proposed wastewater pipeline and pump stations. Project operations would not be considered a substantial source of diesel particulates and potential long-term operational impacts associated with the release of TACs would be minimal and would not be expected to exceed SCAQMD thresholds of significance. Therefore, impacts would be less than significant.

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

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the SCAQMD as being associated with substantial odors.

Construction

Less Than Significant Impact. Potential activities that may emit odors during construction activities include the use of adhesives and paints, and the combustion of diesel fuel in on- and off-road equipment. The proposed project would comply with the applicable provisions of the CARB Air Toxics Control Measure regarding idling limitations for diesel trucks. Further, construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of construction. Through adherence with mandatory compliance with SCAQMD Rules, no construction activities or materials are expected to create objectionable odors affecting a substantial number of people. Therefore, construction of the proposed project would result in less than significant impacts.

Operation

Less Than Significant Impact. According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by SCAQMD as being associated with substantial odors. As a result, project operations are not expected to discharge contaminants into the air in quantities that would cause a nuisance, injury, or annoyance to the public or property pursuant to SCAQMD Rule 402. Therefore, the proposed project would not create adverse odors affecting a substantial number of people and impacts would be less than significant.

IV. BIOLOGICAL RESOURCES

The following impact analysis pertaining to biological resources is based on information contained in the *Glendale Water and Power Recycled Water Extension Projects Biological Resources Assessment,* prepared by ESA in March 2018 and included as Appendix B, as well as the *Hydraulic Modeling Report* prepared by ESA in March 2018 and included as Appendix E.

Would the project:

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

Construction

Less Than Significant Impact With Mitigation Incorporated.

The proposed pipelines and pump stations will be located in areas that are developed within urban land uses No special-status species are anticipated to occur within the construction zones. Therefore, no impacts will occur to candidate, sensitive, or special-status species during construction of the three pipelines and three pump stations.

Nesting Birds

Construction of pipelines and the pump station has the potential to remove landscaping shrubs and encroach or remove native trees that could provide nesting sites for migratory birds during the construction of the Chevy Oaks/Camino San Rafael Homes pipeline and of the three proposed pump stations. Birds, and their nesting sites, eggs, and young are protected from "take" by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code Section 3500. Implementation of MM BIO-1 below that includes preconstruction surveys for nesting birds and avoidance of active nests, would ensure impacts to nesting birds are avoided.

Mitigation Measure

MM BIO-1: Prior to removal, trimming, or disturbance of vegetation that could be used as nesting habitat for birds during nesting season (typically February through August), a qualified biologist will conduct a preconstruction survey for nesting birds. If active nests are identified, the biologist will apply a no-work buffer around the nest at an appropriate distance that would insure no incidental take of the nest from the project. Typical buffer distances are 300 feet for songbirds and 500 feet for raptors, but the distance in the field will be determined by the biologist and will be based on the ambient conditions, type of work proposed and distance from the nest, and the species of bird that is nesting. The buffer may be considerably less than the typical 300 or 500 feet, at the discretion of the project biologist. The no-work buffer will remain in place until the biologist has determined the young have fledged and are no longer dependent on the nest site.

Operation

Less Than Significant Impact. A total of 15 special-status wildlife species are known to occur or have a high potential to occur in Segments 3-7 of the River (River segments are defined in Appendix B), including one reptile (two-striped garter snake), 11 bird species (Cooper's hawk, sharp-shinned hawk, Vaux's swift, white-tailed kite, American peregrine falcon, merlin, yellow-breasted chat, osprey, bank swallow, yellow warbler, and least Bell's vireo), and three bat species (western mastiff bat, hoary bat, and big free-tailed bat). The habitats for Segments 3-7 are summarized in **Table IV-1**, *Descriptions of Habitats and Existing Conditions within the Study Area,* below. No special-status fish or other aquatic species are known to occur in these segments of the channel. The potential effects of any hypothetical flow reduction to a river may include: (1) reductions in water depth and velocity that can affect aquatic habitat (e.g. changes in fish habitat or fish migration potential), (2) changes in wetted channel area that can affect aquatic habitat (e.g. changes in benthic macroinvertebrate productivity), and (3) changes in water level that can affect riparian habitat (e.g. declines in water level below tree root depths). The effects of the proposed project during the driest single month within the last eleven years include a flow depth reduction of less than half an inch (< 0.5-inch), a change in velocity of two percent (2%), and a shrinkage of wetted area during the summer months equivalent to a strip 14 inches wide along both banks (two percent [2%] of the existing wetted area along the River edges). During the winter and spring the proposed flow reductions would have much smaller effects. The proposed reduction in water surface elevation would not create new fish passage barriers or noticeably change habitat conditions,

and would not have a detectable effect on riparian vegetation moisture availability. The effects are likely almost undetectable from a biological perspective.

The proposed project would reduce discharges to the River by 3,500 AFY (an approximate annual average of 4.8 cubic feet per second [cfs]). As analyzed in Appendix B of this Draft Initial Study, this reduction would reduce current flows by approximately 10.8 percent under worst-case conditions (the driest month of the driest year during the most recent 11 year study period). The riparian and aquatic habitats in the River channel would not be reduced by the reduced flow. As noted, above, the wetted channel would narrow slightly (by approximately 14 inches on either side of the River channel), but the riparian vegetation would not lose access to perennial flow due to the relative depths of the root systems and the anticipated water levels, and would not be reduced in acreage. The reduced flow would decrease the depth of the main channel by less than one inch (< 1.0 inch). This reduction in depth would not remove or significantly change the aquatic habitat values currently in the River. Depth in the River fluctuates daily as wastewater discharge flows decrease in the night and increase in the day. The less than 11 percent flow reduction would result in less than significant impacts to aquatic and riparian habitats.

TABLE IV-1
DESCRIPTIONS OF HABITATS AND EXISTING CONDITIONS WITHIN THE STUDY AREA

Area	Existing Conditions
Segment 3	**Riparian Habitat:** 15.7 acres of black willow thickets (BWT) occurs mostly along the western edge of the segment, with some small BWT areas on the eastern edge. BWT in Segment 3 is of low quality due to a high density of homeless camps, invasive plants, and trash. The BWT provides numerous perching and nesting opportunities for raptors and songbirds that forage and nest in riparian areas. BWT and the invasive understory provide nesting habitat opportunities for special-status birds such as yellow warbler, yellow-breasted chat, and least Bell's vireo. **Aquatic Habitat:** The BWT is surrounded by flowing water, largely on the eastern side of the River and slower flowing, shallow water and ponding water occurs sporadically on the western edge. The channelization of the River, homeless camps, and trash negatively impact the quality of the aquatic habitat. The flowing water in the segment provides habitat for fish, amphibians, waterfowl, shorebirds, and other aquatic and semi-aquatic species. Sandbars, shallow pools, and emergent vegetation at the edges of the BWT provided opportunities for waterfowl, shorebirds, and other species to forage and to nest, and for amphibians to breed. The variation in aquatic and semi-aquatic habitats in this area provides adequate, but not high quality habitat for diverse wildlife community, but lacks native fish.
Segment 4	**Riparian Habitat:** 14.9 acres of BWT that is similar in structure and composition to that found in Segment 3. However, invasive plants had been removed between Fletcher Drive and the southern endpoint, BWT in Segment 3 is of low quality due to a high density of homeless camps, invasive plants, and trash. The BWT provides numerous perching and nesting opportunities for raptors and songbirds that forage and nest in riparian areas. BWT and the invasive understory provide nesting habitat for special-status birds such as yellow warbler, yellow-breasted chat, and least Bell's vireo. **Aquatic Habitat:** The BWT is surrounded by flowing water. Water flow in this segment is similar to that found in Segment 3, with main flow occurring on the eastern side and a low, shallow flow on the western edge sporadically. The channelization of the River, homeless camps, and trash negatively impact the quality of the aquatic habitat. The flowing water in the segment provides habitat for fish, amphibians, waterfowl, shorebirds, and other aquatic and semi-aquatic species. Sandbars, shallow pools, and emergent vegetation at the edges of the BWT provided opportunities for waterfowl, shorebirds, and other species to forage and to nest, and for amphibians to breed. The variation in aquatic and semi-aquatic habitats in this area provides adequate, but not high quality habitat for diverse wildlife community, but lacks native fish.

Segment 5	**Riparian Habitat:** 38.1 acres of BWT that is similar in structure and composition to that found in Segments 3 and 4. However, the BWT in this segment is the widest in the Study Area. Invasive plants were recently removed in the northern half of the segment at the time of the field survey, and the understory was largely bare as a result. The southern half had a dense understory of invasive plants. BWT in Segment 5 is the highest quality in the Study Area due to the greater width and area of habitat that provides denser cover for riparian birds and larger land for terrestrial species. However, the BWT is still of low quality due to a high density of invasive plants, trash, and homeless camps. The BWT provides numerous perching and nesting opportunities for raptors and songbirds that forage and nest in riparian areas. BWT and the invasive understory provide nesting habitat for special-status birds such as yellow warbler, yellow-breasted chat, and least Bell's vireo. **Aquatic Habitat:** The BWT is surrounded by flowing water. Water flow in this segment varies from the east, west, and center of the BWT. The channelization of the River, homeless camps, and trash negatively impact the quality of the aquatic habitat. The flowing water in the segment provides habitat for fish, amphibians, waterfowl, shorebirds, and other aquatic and semi-aquatic species. Sandbars, shallow pools, and emergent vegetation at the edges of the BWT provided opportunities for waterfowl, shorebirds, and other species to forage and to nest, and for amphibians to breed. The variation in aquatic and semi-aquatic habitats in this area provides adequate, but not high quality habitat for diverse wildlife community, but lacks native fish.
Segment 6	**Aquatic Habitat:** The River channel is concrete in this segment and the water forms a thin layer surrounding a fast moving center channel. Low quality habitat for aquatic species occurs in Segment 6 due to the concrete bottom of the River and shallow stream that is not suitable for native fish species. However, this area is an important foraging area for shorebirds and waterfowl due to the availability of invertebrates in the water. No opportunity for nesting occurs for these birds in this segment.
Segment 7	**Sandbar Habitat:** 40.2 acres of rocky sandbar that largely supports ruderal, weedy vegetation occurs along the edges of this Segment, largely in the northern end. The change in tide and River flow makes the acres of land variable in this segment. The sandbar habitat supports an abundance and diversity of shorebirds and waterfowl that forage in the rocky substrate, and this area is an important bird area for that reason. However, the native vegetation has largely been eliminated in this segment, and native saltwater marshes and lagoons that once would have been in this area have been developed. The sandbar habitat is of low quality because it lacks the native vegetation typical of a brackish marsh, is covered in invasive plants, and the natural hydrology of the River has been altered by channelization. Nonetheless this segment is still instrumental for foraging shorebirds and waterfowl that have limited other native areas to use. **Aquatic Habitat:** Brackish water occurs between the sandbars. The channelization of the River and trash negatively impact the quality of the aquatic habitat. The flowing water in the segment provides habitat for brackish fish such as carp and anchovy, waterfowl, shorebirds, and other aquatic and semi-aquatic species. However, native fish species are largely absent from this segment.

During dry weather, wastewater discharges dominate flow in the River. Other contributions from urban runoff and groundwater upwelling also add to the River flow. The project proposes to reduce the River flow by 10 percent under worst-case conditions. As described in the Hydrology Report prepared for this study (Appendix E), the project would result in a worst-case flow rate reduction of 8.1 cfs during the driest month of August.

As described in Appendix E, the proposed project would reduce the total wetted area of channel from 81.0 to 79.5 acres (-1.5 acres, 1.9 percent of existing condition) during the driest times of the driest years. This represents an average 14-inch-wide strip along both edges of the channel downstream of the LAGWRP discharge. Approximately 26 percent of this reduction would occur on concrete banks and 74 percent on soft channel materials. The reduction in wetted soft channel would be 1.1 acres spread out along a 5-mile segment of the River south of the LAGWRP discharge location and north of the Arroyo Seco confluence. This decrease in wetted area would not strand or substantially reduce riparian habitat (black willow thicket [BWT]) within the channel since there would remain sufficient water supplies to support the tree root zones within the River bed. Currently, the water levels in the channel change substantially throughout the day and night as discharge volumes vary with water use in the watershed. Storm flows scour some of the less mature vegetation in the winter. The existing riparian habitat is adapted to this flow variability. There would be no measurable reduction of BWT from the reduced discharge from LAGWRP and no BWT will be removed during the project. As a result, the resident and migratory wildlife community that depends on the vegetation and water in the River for foraging, breeding and refuge will be unaffected by the proposed project. Even though the River has been channelized and greatly affected by urbanization, the riparian habitat in the River is dynamic, and the

variability in flows that occur from rainfall and other sources of water in the River will be unaffected by the proposed project. The reduced discharge would not cause a population of special-status species to drop below self-sustaining levels. Therefore, impacts to special-status wildlife would be less than significant.

The River becomes a hard-bottomed channel approximately 5 miles south of LAGWRP discharge location all the way to the estuary in Long Beach (approximately 20 miles). To assess the effects of the project on flows of fresh water to the estuary, ESA calculated the percentage of flow reduction in the River at the most downstream gage (Wardlow Road). The Project reduction is approximately 4 percent of August 2008 flow (the worst-case scenario) This represents the flow reduction in the driest month of the driest year within the eleven years for which flow data at all relevant gages were available. Thus, in all other months and years, the project effects would be smaller than the values cited above. Flows in the concrete-lined channel do not support significant aquatic habitats.

In some areas of the channel, perennial flow supports algal masses that provide foraging for birds, gulls in particular. The incidence and extent of such algal masses are supported by perennial flow in the River and tend to increase within the lower reaches of the River, which is associated with the overall increase in flow volume in the downstream reaches and associated potential to support aquatic vegetation. The results of the flow analyses for Segment 7 of the River (as shown in Figures 16 through 20 in the *Hydraulic Modeling Report* [Appendix E]) show the depth curves for the five cross sections. The red dashed lines indicate the water depth at which flow would spill out of the low flow channel onto the wider channel floor. In all five cross sections, and under all flow scenarios analyzed, the flows were too large to be contained within the low flow channel, and consequently flows spilled over the floor of the River channel at all times (i.e. the project effects never caused the concrete floor to dry out). The change in water depth across the channel was around 0.25 inches between existing and project flows, and 0.35 inches between existing and cumulative flows. To verify these potential flow impacts, ESA identified the range of flows that would cause the low flow channel to overflow in all the cross sections of the model that had a low flow channel, not just the five cross sections analyzed in detail above. This ranged from 55 – 80 cfs: i.e. assuming that flows do not fall below 80 cfs there would be no change in wetting of the algal mats. As shown in Table 7 of the *Hydraulic Modeling Report*, flows would never fall below 80 cfs under the project or cumulative conditions scenarios, and thus all flows would be expected to continue to spill out of the low flow channel and wet the areas where algae currently grow.

As discussed above, the perennial flow would not diminish significantly as a result of the project and other projects within the River's watershed since baseline flows would represent an even smaller proportion of the overall flows in the River channel further downstream. Below the confluence with the Arroyo Seco, numerous storm drains discharge urban runoff to the channel that augments flows in the low-flow channel. These flows would continue to support algal masses once LAGWRP contribution to flow are reduced, and the modeling results indicate that these areas would not dry up as a result of project-related or cumulative flow reductions. Furthermore, the algal mats are not identified as significant habitat areas, and do not support special status species, but rather provide incidental foraging opportunities for birds traveling along the river corridor. As such, to the extent that birds utilize the algal mats for foraging purposes, an incremental reduction in these foraging areas, even if it were to occur, would not substantially adversely affect any special status bird species or other migratory birds, since such birds would simply forage in other areas where food sources are available. Impacts to aquatic habitat below the Arroyo Seco confluence to the estuary would be less than significant.

Similarly, the estuary would not experience a significant reduction in fresh water. The reduction in flow may move the salinity line slightly further upstream in the concrete lined channel, but would not affect habitat values. Project impacts would be less than significant.

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

Less Than Significant Impact. As described in Appendix B, BWT and aquatic habitats are known to occur in Segments 3-7 of the River. As discussed above, there would be no measurable reduction of BWT from the reduced discharge from LAGWRP and no BWT will be removed during the project. Therefore, less than significant impacts to riparian habitat will occur from the project.

Aquatic Habitat

The River is a concrete-lined, soft-bottomed channel at LAGWRP discharge location that exhibits perennial surface flow from up-stream discharges. Appendix E provides a summary of river flow sources and volumes. Riparian habitat has emerged within the channel in the Study Area Segment 3-5, as described above in Table IV-1. varying between a fast moving in narrow areas, thin sheet-flow over concrete, slower turbulent water over boulders, slow-moving water along the edge of BWT, and areas of ponding water. The reduction in volume of discharged water by the proposed project would be 3,500 AF from the River each year, a 10 percent decrease of wastewater that is discharged into the River when considering the current combined discharge from the Tillman Water Reclamation Plant (Tillman WRP), LAGWRP, and other sources including surface runoff, Burbank WRP, and the Verdugo Wash. Additional sources of water into the River are from the Arroyo Seco Channel at the north end of Segment 6, the Rio Hondo Channel at the southern end of Segment 6, and the Tujunga Wash. Numerous storm channels convey urban runoff to the concrete-lined portion of the River channel from downtown Los Angeles to the ocean, incrementally increasing channel flows to the ocean.

The BWT in the Study Area helps to slow the velocity of water and creates pools that are used by certain non-native fish and aquatic species, as well as birds. The reduced discharge would reduce the depth of flow within the River channel, but would not significantly reduce or eliminate areas of slow-moving water or pools around the margins of areas with BWT. The current typical maximum depth of water in the study areas is 6.5 feet. The flow reduction could lower the depth of water by less than one inch (0.5 percent). In Segments 1-6 of the Study Area, the flow reduction would not reduce the overall water depth enough to eliminate the availability of foraging habitat for fish, amphibians, shorebirds or any other wildlife that may use the River for foraging or breeding. The reduction of freshwater into the Estuary from the River would not significantly alter the brackish water interface at the mouth of the River. The Estuary would continue to be fed by freshwater emptying into the unconfined Los Angeles harbor.

For these reasons, the reduction in flow from LAGWRP would not significantly reduce aquatic habitat values in the study area.

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

Less Than Significant Impact. The River, including all of the aquatic habitat in the Study Area, is a Traditional Navigable Water (TNW) and under the jurisdiction of the Army Corps of Engineers. For the reasons described above in the Impact Analysis of Aquatic Habitat, the reduction in flow from LAGWRP would not significantly reduce aquatic habitat values in the Study Area. Therefore, the project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.

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

Less Than Significant Impact. The River is an established fish and wildlife migratory corridor. However, no direct impacts to the River would occur from the proposed project, and, according to analysis presented above, indirect impacts to riparian and aquatic habitats will be less than significant. Therefore, the project would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites within the River.

e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?

Less Than Significant Impact With Mitigation Incorporated. The City of Glendale Indigenous Tree Program protects six native trees, including western sycamore and coast live oak. Approximately ten western sycamore trees occur within the proposed San Rafael Homes pipeline alignment, and two coast live oak trees occur at proposed pump station #1. Due to the proximity to the proposed project features, the roots of these trees may be encroached, or the tree may require removal or relocation depending on the placement of the proposed San Rafael Homes pipeline and pump station #1. Encroachment, removal, or relocation of western sycamore or coast live oak requires a permit from the City of Glendale. Implementation of MM BIO-2 below, which includes applying for an Indigenous Tree permit from the City of Glendale, will reduce the potential impacts to native trees protected by the City's Indigenous Tree Program to a less than significant level.

Mitigation Measure

MM BIO-2: An Indigenous Tree Program permit will be obtained from the City of Glendale prior to removal, encroachment, or substantial trimming (topping or pruning more than one-quarter of total live foliage) of native trees protected by the City of Glendale's Indigenous Tree Program, including western sycamore (*Platanus racemosa*) and coast live oak (*Quercus agrifolia*). For every tree removed by the project, two replacement trees at a minimum 15-gallon size shall be planted.

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

No Impact. The proposed project is not within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan, and, therefore, no impacts will occur as a result of the proposed project.

V. CULTURAL RESOURCES

The following impact analysis pertaining to cultural resources is based on information contained in the project's *Cultural Resources Assessment* prepared by ESA in March 2018 and included as Appendix C.

Would the project:

a. Cause a substantial adverse change in significance of a historical resource as defined in State CEQA §15064.5?

Less Than Significant Impact.

Direct Impacts

Based on the results of the SCCIC records search, archival research, and survey, no historic architectural resources were identified within the Project site; however, one resource, the James Daniel Derby House (P-19-180696) was identified adjacent to the Project site along Chevy Chase Drive within the Chevy Chase Country Club component. The James Daniel Derby House is listed in the National Register of Historic Places and therefore qualifies as a historical resource pursuant to CEQA. The resource would have direct views of the Project site during construction; however, upon completion of the trench excavations for the pipeline, the streets would be repaved/restored to pre-project conditions. As such, the Project would not demolish or materially alter any of the character-defining features that contribute to the eligibility of the James Daniel Derby House as a historical resource. Therefore, the Project would not cause a substantial adverse change to the significance of the James Daniel Derby House. However, should Project design changes be considered, an additional impacts evaluation may be appropriate. As a result of these findings, the Project would not result in a significant direct or indirect impact to a historic architectural resource that qualifies as a historical resource. Therefore, the Project would have no impact on any known historical resources.

Indirect Impacts

Indirect impacts were analyzed to determine if the Project would result in a substantial material change to the integrity of adjacent historical resources pursuant to CEQA. (i.e. buildings identified as potentially eligible in a survey, determined eligible, or designated). The indirect impacts Study Area was defined as resources located adjacent to the Project site. The Project site consists of mostly residential or commercial buildings, spanning several decades from the 1920s through present. Along East Chevy Chase Drive within the Project site was the highest concentration of buildings over 45 years of age. These early residential buildings dating from the 1920s through the 1980s consisted of primarily single-family or multi-family and did not appear architecturally or historically significant. Only one historic-age built resource was identified. The James Daniel

Derby House (P-19-180696) built in 1926, is an American Modernistic residence decorated with ornamentation of Mayan inspiration, and designed by architect Lloyd Wright, son of master architect, Frank Lloyd Wright. The residence has been described as a "unique pre-cast concrete and knit block construction", with most of its exterior as covered with stucco. The residence is listed in the National Register under Criterion C (Dougherty, 1978). The James Daniel Derby House's character-defining features consist of its location, overall massing and scale, shape, materials (pre-cast concrete and knit blocks, stucco finish, fenestration, and hardscaping), roof, projections, and craft detailing.

The James Daniel Derby House is located at 2535 East Chevy Chase Drive in Glendale, where the proposed project will be constructing 8" pipelines within East Chevy Chase Drive. The pipeline construction would require excavation of a trench approximately two to five feet wide and between four and ten feet deep along the entire length of each pipeline alignment. Once the pipeline is constructed, streets would be repaved/restored to pre-project conditions. As such, the Project would not demolish or materially alter any of the character-defining features that contribute to the eligibility of the James Daniel Derby House as a historical resource. Therefore, the Project will avoid adverse change to James Daniel Derby House and indirect impacts to this resource would be less than significant.

b. Cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA §15064.5?

Less Than Significant Impact With Mitigation Incorporated. Based on the results of SCCIC records search, archival research, and survey, no archaeological resources have been identified within or immediately adjacent to the Project site. Based on the geoarchaeological analysis, the archaeological sensitivity for the majority of the Project site is considered low, however, the west end of the Chevy Chase Country Club component and portions of the Glendale Tee component are considered to have a high archaeological sensitivity, and therefore there is a high potential to encounter subsurface archaeological resources during construction in these particular areas of the Project site. Such resources could qualify as historical resources or unique archaeological resource under CEQA, and impacts to any such resources would constitute a significant impact on the environment. However, implementation of the following mitigation measures, as appropriate, would reduce such potential impacts to less than significant.

Mitigation Measures

The following mitigation measures are recommended to reduce impacts to historical resources and unique archaeological resources from the Project to a less than significant level consistent with the requirements of CEQA:

MM CUL-1: Prior to the issuance of a demolition permit, an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 2008) (Qualified Archaeologist) shall be retained. The Qualified Archaeologist shall conduct cultural resources sensitivity training for construction personnel prior to construction. Construction personnel shall be trained on measures that will be implemented during construction and shall also be informed of the types of cultural resources that may be encountered, and the proper procedures to be followed in the event of an inadvertent discovery during construction. The City of Glendale shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

MM CUL-2: An archaeological monitor (working under the direct supervision of the Qualified Archaeologist) shall observe all ground-disturbing activities, including but not limited to: demolition, grubbing, trenching, grading, or any other construction excavation activity in the particular areas of the Project site that have been designated as archaeologically sensitive (see Figure 4, Archaeological Sensitivity Map). These areas include portions of the Glendale Tee component, north of Doran Street and the western portion of the Chevy Chase Country Club component. The frequency of monitoring shall be based on the rate of excavation and grading activities, the materials being excavated (younger sediments vs. older sediments), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring may be reduced to part-time inspections, or ceased entirely, if determined adequate by the Qualified Archaeologist.

MM CUL-3: In the event that historic (e.g., bottles, foundations, refuse dumps/privies, railroads, etc.) or prehistoric (e.g., hearths, burials, stone tools, shell and faunal bone remains, etc.) archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. An appropriate buffer area shall be established by the Qualified Archaeologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by Project construction activities shall be evaluated by the Qualified Archaeologist. If a resource is determined by the Qualified Archaeologist to constitute a "historical resource" pursuant to CEQA Guidelines Section 15064.5(a) or a "unique archaeological resource" pursuant to Public Resources Code Section 21083.2(g), the qualified Archaeologist shall coordinate with the City of Glendale to develop a formal treatment plan that would serve to reduce impacts to the resources. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any archaeological material collected shall be curated at a public, non-profit institution with a research interest in the materials, such as the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.

MM CUL-4: The Qualified Archaeologist shall prepare a final report and appropriate California Department of Parks and Recreation Site Forms at the conclusion of archaeological monitoring. The report shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources with respect to the California Register of Historical Resources and CEQA. The report and the Site Forms shall be submitted to the City of Glendale, the South Central Coastal Information Center, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the required mitigation measures.

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

Less Than Significant Impact With Mitigation Incorporated. The geological sediments of the Project site identified as younger alluvium are assigned low-to-high paleontological sensitivity, increasing with depth. While the exact depth at which the transition to high sensitivity sediments is unknown at the Project site, the nearest LACM locality was excavated from 14 feet below ground surface. As the current excavation plans for the Project do not exceed 10 feet in depth below ground surface, it is unlikely that high sensitivity older alluvial sediments will be encountered during construction of the Project. Other rocks in the Project site are igneous or metamorphic and have no paleontological sensitivity. As a result of these findings, paleontological construction monitoring is not recommended during construction of the Project. However, ESA is recommending mitigation measures that include cultural resources sensitivity training for construction personnel and procedures to be followed in the event of an inadvertent paleontological discovery during construction.

Mitigation Measures

Mitigation Measures PALEO-1 through PALEO-3 are recommended below to ensure that potentially significant impacts to buried paleontological resources are reduced to a less than significant level.

MM PALEO-1: Prior to the issuance of a demolition permit, a qualified paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards (SVP, 2010) (Qualified Paleontologist) shall be retained. The Qualified Paleontologist shall conduct paleontological resources sensitivity training for construction personnel prior to construction. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project site and the procedures to be followed in the event of an inadvertent discovery during construction. The City of Glendale shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

MM PALEO-2: If a potential fossil is encountered, construction activities in the vicinity of the discovery shall cease and be temporarily diverted or redirected to an area outside a 50-foot radius from the discovery. The Qualified Paleontologist shall be contacted immediately and allowed to evaluate the discovery, determine its significance, and to recommended appropriate treatment measures. An appropriate buffer area shall be established by the Qualified Paleontologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. At the Qualified Paleontologist's discretion, and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock/sediment samples for initial processing and evaluation. If the Qualified Paleontologist deems the resource significant, and if preservation in place is not feasible, the Qualified Paleontologist shall implement a paleontological salvage program in accordance with the standards of the Society for Vertebrate Paleontology (2010) in order to remove the resource from the location. Any fossils encountered and recovered shall be prepared to the point of identification and catalogued before they are submitted to their final repository. Any fossils collected shall be curated at a public, non-profit institution with a research interest in the materials,

such as the Natural History Museum of Los Angeles County, if such an institution agrees to accept the fossils. If no institution accepts the fossil collection, they shall be donated to a local school in the area for educational purposes. Accompanying notes, maps, and photographs shall also be filed at the repository and/or school. The Qualified Paleontologist shall also determine the need for paleontological construction monitoring during construction of the Project.

The Qualified Paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Applicant to the City of Glendale, the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the Project and required mitigation measures.

d. Disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact With Mitigation Incorporated. Although no known cemeteries or burial sites are known to existing within or in proximity to the Project site, the potential exists for undiscovered human remains to be encountered during Project-related grading and excavation activities. As such, the following mitigation measure would be implemented to ensure that impacts to human remains, if encountered during Project implementation, would be reduced to less than significant.

Mitigation Measure

The following mitigation measures are recommended to reduce impacts to human remains from the Project to a less than significant level consistent with the requirements of CEQA:

MM CUL-5: If human remains are encountered unexpectedly during implementation of the Project, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). The MLD may, with the permission of the landowner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss

and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendants and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance.

VI. GEOLOGY AND SOILS

Would the project:

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

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

No Impact. Fault rupture is displacement that occurs along the surface of a fault during an earthquake. The project site is located in a seismically active area, as is the case throughout the Southern California region. Major faults and fault zones characterize the region. According to the City's General Plan Safety Element, Plate P-1, Summary of Hazards Map (I), the City of Glendale is situated in the Transverse Ranges Province and is exposed to risk from multiple earthquake fault zones including the Sierra Madre Fault Zone, Verdugo Fault Zone, Hollywood Fault Zone, the Elysian Park Fault Zone, and the Raymond Fault Zone.[7] According to the General Plan Safety Element and Plate P-1, the California Geological Survey (CGS) has identified the Rowley Fault (a section of the Sierra Madre Fault) and the Raymond Fault as sufficiently active and well defined to require zoning under the guidelines of the Alquist-Priolo Earthquake Fault Zoning Act. However, only the Rowley Fault extends into the City's boundaries.[8]

Since no physical development or changes in the current facilities or operations at LAGWRP are proposed by the project, implementation of the proposed discharge reductions would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault or active fault trace. With regard to the proposed recycled water distribution facilities, once constructed, the pipeline alignments and pump station locations could cross one or more known or unknown active earthquake faults. However, despite the potential presence of local earthquake faults underlying the proposed pipeline segments and pump station locations, the proposed project does not involve the placement of habitable structures or other improvements that could pose a risk to people or property resulting from surface rupture of a fault in the area. Furthermore, the proposed pipelines themselves would operate under

[7] *City of Glendale Safety Element of the General Plan, August 2003, Plate P-1, Summary of Hazards Map (I), http://www.glendaleca.gov/home/showdocument?id=4551.*

[8] *Ibid.*

pressure and could be damaged or fail in the event of a fault rupture along the alignments. However, the pipelines would include isolation valves that could be closed if a pipe failure were to occur, which would preclude the potential for substantial adverse effects to people or structures in the area associated with pipe failure during a seismic event.

As such, based on the discussion above, construction and operation of the proposed project would not increase risks to people or structures from earthquake activity or fault rupture, since the proposed project would not involve new populated buildings or populations. Therefore, the proposed project would not expose people or structures to potential significant adverse effects from the rupture of a known earthquake fault. No impacts regarding project construction or operation would occur in this regard.

ii. Strong seismic ground shaking?

No Impact. Seismicity is the geographic and historical distribution of earthquake, including their frequency, intensity, and distribution. The level of ground shaking at a given location depends on many factors, including the site and type of earthquake, distance from the earthquake, and subsurface geologic conditions. They type of construction also affects how particular structures and improvements perform during ground shaking.

As discussed above, the project site is located in a seismically active region. There is potential for significant ground shaking at the project site during a strong seismic event on active regional faults in the southern California area. However, as no physical development or changes in current facilities or operations at LAGWRP are proposed, implementation of the proposed discharge reductions would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. With regard to the proposed recycled water distribution facilities, the project would be constructed to meet all applicable Building Codes and seismic safety standards, including the earthquake-resistant standards required by the City of Glendale. The fact that the proposed pipelines and pump stations would be constructed and operated underground minimizes the potential for above-ground impacts, and below-ground impacts would be limited to the area surrounding the pump station location or point of pipe failure to a shallow depth, if failure were to occur. In addition, as noted above, the proposed pipelines would be equipped with isolation valves that could be shut if a pipeline were damaged by a seismic event. Therefore, construction and operation of the proposed recycled water distribution facilities are not expected to increase the risk of exposure of people or structures to strong seismic ground shaking. No impacts would occur in this regard.

iii. Seismic-related ground failure, including liquefaction?

No Impact. Liquefaction is a process in which soil that is exposed to water (i.e., is below the local water table) becomes unstable when subjected to strong seismic ground shaking as occurs during a moderate to large earthquake. Loose to medium dense sand and silty sand are particularly susceptible to liquefaction. Predominantly fine-grained soils, such as silts and clay, are less susceptible to liquefaction. The project site and LAGWRP are located within a liquefaction hazard area.[9] However, as no physical development or changes in current facilities or operations at LAGWRP are proposed by the project, implementation of and the proposed discharge reductions would not expose people or structures to potential substantial adverse effects, including

[9] *Earthquake Zones of Required Investigation Burbank Quadrangle, California Geological Survey, Earthquake Fault Zones Official Map released January 1, 1979 and Seismic Hazard Zones Official Map released March 25, 1999, http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/BURBANK_EZRIM.pdf; Earthquake Zones of Required Investigation Pasadena Quadrangle California Geological Survey, Seismic Hazard Zones Official Map released March 25, 1999, http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/PASADENA_EZRIM.pdf.*

the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. The proposed recycled water distribution facilities to be constructed as part of the proposed project are not located within an area of liquefaction.[10] The proposed pipelines and pump stations would be constructed to meet all applicable Building Codes and seismic safety standards. Additionally, all trenches would be backfilled with engineered fill, which meets proper compaction and shear strength requirements, and therefore has little liquefiable potential. The proposed pipelines and pump stations would operate as underground structures. Due to the application of engineered fill during construction, damage to the pipeline structures and pump stations from an increase in lateral pressure is not expected. Additionally, as discussed above, the proposed pipelines and pump stations would be constructed and operated in compliance with standards required by the City of Glendale. As such, the proposed recycled water distribution facilities would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. No impact would occur in this regard.

iv. Landslides?

No Impact. The project site and LAGWRP are not located within an area susceptible to earthquake-included landslides.[11] Further, since no changes to current LAGWRP facilities or operations are proposed, the proposed discharge reductions would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. While the Glendale Tee Facility is not, the proposed Chevy Chase Country Club and Chevy Oaks/Chevy Oaks/Camino San Rafael Homes Recycled Water facilities are located within areas susceptible to earthquake-included landslides.[12] However, project-related landslides or mudflows are not anticipated to occur in the general area of the proposed recycled water distribution facilities due to the fact that the pipelines and pump stations would be constructed entirely underground. No impact would occur in this regard.

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

Construction

Less Than Significant Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. The construction and operation of the proposed recycled water distribution facilities would occur within existing street rights-of-way and other developed or disturbed public property. During construction, short-term erosion impacts could occur as a result of grading/excavation from construction activities. These exposed soils could potentially cause erosion impacts during windy conditions and from construction vehicles traveling through the site. Precipitation during the storm events could cause the exposed soils to run off into public rights-of-way and/or storm drainage systems. The contractor would be required to develop and implement a plan to control erosion of soil from the site during construction. Because the on-street portions of the project site have been previously excavated, with implementation of an erosion control plan significant losses of topsoil are not anticipated. The development

[10] *Ibid.*

[11] *Earthquake Zones of Required Investigation Burbank Quadrangle, California Geological Survey, Earthquake Fault Zones Official Map released January 1, 1979 and Seismic Hazard Zones Official Map released March 25, 1999, http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/BURBANK_EZRIM.pdf; Earthquake Zones of Required Investigation Pasadena Quadrangle California Geological Survey, Seismic Hazard Zones Official Map released March 25, 1999, http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/PASADENA_EZRIM.pdf.*

[12] *Ibid.*

and implementation of the erosion control plan would keep impacts resulting from construction to less than significant levels, particularly in off-street portions of the alignment.

Operation

No Impact. As no physical development or changes in current facilities or operations at LAGWRP are proposed, and the proposed discharge reductions would not result in any site disturbance or grading activity that could expose soils susceptible to erosion. The increased application of recycled water to offset the use of potable water for non-potable purposes would not result in increased erosion since recycled water would be applied in the same location, manner and intensity as was done previously with potable water. Thus, project implementation of this component would not result in substantial soil erosion or the loss of topsoil. With regard to the proposed three new recycled water distribution pipelines and pump stations, these facilities would operate passively as a closed system once constructed, and would be located entirely underground; therefore, no additional impacts relative to soil erosion or loss of topsoil are expected. No operation impacts would occur in this regard.

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

No Impact. Refer to Responses VII.a.i.-iv. As no additional development or changes in current operations at the at LAGWRP are proposed by the project, no impacts regarding the proposed discharge reductions would occur in this regard. With regard to the proposed recycled water distribution facilities, most of the alignment is located on a geologic unit or soil that is unstable when subject to strong seismic ground shaking. However, lateral spreading, subsidence, and collapse are not expected to occur along the proposed alignment, because the majority of the route was graded when the streets were originally developed. As discussed above, the proposed alignments are located within a liquefaction hazard area. However, the proposed pipelines and pump stations to be constructed underground would meet all applicable Building Codes and seismic safety standards. Additionally, all trenches would be backfilled with engineered fill, which meets proper compaction and shear strength requirements, and therefore has little liquefiable potential. Therefore, construction and operation of the proposed project are not expected to cause the local geologic units or soils to become unstable, or result in on- or off site landslide, lateral spreading, subsidence, liquefaction or collapse, and no mitigation is required.

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

No Impact. Expansive soils are defined as fine-grained clayey soils that have the potential to shrink and swell with repeated cycles of wetting and drying. As no development or changes in current operations at LAGWRP are proposed by the project, the proposed discharge reductions would not have the potential to be affected by expansive soils or otherwise result in adverse effects related to such soils. As such, implementation of this project component would not cause any disturbance to the existing soils that are beneath the site or in any off-site areas. With regard to the proposed recycled water distribution facilities, the project alignments are located in urbanized areas that are currently developed, and construction activities and operation of project components would occur within existing street rights-of-way and other developed or disturbed public property. Furthermore, as discussed above, the proposed project would be constructed to meet all applicable Building Codes and seismic safety standards, and would incorporate engineered backfill during construction.

As such, no significant impacts involving the proposed recycled water distribution facilities are anticipated with regard to expansive soils. Therefore, no construction or operation impacts would occur in this regard.

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

No Impact. The proposed project does not include the use or development of septic tanks or alternative wastewater disposal systems. Thus, no impacts would occur in this regard.

VII. GREENHOUSE GAS EMISSIONS

The following impact analysis pertaining greenhouse gas emissions is based, in part, from greenhouse gas modeling prepared by ESA in January 2018 and included as Appendix D.

Would the project:

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

Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). The major concern with GHGs is that increases in their concentrations are causing global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of the impacts attributable to human activities, most in the scientific community agree that there is a direct link between increased emissions of GHGs and long term global temperature increases.

The State defines GHGs as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). Because different GHGs have different global warming potentials (GWPs) and CO_2 is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO_2 equivalents (CO_2e). For example, CH_4 has a GWP of 25 (over a 100-year period); therefore, one metric ton (MT) of CH_4 is equivalent to 25 MT of CO_2 equivalents ($MTCO_2e$). The GWP ratios for the are available from the United Nations Intergovernmental Panel on Climate Change (IPCC) and are published in the *Fourth Assessment Report* (AR4). By applying the GWP ratios, project-related CO_2e emissions can be tabulated in metric tons (MT) per year. Large emission sources are reported in million metric tons (MMT) of CO_2e.[13]

Some of the potential effects in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more forest fires, and more drought years (CARB 2008). Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. The projected effects

[13] *A metric ton is 1,000 kilograms; it is equal to approximately 1.1 U.S. tons and approximately 2,204.6 pounds.*

of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects (IPCC 2001):[14]

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term may be great.

California generated 440.4 MMTCO2e in calendar year 2015. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2015, accounting for approximately 37 percent of total GHG emissions in the state. This sector was followed by the industrial sector (21 percent) and the electric power sector (including both in-state and out-of-state sources) (19 percent).[15]

Impacts of GHGs are borne globally, as opposed to localized air quality effects of criteria air pollutants and toxic air contaminants. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; however, it is clear that the quantity is enormous, and no single project would measurably contribute to a noticeable incremental change in the global average temperature, or to global, local, or micro climates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

The City of Glendale has not adopted a threshold of significance for GHG emissions that would be applicable to the proposed project. In December 2008, the SCAQMD adopted a 10,000 MTCO2e per year significance threshold for industrial facilities for projects in which the SCAQMD is the lead agency. Although SCAQMD has not formally adopted a significance threshold for GHG emissions generated by a project for which SCAQMD is not the lead agency, or a uniform methodology for analyzing impacts related to GHG emissions on global climate change, in the absence of any industry-wide accepted standards applicable to the proposed project, the SCAQMD's significance threshold of 10,000 MTCO2e per year for industrial projects is the most relevant air district-adopted GHG significance threshold and is used as a benchmark for the proposed project. It should be noted that the SCAQMD's significance threshold of 10,000 MT/year CO_2e for industrial projects is intended for long-term operational GHG emissions. The SCAQMD has developed guidance for the determination of the significance of GHG construction emissions that recommends that total emissions from construction be

[14] *IPCC, 2001. Climate Change 2001: Working Group I: The Scientific Basis, Summery for Policy Makers, 2001. Available at: http://www.ipcc.ch/ipccreports/tar/wg1/index.php?idp=0. Accessed March 2017.*

[15] *California Air Resources Board, California Greenhouse Gas 2000-2015 Inventory by Scoping Plan Category – Summary. Available at: http://www.arb.ca.gov/cc/inventory/data/data.htm. Accessed June 2017.*

amortized over an assumed project lifetime of 30 years and added to operational emissions and then compared to the threshold.[16]

The justification for the threshold is provided in SCAQMD's *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* ("SCAQMD Interim GHG Threshold").[17] The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required. As stated by the SCAQMD:

> *"…the…screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects…the policy objective of [SCAQMD's] recommended interim GHG significance threshold proposal is to achieve an emission capture rate of 90 percent of all new or modified stationary source projects. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that [SCAQMD] staff estimates that these GHG emissions would account for slightly less than one percent of future 2050 statewide GHG emissions target (85 [MMTCO$_2$e per year]). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to [Best Available Control Technology (BACT)] for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility."*

Thus, based on guidance from the SCAQMD, if an industrial project would emit GHGs less than 10,000 MTCO$_2$e per year, the proposed project would not be considered a substantial GHG emitter and GHG emission impact would be less than significant.

CEQA Guidelines 15064.4 (b)(1) states that a lead agency may use a model or methodology to quantify GHGs associated with a project. In September 2016, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) released the latest version of the CalEEMod (Version 2016.3.2). The purpose of this model is to estimate construction-source and operational-source emissions from direct and indirect sources. Accordingly, the latest version of CalEEMod has been used for this project to estimate the project's emission impacts.

Construction

Less Than Significant Impact. Project construction GHG emissions would occur from operation of heavy-duty equipment, vehicle trips from workers, vendors, and haul trucks. Construction emissions are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source emissions factors. The emissions estimated from the CalEEMod (Version 2016.3.2) software are based on outputs from the OFFROAD and EMFAC models, which are emissions estimation models developed by CARB and used to calculate emissions from construction activities, including on- and off-road vehicles and equipment. The output values used in this analysis were adjusted to be project-specific based on equipment types and the construction schedule. These values were

[16] *SCAQMD, 2008. Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2. Accessed March 2017.*

[17] *Ibid.*

then applied to the same construction phasing assumptions used in the criteria pollutant analysis (see Section III, *Air Quality*,) to generate GHG emissions values for each construction year. CalEEMod outputs construction-related GHG emissions of CO_2, CH_4, and CO_2e. These values are reported in units of metric tons for consistency with general state, federal, and global GHG emission inventories.

According to the SCAQMD, "GHG emission reduction measures for construction equipment are relatively limited."[18] Therefore, SCAQMD staff recommends that construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies. In order to consider project construction GHG emission in the larger operational context, GHG emissions from construction have been amortized over a 30-year lifetime of the proposed project (i.e., total construction GHG emissions were divided by 30 to determine an annual construction emissions estimate comparable to operational emissions) consistent with SCAQMD recommendations.

As shown in **Table VII-1,** the total construction GHG emissions over the duration of the proposed project would be 844. The total project GHG emissions amortized over 30 years would be the equivalent of 28 $MTCO_2e$ over the course of a 30-year period. Based on the minor amount of construction GHG emissions and that GHG impacts are cumulative in nature, construction impacts would be less than significant.

TABLE VII-1
CONSTRUCTION GHG EMISSIONS (METRIC TONS)

Construction Year	CO_2e (metric tons) [a]
2018	558
2019	286
Total	**844**
Annual (Amortized over 30 years)	**28**

Totals may not add up exactly due to rounding in the modeling calculations

Source: ESA, 2017

Operation

Less Than Significant Impact. Project operations would generate de minimis amounts of GHG emissions from maintenance vehicles traveling to pump stations. Maintenance trips would be on an as needed basis and would not occur daily. As a result, project operations would not be a major source of GHG emissions and impacts would be less than significant.

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

Less Than Significant Impact. Construction and operation of the proposed project would not conflict or obstruct implementation of policies and strategies to reduce GHG emissions. During construction, the

[18] *South Coast Air Quality Management District, Board Meeting, December 5, 2008, Agenda No. 31, Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, Attachment E – E. Draft Guidance Document – Interim CEQA Greenhouse (GHG) Significance Threshold Document. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2. Accessed October 2017.*

proposed project would be subject SCAQMD's ATCM which restricts idling times to no more than 5 minutes which would reduce fuel consumption and GHG emissions. With expansion of a recycled water system, the proposed project would provide recycled water to a broader service population, thus reducing consumption of potable water and strain on local water supplies. Overall, the proposed project would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, construction and operation impacts would be less than significant.

VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

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

Construction

Less Than Significant Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. Though construction of the proposed recycled water distribution facilities would involve the excavation and transport of paving materials (e.g., asphalt, concrete, road bed fill materials) that could possibly be contaminated by vehicle-related pollution (e.g., oil, gasoline, diesel, other automotive chemicals), the proposed project does not involve the routine transport, use, or disposal of hazardous materials. All such paving and road bed materials would be transported and disposed of in accordance with applicable codes and regulations. Such transport and disposal is not expected to create a significant hazard to workers or the surrounding community. Therefore, the proposed project would not create impacts related to the routine transport, use, or disposal of hazardous materials, and no mitigation is required. A less than significant impact would occur in this regard.

Operation

No Impact. No physical development or changes in current facilities or operations at LAGWRP are proposed by the project, and thus there would be no potential for the proposed discharge reductions to result in adverse operational impacts regarding the release of hazardous materials. Operation of the proposed recycled water distribution facilities would involve the storage and conveyance of recycled water, and would not require the use, storage, or disposal of hazardous substances. It should be noted that while recycled water is not suitable for human consumption, it is not considered a hazardous material, and thus the proposed increase in recycled water use would not create a significant hazard to the public or the environment. No additional sources of hazardous materials or increases in activities involving hazardous materials would occur under the proposed project. No impact would occur in this regard.

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

Construction

Less Than Significant Impact. For construction in areas of the proposed recycled water distribution facilities, the construction contractor would be required to obtain an "Underground Service Alert Identification Number". To minimize potential damage to any existing utilities, the contractor would not be allowed to excavate until all utility owners are notified, and all substructures are clearly identified. As the project would

convey recycled water, operation of the proposed facilities would not create a significant hazard to the public or environment involving the release of hazardous materials. A less than significant impact would occur in this regard.

Operation

No Impact. No changes to current LAGWRP facilities and operations are proposed by the project, and thus there would be no additional risks associated with hazardous materials releases relative to existing conditions related to the proposed discharge reductions. With regard to the proposed recycled water distribution facilities, no reasonably foreseeable upset or accident conditions that could involve the release of hazardous materials into the environment are anticipated during operation of the proposed facilities. It should be noted that while recycled water is not suitable for human consumption, it is not considered a hazardous material, and thus the proposed increase in recycled water use would not create a significant hazard to the public or the environment. No impact would occur in this regard.

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

Construction

Less Than Significant Impact. As discussed above in the Air Quality section, operation of construction equipment would produce air contaminant emissions. None of these emissions are expected to be generated at levels that are considered hazardous. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. Construction of the proposed recycled water distribution facilities would involve the excavation and transport of paving materials (e.g., asphalt, concrete, road bed fill materials) that could possibly be contaminated by vehicle-related pollution (e.g., oil, gasoline, diesel, other automotive chemicals). All such materials would be transported and disposed of in accordance with applicable codes and regulations. Such transport and disposal is not expected to involve acutely hazardous materials, substances or waste. The Glenoaks Elementary School is located at 2015 E. Glenoaks Drive, approximately one-quarter mile south of the Chevy Chase Country Club and Chevy Oaks/Camino San Rafael Homes Recycled Water pipeline alignments. The Columbus Elementary School is located at 425 W. Milford Street, approximately 0.20 miles west of the Glendale Tee pipeline alignment. Although these schools are located within one-quarter mile of the project, construction of the proposed recycle water distribution faculties is not anticipated to have an adverse effect on these schools, since construction activities would not involve hazardous emissions or materials, and no known hazardous materials sites are located in proximity to school sites in the area. Therefore, construction impacts to schools are anticipated to be less than significant.

Operation

Less Than Significant Impact. The project site includes the GWP and PWP service areas within the Cities of Glendale and Pasadena, as well as adjacent portions of the City of San Marino, City of Los Angeles, City of La Canada-Flintridge, and unincorporated Los Angeles County community of Altadena. LAGWRP is located in an urbanized area characterized by industrial, commercial, and retail uses, and although there are a number of sensitive receptors located within the area, including residential uses, no physical development or changes in current facilities or operations at LAGWRP are proposed by the project. As such, this component of the proposed project would not have the potential to result in hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste in any greater capacity than is necessary under existing conditions. With regard to the three proposed distribution facilities, although the Glenoaks Elementary School and

Columbus Elementary School are both located within one-quarter mile of the proposed alignments, operation of the proposed project is not anticipated to have an adverse effect on these schools, since operation would not involve hazardous emissions or materials, and no known hazardous materials sites are located in proximity to school sites in the area. This proposed project would convey recycled water under pressure along existing public rights-of-way and other previously disturbed areas. If there were any emergency condition related to the proposed recycled water distribution facilities, the result would involve the release of recycled water, which poses no immediate health threats; therefore, operation impacts to schools are anticipated to be less than significant.

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

Less Than Significant Impact. The project site is not listed on a hazardous materials site according to the California Department of Toxic Substances Control website.[19] Further, no hazardous material sites are locate within the immediate vicinity of the project site. It is concluded that the potential for environmental impacts to the proposed project relative to these sites is low. If, during construction or operation of the proposed project, contamination is discovered with the potential to create a significant hazard to the public or the environment, the applicable regulatory agency would be contacted and the appropriate corrective actions undertaken to eliminate the hazard. No significant impacts are anticipated and no mitigation is required.

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

No Impact. The Hollywood Burbank Airport is located approximately six miles northwest of the project site. As noted previously, no additional construction or any changes to LAGWRP facilities or operations are proposed by the project. Construction of the proposed recycled water distribution facilities would not affect airport activities due to the limited scale and temporary nature of construction activities. Once constructed, the facilities would operate passively and underground. As such, neither construction nor operation of the proposed project would result in a safety hazard for people residing or working in the project area. No impact would occur in this regard.

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

No Impact. No private airstrips are located within two miles of the project site. As such, the proposed project would not result in a safety hazard for the people residing or working in the area related to private airstrips. No impact would occur in this regard.

[19] *California Environmental Protection Agency, Department of Toxic Substances Control. Envirostor Database. http://www.envirostor.dtsc.ca.gov/public/. Accessed January 2018.*

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

Construction

Less Than Significant Impact. The proposed project would not impair or physically interfere with an adopted emergency response plan or a local, state, or federal agency's emergency evacuation plan, except for possible short-term periods during construction of the proposed recycled water distribution facilities, when roadway access may be limited in some areas. The on-street construction activities would conform to all City Fire and Police Department vehicular access standards to allow adequate emergency access. Thus, the proposed recycled water distribution facilities would not physically interfere with any existing emergency response or evacuation plans. As discussed above, no construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. No adverse impacts to emergency response or emergency evacuation plans are anticipated and no mitigation is required.

Operation

No Impact. As no development or changes to the project site or the current LAGWRP facilities or operations are proposed by the project other than the reduction in wastewater discharges and increased application of recycled water, the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Further, the three new recycled water distribution pipelines and pump stations would operate passively and would be located entirely underground within public rights-of-way (e.g., roadways) and other public property. Thus, no impacts would occur in this regard.

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

No Impact. According to the City's General Plan Safety Element, Plate P-2, Summary of Hazards Map (II), the components of the proposed project that are located within a City designated fire hazard zone include the Chevy Chase Country Club and Chevy Oaks/Camino San Rafael Homes Recycled Water facilities.[20] However, the proposed project would not involve the placement of people or populated structures within these areas, as the proposed recycled water distribution facilities would be buried below ground. As such, construction and operation of the proposed project would not expose any people or structures to a significant risk of loss, injury or death involving wildland fires. Therefore, no construction or operation impacts are expected and no mitigation is required.

[20] *City of Glendale Safety Element of the General Plan, August 2003, Plate P-1, Summary of Hazards Map (I),* http://www.glendaleca.gov/home/showdocument?id=4551.

IX. HYDROLOGY AND WATER QUALITY

The following impact analysis pertaining to hydrology and water quality is based, in part, on information contained in the project's *Hydraulic Modeling Report* prepared by ESA in March 2018 and included as Appendix E.

Would the project:

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

Construction

Less Than Significant Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. However, project implementation would require the construction of the proposed recycled water distribution facilities. The construction of the proposed recycled water distribution facilities would not generate any wastewater or significantly increase urban runoff into existing storm drains, as the improvements would be placed entirely underground in previously disturbed areas. Based on the topography and geology of the project site, and proposed depths of excavation for construction, it is not anticipated that substantial dewatering would be required. However, if localized incidental dewatering is ultimately required, it would generate minimal quantities of discharge water, which would be pumped into existing storm drains nearby. This discharge water is not expected to contain any contaminants that would cause its release to violate any water quality standards or waste discharge requirements. All dewatering discharges would be carried out in accordance with all applicable requirements of Order No. R4-2011-0197/NPDES No. CA0053953. Therefore, no significant impacts to water quality from construction of the proposed project are anticipated and no mitigation is required.

Operation

Less Than Significant Impact. The proposed project includes a reduction in wastewater discharges from the LAGWRP to the River to support increased application of recycled water in the GWP and PWP service areas, construction and operation of three new recycled water distribution pipelines and associated pump stations within the City of Glendale, and a pipeline connection to Pasadena's recycled water distribution system. The construction and operation of the Pasadena's recycled water system improvements, as well as the application of recycled water within the PWP service area, were previously evaluated in the certified Pasadena Non-Potable Water Project Environmental Impact Report (EIR). Although the end-use application of treated wastewater generated at LAGWRP would change over time, with increased deliveries to recycled water users to offset potable water use for these applications, the quality of discharged or recycled effluent would comply with the Order No. R4-2011-0197/NPDES No. CA0053953. The operation of the proposed recycled water distribution facilities would not generate any wastewater or significantly increase urban runoff into existing storm drains, as the improvements would be placed entirely underground in previously disturbed areas. Therefore, no significant impacts to water quality from operation of the proposed project are anticipated and no mitigation is required.

b. Substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would

drop to a level which would not support existing land uses or planned land uses for which permits have been granted)?

Construction

Less Than Significant Impact. During construction, the only groundwater impacts that the proposed recycled water distribution facilities could cause would be from dewatering activities. Based on the limited excavation depths proposed under the project, the likelihood of encountering groundwater during construction is considered low. However, in the event that groundwater is encountered during construction, dewatering is not expected to occur in quantities that would substantially deplete groundwater supplies or interfere substantially with groundwater recharge. The proposed project would serve to increase the application of recycled water in the GWP and PWP service areas, and would not contribute to the depletion of groundwater supplies, interfere substantially with groundwater recharge, or lower the groundwater table. No adverse impacts to groundwater supply or recharge are expected and no mitigation is required.

Operation

Less Than Significant Impact. The proposed project includes a reduction in wastewater discharges from the LAGWRP to the River to support increased application of recycled water in the GWP and PWP service areas, construction and operation of three new recycled water distribution pipelines and associated pump stations within the City of Glendale, and a pipeline connection to Pasadena's recycled water distribution system. While these reductions would be gradual, and would not represent a substantial portion of the overall flow volumes within the River downstream of the project site, it is possible that some portion of the discharges from LAGWRP percolate into local aquifers and may contribute to groundwater supplies. However, while there is some potential for treated wastewater discharges to contribute to groundwater storage volumes in the area, this contribution is a very small percentage of the overall groundwater recharge within the affected groundwater basin(s). As such, the proposed gradual reduction in discharges from LAGWRP, some portion of which may contribute to groundwater recharge in the area, would not constitute a substantial reduction in recharge volumes relative to overall recharge rates in the areas downstream with the River. Furthermore, it is possible that some portion of the recycled water applied within the project site could contribute to groundwater recharge as well, which could at least partially offset the reduction in recharge that may occur within the River. Further, the operation of the proposed recycled water distribution facilities would not deplete groundwater supplies or interfere with groundwater recharge. Thus, the proposed project would not have the potential to substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, and impacts would be less than significant.

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

Construction

Less Than Significant Impact. See Response to Item IV.d, below.

Operation

Less Than Significant Impact. The proposed project includes a reduction in wastewater discharges from the LAGWRP to the River to support increased application of recycled water in the GWP and PWP service areas,

construction and operation of three new recycled water distribution pipelines and associated pump stations within the City of Glendale, and a pipeline connection to Pasadena's recycled water distribution system. The increased application of recycled water would not constitute a change in existing drainage patterns as the recycled water would be applied in the same location, manner and intensity as potable use currently being used for these purposes. While implementation of the proposed project would not physically alter the existing drainage pattern of the project site or area, it would incrementally reduce flow volumes entering the River. According to the results of the *Effects of Los Angeles – Glendale Water Reclamation Plant Discharge Reductions on the LA River – Hydraulic Modeling Report* prepared for the proposed project (included as Appendix E of this Initial Study), during winter and spring, the proposed project flow reduction from LAGWRP would be "drowned out" by flows in the River, with project flows constituting 0.1 to 4 percent of flow in the River between LAGWRP and the Arroyo Seco confluence, and a smaller percentage between Arroyo Seco and the estuary. The proposed project flows constitute a 10 percent reduction in flows in the River upstream of the Arroyo Seco confluence, and a 4 percent reduction in flows to the estuary during the August 2008 Condition. The August 2008 Condition represents the lowest flow in the River during the most recent 11-year period for which data is available and is used as the baseline. As such it is a highly conservative (worst-case) baseline (makes the project effect appear much greater than during more typical conditions). The proposed project flow reduction translates to an average reduction in flow depth between LAGWRP discharge point and the confluence with the Arroyo Seco of four-tenths of an inch (4/10") and a reduction in flow velocity of 2 percent. The shrinkage in wetted channel area is 1.5 acres over a 5.4-mile reach (1.9 percent of the existing wetted channel area [81 acres]) under the August 2008 Condition, equivalent to a seven inch (7") wide strip on either side of the channel. Twenty-six percent of the shrinkage in wetted area occurs on concrete lined bank or bed areas, and 74 percent on soft bottomed channel. This shrinkage would be seasonal not permanent, and these parts of the channel bed and banks would be re-wetted during the rainy season. It is not anticipated that the reduction in discharge would cause erosion or siltation in the River channel. Thus, while the proposed project would alter the volume of water discharged to the River from LAGWRP, it would not alter the drainage pattern of the site or surrounding area in a manner which would result in substantial erosion or siltation on- or off-site. As such, impacts in this regard would be less than significant.

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

Construction

Less Than Significant Impact. The proposed recycled water distribution facilities would be constructed within existing street rights-of-way and other developed or disturbed public property, and would not permanently alter the drainage pattern of the area as the facilities would be located entirely underground. Construction of the proposed recycled water distribution facilities would not alter the course of a stream or river, and an erosion control plan, as part of a project-specific Stormwater Pollution Prevention Plan (SWPPP) approved by the RWQCB, would be developed and implemented throughout construction activities for all project components, which would minimize the potential for erosion or siltation on- or off-site. The open-trench construction methods that are proposed would not substantially increase the rate or amount of surface runoff, or result in flooding on- or off-site. Therefore, a less than significant impact is anticipated and no mitigation is required.

Operation

Less Than Significant Impact. See Response to Item IX.c. above. While the proposed project would alter the volume of water draining to the River from LAGWRP, it would not increase the rate or amount of surface runoff or alter the drainage pattern of the site or surrounding area in a manner which would result in flooding on- or off-site. Further, operation of the proposed recycled water distribution facilities would occur below grade, and thus would not affect the course of a stream or river. Thus, given that flows would be reduced under the proposed project, impacts in this regard would be less than significant.

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

Construction

Less Than Significant Impact. Limited dewatering, if any, that may be required for construction would contribute minimal amounts of discharge water. This dewatering discharge water is not expected to be released in substantial quantities and is not expected to exceed the existing or planned capacity of the local stormwater drainage system. Furthermore, as mentioned above, the discharge water is not anticipated to contain significant quantities of contaminants, and would be of limited volume. As such, a less than significant impact would occur in this regard.

Operation

Less Than Significant Impact. See Response to Items IX.c. and IX.d. above. Given that recycled water would be applied at the same locations and in the same manner and intensity, the proposed project would not be expected to contribute additional runoff beyond that generated under existing conditions. In addition, based on the projected reduction in discharges to the River from LAGWRP under the proposed project, the capacity of existing or planned stormwater drainage systems (including the River) would not be exceeded. The proposed recycled water distribution facilities would operate as a closed system that would not create or contribute runoff water. Therefore, impacts to stormwater systems related to increased runoff volumes or polluted runoff would be less than significant.

f. Otherwise substantially degrade water quality?

Construction

Less Than Significant Impact. Potential short-term erosion effects could occur during site excavation and construction activities associated with the proposed recycled water distribution facilities that could temporarily affect surface water quality with runoff. Due to the linear nature of the area of the proposed pipelines and pump station locations and limited area of ground disturbance associated with its construction, this effect is expected to be minimal. Furthermore, an approval erosion control plan would be developed and implemented during construction activities that would minimize transport of soil materials off-site. On-site soils would be stabilized and drainage structures (temporary and permanent) would be constructed, as applicable, to control the flow of runoff and minimize the potential for erosion. If dewatering is necessary during construction, the water would be treated, as necessary, and discharged into the nearby storm drain system. All construction activities that would potentially affect water quality will be performed under all applicable rules, regulations and standards (e.g., Clean Water Act, California Water Code, and Basin Plan for

the Los Angeles Region). A less than significant impact is anticipated relative to water quality and no mitigation is required.

Operation

Less Than Significant Impact. Refer to Response to Item IX.a. above. Although the end-use application of treated wastewater generated at LAGWRP would change over time, the quality of discharged or recycled effluent would comply with the Order No. R4-2011-0197/NPDES No. CA0053953. Operation of the proposed recycled water distribution facilities would be a closed system and therefore not substantially degrade or affect water quality. Thus, impacts in this regard would be less than significant.

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

h. Place within a 100-year flood area structures which would impede or redirect flood flows?

No Impact (g-h). According to the City's General Plan Safety Element, FEMA informed the City that no Special Flood Hazard Areas are present within the City limits. The City of Glendale is placed in Zone D, which has no mandatory flood insurance purchase requirements. As such, there are no flood insurance rate maps for Glendale resulting in Glendale not being listed in FEMA's Community Rating System. Further, the proposed project does not propose any physical development or changes in current facilities or operations at the project site or LAGWRP beyond the discharge reductions and increased deliveries of recycled water to offset potable water use under the proposed Wastewater Change Petition. Further, the construction and operation of the proposed recycled water distribution facilities would not place housing within a 100-year flood hazard area and would not place structures within a 100-year flood area which would impede or redirect flood flows. Thus, no impacts would occur in these regards.

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

Less Than Significant Impact. According to the City's General Plan Safety Element, there are seven dams located within the Glendale area that are large enough that the State requires that inundation maps for these facilities be available. The Diederich Reservoir and Brand Park Dam are located within the Fault Hazard Management Zone for the Verdugo Fault. The East Glorietta Dam is located within an area susceptible to liquefaction. The Tenth and Western dams are located near the Verdugo Fault. The Glenoaks Dam is located within an area where several non-active faults have been mapped. In addition to these dams, there are 13 steel water storage tanks located within the City of Glendale. Three of these tanks are located within the fault hazard management zone for the Sierra Madre Fault. Nonetheless, the proposed project would not involve the construction of any structures or placement of people or structures in an area subject to flooding as a result of the failure of a levee or dam. In the event one of the pipelines fails, safety valves throughout the water distribution system may be shut off in response to a loss of pressure and to isolate the break. The volume of recycled water released in such an event would be limited to the amount of water contained in the section of pipeline between the shut-off valves, which is not expected to yield enough water to pose a threat to life or property. Therefore, flooding impacts are expected to be less than significant and no mitigation is required.

j. Inundation by seiche, tsunami, or mudflow?

Less Than Significant Impact. A tsunami is a great sea wave produced by a significant undersea disturbance. Given the proximity to the Pacific Ocean, Glendale is not susceptible to inundation by a tsunami. A seiche is an oscillation of an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank. As discussed above, there are 13 steel water storage tanks located within the City of Glendale. Mudflows result from the downslope movement of soil and/or rock under the influence of gravity. As no physical development or changes in current facilities or operations at LAGWRP are proposed by the project, and further, because the proposed recycled water distribution facilities would be located entirely underground and would operate passively once constructed, project implementation would have a less than significant impact with regard to inundation by seiche, tsunami, or mudflows.

X. LAND USE AND PLANNING

Would the project:

a. Physically divide an established community?

Construction

No Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. Construction impacts from the proposed recycled water distribution facilities would be short-term and would occur entirely underground within existing street rights-of-way and other developed or disturbed public property. As such, the proposed project would not physically divide an established community. No impact would occur in this regard.

Operation

No Impact. The project site includes the entire GWP and PWP service areas within the Cities of Glendale and Pasadena, as well as adjacent portions of the City of San Marino, City of Los Angeles, City of La Canada-Flintridge, and unincorporated Los Angeles County community of Altadena. The proposed project does not propose any physical development or changes in current facilities or operations at LAGWRP, but would be limited to the discharge reductions as summarized in the proposed Wastewater Change Petition WW0097. Further, the proposed recycled water distribution facilities, once constructed, would operate passively below-grade. As such, the proposed project would not have the potential to physically divide an established community. No impacts would occur in this regard.

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

Construction

Less Than Significant Impact. During construction, it is expected that project-related activities could result in the removal or relocation of a limited number of trees, which would be replaced in-kind in accordance with the tree regulations of the City's Indigenous Tree Program. While the proposed recycled water distribution facilities, as mentioned above, could result in the removal or relocation of specific trees in order to allow for construction of the proposed pipelines and pump stations, these trees would be replaced with similar

specimens in essentially the same location such that the alignment would be restored to pre-project conditions. Therefore, the proposed recycled water distribution facilities would not conflict with City policies related to preservation of trees along the proposed alignments. Similarly, given the Applicant's commitment to replace trees and restore the project alignment to pre-Project conditions, no conflicts with applicable policies or regulations are expected to occur. Therefore, a less than significant impact would occur in this regard.

Operation

No Impact. The project site includes a wide variety of land uses with corresponding General Plan land use and zoning designations. However, the proposed project does not propose changes to the existing land use or zoning designations. Further, the proposed project would not involve any physical development or changes in current facilities or operations at LAGWRP, but would be limited to the discharge reductions per the proposed Wastewater Change Petition WW0097, which would have no potential to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. With regard to the proposed recycled water distribution facilities, the proposed alignments and pump station locations are currently developed within existing street rights-of-way and other developed or disturbed public property within the City of Glendale. While the General Plan land use designations and zoning designations within the proposed alignments vary substantially, it is important to note that the proposed pipelines and pump stations, once constructed, would operate passively underground and would not have any effect on existing land use or zoning designations. Therefore, no impacts would occur in this regard.

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

No Impact. The project site is not located within the boundaries of any habitat conservation plan or natural community conservation plan area. Thus, no impacts would occur in this regard.

XI. MINERAL RESOURCES

Would the project:

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

No Impact. The project site is currently developed with urban uses. No portion of the project site or surrounding area is considered a known mineral resource area and no mineral resource extraction occurs in the project vicinity. As such, the proposed project would not have the potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. No impact would occur.

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

No Impact. The project site is currently developed, with no portion of the project site or surrounding area considered a known mineral resource area and no mineral resource extraction occurs in the project vicinity.

As such, the proposed project would not result in the loss of availability of, or access to, a locally-important mineral resource recovery site. No impact would occur.

XII. NOISE

The following impact analysis pertaining to noise is based, in part, from noise modeling prepared by ESA in January 2018 and included as Appendix F.

Would the project result in:

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

Noise is defined as unwanted sound (i.e., loud, unexpected, or annoying sound); however, not all unwanted sound rises to the level of a potentially significant noise impact. To differentiate unwanted sound from potentially significant noise impacts, the City of Glendale has established noise regulations that protect noise-sensitive land uses. The following analysis evaluates potential noise impacts at nearby noise-sensitive land uses resulting from construction and operation of the proposed project.

Noise Principles and Descriptors

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Acoustics is defined as the physics of sound, where the fundamental scientific model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source, intervening topography or barriers, and atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver.

Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. Pressure waves traveling through air exert a force registered by the human ear as sound. The dB scale is a logarithmic scale (i.e., not linear) that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. In a non-controlled environment, a change in sound level of 3 dB is considered "just perceptible," a change in sound level of 5 dB is considered "clearly noticeable," and a change in 10 dB is perceived as a doubling of sound volume.[21]

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 hertz (Hz) and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to extremely low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). A-weighting

[21] *Bies & Hansen, 1988. Bies, D.A. and C.H. Hansen, Engineering Noise Control, (1988).*

follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

An individual's noise exposure is a measure of noise over a period of time, whereas a noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic. What makes community noise variable throughout a day, besides the slowly changing background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual. These successive additions of sound to the community noise environment change the community noise level to varying degrees at any given time, thus requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts.

The time-varying characteristic of environmental noise over specified periods of time is described using statistical noise descriptors in terms of a single numerical value, expressed as dBA. The most frequently used noise descriptors are summarized below:

L_{eq}: The equivalent sound level over a specified period of time, typically 1-hour, i.e., $L_{eq(1)}$, expressed as L_{eq}. The L_{eq} is also referred to as the "average" sound level.

L_{max}: The maximum, instantaneous noise level.

L_{dn}: The L_{dn} is the average noise level over a 24-hour period, including an addition of 10 dBA to the measured hourly noise levels between the hours of 10:00 p.m. to 7:00 a.m. to account nighttime noise sensitivity. L_{dn} is also termed the day-night average noise level or DNL.

CNEL: Community Noise Equivalent Level (CNEL), is the average noise level over a 24-hour period that includes an addition of 5 dBA to the measured hourly noise levels between the evening hours of 7:00 p.m. to 10:00 p.m., and an addition of 10 dBA to the measured hourly noise levels between the nighttime hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity during the evening and nighttime hours, respectively.

City of Glendale General Plan Noise Element

The Noise Element of the City's General Plan[22] outlines the noise environment, effects of noise on people, primary noise sources within the City of Glendale, and potential strategies for mitigating excessive noise sources. The Noise Element sets an exterior CNEL noise standard of 65 dBA for residential uses, which applies to the outdoor environment such as private yards and patios where there are expectations of privacy. The following Noise Element policies are applicable to the proposed project:

2.1 Improve enforcement of required noise control measures in building design.

2.2 Coordinate noise abatement efforts among city departments.

[22] *City of Glendale, Noise Element of the General Plan, City of Glendale Planning Department, Mestre Greve Associates, May 2007.*

3.1 Ensure that land uses comply with adopted standards.

3.2 Encourage acoustical mitigation design in new construction when necessary.

The City of Glendale utilizes the Land Use/Noise Compatibility Matrix, shown in **Table XII-1,** *Land Use/Noise Compatibility Matrix* in site planning to identify site constraints and opportunities.

City of Glendale Municipal Code

Section 8.36.040 of the City of Glendale Municipal Code (GMC) establishes presumed exterior noise levels for the purpose of establishing standards. For residential properties, these ambient noise levels are 60 dBA at any time of day. Other provisions of the GMC that apply to the proposed project include the following:

Section 8.36.060 *– It is unlawful for any person to operate any machinery, equipment, pump, fan, voice, air-conditioning apparatus or similar mechanical device in any manner or to allow or cause sounds, so as to create any noise or vibration which would cause the noise level as specified above to be exceeded unless a variance, exemption, or some other exception allows for a greater noise.*

Section 8.36.080 *– It is unlawful for any person within a residential zone, or within a radius of five hundred feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures or projects within the city between the hours of seven p.m. on one day and seven a.m. of the next day or from seven p.m. on Saturday to seven a.m. on Monday or from seven p.m. preceding a holiday, as designated in Chapter 3.08 of this code, to seven a.m. following such holiday unless beforehand a permit therefor has been duly obtained from the building official. No permit shall be required to perform emergency work as defined in this chapter.*

Section 8.36.140 *– If at any time the director of community development or the building official has reason to believe that a new development project, addition, modification or any other change thereto may not conform with the permitted noise level standards, the director of community development or the building official may require as a condition of approval an acoustic analysis as part of the building permit process or other approval procedures.*

Section 8.36.180 *– It is unlawful for service or maintenance vehicles of a nonemergency nature to be operated in residential areas during nighttime.*

Section 8.36.210 *– Operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at one hundred feet from the source if on a public space or public right-of-way shall be a violation.*

Section 8.36.290 *– The following activities shall be exempted from the provisions of this chapter:*

D. Public health and safety activities conducted by public utilities, transportation, flood control and utility company maintenance and construction operations any time on public right-of-way and these situations which may occur on private real property deemed necessary to serve the best interest of the public and to protect the public's health and well-being, including but not limited to, police, fire, street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, house moving, vacuuming catch basins, removal of damaged poles and vehicles, repair of water hydrants and main gas lines, oil lines and sewers.

Existing Noise Environment

The existing noise environment along the project alignments and vicinity is dominated by vehicle traffic noise from the roadways of the alignments and nearby roadways (e.g., State Route 2 – the Glendale Freeway).

Secondary noise sources include activities of the single-family residential neighborhoods (e.g., landscaping). Therefore, ambient noise levels would be representative of a medium density suburban area. The City's General Plan provides vehicle traffic noise levels at 50 feet from the roadway centerline. Receptors located closer than 50 feet from the roadway centerline would be exposed to greater noise levels. Therefore, utilizing the General Plan traffic noise level at 50 feet represents a conservative baseline noise level. According to the General Plan, 2005 traffic noise along Central Avenue and Chevy Chase Drive reaches 76 dBA CNEL and 78 dBA CNEL, respectively. Traffic noise contours are not available along Chevy Oaks Drive or Chevy Oaks/Camino San Rafael. Residential receptors along the Glendale Tee alignment are located greater than 50 feet from Glenoaks Boulevard and therefore the General Plan traffic noise contour to 50 feet would not apply to these residential uses. Therefore, the presumed ambient noise level of 60 dBA, pursuant to Section 8.36.040 of the GMC, has been assumed for receptors along Chevy Oaks Drive, Chevy Oaks/Camino San Rafael, and Glenoaks Boulevard.

Other sources of noise within the City of Glendale includes a commuter rail line that generally follows the alignment of Interstate 5 (I-5) and is located approximately 0.6 miles from the Glendale Tee alignment. According to the Glendale General Plan Noise Element, there are six heliports/helipads within the City of Glendale. Three of the six heliports are located along the Ventura Freeway (SR-134) at Brand Boulevard, in close proximity to the Glendale Tee alignment.

Noise Sensitive Receptors

The project site is located on three alignments: Glendale Tee, Chevy Chase Country Club, and Chevy Oaks/Camino San Rafael Homes Recycled Water along roadways in the City of Glendale. The Glendale Tee alignment is generally bounded by commercial and residential uses. The Chevy Chase Country Club and Chevy Oaks/Camino San Rafael Homes Recycled Water alignments are generally bound by residential uses, which are adjacent to all three alignments and three pump stations.

TABLE XII-1
LAND USE COMPATIBILITY FOR COMMUNITY NOISE SOURCES

Land Use Category	*Noise Exposure (L_{dn} or CNEL, dBA)*						
	55	*60*	*65*	*70*	*75*	*80*	
Residential – Single-Family, Duplex, Mobile Home							
Residential – Multiple Family							
Transient Lodging – Motel, Hotel							
School, Library, Church, Hospital, Nursing Home							
Auditorium, Concert Hall, Amphitheater							
Sports Arena, Outdoor Spectator Sports							
Playground, Neighborhood Park							
Golf Course, Riding Stable, Water Recreation, Cemetery							
Office Building, Business Commercial and Professional							
Industrial, Manufacturing, Utilities, Agriculture							

	NORMALLY ACCEPTABLE: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	CONDITIONALLY ACCEPTABLE: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.
	NORMALLY UNACCEPTABLE: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
	CLEARLY UNACCEPTABLE: New construction or development should generally not be undertaken. Construction costs to make the indoor environmental acceptable would be prohibitive and the outdoor environment would not be usable.

Source: State of California, General Plan Guidelines, Governor's Office of Planning and Research, 2003

Construction Noise

Less Than Significant Impact. Construction of the proposed project is anticipated to begin in early 2018 and take a total of approximately 21 months to complete, with each pipeline/pump station segment being constructed sequentially. The proposed project is anticipated to be fully operational at the end of 2019. Construction activities would only occur Monday through Friday during daytime hours, with no construction activities occurring at night or on weekends or holidays. The analysis includes consideration of construction noise effects on noise sensitive receivers in the vicinity of the project site due to the operation of construction equipment (on-site construction activities) and haul trucks (off-site construction activities).

On-Site Construction Activities

Construction of the new recycled water distribution facilities above would involve open-trench construction within existing street rights-of-way and other developed or disturbed public property. Pipeline construction would require excavation of a trench approximately two to five feet wide and between four and ten feet deep along the entire length of each pipeline alignment. The three pump stations would be constructed below-grade adjacent to street rights-of-way, and would require excavation of an area approximately 40 feet by 40 feet with depths of up to 10 feet below existing grade. Once constructed, streets would be repaved/restored to pre-project conditions, and all proposed facilities would operate passively below-grade.

Project-related grading would result in the need for between 2,800 and 4,200 cubic yards (cy) of soil export, and between 2,400 and 3,900 cy of soil import, some of which may be balanced on-site where feasible and appropriate. Construction equipment is anticipated to include the following for each phase of construction:

- Phase 1 (Mobilization): flatbed truck, lowboy truck/trailer;
- Phase 2 (Pavement Cutting): pavement saw, pick-up truck;
- Phase 3 (Excavation, Pipe laying, Backfilling): air compressor, backhoe, dump truck, excavator, forklift, generator, mechanic truck, pick-up truck, welding truck;
- Phase 4 (Paving): grinding machine, paving machine, steam roller;
- Phase 5 (Pump Stations): dump truck, excavator, pick-up truck, crane, cement truck; and
- Phase 6 (De-mobilization): flatbed truck, lowboy truck/trailer, street sweeper.

None of the proposed construction phases are anticipated to overlap, as each would be completed sequentially as funding is secured.

Noise from construction activities would be generated by the operation of vehicles and equipment involved during various phases of construction. The noise levels generated by construction equipment would vary depending on factors such as the type and number of equipment, the specific model (horsepower rating), the construction activities being performed, and the maintenance condition of the equipment. Individual pieces of construction equipment anticipated to be used during project construction could produce maximum noise levels of 74 dBA to 81 dBA at a reference distance of 50 feet from the noise source, as shown in **Table XII-2,** *Construction Equipment and Estimated Noise Levels*. These maximum noise levels would occur when equipment is operating under full power conditions. The estimated usage factor for the equipment is also shown in Table XII-2, which are based on the Federal Highway Administration (FHWA) Roadway Construction Noise Model User's Guide (FHWA 2006).[23]

Therefore, the residences adjacent to the project construction would be exposed to these noise levels. However, according to the GMC Section 8.36.080, construction activity within a radius of 500 feet from a residential zone shall not occur between the hours of 7:00 p.m. and 7:00 a.m. Monday through Saturday or on Sundays and holidays. Project construction activities in the area will be performed within the hours established in the code. In addition, the City of Glendale has not adopted any quantitative noise level thresholds for construction activity during the allowable hours. Therefore, project construction would not expose persons to or generation of noise levels in excess of standards established in the local general plan or

[23] *Bies & Hansen, 1988. Bies, D.A. and C.H. Hansen, Engineering Noise Control, (1988).*

noise ordinance, or applicable standards of other agencies. Therefore, on-site project construction would be less than significant.

TABLE XII-2
CONSTRUCTION EQUIPMENT AND ESTIMATED NOISE LEVELS

Type of Equipment	Estimated Usage Factor (%)	Reference Noise Level at 50 feet (dBA, L_{max})
Air Compressors	20%	78
Backhoe	40%	80
Cement Mixer Truck	40%	79
Compactor	20%	80
Concrete Saw	20%	90
Crane	40%	81
Dump/Haul Trucks	20%	76
Excavator	40%	81
Forklift	10%	75
Grader	40%	85
Paver	50%	77
Rubber Tired Dozers	40%	84
Rubber Tired Loaders	50%	79
Sweeper/Scrubbers	10%	82
Tractor / Loader / Backhoe	25%	84
Trencher	40%	84
Welder	40%	74

SOURCE: FHWA 2006; and ESA 2017.

Off-Site Construction Activities

During construction, there would be a maximum of 14 haul truck trips per day, which would not appreciably increase existing average daily traffic volumes on roadways, and therefore, would not contribute to an audible increase in noise levels above the existing traffic noise levels. Construction activities are temporary in nature and would only take place for 21 months after which the proposed project would cease to have any significant lasting noise impact on the surrounding areas. Therefore, off-site construction traffic noise impacts would be less than significant.

Operational Noise

Less Than Significant Impact. The proposed project would construct new recycled water pipelines and three new pump stations. Noise generated by the project operation would result primarily from the added operation of three pump stations, which would be enclosed in underground concrete vaults, and off-site traffic from periodic maintenance vehicles. Operation of the proposed pump stations below grade would provide screening so that noise from pump operations would not contribute to the noise environment. The City of Glendale has not adopted any quantitative noise level thresholds for stationary noise sources. Therefore, operation of the proposed pump stations would not expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Additionally, traffic from maintenance of the proposed facilities would occur periodically and include a few vehicle trips per month. Therefore, long-term operation of the proposed project would have a minimal effect

on the noise environment in proximity to the project site, and not expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Therefore, the impacts are less than significant.

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

The proposed project would be constructed using non-impact construction techniques at a sufficient distance from vibration source to receptors (structures and people). As such, project construction would not expose persons to or generate excessive groundborne vibration. Post-construction on-site activities would be limited to maintenance activities that would not generate excessive groundborne vibration.

Vibration Principles and Descriptors

Ground-borne vibration from development is primarily generated from the operation of construction equipment and from vehicle traffic. Ground-borne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration energy dissipates as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Vibration in buildings is typically perceived as rattling of windows, shaking of loose items, or the motion of building surfaces. The vibration of building surfaces also can be radiated as sound and heard as a low-frequency rumbling noise, known as ground-borne noise. Vibration levels for potential structural damage is described in terms of the peak particle velocity (PPV) measured in inches per second (in/sec).

Ground-borne vibration is generally limited to areas within a few hundred feet of certain types of industrial operations and construction/demolition activities such as pile driving. Road vehicles rarely create enough ground-borne vibration amplitude to be perceptible to humans unless the receiver is in immediate proximity to the source or the road surface is poorly maintained and has potholes or bumps. If traffic, typically heavy trucks, does induce perceptible building vibration, it is most likely an effect of low-frequency airborne noise or ground characteristics.

Building structural components also can be excited by high levels of low-frequency airborne noise (typically less than 100 Hz). The many structural components of a building, excited by low-frequency noise, can be coupled together to create complex vibrating systems. The low-frequency vibration of the structural components can cause smaller items such as ornaments, pictures, and shelves to rattle, which can cause annoyance to building occupants.

Human sensitivity to vibration varies by frequency and by receiver. Generally people are more sensitive to low-frequency vibration. Human annoyance also is related to the number and duration of events; the more events or the greater the duration, the more annoying it becomes.

Regulatory Framework

Caltrans has adopted guidelines/recommendations to limit ground-borne vibration based on the age and/or condition of the structures that are located in close proximity to construction activity. With respect to residential and commercial structures, Caltrans' technical publication, titled Transportation and Construction Vibration Guidance Manual, provides a vibration damage potential threshold criteria of 0.5 in/sec PPV for historic and older buildings, 1.0 inch-per-second PPV for newer residential structures, and 2.0 in/sec PPV for

modern industrial/commercial buildings. In addition, the guidance also sets 0.24 in/sec PPV as the threshold for "distinctly perceptible" human response to transient vibration.[24]

Section 8.36.210 of the GMC prohibits the operation of any device that creates perceptible vibration at 100 feet from the source if the source is within a public space or right-of-way. All proposed construction activity would occur within the public right-of-way.

Construction Vibration

Less Than Significant Impact with Mitigation Incorporated. The construction activities that typically generate the most severe vibrations are blasting and impact pile driving, which would not be utilized for the proposed project. The proposed project would utilize one vibratory roller over the course of ten days during the paving phase of each segment. Based on the vibration data set forth by Caltrans, typical vibration velocities from the operation of roller would be approximately 0.210 in/sec PPV at 25 feet from the source of activity, 0.074 in/sec PPV at 50 feet distance, and 0.026 in/sec PPV at 100 feet distance. Construction vibration would not reach "distinctly perceptible" levels at 100 feet pursuant to the GMC.

Although construction vibration would not exceed the City of Glendale's criteria for perceptible vibration at 100 feet from the source if the source is within a public space or right-of-way, construction vibration would exceed Caltrans' criteria for human annoyance at 10 feet with the use of a vibratory roller. At 10 feet, a vibration velocity of 0.83 in/sec PPV would be experienced, resulting in "strongly perceptible" vibration from a transient vibration source. Therefore, construction vibration impacts related to human annoyance would be potentially significant and mitigation would be required. Implementation of MM NOISE-1 would reduce vibration velocities reaching sensitive receptors to 0.21 in/sec PPV, below the "distinctly perceptible" vibration level established by Caltrans. Therefore, short-term vibration impacts would be mitigated to less than significant.

The nearest residential structures to the right-of-way are located approximately 10 feet from Central Avenue. At 10 feet, a vibration velocity of 0.83 in/sec PPV would be experienced, which would not exceed Caltrans' threshold for structural damage of newer residential units. All other receptors are located greater than 10 feet from the right-of-way. Therefore, construction vibration would not result in structural damage to newer residential structures, and impacts would be less than significant.

Operational Vibration

Less Than Significant Impact. Once construction activities have been completed, there would be no substantial sources of vibration activities from the project site. The project's operations would include three pump stations which would produce limited levels of vibration, which would not exceeding thresholds for structures or human perception. Additionally, the pump stations would be located in underground concrete vaults, further reducing vibration levels at the source. Therefore, vibration impacts during Project operation would be less than significant.

Mitigation Measure

MM NOISE-1: During pipeline construction activities within 25 feet to noise-sensitive receptors (e.g., residences), the proposed project shall avoid the use of vibratory rollers. Other means

[24] *State of California, Department of Transportation (Caltrans), 2004. Transportation- and Construction-Induced Vibration Guidance Manual. June 2004. Available: http://www.dot.ca.gov/hq/env/noise/pub/vibrationmanFINAL.pdf. Accessed April 2017.*

of paving shall be employed to ensure that transient vibration velocities do not exceed 0.24 in/sec PPV at any sensitive receptor.

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

Less Than Significant Impact. The existing noise environment in the project area is dominated by traffic noise from nearby roadways. Long-term operation of the proposed project would not have a significant effect on the community noise environment in proximity to the project site. Noise sources that would have potential noise impacts include: off-site vehicle traffic and facility equipment. Motor vehicle travel on local roadways attributable to the proposed project, as discussed in Response XII.a, would have a less than significant impact on community noise levels. Noise levels associated with on-site operations (e.g., underground pumps) are also considered less than significant as discussed in Response XII.a. As such, noise impacts would be less than significant.

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

Less Than Significant Impact. The proposed project would result in a temporary increase in ambient noise levels near the project site during the construction period. An increase of 10 dBA is considered a doubling of sound, and therefore, audible to the human ear.

To more accurately characterize project construction noise levels, the maximum instantaneous construction equipment noise levels (L_{max}) shown in Table XII-2 can be expressed as the estimated average (hourly L_{eq}) noise level associated with each construction phase, based on the quantity, type, and usage factors for each type of equipment used during each construction phase, and typically attributable to multiple pieces of equipment operating simultaneously. Over the course of a construction day, the highest average noise levels would be generated when multiple pieces of the loudest construction equipment are operated concurrently. The project's estimated construction noise levels were calculated for a scenario in which a reasonable number of construction equipment was assumed to be operating simultaneously, given the physical size of the site and logistical limitations, and with the noisiest equipment located at the construction area nearest to the property line of affected receptors to present a conservative impact analysis.

The proposed alignments would be located within the public right-of-way with sensitive receptors located adjacent to those rights-of-way. The Applicant provided construction scheduling and anticipated construction equipment. All phases of construction would occur consecutively with no overlap of phases. Construction would occur along one segment at a time, completing one alignment before beginning another. The Chevy Chase Country Club and Chevy Oaks/Camino San Rafael Homes Recycled Water alignments include the construction of three (total) pump stations. The Applicant has indicated the potential for concurrent pump station construction and pipe installation. In order to provide a worst-case assessment of construction noise, concurrent operation of pump station and pipe installation equipment has been estimated. **Table XII-3**, *Estimated Construction Noise Levels at Sensitive Receptors*, presents the estimated total noise level for the combined project construction equipment during the nosiest phase of construction.

TABLE XII-3
ESTIMATED CONSTRUCTION NOISE LEVELS AT SENSITIVE RECEPTORS

Location	Distance to Noise Receptor Property Line (ft.) [a]	Construction Phase	Estimated Average Construction Noise Levels (dBA L_{eq}/CNEL)	General Plan Traffic Noise Contour (dBA CNEL)[b]	Construction + Ambient (dBA CNEL) [c]	Ambient Increase (CNEL)
Glendale Tee Alignment						
along Central Ave	10	Mobilization/ Demobilization	91	76	91.1	15.1
along Glenoaks Blvd	115		70	60 [d]	70.4	10.4
Chevy Chase County Club Alignment						
Chevy Chase Dr	15	Demobilization	88	78	88.4	10.4
Chevy Oaks/Camino San Rafael Homes Recycled Water Alignment						
Chevy Oaks Dr	20	Mobilization/ Demobilization	85	60 [f]	85.0	25.0
Chevy Oaks/Camino San Rafael	25		83	60 [f]	83.0	23.0
Pump Stations [e]						
Pump Station 1	50	Mobilization/ Demobilization + Pump Station	78	60 [f]	78.1	18.1
Pump Station 2	25		84	60 [f]	84.0	24.0
Pump Station 3	50		78	78	81.0	3.0

Note: Construction would not occur during nighttime hours. Therefore, the hourly Leq estimates for daytime construction noise would not be subject to the nighttime penalty and would be equivalent to the average CNEL. (see Ldn calculator: https://www.noisemeters.com/apps/ldn-calculator.asp)

[a] The distance represents the nearest construction area on the project site to the property line of the offsite receptor.

[b] General Plan 2005 noise levels at 50 feet from the roadway centerline. Receptors located closer than 50 feet from the roadway centerline would be exposed to greater noise levels. Therefore, utilizing the General Plan traffic noise level at 50 feet represents a conservative baseline noise level.

[c] Noise levels added logarithmically.

[d] Distance of receptors from the Glenoaks Boulevard right-of-way is greater than 50 feet. Therefore, the presumed ambient noise level of 60 dBA L_{eq} pursuant to Section 8.36.040 of the GMC has been assumed.

[e] Estimated noise levels at Pump Stations assumes concurrent pipeline installation.

[f] Traffic noise contours not available along Chevy Oaks Drive or Chevy Oaks/Camino San Rafael. Therefore, the presumed ambient noise level of 60 dBA L_{eq} pursuant to Section 8.36.040 of the GMC has been assumed.

SOURCE: ESA 2017; City of Glendale General Plan Noise Element Technical Appendix – Existing Traffic Noise Contours

In order to determine existing without project ambient noise levels, the General Plan Noise Element traffic noise contours were utilized.[25] Where traffic noise contours were not available or where residential receptors are located greater than 50 feet from the roadway centerline, the presumed residential ambient noise level of 60 dBA L_{eq}, pursuant to Section 8.36.040 of the GMC, has been assumed. Estimated noise levels, shown in Table XII-3, assume that the project contractor(s) would equip the construction equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with manufacturers' standards. According to FHWA, use of adequate mufflers systems can achieve reductions in noise levels of up to 10 dBA.[26] However, the estimated noise levels presented in Table XII-3 do not account for noise shielding provided by existing walls or barriers. The estimated noise levels represent a conservative worst-case noise scenario where the construction activities are analyzed with several of the equipment simultaneously in use along the perimeter of the construction area, whereas construction typically would involve equipment in use throughout the

[25] *City of Glendale. General Plan Noise Element – Technical Appendix. December 2005. http://www.glendaleca.gov/home/showdocument?id=830. Accessed January 2018*

[26] *Federal Highway Administration. Special Report – Measurement, Prediction, and Mitigation: Chapter 4 Mitigation. https://www.fhwa.dot.gov/Environment/noise/construction_noise/special_report/hcn04.cfm. Accessed August 2017*

project site maintaining safe equipment operating distances, and resulting in most equipment in use further away from noise-sensitive receptors.

As shown in Table XII-3, construction activities could potentially result in noise levels that are up to 25 dBA greater than existing conditions. This level of potential noise increase would only occur during more active phases of construction, such as during mobilization and demobilization activities. This estimated maximum noise increase would be considered audible to the human ear and would generally be described as more than a doubling of sound, given that a 10 dBA increase is qualitatively described as a doubling in sound level.

Although construction noise levels could reach levels greater than 10 dBA over ambient levels, increases would only occur for a temporary duration at a sensitive receptor location as construction of the pipelines moves from one location to the next along the designated pipeline route. As discussed in the Project Description, each work crew is anticipated to construct approximately 100 linear feet of pipeline per work day along the Chevy Chase Country Club and Chevy Oaks/Camino San Rafael Homes Recycled Water alignments and approximately 75 linear feet of pipeline per work day along the Glendale Tee alignment, and thus construction activities would only occur in any one particular location for a period of a few days, such that construction-related noise would be experienced by nearby sensitive receptor for only a relatively short duration. As construction of each segment completes, construction activity and its noise levels would move away from the sensitive receptors affected by construction of that particular segment. Substantial adverse noise effects on sensitive receptors in the project area are not expected due to the very limited duration and intensity of construction activities at any one location. Therefore, the short-term construction noise impacts would be less than significant.

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

No Impact. The Project site is not located within an airport land use plan area or within two miles of a public airport or public use airport. Therefore, construction or operation of the proposed project would not expose people to excessive airport related noise levels. No impact would occur in this regard.

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

No Impact. According to the Glendale General Plan Noise Element, there are six heliports/helipads within Glendale, all of which are only used during emergencies (e.g., firefighting, emergency evacuations, etc.). The construction crews working on the proposed project could be exposed to helicopters flying overhead. However, construction activities are temporary and construction crews would not be permanently exposed to helicopter noise associated with work on the proposed project. Additionally, the ground-level noise environment construction crews are exposed to would be dominated by construction equipment within the project site. Therefore, the proposed would not expose people residing or working in the project area to excessive noise levels from nearby heliports/helipads. Impacts would be less than significant.

XIII. POPULATION AND HOUSING

Would the project:

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

No Impact. The project site is currently developed with a wide range of urban land uses. The project does not propose any physical development or changes in current facilities or operations at the project site or LAGWRP are beyond the discharge reductions and incremental increases in recycled water deliveries to offset potable water use proposed in the Wastewater Change Petition. Furthermore, the treated effluent that was previously discharged would be utilized for non-potable uses within the City of Glendale, City of Pasadena, and other jurisdictions served by recycled water from LAGWRP, in order to offset potable use for these applications. The proposed project includes the construction and operation of three new pipelines and pump stations to serve future recycled water users in the City of Glendale. As such, project implementation would not induce substantial population growth in the area, either directly or indirectly, as it would not provide additional supplies that could foster substantial growth in the area but rather would result in increased potable water conservation and enhanced supply reliability within the GWP and PWP service area. No impact would occur in this regard.

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

No Impact. As discussed above, the project does not propose any physical development or changes in current facilities or operations at the project site or LAGWRP beyond the discharge reductions and incremental increases in recycled water deliveries to offset potable water use proposed in the Wastewater Change Petition. The proposed project includes the construction and operation of three new pipelines and pump stations to serve future recycled water users in the City of Glendale. The construction and operation of the proposed recycled water distribution facilities would occur within existing street rights-of-way and other developed or disturbed public property below-grade. No housing is to be removed as part of the proposed project. Therefore, construction and operation of the proposed project would not necessitate the construction of replacement housing elsewhere. No impacts would occur in this regard.

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

No Impact. The project does not propose any physical development or changes in current facilities or operations at the project site or LAGWRP beyond the discharge reductions and incremental increases in recycled water deliveries to offset potable water use proposed in the Wastewater Change Petition. The proposed project includes the construction and operation of three new pipelines and pump stations to serve future recycled water users in the City of Glendale. The construction and operation of the proposed recycled water distribution facilities would occur within existing street rights-of-way and other developed or disturbed public property below-grade. The proposed project would not involve any activities that would result in the displacement of substantial numbers of people. Therefore, the proposed project would have no potential to displace people necessitating the construction of replacement housing elsewhere. No impact would occur in this regard.

XIV. PUBLIC SERVICES

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

a. Fire protection.

Construction

Less Than Significant Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. The proposed project would involve the construction of three new recycled water distribution pipelines and pump stations within the City of Glendale. Construction activities associated with the proposed recycled water distribution facilities may temporarily increase the demand for fire protection. However, in compliance with the requirements of the California Occupational Safety and Health Administration (OSHA) requirements, all construction managers and personnel would be trained in fire prevention and emergency response. Further, fire suppression equipment specific to construction would be maintained along the proposed alignments. As applicable, construction activities would be required to comply with the 2013 CBC, the 2013 California Fire Code (CFD), and the City's Fire Code, as applicable.

Construction activities would involve open-trench construction within existing street rights-of-way and other developed or disturbed public property which may involve temporary closure of lane segments or portions of intersections along the project alignments. Construction worker parking, stockpiling, and equipment and material deliveries would occur at existing GWP facilities or other City property. Construction-related traffic could result in increased travel time due to flagging or stopping of traffic to accommodate soil hauling and delivery trucks entering and existing the project site during construction. As such, construction activities could increase response times for emergency vehicles to local business and/or residences within the project vicinity, due to travel time delays to through traffic. However, the impacts of such construction activity would be temporary and on an intermittent basis. Only one improvement would be constructed at any given time, and thus it is anticipated that only one construction crew would be active throughout project construction activities. Further, a site-specific traffic control plans would be required to be prepared and implemented for each pipeline project in order to minimize disruptions to through traffic flow, maintain emergency vehicle access along the project alignments and neighboring land uses, and schedule worker and construction equipment delivery to avoid peak traffic hours. As part of the plan, the times of day and locations of all temporary lane closures would be coordinated so that they do not occur during peak periods of traffic congestion, to the extent feasible. Such events would be coordinated with neighboring construction projects, as necessary. In addition, GWP will notify all affected property owners of the access restrictions and traffic detours that will occur during construction. GWP will also maintain contact with emergency service providers to route their vehicles around and through the work zones. The traffic control plans would be prepared for review and approval by the City of Glendale. The plans would follow the standards outlined in the Caltrans Traffic Manual as well as applicable City guidelines. These practices, as well as techniques typically employed by emergency vehicles to clear or circumvent traffic (i.e., lights and sirens), are expected to limit the potential for significant delays in emergency response times during project construction. Therefore, impacts regarding emergency response times and emergency access during construction would be less than significant with the incorporation of the project's traffic control plans.

Overall, with compliance with the City's Fire Department, implementation of site-specific traffic control plans for construction activities, and given the temporary nature of necessary construction activities, construction impacts on fire protection would be less than significant.

Operation

No Impact. As no development at or changes to LAGWRP facilities or operations are proposed under the project, it is anticipated that no increases in the demand for fire protection services or for physical or staff resources associated with fire protection would result from implementation of the proposed discharge reductions. In addition, the increased use of recycled water for irrigation and other non-potable uses would offset potable water supplies that could be used for potable applications, including firefighting. Further, operation of the proposed recycled water distribution facilities would occur passively underground. As such, no operational impacts would occur in this regard.

b. Police protection.

Construction

Less Than Significant Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. The proposed project would involve the construction of three new recycled water distribution pipelines and pump stations within the City of Glendale. As discussed above, temporary lane closures may be required. However, these closures would be temporary in nature and in the event of partial lane closures, both directions of travel on area roadways and access along the project alignments would be maintained. All temporary lane closures would be coordinated so that they do not occur during peak periods of traffic congestion, to the extent feasible. Such events would be coordinated with neighboring construction projects, as necessary. In addition, the GWP will notify all affected property owners of the access restrictions and traffic detours that will occur during construction. GWP will also maintain contact with emergency service providers to route their vehicles around and through the work zones. Emergency vehicle drivers have a variety of options for avoiding traffic, such as using their sirens to clear a path of travel or driving in the lanes of opposing traffic. Further, as discussed above, site-specific traffic control plans for the proposed project would be prepared in order to minimize disruptions to through traffic flow, maintain emergency vehicle access along the project alignments and neighboring land uses, and schedule worker and construction equipment delivery to avoid peak traffic hours. Given the visibility of the project alignments from adjacent roadways and surrounding properties, existing police presence in project areas, and maintained emergency access, the proposed project is not expected to increase demand on existing police services to a meaningful extent. Therefore, with the implementation of the project's traffic control plans, the proposed project would have a less than significant temporary impact on police protection during the construction phases.

Operation

No Impact. As no development or changes to the project site or the current LAGWRP facilities or operations are proposed under the project, it is anticipated that no increases in the demand for police protection services or for physical or staff resources associated with police protection would result from its implementation. Further, operation of the proposed recycled water distribution facilities would occur passively underground. No impact would occur in this regard.

c. Schools.

Construction

No Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. The proposed project would involve the construction of three new recycled water distribution pipelines and pump stations within the City of Glendale. The Glenoaks Elementary School is located at 2015 E. Glenoaks Drive, approximately one-quarter mile south of the Chevy Chase Country Club and Chevy Oaks/Camino San Rafael Homes Recycled Water pipeline alignments. The Columbus Elementary School is located at 425 W. Milford Street, approximately 0.20 miles west of the Glendale Tee pipeline alignment. As such, the proposed alignments would not traverse either school. No construction impact would occur in this regard.

Operation

No Impact. The proposed project would does not involve any physical development or other changes to current LAGWRP facilities or operations that could generate students or increase demands for schools or other related facilities. Further, operation of the proposed recycled water distribution facilities and would not generate students or increased the need for schools or other related facilities. As such, no operational impacts would occur in this regard.

d. Parks.

Construction

No Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. The proposed project would involve the construction of three new recycled water distribution pipelines and pump stations within the City of Glendale. However, the proposed alignments would not traverse existing park and recreational facilities. As such, no construction impacts would occur.

Operation

No Impact. The proposed project would not introduce any new population that would create additional demands on existing or planned park facilities. Furthermore, the proposed project would not displace or directly impact any parks or recreational facilities. Thus, no impacts to park facilities would occur. However, please see additional discussion regarding recreation along and within the River under Section XV, Recreation, below.

e. Other public facilities.

No Impact. No other public facilities are anticipated to have the potential to be subject to adverse physical impacts associated with project implementation. No impact would occur in this regard.

XV. RECREATION

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

Construction

No Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. As discussed above, construction of the proposed recycled water distribution facilities would not traverse existing park and recreational facilities. As such, no impact would occur in regards to recreational facilities and activities during project construction.

Operation

Less Than Significant Impact. As noted previously, the proposed project would not involve any physical development or other changes to the project site or the current LAGWRP facilities or operations that could result in an increased demand for the use of park or other recreational facilities in the area. However, while the proposed project would have no effect on the use of existing parks and recreational facilities in the area, it would result in the incremental reduction in water levels entering the River, a portion of which is used by the public for various recreational activities. Specifically, a 2.5-mile reach of the Study Area, the Elysian Valley River Recreation Area, is permitted for kayaking and canoeing. This reach extends from Fletcher Drive (near the 2 Freeway) downstream to Steelhead Park (near the Arroyo Seco confluence) and closely corresponds to the ARBOR Reach 6 (see Appendix E). Kayaking along this stretch of the River could potentially be incrementally impacted if river depths were to fall below values needed for typical watercraft to float unencumbered downstream. Kayaks and canoes typically have a total depth of around 14-16 inches, with about half that depth being below the waterline. As a rough guide, any flow deeper than one foot is likely to be suitable for the type of craft used on the River. As discussed above under Section IX, Hydrology and Water Quality, of this Initial Study, in ARBOR Reach 6, average flow depth in the center of the channel is 14.9 inches under the August 2008 Condition, and is predicted to fall to 14.4 inches under the with-project condition, a decline of 0.6 inches or negative 0.3 percent. The reduction in wetted channel area within Reach 6 is 0.8 acres (2.6 percent of the existing wetted area) of which 27 percent is concrete channel. As such, the proposed project is not likely to have a noticeable effect on recreation within Reach 6, or elsewhere. Therefore, impacts regarding recreational facilities would be less than significant.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. Construction and operation of the proposed project would not include recreational facilities or require construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. No impact would occur in this regard.

XVI. TRANSPORTATION/TRAFFIC

Would the project:

a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Construction

Less Than Significant Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. For a temporary period during construction, there would be minor alterations to the current traffic patterns. Pipeline construction would require excavation of a trench approximately two to five feet wide and between four and ten feet deep along the entire length of each pipeline alignment. The three pump stations would be constructed below-grade adjacent to street rights-of-way, and would require excavation of an area approximately 40 feet by 40 feet with depths of up to 10 feet below existing grade. Once constructed, streets would be repaved/restored to pre-project conditions, and all proposed facilities would operate passively below-grade.

Prior to construction, GWP would submit traffic control plans for approval to the City of Glendale to ensure that traffic impacts, including impacts to public transportation routes, are kept to a minimum. GWP would comply with any requirements specified by Glendale regarding construction activities. In order to be consistent with requirements specified by Glendale, as well as ensure job site safety, GWP would implement the following construction practices, as necessary and appropriate:

- Construction areas would be separated by concrete barriers.
- During construction, temporary traffic control devices, signs, and flagmen would be utilized to minimize traffic congestion. At nighttime, all barricades would be provided with flashing/steady burn warnings, and all delineators would have white reflective bands. All barricading and traffic controls would conform to the latest editions of the Standard Specifications for Public Works Construction (Greenbook) and the Work Area Traffic Control Handbook (WATCH).
- Safe and adequate pedestrian and vehicular access would be provided to police and fire stations, schools, fire hydrants, hospitals (if any), commercial buildings, and residential uses. The access to these facilities would be continuous and unobstructed.
- The construction of the pipeline would be coordinated with the Glendale Beeline to temporarily relocate bus stops if needed.
- Temporary traffic lanes would have a minimum width of 10 feet to provide safe access to cars, buses, trucks, and trailers.
- Sections of the proposed pipeline alignments would be installed using the open-trench method, along existing street rights-of-way in most instances. The open trenches should be covered with plates to allow traffic flow during peak periods and times when construction work is not taking place, if open trench construction is blocking traffic lanes.

- Construction would generally be carried out between 7 a.m. and 7 p.m., Mondays to Fridays with no construction activities occurring at night or on weekends or holidays.
- Staging equipment would occur at existing GWP facilities or other City property. With staging areas off-street, the equipment would not cause additional disruption to traffic flow during the construction period.
- Excavations would be fenced to provide protection against anyone falling into the excavation.
- GWP would assign a full-time construction inspector to the project to monitor the construction activities and to ensure that all traffic requirements specified by the City of Glendale are implemented.

Given implementation of site-specific traffic control plans for construction activities, no significant adverse environmental impacts associated with traffic load or congestion are anticipated to result from construction of the Project.

Operation

No Impact. As no development or changes to the project site or the current LAGWRP facilities or operations are proposed by the project, the project would not generate any traffic or result in any adverse effects on the traffic system. Further, operation of the proposed recycled water distribution facilities would occur passively underground. As such, the proposed project would have no potential to conflict with an applicable plan, ordinance, or policy establishing a measure of effectiveness for the performance of the circulation system. No operation impact would occur in this regard.

b. Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

No Impact. The Congestion Management Program (CMP) is a state-mandated program enacted by the State legislature to address impacts that urban congestion has on local communities and the region as a whole. The Metropolitan Transportation Authority (Metro) is the local agency responsible for implementing the requirements of the CMP. New projects located in the City of Glendale must comply with the requirements set forth in the CMP. These requirements include the provision that all freeway segments where a project could add 150 or more trips in each direction during peak hours must be evaluated. The guidelines also require evaluation of all designated CMP roadway intersections where a project could add 50 or more trips during peak hours. Since the proposed project would not generate any vehicle trips or have any effect on regional traffic facilities, including CMP facilities, no impact would occur in this regard.

c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The project site is not located in close proximity to any airport or private airstrip. Further, the proposed project does not involve air transportation or permanent increases in traffic levels or changes in air traffic patterns in the area. Thus, no impact would occur in this regard.

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

Construction

No Impact. No construction activities regarding the wastewater reuse and discharge reductions from LAGWRP to the River would be necessary. Construction of the proposed recycled water distribution facilities would temporarily alter existing street/traffic patterns along the alignments. These temporary changes to traffic patterns and levels of service during the construction phase would be temporary and limited to the immediate area in which construction activities are occurring. All changes to traffic patterns (i.e., lane or ramp closures) would be coordinated with the City of Glendale to minimize impacts to motorists, public transportation patrons, and pedestrians. No design features (e.g., sharp curves or dangerous intersections) or incompatible uses are proposed as part of this project. As such, no construction impacts are anticipated and no mitigation is required.

Operation

No Impact. As no development or changes to the project site or the current LAGWRP facilities or operations are proposed by the project, it would not have the potential to increase hazards due to a design feature. Further, operation of the proposed recycled water distribution facilities would occur passively underground. As such, no operation impacts are anticipated and no mitigation is required.

e. Result in inadequate emergency access?

Construction

Less Than Significant Impact. The proposed recycled water distribution facilities would not hinder emergency access in the area except for short-term periods during construction. As mentioned above, all construction activities would be carried out in accordance with the Glendale's emergency access requirements and consistent with the approved Construction Traffic Management Plan and access would be maintained during construction. No significant emergency access impacts are expected and no mitigation is required.

Operation

No Impact. The project would not result in any physical development or other changes to the project site or the current LAGWRP facilities or operations such that emergency access would be reduced or otherwise adversely affected. Further, operation of the proposed recycled water distribution facilities would occur passively underground. Thus, no impacts would occur in this regard.

f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Construction

Less Than Significant Impact. The proposed project would not conflict with adopted policies supporting alternative transportation. As discussed above, construction activities would be coordinated with the Glendale Beeline and the City of Glendale in order to minimize impacts to alternative transportation facilities (e.g., bus stops, bike lanes). Access to public transportation and bike lanes would be maintained throughout

construction to the extent feasible. As a result, less than significant impacts to alternative transportation would result from the project and no mitigation is required.

Operation

No Impact. No development or changes in current to current LAGWRP facilities or operations are proposed by the project. Further, operation of the proposed recycled water distribution facilities would occur passively underground. Thus, project implementation would have no potential to affect alternative transportation or related facilities. Therefore, the proposed project would not conflict with adopted policies, plans, or programs public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. No impact would occur.

XVII. TRIBAL CULTURAL RESOURCES

Would the project:

a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact. As noted above, the records search results indicate that no archaeological or historic architectural resources have been previously documented within or immediately adjacent to the Project site. Furthermore, the SLF search indicated that no tribal cultural resources are known to be located within the Project Site. Lastly, no responses were received from the Native American groups affiliated with the Project Site to the consultation notification letters sent out by the City of Glendale. Therefore, no impact would occur.

XVIII. UTILITIES AND SERVICE SYSTEMS

Would the project:

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

No Impact. The project site is located within the jurisdiction of the Sanitation Districts of Los Angeles County and the Los Angeles Regional Water Quality Control Board (LARWQCB). The proposed project includes a reduction in wastewater discharges from the LAGWRP to the River to support increased application of recycled water in the GWP and PWP service areas, construction and operation of three new recycled water distribution pipelines and associated pump stations within the City of Glendale, and a pipeline connection to Pasadena's recycled water distribution system. The construction and operation of the Pasadena's recycled water system improvements, as well as the application of recycled water within the PWP service area, were previously evaluated in the certified Pasadena Non-Potable Water Project Environmental Impact Report (EIR). While these discharges would be incrementally reduced over time, and recycled water deliveries incrementally increased, the treatment process and discharge requirements for effluent for LAGWRP would not change pursuant to the City of Glendale's approved Order No. R4-2011-0197/NPDES No. CA0053953, governing Glendale's recycling of treated wastewater. Although the end-use application of treated wastewater generated at LAGWRP would change over time, the quality of discharged or recycled effluent would comply with the Order No. R4-2011-0197/NPDES No. CA0053953. As such, the proposed project would not exceed wastewater treatment requirements, and no impact to wastewater treatment requirements of the applicable Regional Water Quality Control Board would occur.

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

No Impact. Project implementation would not create water or wastewater system capacity problems. Instead, the City of Glendale would continue to discharge treated wastewater from LAGWRP at the same location within the River, but in reduced quantities. As a result of increased demand for recycled water within the ULARA, the City of Glendale is proposing to gradually increase its use of recycled water, thereby reducing its discharge of treated wastewater into the River over the next several years. Further, it is not anticipated that the construction and operation of the proposed recycled water distribution facilities would generate wastewater. Therefore, the proposed project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. As such, no impacts would occur.

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

Construction

Less Than Significant Impact. Stormwater drainage facilities are provided along the proposed alignments and surrounding vicinity. Site drainage would be collected with new storm drains and stormwater would be conveyed to an existing Los Angeles County storm drain in Colorado Street, Central Avenue, Glenoaks Boulevard, Cam San Rafael, Chevy Chase Drive, and Chevy Oaks Drive. Construction of the proposed project is not expected to increase stormwater runoff in the project area, since the project would be placed beneath

previously developed surfaces (e.g., street rights-of-way and other public and private property). Although limited dewatering may be required during construction, this activity would be temporary in nature and the amount of dewatering discharge would not exceed the capacity of the existing stormwater drainage facilities, nor require new or expanded facilities of this type. The construction of the proposed project is not anticipated to require, or indirectly result in, the construction of new stormwater drainage facilities or the expansion of existing facilities. Therefore, impacts to stormwater drainage facilities would be less than significant and no mitigation is required.

Operation

No Impact. Project implementation would not create drainage system capacity problems as no development or change in the project site or the current LAGWRP facilities or operations are proposed by the project. In fact, the proposed project would result in the overall reduction in discharge volumes to the River, which are the primary stormwater drainage facilities serving the project site. In addition, the increased application of recycled water within the project site would not translate to an increase in stormwater runoff volumes that could adversely affect stormwater drainage facilities in the area, since recycled water would be applied at the same locations and in the same manner and intensity as is currently done with potable water. Further, the proposed recycled water distribution facilities, once operational, would be a closed system, and therefore would not impact stormwater drainage facilities. Thus, the proposed project would not require or result in construction of new storm water drainage facilities or expansion of existing facilities. No impact would occur in this regard.

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

No Impact. No new or expanded water entitlements would be required with implementation of the project, as the project does not propose development or changes to current LAGWRP facilities or operations. With regard to the increased application of recycled water within the GWP service area and new application of recycled water within the PWP service area, the use of recycled water for non-potable applications would offset the use of potable water that is currently being utilized for these purposes, and thus the project would reduce potable water demands. Further, the proposed project includes the construction and operation of three new pipelines and pump stations to serve future recycled water users in the City of Glendale. Thus, the proposed project would result in an increase in GWP potable water supplies and no impacts would occur in this regard.

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

No Impact. As a result of increased demand for recycled water within the ULARA, the City of Glendale is proposing to gradually increase its use of recycled water, thereby reducing its discharge of treated wastewater into the channel over the next several years. The proposed project would not require additional wastewater treatment capacity or new or expanded facilities. Further, it is not anticipated that the construction and operation of the proposed recycled water distribution facilities would generate or require wastewater capacity. As such, project implementation would not impact the treatment capacity of the wastewater treatment facilities serving the project area. Thus, no impacts would occur in this regard.

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

Construction

Less Than Significant Impact. Most of the construction activities required for the proposed project involve open trench pipeline construction methods, which involves excavation of an open trench in a linear fashion along the proposed alignments. Excavation and construction debris would be recycled or transported to the nearest landfill site and disposed of appropriately or to another location accepting clean fill materials for reuse. The construction contractor will work with the recycling coordinators of the City of Glendale to ensure that source reduction techniques and recycling measures are incorporated into project construction. The amount of debris generated during project construction is not expected to significantly impact landfill capacities. No significant impacts to landfill capacity are anticipated and no mitigation is required.

Operation

No Impact. As no development or changes in the project site or the current LAGWRP facilities or operations are proposed by the project, project implementation would not generate additional demands for solid waste disposal. Further, operation of the proposed recycled water distribution facilities would not generate any solid waste. No impact would occur in this regard.

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

Construction

Less Than Significant Impact. As mentioned in Response XVIII.f, above, construction debris would be recycled or disposed of in accordance with local and regional standards. As such, no significant impacts related to compliance with solid waste statutes and regulations are expected and no mitigation is required.

Operation

No Impact. No physical development or changes in current operations at LAGWRP are proposed by the project and the proposed distribution facilities, once constructed, would operate passively and would not generate notable quantities of solid waste. As such, no impacts would occur in this regard.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE

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

Wastewater Reuse and Discharge Reductions

Less Than Significant Impact. Based on the discussion presented in Section IV, Biological Resources, and Section V, Cultural Resources, above, impacts to sensitive species and habitats, as well as those to historic or

prehistoric resources, would be less than significant without the need for mitigation. As such, the proposed project would not have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory, and impacts in this regard would be less than significant.

Proposed Recycled Water Distribution Facilities

Less Than Significant Impact With Mitigation Incorporated. The analysis conducted in this Initial Study results in a determination that the proposed recycled water distribution facilities, either individually or cumulatively, would not have a significant effect on the local environment. Since the proposed recycled water distribution facilities would be placed entirely underground under existing street rights-of-way and other public and private areas (almost all portions of which have been previously disturbed), and mitigation measures have been incorporated to address short-term impacts to fish, significant wildlife, and/or plant populations, the proposed project would not have the potential to degrade the environment in this regard. As described above, the potential for impacts to cultural resources from construction of the proposed project, with implementation of the identified project-specific mitigation measures, was found to be low; as such, significant adverse impacts to cultural resources are not anticipated. It is hereby found that the proposed recycled water distribution facilities involve no potential for any impacts, either individually or cumulatively, on wildlife resources and cultural resources.

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

Less Than Significant Impact. The proposed project includes a reduction in wastewater discharges from the LAGWRP to the River to support increased application of recycled water in the GWP and PWP service areas, construction and operation of three new recycled water distribution pipelines and associated pump stations within the City of Glendale, and a pipeline connection to Pasadena's recycled water distribution system. The construction and operation of the Pasadena's recycled water system improvements, as well as the application of recycled water within the PWP service area, were previously evaluated in the certified Pasadena Non-Potable Water Project Environmental Impact Report (EIR). While the effects of the project's increased use of recycled water would be generally limited to the GWP service area and adjacent portions of the City of Los Angeles, the treated wastewater flow's contribution to the River could be subject to further reductions from other similar projects in the area in the future, which could be considered a cumulative impact.

In preparation of the analysis in this section, ESA reviewed the SWRCB website to gather information regarding all known pending and completed wastewater change petitions that could contribute to cumulative effects in conjunction with the proposed project. Based on this review, two (2) pending wastewater change petitions filed by the City of Burbank were listed by the SWRCB that could potentially affect treated wastewater discharges with the Project Study Area of the River and the corresponding flow volumes. Other wastewater treatment operators in this region may propose to increase the use of recycled water or otherwise propose to reduce discharges to the River. However, unless and until a wastewater treatment operator files a

wastewater change petition with the SWRCB for approval of reductions in wastewater, it is not possible to determine the specific cumulative effects of such reductions over time.

The Hydrology Report included in Appendix E provides an assessment of project effects as well as cumulative effects from other planned discharge reductions, specifically the proposed reduction of discharge from the Burbank Water Reclamation Plant (BWRP). It is speculative currently to estimate the amount of flow reduction in other future projects that are not yet well defined or proposed. In particular, the flow contribution to the River from LADWP's Tillman WRP provides a substantial flow volume. If this flow were eliminated, the River may experience significant impacts from flow reduction. However, as demonstrated in Appendix E, LAGWRP contribution to that impact would not be cumulatively considerable.

The Report concludes that during low flow conditions in August, the cumulative condition (proposed project plus the proposed Burbank diversion) would result in a reduction of 0.1 feet per second velocity (-6.8%) and a 0.6-inch reduction in average depth (-0.5%). The Hydrology Report concludes that under the cumulative condition, total wetted area would be reduced by 2.5 acres, 26 percent of which would occur on the concrete channel walls spread out over five miles of river channel. The Report concludes that both the "Project effects and cumulative project effects are very minor, and fall well within the range of data collection and hydraulic model uncertainty and error. The Project hydrologic effects would likely be almost undetectable in the field, and the cumulative effects barely detectable."

Potential Impacts to Biological Resources

Under the cumulative project effects scenario, the average changes in flow depth and velocity are very small, and thus will not have a significant impact on habitat. As discussed in the Hydrology Report, the reduction in wetted area is 2.5 acres, or 3.2 percent of the existing condition wetted area, which would be spread out over the Study Area on either side of the River channel. As noted above for Project-specific impacts, of this area, it is expected that 26 percent of the reduction in wetted area occurs in areas of concrete bank or bed protection, reducing the area of earthen channel affected to 2.5 acres or 3.2 percent of the existing condition wetted area. This cumulative reduction in wetted area would occur over the Study Area (or an approximately 23-inch-wide strip along either side of the River channel). The incremental effects would not be cumulatively considerable because the minor decrease in wetted area will not strand riparian habitat that has emerged in the Study Area and sufficient water supplies will continue to support the root zones beneath the River. This is because the root zones would only occur in the soft-bottom channel areas, and the less than one-half inch flow depth would not be expected to drop the water level along the River banks below the depth of root structures, particularly those of BWT and other riparian vegetation with deep root systems. In addition, the reduced discharge would not significantly reduce or eliminate areas of slow-moving water or pools that support aquatic species. Likewise, a reduction in the depth of water by less than one half inch will not impact fish migration or movement of native aquatic species in the River. In sum, the incremental effects of the proposed Project, when considered together with the related projects, would not result in a cumulatively considerable impact on biological resources, including impacts to algal mats, for the reasons discussed above. During all other hydraulic conditions (outside of the August 2008 baseline condition), the proposed Project and proposed reductions from BWRP would have no measurable impacts on species and ecological communities potentially sensitive to changes in channel hydrology.

Potential Impacts to Recreation

As summarized in Hydraulic Modeling Report, a 2.5-mile reach within Study Area Segment A, the Elysian Valley River Recreation Area, is permitted for kayaking and canoeing. Under the cumulative effects scenario average

flow depth in the center of the channel is predicted to fall from 14.9 inches to 14.1 inches a decline of 0.9 inches or -0.5%. This level of reduction will not impact recreational boating activities. Thus, the cumulative effects on recreation will be less than significant, and are likely to be barely noticeable within Reach 6, or elsewhere.

Conclusion Regarding Cumulative Effects

While it is acknowledged that the project-related flow reductions within the River would contribute to an overall lowering of water levels in certain areas, the proposed project's contribution to this cumulative effect is not anticipated to be substantial since LAGWRP's discharges currently do not represent a significant percentage of overall flows in the River that support beneficial uses, and the proposed discharge reductions are also not substantial from year to year and would be implemented over time. Thus, while the proposed project could contribute to cumulative effects regarding flow reductions in the River, the project's contribution to such impacts would not be considerable.

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

Less Than Significant Impact. As noted previously, no physical development or changes to facilities or operations at LAGWRP are proposed by the project. The proposed project would result in increased deliveries of recycled water over a period of several years in order to offset potable water consumption for non-potable applications, as well as nominal reductions in water levels within the River, neither of which would be considered a substantial adverse effect on human beings. The proposed recycled water distribution facilities would have no adverse effects on human beings other than the beneficial effect of providing a more reliable water supply to serve future recycled water users in the City of Glendale. Thus, substantial adverse effects on human beings, either directly or indirectly, are not anticipated to occur as a result of project implementation.

Attachment C
Response to Comments

ESA

ATTACHMENT C – RESPONSE TO COMMENTS

1. INTRODUCTION

A Draft Initial Study/Mitigated Negative Declaration (IS/MND) was prepared by the City of Glendale (City) in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts of the Glendale Recycled Water Project, including the 2018 Wastewater Change Petition (SWRCB WW0097) (proposed project or Project). The Draft IS/MND assessed the proposed project's potential for significant environmental impacts for each environmental category listed in the CEQA Guidelines' Environmental Checklist Form (Appendix G). Mitigation measures were developed as needed to reduce potentially significant effects of the proposed project to a less than significant level.

The Draft IS/MND was submitted to the State Clearinghouse, Governor's Office of Planning and Research, and circulated for public review on June 7, 2018. A Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) was circulated with the Draft IS/MND. The Draft IS/MND was initially made available to the public through the State Clearinghouse on June 7, 2018 for a period of 30 days with the public comment period ending on July 6, 208. The Draft IS/MND was mailed to the City's list of agencies and interested parties. The NOI was published in the local newspaper, mailed public notices were sent to property owners adjacent to the proposed new recycled water distribution facilities, and the NOI and Draft IS/MND were both published on the City's website. The letters include seven (7) comment letters from public agencies, one (1) letter from a non-governmental organization (NGO), one (1) letter from a Native American Tribe, and one (1) letter from an individual.

2. COMMENT LETTERS

In accordance with CEQA Guidelines Section 15074(b), prior to approving a project, the decision-making body of the lead agency shall consider the proposed negative declaration or mitigated negative declaration together with any comments received during the public review process. The decision-making body shall adopt the proposed negative declaration or mitigated negative declaration only if it finds on the basis of the whole record before it (including the Initial Study and any comments received), that there is no substantial evidence that the project will have a significant effect on the environment and that the negative declaration or mitigated negative declaration reflects the lead agency's independent judgment and analysis. The City received a total of ten (10) comment letters during the 30-day public review period. Copies of the original comment letters are included on the subsequent pages. Each comment letter is followed by a response from the City. None of the comments made on the Draft IS/MND change the original conclusions in the Draft IS/MND related to potential environmental significance that were drawn in the Draft IS/MND.

2.1 List of Persons, Organizations, and Public Agencies Commenting on the Draft Initial Study/MND

The parties that submitted written comments on the Draft IS/MND through July 6, 2018, as well as the environmental and CEQA process issues raised in these comments, are identified in **Table C-1**, *Summary of Comment Letters Received*, below.

2.2 Format of Responses to Comments

Courtesy statements, introductions, closings, and individual comments within the body of each letter have been identified and numbered. A copy of each comment letter and the City's responses are included in this section. Brackets delineating the individual comments and an alphanumeric identifier have been added to the right margin of the letter. Responses to each comment identified are included on the page(s) following each comment letter. The bracketed comment letters, and the written responses to the comments in these letters, are provided after Table C-1 below.

TABLE C-1
SUMMARY OF COMMENT LETTERS RECEIVED

No.	Comment Letter	Commenting Party	Type	Date of Comment
1	GBMI-KN	Gabrieleno Band of Mission Indians – Kizh Nation	Tribal	June 11, 2018
2	NAHC	Native American Heritage Commission	State Agency	June 19, 2018
3	Caltrans	California Department of Transportation	State Agency	July 3, 2018
4	PWP	City of Pasadena	Local Agency	July 3, 2018
5	EE	Elizabeth Erickson	Individual	July 5, 2018
6	SWRCB/ LARWQCB	State Water Resources Control Board and Los Angeles Regional Water Quality Control Board	State Agency	July 6, 2018
7	CDFW	California Department of Fish and Wildlife	State Agency	July 6, 2018
8	LADWP/LA SAN	Los Angeles Department of Water & Power and LA Sanitation	Local Agency	July 6, 2018
9	LAW	Los Angeles Waterkeeper, Friends of the Los Angeles River (FoLAR), and Coastal Environmental Rights Foundation (CERF)	NGO	July 6, 2018
10	LACFD	Los Angeles County Fire Department	Local Agency	July 19, 2018

GBMI - KN Comment Letter

Krause, Erik

From: Administration Gabrieleno Indians <admin@gabrielenoindians.org>
Sent: Monday, June 11, 2018 2:39 PM
To: Krause, Erik
Subject: Glendale 2018 Wastewater Change Petition

Good afternoon Erik Krause
We have received your notice to intent to adopt a mitigated negative declaration for the project Glendale 2018 wastewater change petition. Our tribal government would like to be consulted if any ground disturbance will be conducted for this project, notably,for the construction of new recycled water distribution facilities .Since your project will be taken place from LAGWRP to the Los Angeles River our tribal government is highly concerned about the high probability of impact to Kizh cultural resources/remains. 1

Sincerely,
Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723
Office: 844-390-0787
website: www.gabrielenoindians.org

GBMI-KN Comment Letter

Admin Specialist
Gabrieleno Band of Mission Indians – Kizh Nation
PO Box 393
Covina, CA 91723

Response to GBMI-KN Comment Letter

Response to Comment GBMI-KIN-1. This comment states that the tribal government of the Gabrieleno Band of Mission Indians – Kizh Nation would like to be consulted if any ground disturbances will be conducted for the Project, notably, for the construction of new recycled water distribution facilities. The commenter states that the tribal government is concerned about the high probability of impact to Kizh cultural resources and remains. As discussed on page B-66 of the Draft IS/MND, the records search results indicate that no archaeological or historic architectural resources have been previously documented within or immediately adjacent to the Project site. Furthermore, the SLF search indicated that no Native American cultural resources are known to be located within the Project Site. Lastly, no responses were received from the Native American groups affiliated with the Project Site to the Assembly Bill 52 notification letters sent out by the City on February 12, 2018. However, the Gabrieleno Band of Mission Indians – Kizh Nation will be consulted prior to any ground disturbances. No further response is warranted.

STATE OF CALIFORNIA Edmund G. Brown Jr., Governor
NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Fax (916) 373-5471

NAHL Comment Letter

June 19, 2018

Erik Krause
City of Glendale
633 E. Broadway, Room 103
Glendale, CA 91206

Also sent via e-mail: ekrause@glendaleca.gov

Re: SCH# 2018061015, Glendale 2018 Wastewater Change Petition Project, City of Glendale; Los Angeles County, California

Dear Mr. Krause:

The Native American Heritage Commission (NAHC) has reviewed the Mitigated Negative Declaration (MND) prepared for the project referenced above. The review included the Introduction and Project Description; the Environmental Checklist and the Explanation of Checklist Determinations, section V, Cultural Resources and section XVII, Tribal Cultural Resources; and Appendix C-1, Cultural Resources Assessment prepared by Environmental Science Associates for the City of Glendale. We have the following concerns: 1

1. Significance of impacts to Tribal Cultural resources should be similar to those of Archaeological Resources if the project involves groundbreaking that may result in inadvertent finds. Mitigation for each type of resources should be addressed. 2
2. Lack of contact with Tribes does not mean there may not be impacts to Tribal Cultural Resources. 3
3. There are no mitigation measures specifically addressing Tribal Cultural Resources separately and distinctly from Archaeological Resources. Mitigation measures must take Tribal Cultural Resources into consideration as required under AB-52, **with or without consultation** occurring. Mitigation language for archaeological resources is not always appropriate for or similar to measures specifically for handling Tribal Cultural Resources. Sample mitigation measures for Tribal Cultural Resources can be found in the CEQA guidelines at http://opr.ca.gov/docs/Revised_AB_52_Technical_Advisory_March_2017.pdf 4

Please contact me at gayle.totton@nahc.ca.gov or call (916) 373-3714 if you have any questions.

Sincerely,

Gayle Totton

Gayle Totton, B.S., M.A., Ph.D.
Associate Governmental Project Analyst

Attachment

cc: State Clearinghouse

ADDITIONAL INFORMATION

5

The California Environmental Quality Act (CEQA)[1], specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.[2] If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared.[3] In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended in 2014 by Assembly Bill 52. (AB 52).[4] **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** AB 52 created a separate category for "tribal cultural resources"[5], that now includes "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment.[6] Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.[7] Your project may also be subject to **Senate Bill 18 (SB 18)** (Burton, Chapter 905, Statutes of 2004), Government Code 65352.3, if it also involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space. **Both SB 18 and AB 52 have tribal consultation requirements**. Additionally, if your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966[8] may also apply.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

Agencies should be aware that AB 52 does not preclude agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52. For that reason, we urge you to continue to request Native American Tribal Consultation Lists and Sacred Lands File searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/. Additional information regarding AB 52 can be found online at http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf, entitled "Tribal Consultation Under AB 52: Requirements and Best Practices".

The NAHC recommends lead agencies consult with all California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.

A brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments is also attached.

6

Pertinent Statutory Information:

Under AB 52:

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a **lead agency** shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice.

A **lead agency** shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.[9] and **prior to the release of a negative declaration, mitigated negative declaration or environmental impact report**. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18).[10]

The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

a. Alternatives to the project.
b. Recommended mitigation measures.
c. Significant effects.[11]

1. The following topics are discretionary topics of consultation:

a. Type of environmental review necessary.
b. Significance of the tribal cultural resources.

[1] Pub. Resources Code § 21000 et seq.
[2] Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b); CEQA Guidelines Section 15064.5 (b)
[3] Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1); CEQA Guidelines § 15064 (a)(1)
[4] Government Code 65352.3
[5] Pub. Resources Code § 21074
[6] Pub. Resources Code § 21084.2
[7] Pub. Resources Code § 21084.3 (a)
[8] 154 U.S.C. 300101, 36 C.F.R. § 800 et seq.
[9] Pub. Resources Code § 21080.3.1, subds. (d) and (e)
[10] Pub. Resources Code § 21080.3.1 (b)
[11] Pub. Resources Code § 21080.3.2 (a)

6 (cont.)

c. Significance of the project's impacts on tribal cultural resources.

If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. [12]

With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process **shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10.** Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.[13]

If a project may have a significant impact on a tribal cultural resource, **the lead agency's environmental document shall discuss** both of the following:

a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource.[14]

Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.[15]

Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 **shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program**, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable.[16]

If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, **the lead agency shall consider feasible mitigation** pursuant to Public Resources Code section 21084.3 (b).[17]

An environmental impact report **may not be certified**, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days.[18]

This process should be documented in the Tribal Cultural Resources section of your environmental document.

Under SB 18:

7

Government Code § 65352.3 (a) (1) requires consultation with Native Americans on general plan proposals for the purposes of "preserving or mitigating impacts to places, features, and objects described § 5097.9 and § 5091.993 of the Public Resources Code that are located within the city or county's jurisdiction. Government Code § 65560 (a), (b), and (c) provides for consultation with Native American tribes on the open-space element of a county or city general plan for the purposes of protecting places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code.

- SB 18 applies to **local governments** and requires them to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf
- Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe**.[19]
- There is no Statutory Time Limit on Tribal Consultation under the law.

[12] Pub. Resources Code § 21080.3.2 (a)
[13] Pub. Resources Code § 21082.3 (c)(1)
[14] Pub. Resources Code § 21082.3 (b)
[15] Pub. Resources Code § 21080.3.2 (b)
[16] Pub. Resources Code § 21082.3 (a)
[17] Pub. Resources Code § 21082.3 (e)
[18] Pub. Resources Code § 21082.3 (d)
[19] (Gov. Code § 65352.3 (a)(2)).

- Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research,[20] the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction.[21]
- Conclusion Tribal Consultation: Consultation should be concluded at the point in which:
    - The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    - Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation.[22]

7 (cont.)

NAHC Recommendations for Cultural Resources Assessments:

8

- Contact the NAHC for:
    - A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    - A Native American Tribal Contact List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
        - The request form can be found at http://nahc.ca.gov/resources/forms/.
- Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    - If part or the entire APE has been previously surveyed for cultural resources.
    - If any known cultural resources have been already been recorded on or adjacent to the APE.
    - If the probability is low, moderate, or high that cultural resources are located in the APE.
    - If a survey is required to determine whether previously unrecorded cultural resources are present.
- If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    - The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

Examples of Mitigation Measures That May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

9

- Avoidance and preservation of the resources in place, including, but not limited to:
    - Planning and construction to avoid the resources and protect the cultural and natural context.
    - Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
- Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - Protecting the cultural character and integrity of the resource.
    - Protecting the traditional use of the resource.
    - Protecting the confidentiality of the resource.
- Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed.[23]
- Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated.[24]

The lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

- Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources.[25] In areas of identified

[20] pursuant to Gov. Code section 65040.2,
[21] (Gov. Code § 65352.3 (b)).
[22] (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).
[23] (Civ. Code § 815.3 (c)).
[24] (Pub. Resources Code § 5097.991).
[25] per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)).

9 (cont.)

archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

- Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
- Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

NAHC Comment Letter

State of California
Native American Heritage Commission
Environmental and Cultural Department
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691

Response to NAHC Comment Letter

Response to Comment NAHC-1. This comment provides a summary of the sections that the NAHC has reviewed. While this comment is noted, it does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. Thus, no further response is warranted.

Response to Comment NAHC-2. The comment suggests that a mitigation measure be imposed to ensure that tribal cultural resources are not affected. As discussed on Page B-66 of the Draft IS/MND, the results of the City's AB 52 consultation efforts revealed that no known tribal cultural resources have been identified within the Project Site or vicinity. Therefore, the Draft IS/MND does not impose additional mitigation that would require additional monitoring personnel. No additional mitigation is required as the Project would not cause an impact to tribal cultural resources.

Response to Comment NAHC-3. The comment states that although no response was received during AB-52, Tribal cultural resources may be present. However, no indication has been made that any particular tribal cultural resource could be affected. No additional monitoring is warranted. See Response to Comment NAHC-2.

Response to Comment NAHC-4. Tribal cultural resources mitigation is not required since no tribal cultural resources were identified in the Project Site or vicinity, The City has met their obligations as required under AB 52 and no tribal cultural resources were identified as a result. Therefore, no additional mitigation is required. See Response to Comment NAHC-2.

Response to Comment NAHC-5. The commenter provides additional information and background information pertaining to AB 52. The City submitted AB 52 project notification letters on February 12, 2018 and has received no responses to date. The City has met their obligations as required under AB-52. While this comment is noted, it does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. Thus, no further response is warranted.

Response to Comment NAHC-6. See Response to Comment NAHC-5.

Response to Comment NAHC-7. The commenter provides additional information and background information pertaining to SB 18. SB-18 requires that lead agencies consult with Native American groups when there is an adoption or amendment to a General Plan or Specific Plan, or a designation of open space. Since the proposed project does not include these approvals, SB 18 does not apply to this proposed project. While this comment is noted, background material on SB-18 does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. Thus, no further response is warranted.

Response to Comment NAHC-8. The commenter provides NAHC recommendations for cultural resources assessments. The scope of work for the cultural resources assessment conducted to support the Draft IS/MND

included a Sacred Lands File Search through the NAHC, a records search through the South Central Coastal Information Center, a pedestrian survey of the Project Site, and the preparation of a cultural resources technical report that is provided in Appendix C1 of this Draft IS/MND. While this comment is noted, background material on cultural resources assessments does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. Thus, no further response is warranted.

Response to Comment NAHC-9. The commenter provides examples of mitigation measures that may be considered to avoid or minimize significant adverse impacts to tribal cultural resources. The measures include avoidance and impact minimization measures. However, no tribal cultural resources are known to occur in the Project Site or vicinity. This comment does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. No further response is warranted.

DEPARTMENT OF TRANSPORTATION
DISTRICT 7- OFFICE OF REGIONAL PLANNING
100 S. MAIN STREET, SUITE 100
LOS ANGELES, CA 90012
PHONE (213) 897-6536
FAX (213) 897-1337
TTY 711
www.dot.ca.gov

Caltrans Comment Letter

Serious Drought.
Making Conservation
a California Way of Life.

July 3, 2018

Mr. Michael DeGhetto
Glendale Water & Power
City of Glendale
613 E. Broadway
Glendale, CA 91206

RE: Glendale Wastewater Change Petition
Vic: LA-2,134
SCH#2018061015
GTS#07-LA-2018-01487-MND

Dear Mr. DeGhetto:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The project proposes to decrease the volume of treated wastewater discharged from the Los Angeles-Glendale Water Reclamation Plant to the Los Angeles River, and increase the delivery of recycled water to various users within the Glendale Water & Power and Pasadena Water & Power service areas. This will require construction and operation of new recycles water distribution facilities. 1

After reviewing the Initial Study/Mitigated Negative Declaration, Caltrans does not expect project approval to result in a direct adverse impact to the existing State transportation facilities. 2

However, during construction, if State facilities will be utilized for hauling of materials a Traffic Management Plan (TMP) for construction vehicles should be submitted to Caltrans. Coordination of this project with other construction activities particularly on State Routes 2 and 134 may be needed. Additionally, any transporting of heavy construction equipment and/or materials, which require the use of oversized-transport vehicles on State highways, will require a Caltrans transportation permit. 3

If you have any questions regarding these comments, please contact project coordinator Ms. Miya Edmonson, at (213) 897-6536 and refer to GTS#07-LA-2018-01487. 4

Sincerely,

MIYA EDMONSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

Caltrans Comment Letter

State of California - California State Transportation Agency
Department of Transportation
District 7 – Office of Regional Planning
100 S. Main Street, Suite 100
Los Angeles, CA 90012

Response to Caltrans Comment Letter

Response to Comment Caltrans-1. This comment provides a brief summary of the proposed project. While this comment is noted, it does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. Thus, no further response is warranted.

Response to Comment Caltrans-2. This comment states that Caltrans does not expect the proposed project approval to result in a direct adverse impact to the existing State transportation facilities. As this comment does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein, no further response is necessary.

Response to Comment Caltrans-3. As discussed on pages B-63 and B-64 of the Draft IS/MND, prior to construction, GWP would submit traffic control plans for approval to the City to ensure that traffic impacts, including impacts to public transportation routes, are kept to a minimum. The plans would follow the standards outlined in the Caltrans Traffic Manual as well as applicable City guidelines. GWP would implement the construction practices listed on pages B-63 and B-64. If State facilities were to be utilized, a TMP for construction vehicles would be submitted to Caltrans and the proposed project would coordinate, as applicable, with other construction activities on State Routes 2 and 134. Although no permits from Caltrans are anticipated for transportation of heavy equipment or use of oversized-transport vehicles on State highways, the contractor would be responsible for obtaining such approvals from Caltrans if they are needed. No further response is warranted.

Response to Comment Caltrans-4. Comment acknowledged. No further response is warranted.

PWP Comment Letter

PASADENA WATER AND POWER

July 3, 2018

Via E-mail and US Mail

Mr. Erik Krause
Deputy Director of Community Development
City of Glendale Community Development Department
633 E. Broadway, Room 103
Glendale CA 91206

Subject: Letter of Support for Glendale 2018 Wastewater Change Petition WW0097 Mitigated Negative Declaration

Dear Mr. Krause:

1

Pasadena Water and Power ("PWP") supports the findings of the Mitigated Negative Declaration ("MND") for Petition WW0097. The petition is the only approval remaining for the Pasadena Non-Potable Water Project to secure funding from the State Water Resources Control Board ("SWRCB"). This funding will allow PWP to begin construction of the first phase of its project.

The City of Glendale ("Glendale") has filed the petition to gradually decrease the amount of treated wastewater discharged from the Los-Angeles-Glendale Water Reclamation Plant ("LAGWRP") to the Los Angeles River. Instead, deliver up to 3,500 acre-feet per year ("AFY") of recycled water for use within Glendale and PWP service areas, including 3,100 AFY to new customers in Pasadena. The construction and operation of PWP's non-potable water system for delivery of the recycled water was evaluated in the Pasadena Non-Potable Water Project Environmental Impact Report certified in 2016.

We urge Glendale to adopt the MND at the end of the 30-day public comment period and complete the environmental process needed for SWRCB to approve the funding for PWP's project.

Thank you for the opportunity to comment on the environmental documents.

If you have any questions, please contact Ms. Roumiana Voutchkova, P.E., Engineer, at (626) 744-4486.

Sincerely,

Mitchell S. Dion
Assistant General Manager - Water

RV/hs

PWP Comment Letter

Mitchell S. Dion
Assistant General Manager – Water
150 S. Los Robles Avenue, Suite 200
Pasadena, CA 91101

Response to PWP Comment Letter

Response to Comment PWP-1. The commenter states support for the findings of the MND for Petition WW0097. Thus, no further response is warranted.

Elizabeth Erickson Letter

July 5, 2018

Dear Sir or Madam,

As a resident of Glendale, I am aware that July 7, 2018, is the close of the comment period for the Draft Environmental Impact Report for Glendale's proposal to reduce discharge of domestic waste to the Los Angeles River while increasing the use of treated effluent for recycled water and future domestic uses. 1

I applaud and support the development of recycled water for future drinking water supply. 2

The CEQA analysis is incomplete. The document states the removal of water from the Los Angeles River will have insignificant impacts on groundwater supplies and will not cause an increase in river flows, but does not describe how the project conforms to an existing water rights decision on the adjudication of the San Fernando ground water basin. That decision states that surface discharge and spreading is known to cause changes in groundwater levels and down-gradient discharge to the Los Angeles River and tributaries as well as municipal well supply. Further, it states affected parties shall consult with the San Fernando groundwater basin water master, and the court in cases of dispute, when action on the part of one affected party changes the "free-flow" of surface 3

and groundwater, upon which other parties rely. Other beneficial users, such as aquatic life and recreational users and aesthetic users would also be included in this group. 3 (cont)

Additional analysis, data collection and modeling is necessary. Glendale's municipal groundwater extractions rely on protection of the San Fernando groundwater basin supplies. The citizens of Glendale, like myself, use and rely on a free-flowing Los Angeles River which supports regional and local aquatic life, recreation and increases our property values with views of a healthy ecosystem. 4

Your selection of a comment closing date prevents my letter from receiving preparation of a computer. Please accept these comments mailed while I am away ~~from~~ home. 5

Respectfully,
Elizabeth Erickson
5030 Lauderdale
La Crescenta / Glendale CA
91214
(818) 542 3080

Elizabeth Erickson Comment Letter

Elizabeth Erickson
5030 Lauderdale
La Crescenta/Glendale, CA 91214

Response to Elizabeth Erickson Comment Letter

Response to Comment EE-1. This comment provides a summary of the Project and the comment period. While this comment is noted, it does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. Thus, no further response is warranted.

Response to Comment EE-2. The commenter provides support for the development of recycled water and for future drinking water supply. No further response is warranted.

Response to Comment EE-3. This comments states that the CEQA analysis is incomplete because the analysis does not describe how the Project conforms to an existing water rights decision on the adjudication of the San Fernando groundwater basin. The comment is not accurate. The City is a party to the 1979 Judgment that adjudicates the rights of parties to the San Fernando groundwater basin and the other basins that comprise the Upper Los Angeles River Area (ULARA Judgment). The proposed project does not involve the diversion of surface water from the LA River or production of groundwater from the San Fernando Basin therefore no discussion of the ULARA Judgment is required. Water percolating in the unlined reach is thought to re-appear as rising groundwater. Since the discharge point from LAGWRP is nearly adjacent to the boundary of the San Fernando Basin, discharges from LAGWRP have little opportunity to appreciably affect recharge in the basin. See also Response to Comment SWRCB/LARWQCB-6.

Response to Comment EE-4. This comment states that additional analysis, data collection, and modeling is necessary and that the citizens of Glendale, like the commenter, "rely on a free-flowing Los Angeles River." As the Draft IS/MND notes at page A-13 that Glendale has the exclusive right to all wastewater flows that it discharges to the LA River and those discharges may be reduced or eliminated at any time. The City has no obligation to continue to purchase and import water supplies from northern California and elsewhere to maintain a "free-flowing Los Angeles River." Presently, the City discharges highly treated wastewater to the Los Angeles River. The Project proposes to recycle a portion of the discharged water (3,500 AFY) by redirecting it to customers within both the City and the City of Pasadena for numerous non-potable uses, including cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses. In furtherance of state law and policy, the Project maximizes the beneficial use of water by using the City's water supplies more than once.[1] As a result of implementation of the Project, highly valuable potable supplies (e.g., drinking water) – enough to serve more than 7,000 homes – will be freed up to serve other potable demands in the region, which in turn will reduce the City's reliance on imported water supplies from Northern California and elsewhere. Currently, nearly 7 percent of the City's water demands are met with recycled water. The Project will nearly double the amount of water that will be beneficially reused. As discussed in detail in the Hydraulic Modeling Report and in Response to Comment SWRCB/LARWQCB-14, the hydraulic modeling analysis takes into account the significant variability in flows in the River over a 11-year period that included the driest period in recorded history and included variability in the contributions from groundwater to the River (upwelling). (See Hydraulic Modeling Report, Fig. 6.) The Draft IS/MND provides substantial setting information to inventory the biological resources, including the results from two field surveys and review of numerous published documents and databases, within each unique segment of the river. The analysis quantifies the potential reduction of water in the channel in the 6 reaches of the River downstream of the point of discharge that include potential habitat and concludes that the reduction in discharges would not adversely affect the riparian or aquatic habitats in any segment. This is largely due to the very small increment of effect caused by the project (individually and cumulatively), the nature of the channelized stream, and the quantity of water currently flowing in the river. The Hydraulic Modeling Report demonstrates that the flow reduction during the lowest time of the year would result in a depth decrease of 0.6 inches constituting a 6 percent reduction under the cumulative condition. The Hydraulic Modeling Report concludes that this small increment of effect would be barely detectable. The City has concluded that this very small effect is less than significant to biological and recreational resources. As such, no further response is warranted.

Response to Comment EE-5. This comment is noted and does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. Thus, no further response is warranted.

[1] See Water Code §§ 461, 13500 et. seq.; State Water Resources Control Board Resolution 2013-0003, Policy for Water Quality Control for Recycled Water, Preamble (Effective April 25, 2013).

SWRCB and LARWQCB Comment Letter

CALIFORNIA Water Boards

EDMUND G. BROWN JR. GOVERNOR

MATTHEW RODRIQUEZ SECRETARY FOR ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

July 6, 2018

Erik Krause, Deputy Director
City of Glendale Community Development Department
633 E. Broadway, Room 103
Glendale, CA 91206

COMMENTS ON THE GLENDALE 2016 WASTEWATER CHANGE PETITION WW0097 - INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (SCH#2018061015), WASTE DISCHARGE REQUIREMENTS (WDRs) AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT – CITY OF LOS ANGELES, LOS ANGELES-GLENDALE WATER RECLAMATION PLANT (NPDES PERMIT NO. CA0053953, CI NO. 5675)

Dear Mr. Krause,

The State Water Resources Control Board (State Water Board), Division of Water Rights (Division) and the Los Angeles Regional Water Quality Control Board (Regional Water Board) received the Initial Study/Mitigated Negative Declaration in support of the City of Glendale's 2016 Wastewater Change Petition on June 7, 2018. The Water Board staff have reviewed the Initial Study/Mitigated Negative Declaration (IS/MND) and have the following joint comments: 1

1. **Point of Discharge, page A-8:** The current Order No. for the discharge from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) is R4-2017-0063, not R4-2011-0197-A01. Please correct throughout the document. 2

2. **Reason for Proposed Change A-13:** Besides increasing water supply reliability and maximizing the use of recycled water, the reason for the proposed change should also include the Reclaimed Water System Participation Agreement with the City of Pasadena. This agreement should be identified in this section since Pasadena is entitled to up to 6,000 acre-feet per year and approximately 60 percent of the City of Glendale's LAGWRP allotment. 3

3. **Cumulative Impact B-70:** The cumulative impact should not only include the flow reductions proposed by the City of Burbank from the Burbank WRP, it should also include the City of Los Angeles' proposed reduction of flows from the LAGWRP and the DC Tillman WRP. 4

4. **IX Hydrology and Water Quality,** 5

    a. **Violate any water quality standards or waste discharge requirements, B-39:** Any dewatering required to install the recycled water distribution system will need to be enrolled under the General Permit R4-2013-0095 - Discharges of Groundwater from Construction and Project Dewatering to Surface Waters.

b. **Substantially deplete groundwater supplies or interfere with groundwater recharge, B-40**: The statement in this section that "However, while there is some potential for treated wastewater discharges to contribute to groundwater storage volumes in the area, this contribution is a very small percentage of the overall groundwater recharge within the affected groundwater basin(s)." should be investigated. Although the contribution to the groundwater may be a small percentage of the overall groundwater recharge to the groundwater basins, it may be causing a significant loss to the amount of flow in the river. Per the Upper Los Angeles River Area (ULARA) Technical Memorandum No. 1 (2016) for the Salt and Nutrient Management Plan prepared by the ULARA Watermaster, on page 29, "These large year-round releases (of treated wastewater) tend to keep the alluvium beneath the Los Angeles River saturated, even in dry years. Water percolating in the unlined reach is thought to percolate through the shallow alluvial zones and to re-appear as rising groundwater at a location downstream from Los Feliz Boulevard." This is approximately one mile downstream of the plant's discharge point. 6

c. **Substantially alter the existing drainage pattern of the site or area, page B-41**: The Hydraulic Modeling Report should be updated to include cumulative effects and reviewed by an independent 3rd party. 7

5. **XV Recreation, Would the project increase the use of existing neighborhood and regional parks or other recreational facilities, page B-62:** Kayaking in the Elysian Valley River Recreation Zone is limited due to the hazards presented by the current level of shallow water. There is anecdotal information that experienced guides are highly recommended and/or required to assist kayakers with less experience due to shallow water and obstructions. Reducing the water level below the current level will reduce the public's ability to kayak in this area. 8

6. **XVIII Utilities and Service Systems, page B-67:** 9

   a. The design capacity of the LAGWRP is 20 million gallons per day (MGD) and the current average flow from the plant is 9.9 MGD. One option that has not been discussed is increasing influent flows to the LAGWRP to better utilize the design capacity of the plant and thus provide additional tertiary effluent for recycling without reducing the current flow rate being discharged to the Los Angeles River.

   b. Another option that has not been discussed is the option to divert the flow only during the evening/night when recycled water demands are the highest and biological and recreational demands are likely reduced and coincident with less evaporative losses of water. 10

7. **XIX Mandatory Findings of Significance** 11

   a. Does the project have impacts which are individually limited, but cumulatively considerable, page B-70: Impacts to biological resources from wastewater reuse and discharge reductions are described as less than significant. This finding needs to be re-evaluated. The entire mainstem of the Los Angeles River is designated with the Wildlife beneficial use in the Los Angeles Water Board's Basin Plan. The results of the modeling conducted show a 0.25 inch decrease in depth going from existing flow conditions to project flow

11 (cont.)

conditions (reduction in discharge from the Glendale plant). Under cumulative conditions (with a reduction in discharge from both the Burbank and Glendale plants), the modeling shows a decrease in depth of 0.35 inches in the lower Los Angeles River concrete section (assumed to be outside of the low-flow channel but this needs to be clarified). This is assumed to not have an impact on algal growth and invertebrate availability for birds. However, within the Initial Study there are two other numbers mentioned such as less than one-inch reduction in depth and less than a 0.5 inch reduction in depth. The anticipated decrease in depth under both Project and Cumulative Conditions must be clarified. While these differences may seem small, various bird experts assembled by the Southern California Wetlands Recovery Project for a 2004 workshop to discuss use of the lower Los Angeles River by shorebirds indicated feeding in areas of algae by various species occurred at varying depths ranging from 0 to 2.5 inches. Birds with shorter legs generally utilize the shallower depths with longer-legged birds occupying deeper areas. The black-necked stilts and American avocets commonly seen in the concrete areas generally occur in depths of 0.75 to 2.5 inches. August through September is the key time period for southbound migratory birds utilizing the river. Additional reductions in river flows with discharge reductions from the DC Tillman WRP would lead to incrementally shallower depths, particularly during the key migration period.

b. The initial study describes an estimated loss of width of wetted concrete of 14 inches on either side of the channel with the project while there is an estimated loss of width of wetted concrete of 23 inches on either side of the channel when considering cumulative effects. Similarly, additional reductions in river flows with discharge reductions from the DC Tillman WRP would lead to additional loss of width of wetted concrete, particularly during the key migration period. It is assumed that these width numbers apply to the areas on either side of the low flow channel, but this should be clarified in the document.

12

The Biological Resources Assessment attached to the Initial Study mentions under its "Cumulative Effects" section that the reduction in perennial flows in the Los Angeles River would resemble a more natural condition of the Los Angeles River compared to historic conditions. This is a statement commonly made when seeking to assess potential impacts from changing flows. However, it should be acknowledged that flows in different parts of the river would likely have been variable (not continuous low or continuous high as it is on concrete) due to the interaction with groundwater, either gaining or losing. For a year or two after very wet years, overall base flows would have been higher with the opposite happening during drier periods. Seasonal off-river wetlands were extensive historically and helped to offset any lesser amount of strictly flow-dependent habitat in the river. Additionally, coastal wetlands were extensive so shorebirds likely spent more time in their preferred mudflat habitat instead of on concrete as they do today.

13

8. **Appendix E - Hydrologic Modeling Report**
The draft IS/MND used hydrology from the period 2005-2016, with water year 2007-2008 selected as the year of driest hydrology from that period. The months of August and September of 2008 revealed Los Angeles River flows of 78.5 cfs and 73.1 cfs, respectively at the Station F-57C-R Gage downstream of the LA-Glendale facility. The hydrologic analysis used the numbers from 2008 as its baseline where the

14

14 (cont.)

determinations were made as to the water levels, wetted area and flow impacts that would occur in the Los Angeles River with the project.

The IS/MND states "August of Water Year 2007-08 was selected as the assumed baseline flow as it has the lowest total flow in the LA River within the eleven-year period for which data is available, and therefore is the most sensitive to flow reductions – e.g., the worst-case analysis (August 2008 Condition). Thus, the analysis intentionally errs towards showing greater-than-average Project impacts. We evaluated hydrologic conditions in the LA River in the lowest flow month, of the lowest flow year, in an eleven-year period which was one of the driest decades on record." (Glendale IS/MND; Hydrologic Modeling Report, pp.10)

A review of preliminary hydrology data for water year 2016-2017 reveals August and September 2017 average flows of 44.0 and 53.7 cfs, respectively. While it's possible that this information was not known at the time the draft IS/MND was prepared, the hydrology of 2017 is up to 56% lower than the 2008 dry year used in the analysis. If 2017 flows were used in the hydrologic analysis, decreases in wetted area, depth, and flow in the Los Angeles River could be more significant than that analyzed in the draft IS/MND. This also has additional implications for the Cumulative Impacts analysis, as future projects may further decrease flows.

15

If you have any questions regarding these comments, please contact Regional Water Board staff Cris Morris at (213) 620-2083 or Shirley Birosik at (213) 576-6679, or State Water Board Division staff Patricia Fernandez at (916) 319-9141.

Sincerely,

Deborah J. Smith
Executive Officer

Julé Rizzardo
Assistant Deputy Director
Division of Water Rights

cc (via email only): State Clearinghouse
state.clearinghouse@opr.ca.gov

KEmanuel.JKSahota.7/6/18
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SWRCB/LARWQCB Comment Letter

California Water Boards
Los Angeles Regional Water Quality Control Board State of California
320 West 4th Street, Suite 200, Los Angeles, CA 90013

Response to SWRCB/LARWQCB Letter

Response to Comment SWRCB/LARWQCB-1. This comment provides a brief summary of the proposed project. While this comment is noted, it does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. Thus, no further response is warranted.

Response to Comment SWRCB/LARWQCB-2. The commenter states that the current Order No. for the discharge from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) is R4-2017-0063, not R4-2011-0197-A01. This correction will be made within Attachment D, Corrections and Additions, of the Final IS/MND. No further response is warranted.

Response to Comment SWRCB/LARWQCB-3. Response to Comment SWRCB/LARWQCB-3. This comment states the reason for the proposed change should also include the Reclaimed Water System Participation Agreement with the City of Pasadena. The Draft IS/MND already includes the requested information. On page A-13, in the Project Description, the Draft IS/MND states that the proposed project includes the City of Glendale's 2017 Wastewater Change Petition WW0097, which requests the SWRCB's approval of Glendale's reduction in the rate and volume of treated wastewater discharges from LAGWRP to the LA River. (See Appendix G of the Draft IS/MND.) The Project Description further describes that a portion of the treated wastewater not discharged to the LA River will be beneficially reused within the City of Glendale and that a portion of the recycled water would be conveyed to the City of Pasadena for its beneficial reuse. The Environmental Setting, page A-4 of the Draft IS/MND, describes the 1993 Water System Agreement between the Cities of Glendale and Pasadena, which entitles the City of Pasadena to a portion of Glendale's portion of reclaimed water from LAGWRP. The Environmental Setting, page A-6, also describes the Pasadena Non-Potable Water Project and the fact that the proposed project would provide more than 3,000 AF of the treated wastewater to Pasadena for its beneficial re-use of that water. The Reason for Proposed Change, page A-13 of the Draft IS/MND, is to expand the re-use of highly treated wastewater in both the Cities of Glendale and Pasadena in furtherance of State law and policy. The Project will nearly double the amount of treated wastewater that will be beneficially reused. In response to the comment, the Draft IS/MND has been revised to clarify that Glendale's sale of water to Pasadena is made pursuant to the 1993 Participation Agreement. (See Attachment D, Corrections and Additions, of the Final IS/MND).

Response to Comment SWRCB/LARWQCB-4. The commenter states that the cumulative impact should not only include the flow reductions proposed by the City of Burbank from the Burbank WRP, but it should also include "the City of Los Angeles' proposed reduction flows from the LAGWRP and the DC Tillman WRP." The Draft IS/MND identifies all of the past,[2] present, and probable future projects that have the potential to result in flow reductions to the Los Angeles River. (See Exhibit A to Hydrologic Modeling Report; see also Response to Comment LADWP/LASAN-4.) The Draft IS/MND, page B-70 describes that as of the date of preparation of the Draft IS/MND the City of Los Angeles had not submitted any petition to the SWRCB to reduce discharge volumes from the LAGWRP or the DC Tillman WRP, as required by Water Code section 1211, or filed any Notice of Preparation describing any such proposed activity pursuant to CEQA. In fact, as of July 20, 2018 and the City's preparation of these Responses to Comments, the City of Los Angeles has not proposed the reduction of flows from the LAGWRP[3] or the DC Tillman WRP, nor any other project that would reduce summer flows in the Los Angeles River. Statements of intention to propose a project at some time in the future do not amount to "probable future projects" within the meaning of CEQA Guidelines section 15130(b)(1)(A) and are not required to be included in the cumulative impacts assessment for the proposed project. (See also Responses to Comment LADWP/LASAN-4.)

Additionally, as discussed in the Draft IS/MND on page 8 of Attachment B, the City of Los Angeles, in a 2016 Final Environmental Impact Report prepared for the San Fernando Groundwater Replenishment Project (SCH No. 2013091023), has committed to maintaining 27 mgd from the Tillman WRP in the Los Angeles River.[4] Any proposed reduction of flow from the DC Tillman WRP would appear to be inconsistent with the Groundwater Replenishment Project and additional environmental analysis will be required.

Although not required to be evaluated as part of the cumulative impacts analysis for the Project (see discussion above and Responses to Comment LADWP/LASAN-4), the Draft IS/MND also discusses on page B-71 that if the City of Los Angeles chooses to reduce discharges to the Los Angeles River in the future, significant impacts may occur to biological resources. The Draft IS/MND then concludes that the City's contribution to this hypothetical future flow reduction, which may occur many years in advance, would not be cumulatively considerable. This assumption is based on hydrology modeling and the biological resources impact analysis conducted by the City. The hydrology modeling and analysis (see Hydraulic Modeling Report (Appendix E) demonstrates that the worst case scenario effects of the proposed project would result in a depth decrease of 0.4 inches constituting an average 4 percent reduction. (See also Response to Comment SWRCB/LARWQCB-14.) The hydrology modeling analysis concludes that this small increment of effect would be barely detectable. The City has concluded that this very small effect is essentially a de minimis effect to biological resources. The Draft IS/MND concludes that if the City of Los Angeles decides to remove enough water from the river at some unspecified and unplanned time in the future, and that if such a proposed reduction would result in

2 Any existing recycled water uses by the City of Los Angeles that have resulted in decreases to the LA River are accounted for in the baseline analysis (2007/2008 and 2016/2017).

3 For example, with regards to LADWP's Downtown Water Recycled Projects (WRP) that will supply approximately 2,741 acre feet per year of recycled water to downtown Los Angeles, the 2016 certified EIR states: "a change in the volume of discharges to the Los Angeles River due to implementation of the proposed project is not anticipated….By increasing flows to the Plant, the…project…will result in an increase in the overall amount of recycled water produced at LAG, ensuring enough recycled water to supply the [WRPs] without affecting current discharges to the Los Angeles River." (WRP EIR, 3-118 to 119.)

4 "[A]fter Project implementation, a minimum annual average of 27 mgd would continue to be provided to lakes and the River from [the Tillman WRP]. Therefore, the [Los Angeles Groundwater Replenishment] Project which would utilize the available unused treatment capacity of [Tillman WRP] to provide recycled water for the advanced water purification processes, would not result in a change in discharge to the river, and no impacts to the river's biological resources and function as a wildlife movement corridor would occur from operation of the onside components. As stated, the Proposed Project would result in no change from the existing baseline flow and would create no impact to the habitat of the lakes and rivers." (Final EIR, Los Angeles Groundwater Replenishment Project, at page 3-51 (October, 2016) (SCH No. 2013091023). LADWP certified the Final EIR and approved the Groundwater Replenishment Project on December 6, 2016. See LADWP Resolution No. 017-117; see also City of Los Angeles, Water IRP 5-Year Review FINAL Documents, GO Policy # 4 (LADWP and Public Works to continue to provide 27 mgd from Tillman WRP to the LA River for habitat) (June, 2012).)

significantly impacting biological resources, the proposed project flow reductions, implemented many years prior, would be barely detectable and would not rise to the level of contributing significantly to the resulting condition. This conclusion is based on a reasoned assessment of habitat values and water needs.

Response to Comment SWRCB/LARWQCB-5. This comment states that any dewatering required to install the recycled water distribution system will need to be enrolled under the General Permit R4-2013-0095 – Discharges of Groundwater from Construction and Project Dewatering to Surface Waters. Page B-39 of the Draft IS/MND currently states that all dewatering discharges would be carried out in accordance with all applicable requirements of Order No. R4-2011-0197/NPDES No. CA0053953. This correction will be made within Attachment D, Corrections and Additions, of the Final IS/MND. No further response is warranted.

Response to Comment SWRCB/LARWQCB-6. The commenter states that the following statement on page B-40 of the Draft IS/MND should be investigated: "However, while there is some potential for treated wastewater discharges to contribute to groundwater storage volumes in the area, this contribution is a very small percentage of the overall groundwater recharge within the affected groundwater basin(s)." The commenter also quotes from a 2016 ULARA Technical Memorandum regarding the relationship between treated wastewater in the River and rising groundwater, specifically that treated wastewater flows "percolating in the unlined reach is thought to percolate through the shallow alluvial zones and to re-appear as rising groundwater at a location downstream from Los Feliz Boulevard," which is approximately one mile downstream of LAGWRP. Where the river bottom is wetted, recharge will continue to occur similar to current conditions. Any reduction in groundwater recharge would result from the reduced wetted area that would occur on the soft bottom river channel. The narrowing of the wetted channel resulting from the Project and Cumulative Effects (by approximately 2% over existing worst case conditions) would not reduce groundwater recharge measurably. Any reduction in seepage (rising groundwater) occurring within urbanized City of Los Angeles resulting from the slight reduction of river width would be slight. As explained in the ULARA Technical Memorandum quoted by the commenter, water percolating in the unlined reach is thought to re-appear as rising groundwater. Since the discharge point from LAGWRP is nearly adjacent to the boundary of the San Fernando Basin, discharges from LAGRWP may have little opportunity to appreciably affect recharge in the basin. As the Draft IS/MND notes at page A-13 that the City has the exclusive right to all wastewater flows that it discharges to the River and has no obligation to continue such discharges and those discharges may be reduced or eliminated at any time.

Response to Comment SWRCB/LARWQCB-7. This comments states that the Hydraulic Modeling Report (Appendix E) should be updated to include cumulative effects and reviewed by an independent 3rd party. CEQA requires that a lead agency evaluate potential impacts with an analysis that is sufficient to make a reasonable evaluation of potential environmental impacts. The Draft IS/MND includes a substantial hydrology study that employs the most recent USACE hydrologic model of the river, coupled with 11_years of Los Angeles River flow data at 5 LACDPW gages, that provides detailed and transparent estimates of depth and velocity effects of the proposed project under the worst case scenario flow conditions – e.g., conditions in which the effects of the proposed project will be greatest. (Appendix E; see also Response to Comment SWRCB/LARWQCB-14) (also evaluating recently published 2017 flow data, and in addition extended the period of flow reviewed back to Water Year 1996-07 comprising a total of 21 years of flow data analyzed.) As discussed above, the hydrology study includes cumulative effects. (Hydraulic Modeling Report, at section 3.1.5.2; see also Exhibit A to the Hydraulic Modeling Report.) The Hydraulic Modeling Report demonstrates that the flow reduction during the lowest time of the year would result in a depth decrease of 0.6 inches constituting a 6 percent reduction under the cumulative condition. The Hydraulic Modeling Report concludes that this small increment of effect would be barely detectable. The Draft IS/MND has concluded that this very small effect is less than significant to

biological and recreational resources. A third party review by the SWRCB is welcomed, but is not necessary as the Draft IS/MND concludes that impacts are less than significant under CEQA.

Response to Comment SWRCB/LARWQCB-8. The commenter states that reducing the water level below the current level will reduce the public's ability to kayak in this area. The commenter further states that under existing conditions, including the extreme low flow of July, 2017, kayaking in the River is limited due to hazards presented by the current level of shallow water. As stated on Page B-62 of the Draft IS/MND, under Section IX, Hydrology and Water Quality, in ARBOR Reach 6, average flow depth in the center of the channel is 14.9 inches under the August 2008 Condition, and is predicted to fall to 14.4 inches under the with-Project condition, a decline of 0.6 inches or 4 percent. The reduction in wetted channel area within Reach 6 is 0.8 acres (2.6 percent of the existing wetted area) of which 27 percent is a concrete channel. As such, the proposed project is not likely to have a noticeable effect on recreation within Reach 6, or elsewhere. Under the 2017 Condition (see Response to Comment SWRCB-14 below), flow would be reduced from an existing depth of 11.25 inches to a Project depth of 10.29 inches (a reduction of 0.96 inches or 9%). Under Cumulative conditions, the depth would be reduced to 9.95 inches (a 1.3 inch or 12% reduction).

It is noted by the City that kayaking is conducted opportunistically throughout California in natural streams when there is sufficient water available to support the activity. During low flow periods caused by natural hydrology, kayaking may not be possible. As noted in Response to Comment SWRCB/LARWQCB-6 above, the City has the exclusive right to all wastewater flows that it discharges to the River. The City is not obligated to continue to discharge imported highly treated wastewater to the Los Angeles River to support other uses, including kayaking that has been promoted and made available only in recent years as part of an urban revitalization project. The proposed project would not impede recreational uses of any kind that rely on the natural hydrology.

The designated Beneficial Uses of the Los Angeles River identified in the LARWQCB Basin Plan are shown in Table 1 below. As described in the Draft IS/MND, the proposed project would not adversely affect any of these beneficial uses.

LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

TABLE 1. BENEFICIAL USES OF INLAND SURFACE WATERS

Watershed	MUN	IND	PROC	AGR	GWR	FRSH	NAV	POW	COMM	AQUA	WARM	COLD	SAL	EST	MAR	WILD	BIOL	RARE	MIGR	SPWN	SHELL	WET[b]
Los Angeles River Watershed																						
Los Angeles River Estuary (Ends at Willow St.)[c,w]		E					E		E					E	E	E		Ee	Ef	Ef	P	E
Los Angeles River Reach 1	P*	P	P		E						E				E	E		E	P	P	Ps	
Los Angeles River Reach 2 A	P*	P			E						E					P						
Los Angeles River Reach 2 B	P*	P			E						E					P						
Los Angeles River Reach 3	P*	P			E						E					E						E

E: Existing beneficial use
P: Potential beneficial use
I: Intermittent beneficial use
E, P, and I: shall be protected as required
Reach 1 – (Los Angeles Estuary to Carson St.)
Reach 2 A – (Carson St. to Rio Hondo Reach 1)
Reach 2 B – (Rio Hondo Reach 1 to Figueroa St.)
Reach 3 – (Figueroa St. to Riverside Dr.)
Footnotes are consistent for all beneficial use tables.

- **Municipal and Domestic Supply (MUN)**: Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
- **Industrial Service Supply (IND)**: Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.
- **Industrial Process Supply (PROC)**: Uses of water for industrial activities that depend primarily on water quality.
- **Ground Water Recharge (GWR)**: Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.
- **Navigation (NAV)**: Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.
- **Commercial and Sport Fishing (COMM)**: Uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.
- **Warm Freshwater Habitat (WARM)**: Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

- **Estuarine Habitat (EST)**: Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds).
- **Marine Habitat (MAR)**: Uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).
- **Wildlife Habitat (WILD)**: Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
- **Rare, Threatened, or Endangered Species (RARE)**: Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.
- **Migration of Aquatic Organisms (MIGR)**: Uses of water that support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.
- **Spawning, Reproduction, and/or Early Development (SPWN)**: Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.
- **Shellfish Harvesting (SHELL)**: Uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sports purposes.
- **Wetland Habitat (WET)**: Uses of water that support wetland ecosystems, including, but not limited to, preservation or enhancement of wetland habitats, vegetation, fish, shellfish, or wildlife, and other unique wetland functions which enhance water quality, such as providing flood and erosion control, stream bank stabilization, and filtration and purification of naturally occurring contaminants.

Response to Comment SWRCB/LARWQCB-9. This comment states that one option that has not been discussed is increasing influent flows to the LAGWRP to better utilize the design capacity of the plant and thus provide additional tertiary effluent for recycling without reducing the current flow rate being discharged to the Los Angeles River. Re-routing the regional sewer collection system to increase influent volumes to LAGWRP would constitute a substantial infrastructure program with its own environmental impacts and the cooperation of at least the City of Los Angeles, which co-owns the LAGWRP.

Response to Comment SWRCB/LARWQCB-10. The commenter states another option that has not been discussed is the option to divert the flow only during the evening/night when recycled water demands are the highest and biological and recreational demands are likely reduced and coincident with less evaporative losses of water. This idea would not reduce any of the effects associated with the Project and would not meet the Project objectives.

Response to Comment SWRCB/LARWQCB-11. This comment states that the finding that impacts to biological resources from wastewater reuse and discharge reductions are less than significant needs to be re-evaluated. The comment also states that the decrease in depth under the Project and Cumulative Conditions must be clarified. The Draft IS/MND provides substantial setting information to inventory the biological resources, including the results from two field surveys and review of numerous published documents and databases, within each unique segment of the river. The analysis quantifies the potential reduction of water in the channel in the 6 reaches of the River downstream of the point of discharge that include potential habitat and concludes that the reduction in discharges would not adversely affect the riparian or aquatic habitats in any segment. This is largely due to the very small increment of effect caused by the project (individually and cumulatively), the nature of the channelized stream, and the quantity of water currently flowing in the river. The comment is focused on impacts to the lower Los Angeles River. The Project and Cumulative effects on depth of flows in Segment B (which is the lower Los Angeles River), which are less than in Segment A, are discussed on page 31 of the Hydraulic Modeling Report. As described in the Hydraulic Modeling Report and Response to Comment SWRCB/LARWQCB-14, River flows increase below the confluence of Arroyo Seco (Segment 6). The Draft IS/MND notes on Page B-71 that in the lower segment of the river, the small depth reduction would not change the existing hydraulic condition that promotes algae growth. As noted in the comment letter, the birds that utilize this area for foraging require shallow depths to sustain the foraging values, of around 2.5 inches. The proposed project would not reduce the flows in this segment by more than 0.6 inches, allowing substantial flow currently in the river to sustain the algae. As discussed above, the City is not required to speculate as to the impacts of hypothetical future projects. (See Response to Comment SWRCB/LARWQCB-4; see also Response to Comment LADWP/LASAN-4 and 6.)

Response to Comment SWRCB/LARWQCB-12. The commenter would like clarification that it is assumed that the loss of width numbers applies to the areas on either side of the low flow channel. The Hydraulic Modeling Report used the latest USACE hydrology model of the Los Angeles River to estimate the change in wetted area individually at each of the 662 cross sections simulated and then calculated the resulting total area to be 2.5 acres under the cumulative condition. In Segment B (the concrete reach) the analysis showed that the main floor of the flood control channel alongside the low flow channel would remain wetted (See also Response to Comment SWRCB/LARWQCB-14.) Wetted concrete channel supports algae that birds use to forage. However, wetted concrete is not a sensitive habitat identified by the CDFW. Furthermore, the wetted area of the channel changes daily with diurnal flow variability, urban runoff patterns, and storm runoff. Storm flows remove algae mats from the channels. The availability of algae will not change as a result of the project. As noted in the comment, it takes only a thin layer of water to promote algae growth that attracts wildlife. In conclusion, using hydrological modeling the City has concluded that the proposed project would result in barely detectable impacts to river velocity and depth in the lower segment of the Los Angeles River under the

Project and Cumulative conditions. The Draft IS/MND concludes that this very small effect is less than significant to biological and recreational resources.

Response to Comment SWRCB/LARWQCB-13. This comment is requesting acknowledgement that flows in different parts of the river would likely have been variable due to the interaction with groundwater, either gaining or losing. The comment is noted that historically, the region supported various wetted habitats that no longer exist. However, as stated in the Draft IS/MND, the proposed project, together with other planned and probable future projects, would not significantly change the existing worst-case low flow condition. As discussed in detail in the Hydraulic Modeling Report and in Response to Comment SWRCB/LARWQCB-14, the hydraulic modeling analysis takes into account the significant variability in flows in the River over a 11-year period that included the driest period in recorded history and the variability in the contributions from groundwater to the River (upwelling). (See Hydraulic Modeling Report, Fig. 6.)

Response to Comment SWRCB/LARWQCB-14. This comment presents draft and unpublished flow data for a single gage downstream of LAGWRP for water year 2016-17. Due to the variable nature of the Los Angeles River, the City evaluated published river flows over an 11-year period. The Draft IS/MND used the latest, published flow data available at the time of publication of the Draft IS/MND to evaluate Project and cumulative impacts. That data included the period 2005 to 2016. Water year 2007-2008 was selected as the "existing condition" or baseline[5] to model the Project and cumulative impacts on the River because it was the year of lowest flows from the 11-year period in which data was available. On July 18, 2018, subsequent to the City's receipt of this comment and during its preparation of these Responses to Comments, the County of Los Angeles released the water year 2016/17 flow data. In an abundance of caution, the City has re-run its modeling analysis to evaluate the impacts of the proposed project using this new lower flow baseline.

In response to this comment, ESA has prepared additional hydraulic analysis to evaluate effects of the proposed project during a year such as 2017 with lower flow. ESA's hydraulic analysis of the Los Angeles River (which assessed the effects of flow reduction on flow depth, velocity and inundation extent) in the Draft IS/MND relied upon measurements of water into and out of the Project reach. The best source of data for this is the LACDPW Annual Hydrologic Reports. At the time of our analysis (May, 2018), reports for Water Years 1996-1997 to 2015-2016 (ending in September 2016) were available. With this information, ESA reviewed the entire 21 years of available data and identified the month and year of lowest flow in the Los Angeles River above Arroyo Seco (the closest gage downstream of the LAGWRP discharge point). That period – August 2008 – was selected as a worst-case "existing condition" or baseline against which to assess Project and cumulative effects. For the Los Angeles River, the Draft IS/MND baseline flow was 63.6 cfs immediately above the LAGWRP discharge point and 78.7 cfs above the Arroyo Seco confluence.

[5] A project's baseline is normally the physical environmental conditions existing when the notice is published or at the time environmental analyses is commenced. (Guidelines, § 15125(a).) Although the Guidelines use the word "normally," section 15125(a) of the Guidelines "necessarily contemplates that physical conditions at other points in time may constitute the appropriate baseline or environmental setting." (*Cherry Valley Pass Acres & Neighbors v. City of Beaumont* (2010) 190 Cal.App.4th 316, 336.) "An agency enjoys the discretion to decide, in the first instance, exactly how the existing physical conditions without the project can most realistically be measured[.]" (*Id*.) Additionally, "environmental conditions may also change during the period of environmental review, and temporary lulls or spikes in operations that happen to occur during the period of review should not depress or elevate the baseline." (*Id*.) "Environmental conditions may vary from year to year and in some cases it is necessary to consider conditions over a range of time periods." (*Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 125.)

On July 17, 2018, the annual report for Water Year 2016-17 was published by LACDPW, revealing that in the summer of 2017 flows were lower than the 2008 baseline used in the Draft IS/MND, with the lowest flow occurring in July, 2017 with an estimated flow of 38.3 cfs above the LAGWRP discharge point and a measured flow of 43.4 cfs above the Arroyo Seco confluence. In order to assess the effects of the Project on this most recent and lowest flow condition, ESA repeated the hydraulic modeling analysis for Segment A (the soft-bottomed reach of the Los Angeles River from LAG to the confluence of the Arroyo Seco). ESA did not repeat the hydraulic modeling analysis for Segment B (the concrete segment centered on Wardlow Road and extending to the estuary) because in summer of 2017 the flows in the lower Los Angeles River were higher than in the 2008 baseline analysis, and thus Project and cumulative effects would be even smaller than originally reported in the Draft IS/MND.

The 2016-17 flow conditions are presented in Table 2 (LAG Segment A highlighted in green). All reach breaks, tributaries, Water Reclamation Plants and flow gages used in the analysis are shown in Figure 1).

Table 2. Water balance for the Los Angeles River under July 2017 baseline conditions

July 2017 flow (month with lowest Los Angeles River flows in available 21 year period of record)	Existing conditions (cfs)	With Project (Existing minus 9.1 cfs Glendale Petition)	Cumulative Effects (Existing minus 9.1 cfs Glendale Petition and 4.1 cfs* Burbank Petition)
Los Angeles River @ Tujunga Ave	43.5	43.5	43.5
Los Angeles River above Burbank Western Canal confluence	43.5	43.5	43.5
Reach 2	39.5	39.5	36.6
Reach 3 above Verdugo Wash confluence	38.9	38.9	35.9
Reach 3 below Verdugo Wash confluence	40.5	40.5	37.6
Reach 4 above LAG discharge point	38.3	38.3	35.3
Reach 4 below LAG discharge point	48.5	39.4	36.4
Reach 5	46.4	37.3	34.4
Reach 6	43.4	34.3	31.3
Losses from Tujunga Ave to Arroyo Seco (bed seepage and evapotranspiration)	-15.6	-15.6	-15.6

* Because the proposed Burbank WRP July flow reduction would exceed the total flow in Burbank Western Channel that existed during July of 2017, flow in Burbank Western Channel was set to zero, resulting in an effective reduction from Burbank of 3.0 cfs for this analysis.

ESA re-ran the hydraulic model and generated water depth and inundation extents at each of the 251 cross sections in Segment A (ARBOR Reaches 3-5). Hydraulic Modeling Report The results of the 2017 Condition are shown below in Table 3.

Table 3. Average flow depth and changes in depth due to Project and Cumulative effects, under July 2017 baseline conditions.

	Scenario	Reach flow (cfs)	Flow from LAG WRP (cfs)	Flow from Burbank WRP (cfs)	Flow depth (inches)	Change in flow depth (inches)	Flow velocity (ft/sec)	Change in flow velocity (ft/sec)
Reach 4 Downstream of LAG WRP	Existing Conditions	48.5	10.2	3.0	5.75	0.00	1.61	0.00
	With Project (Existing minus 8.1 cfs LAG reduction)	39.4	1.1	3.0	5.31	-0.45	1.43	-0.18
	Cumulative effects (Existing minus 9.1 cfs LAG and 4.1 cfs Burbank*)	36.4	1.1	0.0	5.09	-0.66	1.50	-0.11
Reach 5	Existing Conditions	46.4	10.2	3.0	5.75	0.00	1.54	0.00
	With Project	37.3	1.1	3.0	5.31	-0.47	1.59	-0.04
	Cumulative effects	34.4	1.1	0.0	5.09	-0.57	1.36	-0.18
Reach 6	Existing Conditions	43.4	10.2	3.0	11.25	0.00	1.19	0.00
	With Project	34.3	1.1	3.0	10.29	-0.96	1.12	-0.07
	Cumulative effects	31.3	1.1	0.0	9.95	-1.30	1.09	-0.10
Average (All Reaches)	Existing Conditions	48.5-43.4	10.2	3.0	7.43	0.00	1.46	0.00
	With Project	39.4-34.3	1.1	3.0	6.87	-0.56	1.41	-0.07
	Cumulative Effects	36.4-31.3	1.1	0.0	6.67	-0.77	1.32	-0.10

Table 3 evaluates the impacts of the Project (individually and cumulatively) against the lower 2017 baseline condition. The 2017 baseline condition represents a reduction in average flow depth of 2.5 inches as compared to the 2008 condition (2008 existing condition depth minus 2017 existing condition depth). The average Project effect under the 2017 baseline condition is a reduction in flow depth of 0.56 inches (-8%), compared with an average reduction of 0.38 inches (-4%) using the 2008 baseline condition. The Cumulative effect is an average flow reduction of 0.77 inches under 2017 baseline conditions (0.60 inches under the previous 2008 baseline). These results are very similar to those reported in the Hydraulic Modeling Report, and represent a small change in hydraulic conditions (less than one-inch reduction of water depth) under the worst case flow conditions. Under all other flow conditions, both the Project and Cumulative effects would be less.

We also calculated the wetted area for each of Existing (July 2017 baseline condition), Project and Cumulative conditions, and overlaid these on habitat and channel materials maps in GIS. This was used to generate Table 4, which shows how much the wetted area would decline between Existing, Project and Cumulative conditions, and the underlying vegetation cover or substrate. The GIS layer only classified vegetation or open water; ESA further classified the open water areas as either overlying concrete or soft channel (earth).

Table 4. Wetted area under Existing conditions, and change with Project and Cumulative conditions

Bank or bed cover	Area of wetted channel bed/banks under July 2017 existing conditions (acres)	Project Effect change in area (acres)	Cumulative Effect change in area (acres)	Project Effect change in area (%)	Cumulative Effect change in area (%)
Black Willow Thickets	3.89	-0.24	-0.33	-6%	-8%
Open water on earth	9.97	-0.05	-0.08	-1%	-1%
Open water on concrete	1.56	0.00	0.00	0%	0%
Reach 4 below LAG Total	*15.42*	*-0.29*	*-0.41*	-2%	-3%
Black Willow Thickets	5.26	-0.44	-0.61	-8%	-12%[6]
Open water on earth	15.05	-0.34	-0.48	-2%	-3%
Open water on concrete	4.91	-0.01	-0.01	0%	0%
Reach 5 Total	*25.22*	*-0.79*	*-1.11*	-3%	-4%
Black Willow Thickets	6.44	-0.61	-0.82	-9%	-13%
Open water on earth	17.28	-0.59	-0.85	-3%	-5%
Open water on concrete	1.95	-0.38	-0.44	-19%	-23%
Total Reach 6 Total	*25.67*	*-1.58*	*-2.11*	-6%	-8%
Total Segment A	**66.31**	**-2.66**	**-3.62**	-4%	-5%
Black Willow Thickets	15.59	-1.29	-1.76	-8%	-11%
Open water on earth	42.29	-0.98	-1.41	-2%	-3%
Open water on concrete	8.43	-0.39	-0.46	-5%	-5%

[6] As set forth the IS/MND, while during the summer months the Black Willow Thicket habitat that is currently wetted will decrease, the Black Willow Thicket roots extend below this area and thus there will be no loss in riparian habitat.

As Table 4 shows, the Project would shrink the wetted area within Segment A during the summer by about 2.66 acres (4% of the existing wetted area), most of which is mapped as Black Willow thickets or as open water over earth channel. Under Cumulative conditions the wetted area would shrink by about 3.6 acres (5% of the existing wetted area), which includes 1.76 acres that are mapped as willow and 1.87 acres of open water over earth channel or banks. None of the new information would result in new impacts or a significant change to the analysis or conclusions of the Draft IS/MND.

Response to Comment SWRCB/LARWQCB-15. Comment acknowledged. No further response is warranted.

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

EDMUND G. BROWN, Jr., Governor
CHARLTON H. BONHAM, Director

CDFW Comment Letter

July 6, 2018

Michael DeGhetto, P.E.
Chief Assistant General Manager
Glendale Water and Power
613 E. Broadway
Glendale, CA 91206
MDeGhetto@Glendaleca.gov

Subject: Glendale 2018 Wastewater Change Petition WW0097 Initial Study/Mitigated Negative Declaration, City of Glendale, County of Los Angeles. (SCH# 2018061015)

Dear Mr. DeGhetto:

1

The California Department of Fish and Wildlife (CDFW) has reviewed the Initial Study/Mitigated Negative Declaration (MND) for the Glendale 2018 Wastewater Change Petition WW0097 Project (Project). The City of Glendale, serving as the Lead Agency for this Project, prepared the MND for the proposed Project. The Project proposes to incrementally reduce discharges of tertiary-treated wastewater from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) to the Los Angeles River (River) in order to allow for increased use of recycled water for irrigation and other non-potable uses. Additional features of the Project include construction and operation of three new recycled water distribution pipelines and associated pump stations in the City of Glendale, and a connection to the City of Pasadena's recycled water distribution system.

The City of Glendale, in 2017, applied for a Wastewater Change Petition (Petition) with the State Water Resources Control Board. This resulting MND analyzes the City of Glendale's request to reduce the annual discharge of treated wastewater currently discharged into the River from 10,500-acre-feet (2017 annual average) to 7,000 acre-feet.

As a trustee for the State's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, and habitat necessary for biologically sustainable populations of those species. In this capacity, CDFW administers the California Endangered Species Act, the Native Plant Protection Act, and other provisions of the California Fish and Game Code that afford protection to the State's fish and wildlife trust resources. CDFW is the State's fish and wildlife "Trustee Agency" under the California Environmental Quality Act (CEQA guidelines §15386).

1 (cont.)

Pursuant to our jurisdiction, CDFW has the following comments and recommendations regarding the Project.

Biological Significance

The River estuary supports green sea turtle (*Chelonia mydas*), southern California steelhead (*Oncorhynchus mykiss*), Pacific lamprey (*Entosphenus tridentatus*), and numerous shorebird species. In the concrete portions, the river overtops the channel and sheet flows allowing phytoplankton (algae & cyanobacteria), microorganisms, and herbaceous vegetation to establish. The River supports the avian community. The River is also know to support least Bell's vireo (*Vireo bellii pusillus*) which was documented several times within the Glendale Narrows area in the last several years. This important habitat of the River is surrounded by dense urban development, making this habitat regionally significant and rare for the fish and wildlife resources that utilize this resource.

2

Hydraulic Modeling Concerns

MND Hydrology Study

It is not clear where the flow measurements provided in Table 3 and the map provided (Figure 1, Appendix E) were collected. Table 3 indicates 10 direct streamflow measurement points, two measured discharge inputs (Burbank Channel inflow and LAGWRP inflow) and one 'other sources' input for other non-measured inputs from Tujunga Avenue to the Arroyo Seco confluence. The map (Figure 1, Appendix E) has 6 stars, which don't align with the 12 measured discharge points. CDFW is unable to discern exactly where the "LA River Reach 4 below LAGWRP discharge point", "LA River Reach 5," and "LA River Reach 6" discharge points are located to check the data assumptions in the MND. CDFW requests high-resolution-maps clearly depicting the stream gauge or flow-data collection-points used in this analysis to be include in the final MND.

3

The River is designated by National Oceanic and Atmospheric Administration as a steelhead recovery stream[1]. There are known occurrences of Pacific lamprey, and anadromous fish in the middle reach of the River. These fish have specific river habitat requirements including velocity, depth, substrate, temperature, vegetation, and water quality. The MND does not adequately address how the project may potentially affect existing habitat or the recovery and restoration efforts of fish habitat, for anadromous fish.

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[1] National Marine Fisheries Service. 2012b. Southern California Steelhead Recovery Plan. Southwest Region, Protected Resources Division, Long Beach, California.

Segment A

The MND states, "Although the Project flow reduction of 8.1 cfs represents a 65 percent reduction in discharges from the LAGWRP during the August 2008 Condition, it constitutes only a 10 percent reduction in flows in the LA River." The 10 percent calculation does not appear to include the known Burbank cumulative reduction, making the background flow of the River above LAGWRP higher than the specified 59.5 cfs with Burbank's reduced input. The MND later states that the cumulative effect of both the Project and Burbank's flow reductions in the River is 16 percent. CDFW is unable to verify how this percentage was calculated. Based on the August 2008 flow data, CDFW calculates a 14 percent flow reduction assuming the Burbank reduction taking place (59.5 cfs total flow minus LAGWRP's 8.1 cfs proposed reduction is 14 percent) at the LA River Reach 4 below LAGWRP discharge point. The final MND should clarify this discrepancy in the baseline conditions. 4

Section 3.1.4

The MND states that the average depth in the lowest part of the channel would be reduced 0.3% and the wetted perimeter would decrease from 81.0 acres to 79.5 acres with a reduction of a 14-inch-wide strip along both edges of the channel (23-inches wide on each side when including Burbank's reduced flow). Providing an average reduction over 21,174 linear feet does not provide the level of detail necessary for CDFW to make an informed assessment regarding impacts. CDFW requests a map modeling the predicted fluctuations in channel reduction overlain on a vegetation map. 5

Reach Between Segment A and Segment B

The MND did not include an analysis any stream data between an undisclosed gauge point in Reach 6 of the River, assumed to be USGS Gauge 11097500 (Table 3 last data point in Segment A), and the data point at Wardlow Road and the River. Therefore, an estimated 20 miles of the River unanalyzed for Project impacts. If the impacts are similar to Segment B, this would add approximately 2.5 acres of impacts to the River not disclosed in the MND. This appears to include known birding hotspots in the River near downtown Los Angeles. CDFW requests an analysis of the Project impacts to this segment of the River, similar to the methods used to analyze Segment B. As a consequence, CDFW is not able to assess the Project impacts to fish and wildlife resources or recommend appropriate avoidance and minimization measures. Additionally, CDFW asserts the Project impacts are being understated without including impacts to this 20-mile reach. 6

This segment of the River also supports herbaceous vegetation communities that were not mapped or considered in the impact assessment. It is not clear if the reductions proposed would impact the establishment and persistence of these herbaceous communities that ducks and shorebirds rely on for foraging and nesting habitat. Spotted sandpiper (*Actitis macularius*) nest in isolated pools along the concrete edges of the channel. The MND does not adequately quantify this pool habitat or how the reduction 7

in flow would potentially reduce the depth or existence of these pools. Black-necked stilts (*Himantopus mexicanus)* nest on rock patches surrounded by water creating 'islands' safe from predators. The MND should assess how the proposed cumulative flow reduction could impact these isolated nesting spots and the potential effects to black-necked stilt nesting habitat. The amount of habitat available for nesting shorebirds, and the potential loss in nesting habitat should be quantified in the MND to determine regional significance of the loss. CDFW requests a detailed habitat map, a detailed quantification of the vegetation communities present in the River, Project impact assessment, and cumulative impacts assessment to these vegetation and habitat communities. 7 (cont.)

Segment B 8

The MND states that a minimum flow in the River of 80 cfs is necessary for water to overtop the low flow channel and sheet flow onto the wider channel floor. The MND states that the change in water depth in the wider channel floor would cumulatively be 0.35 inches, but the MND does not identify the existing average depth of sheet flow on the channel floor that currently supports algal mats. These algal mats are an essential source of forage for avian species. CDFW is concerned the remaining water may not be deep enough to support the current benthic community. CDFW requests inclusion of an assessment of the Project's potential to affect water temperature as a result of the flow reduction in the final MND. Algae have an optimum temperature. When that temperature is exceeded, photosynthetic enzymes are denatured thereby reducing algae production. CDFW also requests the final MND include the minimum and maximum depth of low flow that currently is present when water overtops the low flow channel.

Estuary 9

The MND includes a brief statement of the project impacts to the River estuary. This statement indicates there will be a cumulative flow reduction of 11 percent during the driest year/month. No analysis of the estuary beyond total percent flow reduction at the Wardlow Road gauge was presented in the MND. CDFW recommends the MND analyze the fresh water and salt water mixing zone. CDFW recommends the MND also include an analysis of the temperature stratification of the estuary in the mixing zone and salinity gradients to determine how the estuarine zones will be affected. The salt-water/fresh water mixing zone is a biologically productive area. CDFW requests an analysis be included in the MND to allow a more informed review of Project effects on fish and wildlife resources. The MND for the San Gabriel River flow reduction included the analysis of impacts to the estuary (Sanitation Districts of Los Angeles County, Draft 2018 CDFW review) and proposed a much lower reduction of wastewater.

Biological Analysis Concerns 10

The Biological Resources Assessment Memo in Appendix B states that biological surveys were conducted for 30 linear miles on December 15, and December 16, to

10 (cont.)

cover the LA River and the pipeline right-of-ways. A desktop analysis was only conducted for Segment 6, and biological surveys for all project areas were conducted outside of the bird nesting season. All segments, including Segment 6, consists of algae and benthic organisms that are sources of food for migratory and nesting birds. Habitat features such as herbaceous vegetation, isolated rock 'islands' and shallow pools used for bird nesting should be mapped and quantified. Detailed biological surveys during the bird nesting season and during the dry season need to be conducted to evaluate the potential algal and benthic losses associated with the water reduction during the dry season as well as the reduction in herbaceous habitat, shallow pools and islands of rock isolated by low flow (isolation reduces predation of eggs).

Vegetation Analysis

11

The MND should identify, map, and discuss the specific vegetation communities and habitat communities within the Project Area following Department protocol (http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959. Please note, this protocol has been recently updated and the 2018 version referenced here should be used. Only black willow thickets are identified in the vegetation and habitat map in the MND, omitting other vegetation communities known to occur in the channel. Black willow thickets are listed as a sensitive natural community, ranked at S3. CDFW concurs that black willow thickets occur within the River. However, the other vegetation communities present need to be identified, mapped and discussed. These may include herbaceous alliances, cattail marshes, giant reed breaks, red willow thickets, Fremont cottonwood forest, ground nesting habitat, such as sandbars, sand deposits, riprap, grasses, shrubs and foraging habitat such as the algae.

12

In 2007, the State Legislature required CDFW to develop and maintain a vegetation mapping standard for the state (Fish and Game Code § 1940). This standard complies with the National Vegetation Classification System which utilizes alliance and association based classification of unique vegetation stands. CDFW utilizes vegetation descriptions found in the Manual of California Vegetation (MCV), found online at http://vegetation.cnps.org/. In order for the MND to determine the rarity ranking of vegetation communities potentially affected by the Project, the MCV alliance/association community names should be provided as CDFW only tracks rare natural communities using this classification system.

CDFW considers natural communities with ranks of S1-S3 to be sensitive natural communities that should be addressed in CEQA (CEQA Guidelines § 15125[c]). An S3 ranking indicates there are 21-80 occurrences of this community in existence in California, S2 has 6-20 occurrences and S1 has less than 6 occurrences.

CDFW recommends avoiding any sensitive natural communities found on or adjacent to the Project. If avoidance is not feasible, CDFW recommends mitigating at a ratio of no less than 5:1 for impacts to S3 ranked communities and 7:1 for S2 communities. This ratio is for the acreage and the individual plants that comprise each unique community.

Nesting Bird Habitat

13

The MND should identify the impacts associated with the change in sediment transport, erosion, sandbar deposition, and hydrology on sandbar nesting availability for shorebirds. The MND should also include the potential for an increase in nest predation on avian species due to lower water levels. The MND should identify the minimum stream flows necessary to maintain the geomorphology of the sandbars and minimum flows necessary to maintain nesting areas during dry conditions.

Fish & Game Code Section 1600 *et seq.*

14

The MND should identify all perennial, intermittent, and ephemeral stream features, and any associated biological resources/habitats present within the entire Project footprint (including access and staging areas). The Project activities are within the bed, bank and channel of two ephemeral streams and the River. The Project may be subject to notification under Fish and Game Code § 1600 *et seq*. An ephemeral stream runs along Chevy Oaks Road and through Acorn Place. According to the United States Geological Survey (USGS), the permanent identifier for this feature is No. 27688142. This feature is identified as the "man-made drainage lined with stones [that] directs surface water into culvert" (Page 41, Biological Resources Assessment Memo 2018). An ephemeral stream also runs through the intersection of Chevy Chase Drive and Trammell Drive, at Proposed Station No. 3. According to USGS, the permanent identifier for this feature is No. 27688144. Within the River, the Project activities will have a measurable or visual change in water surface elevation or a visual reduction in the width of the stream surface flow. The MND should analyze all potential temporary, permanent, direct, indirect, and/or cumulative impacts to the above-mentioned resources that may occur as a result of the Project.

Use of MND for Project Assessment

15

CDFW recommends that the City of Glendale analyze this Project in an environmental impact report (EIR) to assess the cumulative biological impacts, due to incremental effects of the project or related projects for which the combined effect could be considered cumulatively considerable. The incremental effects of this individual project may be considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of future water reduction projects and restoration projects within the River. Additionally, the complexity of the data used in the analysis should allow for a longer review period afforded to an EIR to allow the public the chance to thoroughly review the complex data presented in this MND.

General Construction Recommendations

16

Parking, driving, lay-down, stockpiling, and vehicle and equipment storage should be limited to previously compacted and developed areas and the designated staging area. No off-road vehicle use should be permitted beyond the project site and designated access routes. Disturbances to the adjacent native vegetation should be minimized.

17

Nonnative plants, including noxious weeds (as listed by the California Invasive Plant Council), should be prevented from establishing in temporarily disturbed areas, either by hand-weeding or selective application of herbicide.

Conclusion

18

CDFW appreciates the opportunity to provide comments on the Glendale 2018 Wastewater Change Petition WW0097 Initial Study/Mitigated Negative Declaration. If you require additional information regarding this letter, please contact Ms. Kelly Schmoker-Stanphill, Senior Environmental Scientist Specialist, at (949) 581-1015 or via e-mail at Kelly.Schmoker@Wildlife.ca.gov.

Sincerely,

Betty Courtney
Environmental Program Manager I

ec: CDFW
Ms. Erinn Wilson, Los Alamitos
Mr. Scott Harris, Ventura
Mr. Eric Chan, Los Alamitos
Mr. Brock Warmuth, Ventura
Mr. Andrew Valand, Los Alamitos

State Clearinghouse, Sacramento
Scott Morgan

CDFW Comment Letter

State of California – Natural Resources Agency
Department of Fish and Wildlife
South Coast Region
3883 Ruffin Road
San Diego, CA 92123

Response to CDFW Comment Letter

Response to Comment CDFW-1. The comment notes that the Los Angeles River channel and estuary support sensitive species. The City recognized that the river supports diverse biological resources and the Draft IS/MND provides an extensive Biological Resources Report in Appendix B that inventories sensitive wildlife and habitats found in the river channel. No additional response is necessary.

Response to Comment CDFW-2. The comment requests an additional map for clarification. In response to this comment, the Figure has been modified.

Response to Comment CDFW-3. The comment states that the Draft IS/MND does not adequately assess impacts to anadromous and marine fish. The Draft IS/MND assesses impacts to the entire river channel downstream from the LAGWRP discharge to the estuary on page B-19 of the Draft IS/MND and in the Biological Technical Report on page 29. The comment is noted that the stream is identified as a Core 3 stream in the National Marine Fisheries Service Steelhead Recovery Plan.[7] Core 3 streams have the lowest priority for recovery action implementation due to the nature of the stream. The volume of perennial flow in the Los Angeles River currently provides excellent connectivity between the ocean and upstream areas for both steelhead and lamprey. However, the availability of perennial flow is not the limiting factor to the anadromous fishery in the Los Angeles River. Rather, it is the concrete channel to the ocean, other obstacles up stream of the LAGWRP discharge, water quality, and lack of spawning habitat availability that pose challenges to maintaining an anadromous population. The biggest challenge to anadromous fish recovery in the Los Angeles River is the more than 20 miles of concrete channel that prevent necessary habitat criteria from developing. The flow reduction of approximately 11 percent in the River associated with the proposed project (individually and cumulatively) compared with existing conditions would not interfere with the use of the channel as a migratory channel, assuming spawning habitat were to be made available up stream in the future. Storm flows that signal migratory behaviors in steelhead would not be affected by the proposed project. The proposed project does not conflict with the Steelhead Recovery Plan.

Response to Comment CDFW-4. The comment requests clarity for the percent reduction of flow including the changes in River flow anticipated to occur as a result of the recently approved Burbank Wastewater Change Petition. The cumulative reduction includes the Burbank flow reduction. See Hydraulic Modeling Report, pages

[7] NOAA Fisheries, West Coast Region, South-Central/Southern California Coast Steelhead Recovery Plans Website, Plan Summary: http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/south_central_southern_california/southern_california_steelhead_recovery_plan_executive_summary_012712.pdf, Chapter 1-8: http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/south_central_southern_california/final_southern_california_steelhead_recovery_plan_volume_1.pdf, and Chapters 9-15 & Appendices: http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/south_central_southern_california/final_southern_california_steelhead_recovery_plan_jan_2012_volume2.pdf, accessed August 2018.

7-15; see also Response to Comment SWRCB-14. The reduction in flow due to the Burbank Wastewater Change Petition is 4.1 cfs in August.

Response to Comment CDFW-5. The comment requests that a map be prepared that overlays the wetted area reduction with mapped habitat. The Biological Technical Report provide vegetation maps for the entire length of the Los Angeles River. This information has been provided for the 2017 baseline conditions assessment in Table 4 of Response to Comment SWRCB/LARWQCB-14. Essentially, along the soft-bottomed portion of the river (Segments 1 through 5), the hydrology modeling estimates that the wetted channel will narrow slightly due to a reduction in flows, with most of the reduction taking place in areas mapped as willow thicket. The willows are growing on sediment in the base of the river, and the dry season water table beneath the willow stands is controlled by the river flow level. Willow trees should be able to extend their roots by the additional 0.6 inches needed to "chase" the slightly reduced water table. In the newly exposed edges, we would expect to see recruitment of riparian vegetation that matches any decline that might occur at the outer edge. The Draft IS/MND concludes on page B-19 that the flow reduction would not adversely impact riparian habitat. There would be no loss in riparian or wetland habitat. Currently, the limiting factor for habitat is the concrete channel walls of the River. Furthermore, diurnal fluctuations caused by urban water use patterns result in large daily fluctuations in wetted area (even during low flow summer months) that may negate the proposed project's modeled impacts.

Response to Comment CDFW-6. The comment states that a segment of the river channel from Arroyo Seco to Wardlow Road is not included in the analysis. Unlike Segments A and B which have detailed HEC RAS hydraulic models developed by the USACE, the hydraulic model for the area in between is a flood capacity-focused model that does not include the low flow channel in its cross sections. Representation of the low flow channel in the larger cross sections is necessary to analyze changes in low flows, and therefore there is no tool available for assessing low flow changes in the intervening area. However, the flows and geometry of the Los Angeles River in the intermediate area are very similar to those in Segment B, and the results for Segment B are applicable to this area. The Biological Technical Report and the Hydraulic Modeling Report analyze the effects to the river from the LAGWRP discharge to the ocean. Each segment of the river is identified, habitat characteristics described, and impacts identified in the Biological Technical Report. The Draft IS/MND appropriately addresses the effects of the proposed project on the Los Angeles River downstream of LAGWRP, the point of discharge. (See also Response to Comment SWRCB-14.)

Response to Comment CDFW-7. The comment states that the Draft IS/MND does not adequately identify habitat within the concrete channel. The Draft IS/MND describes habitat values from the LAGWRP discharge to the ocean. The foraging value to ducks and other waterfowl is well documented and identified in the Draft IS/MND. Often the slimy algae identified with this habitat is best supported by shallower water provided by urban runoff and seepage along the wider channel floor. The pools and deeper water are frequented by wading birds and common waterfowl. "Concrete channel habitat" is not a designated sensitive habitat identified by the CDFW. The Draft IS/MND appropriately identifies the values of the channel, scientifically calculates the impact of the proposed project (individually and cumulatively), and concludes that the slight reduction in flow would not alter the availability of the habitat perceptibly as described on page 54 of the Appendix B Biological Resources Assessment Memo. Therefore, the Project would result in less than significant effects.

Response to Comment CDFW-8. The comment requests an assessment of temperature effects and effects outside the low flow channel. The depth of the channel varies during the day depending on urban runoff contributions and diurnal fluctuations in wastewater discharges. The Hydraulic Modeling Report utilizes the latest USACE hydrology model of the lower Los Angeles River channel. The model accounts for the channel geometry including the low flow channel every 200 feet. (See Hydraulic Modeling Report, Study Area Segment

B, Figures 16-20.) Currently, water in the river overtops the low flow channel in certain locations and not in others. Water contributions from storm drains add long stretches of wetted concrete outside the low flow channel. The diurnal flow fluctuations result in raising and lowering water levels all day long. This results in areas becoming inundated and then drying up throughout the day at various locations through the channel. If an impediment such as a shopping cart gets stuck in the low flow channel, flow may overtop the low flow channel in that specific location for months or longer. The interaction between the depth of the low flow channel and wetted concrete is dynamic and constantly shifting. Similarly, the temperature of the water is strongly influenced by air temperature and concrete temperature. An analysis capturing a snapshot of wetted concrete on one day during one time of day would not accurately reflect the dynamic system. The Draft IS/MND adequately concludes that the availability and temperature of water needed for algae growth on concrete would not be significantly affected by the small flow reduction.

Response to Comment CDFW-9. The comment requests an analysis of the freshwater mixing zone in the estuary. The Draft IS/MND acknowledges on page B-20 that the amount of freshwater reaching the estuary would be reduced by 11 percent, resulting in a commensurate reduction of freshwater in the mixing zone. The analysis concludes that the estuary is a concrete and riprap channel that supports marginal estuarian ecosystem made up of a freshwater mixing area used by water fowl. The existing habitat is of low value and does not possess the intertidal mudflats and shoreline of a natural system. Furthermore, the amount of freshwater flowing into the ocean would not be substantially reduced. Historically under natural conditions, freshwater flow into southern Californian estuaries would be very low or nonexistent in the summer due to the local hydrology and precipitation patterns. A healthy southern Californian estuary would support a saltwater marsh and intertidal area, or a freshwater lagoon impounded by a sand berm. The existing condition represents an area of constant freshwater mixing with marginal habitat value, fed largely by water imported from the Sacramento River Delta, eastern Sierra Nevada Mountains, and Colorado River. The Draft IS/MND appropriately concludes that the proposed project would result in less than significant impacts. No additional scientific analysis or data collection is necessary.

Response to Comment CDFW-10. The comment states that the entire 30 miles of river channel should be mapped for isolated pools and avian habitat during the nesting season. The Biological Technical Report presents a vegetation map of the entire river channel using a desktop method and aerial photography. As noted in response to comment CDFW-11, water contributions from storm drains provide long segments of wetted concrete outside the low flow channel. Birds nest in the existing habitat. Furthermore, diurnal flow fluctuations result in raising and lowering water levels all day long. This results in areas becoming inundated and then drying at various locations throughout the channel during the day. If an impediment such as a shopping cart gets stuck in the low flow channel, flow may overtop the low flow channel in that specific location for months or longer. The interaction between the depth of the low flow channel and wetted concrete is dynamic and constantly shifting. Similarly, the temperature of the water is strongly influenced by air temperature and concrete temperature. An analysis capturing a snap shot of wetted concrete on one day during one time of day would not accurately reflect the dynamic system. The Draft IS/MND adequately concludes that the small flow reduction would not alter the habitat availability in the lower segments of the river.

Furthermore, it is reasonable to assume that the current condition of a large perennial flow at Wardlow Road in the Lower Los Angeles River in late summer (112 cfs in 2016 for example) significantly overwaters the concrete channel compared with its ecological value. It is assumed that the same ecological value of algae on concrete may be achieved with significantly less freshwater in the channel and wasting to the ocean.

Response to Comment CDFW-11. The comment states that the City should map the entire river channel using CDFW protocols. The City is not obligated to map every rifle and pool in the 30-mile concrete river channel. Rather, the Draft IS/MND inventories the habitat types within the channel and describes the relationship of that habitat to the flowing water. It is reasonable to assume that a small reduction in the width of the channel resulting from the Project and cumulative impacts will not result in any reduction in habitat availability since the new water's edge in the soft-bottomed segments will support emergent vegetation. Similarly, mapping all vegetation and algae under current conditions is not necessary. The system in the river channel is dynamic, responding most dramatically to winter storm flows that may significantly alter the habitat qualities and exact locations year to year. (See Hydraulic Modeling Report, Fig. 5.) No additional data collection is necessary to make a reasonable assessment that the reduction in flow would be less than significant.

Response to Comment CDFW-12. The comment describes the vegetation mapping system preferred by the CDFW and notes that avoidance of ranked habitats is preferred. As noted on page 38 of Appendix B, vegetation was mapped in the field following *A Manual of California Vegetation*, *2nd Ed*. (Sawyer et al. 2009). This is an approved CDFW mapping methodology. Habitat mapping of the Los Angeles River comports with the Sawyer mapping methodology. The comment does not address the adequacy of the Draft IS/MND. See response to comment CDFW-14.

Response to Comment CDFW-13. The comment states that the Draft IS/MND should assess impacts to sediment transport and avian nesting and estimate a minimum flow required to maintain sand bar habitats. The small flow and velocity reductions would have a negligible effect on sediment transport which is dominated by storm flows. No change in sediment transport would occur. The City is not obligated to identify the minimum flow necessary to maintain sand bar habitat. Rather, the Draft IS/MND assesses the Project's impacts as compared to the existing condition. As described in the Hydraulic Modeling Report (see also Response to Comment SWRCB/LARWQCB-14), the City selected the lowest flow (or worst case) condition to represent the existing condition. Sand bars will continue to occur in the channel corresponding to high flow dynamics. The proposed project would have no effect on the availability of sand bar habitat or the availability of nesting habitat for any avian species.

Response to Comment CDFW-14. The comment states that any impact to drainages subject to Fish and Game Code 1600 be fully analyzed. As noted on page B-41 of the Draft IS/MND all drainages will be avoided during construction. No Streambed Alteration Agreement is required. The reduced discharge into the Los Angeles River would not require a Streambed Alteration Agreement since the diverted water is not natural flow.

Response to Comment CDFW-15. The comment recommends that an EIR be prepared for the Project. The City has concluded that the proposed project would result in less than significant impacts to biological and recreational resources. The City through the preparation of the Initial Study Checklist concludes under CEQA that these impacts would be less than significant based on ample, transparent scientific evidence. Because no significant impacts were identified and none of the information presented by commenters contains substantial evidence to support a "fair argument" that the Project will have a significant impact on the environment, no additional mitigation is required and no further environmental documentation is required.

Response to Comment CDFW-16. The comment states that construction area limits should be clearly marked. Construction associated with this Project would occur within city streets and public rights of way. No habitat would be removed to construct the new recycled water facilities.

Response to Comment CDFW-17. The comment states that disturbed areas should not be allowed to convert to noxious weeds. Construction associated with this Project would occur within city streets and public rights of way. No habitat would be removed to construct the new recycled water facilities.

Response to Comment CDFW-18. The comment does not address the adequacy of the Draft IS/MND. No response is necessary.

LADWP/LASAN Comment Letter

July 6, 2018

BY EMAIL AND U.S. MAIL

Erik Krause, Deputy Director of Community Development
City of Glendale Community Development Department
633 E. Broadway, Room 103
Glendale, CA 91206
ekrause@glendaleca.gov

Dear Mr. Erik Krause:

Subject: Comment Letter Regarding the Glendale 2018 Wastewater Change Petition Initial Study/Mitigated Negative Declaration, State Clearinghouse #2018061015

1

On behalf of the City of Los Angeles Department of Public Works, Los Angeles Sanitation (LASAN), and the City of Los Angeles Department of Water and Power (LADWP), collectively "City of Los Angeles," we strongly support the City of Glendale's (Glendale) plans to gradually increase the use of recycled water over the next decade. The City of Los Angeles, the City of Burbank, and other agencies also have projects that may ultimately reduce current flows to the Los Angeles River and that are all critically important to the overall goal of making Southern California less dependent on water imported from the Bay Delta and the Colorado River.

2

The Glendale 2018 Wastewater Change Petition Initial Study/Mitigated Negative Declaration, State Clearinghouse #2018061015 (IS/MND) does not adequately identify and analyze the cumulative effects of Glendale's plans to decrease the amount of water discharged into the Los Angeles River. We urge Glendale to reconsider whether its IS/MND is appropriate under the California Environmental Quality Act (CEQA) in light of the multiple projects occurring and reasonably expected to occur in the Los Angeles River and to fully analyze the cumulative impacts of your project, which will decrease the amount of water it discharges to the Los Angeles River. Upon additional study of the existing, planned, and past projects on the Los Angeles River, it may be more appropriate for Glendale to prepare an Environmental Impact Report (EIR).

3

The CEQA Guidelines state:

> "Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.
>
> (a) The individual effects may be changes resulting from a single project or a number of separate projects.
>
> (b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant projects taking place over a period of time.

Cal. Code Regs. tit. 14, § 15355.

4

Glendale has not yet, but must undertake the analysis to determine whether its project that will be implemented over the next decade, combined with those several other planned projects are "cumulatively considerable." In addition, ". . . the agency determines whether the incremental impacts of the project are "cumulatively considerable" by evaluating them against the backdrop of the environmental effects of other projects." *Gentry v. City of Murrieta, 36 Cal. App. 4th 1359.*

5

Recognizing the importance of understanding the potential impact of the numerous planned projects and efforts on the flows and ecology of the Los Angeles River, the State Water Resources Control Board (State Board) recently initiated the Los Angeles River In-Stream Flow Study. This study will inform an approach to balance reuse of treated wastewater with protection of beneficial uses and will incorporate stakeholder input. The City of Los Angeles advocated for and is committed to this study, and intends to tailor its planned projects, as reasonably necessary, based on the results. The City of Los Angeles encourages Glendale to do the same. However, this study should inform but not replace Glendale's own CEQA analysis.

6

Among other projects on the Los Angeles River, the City of Los Angeles is preparing to submit a wastewater change petition for its Sepulveda Basin Recirculation Project (Recirculation Project). This project will recirculate, rather than discharge, up to 20,000 acre-feet per year (AFY) of the recycled water produced from Donald C. Tillman Water Reclamation Plant (DCTWRP) through Lake Balboa, the Japanese Garden Lake, and the Wildlife Lake. The water will be conveyed from the lakes back to DCTWRP for additional treatment prior to conveyance to the Hansen and Pacoima spreading

6 (cont.)

grounds. This project is separate from the Los Angeles' Groundwater Replenishment Project.

7

The City of Los Angeles' planned recycled water projects, including the Recirculation Project, have been discussed publicly in multiple venues. The attached table (Attachment 1) titled "City of Los Angeles Projects that May Affect Los Angeles River Flows" was distributed and publically discussed during the Information Item titled "Los Angeles River Existing and Future Conditions: Instream Flow needs" at the November 8, 2017, State Water Resources Control Board meeting.

8

Additionally, the City of Los Angeles has notified other parties, and specifically, Glendale of this upcoming wastewater change petition during meetings between the parties in 2017 and 2018 regarding the City of Los Angeles' protest of Glendale's Wastewater Change Petition WW0097. Despite multiple discussions between the parties, Glendale did not incorporate the Recirculation Project into its CEQA analysis.

9

For the twelve-month (March 2016 to April 2017) period before the notice of the Wastewater Change Petition WW0097 was released, the City of Los Angeles discharged approximately 30,062 AFY of water to the Los Angeles River from DCTWRP. During the same period, approximately 10,301 AFY of water was discharged from the Los Angeles Glendale Wastewater Reclamation Plant (LAGWRP) with approximately 4,637[1] AFY attributed to the City of Los Angeles and 5,664[2] AFY attributed to Glendale. The Petition Glendale filed with the State Board seeks to decrease the amount of water discharged to the Los Angeles River from 5,664 to 2,164 AFY of water over the next 10 years. The remaining water currently flowing in the Los Angeles River consists of upwelling groundwater, dry weather flows from tributaries, and intermittent storm water flows. Glendale states:

> Although the proposed project would contribute to a reduced flow in the river channel, the project's contribution would be less than 10 percent of the existing flows and would not be cumulatively considerable.

APPENDIX B. Biological Resources Assessment Memo, Page 56.

This conclusion does not account for the reality that the flows in the Los Angeles River are not predicted to remain constant throughout the life of Glendale's project. In fact, multiple projects and circumstances could support a fair argument that the effects of Glendale's discharges are cumulatively considerable.

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[1] Based on LAGWRP May 2016 to April 2017 flows; the flow data is the result of a preliminary analysis on the equal ownership of effluent flows from LAGWRP and recycled water consumptions in each city.

[2] Based on LAGWRP May 2016 to April 2017 flows; the flow data is the result of a preliminary analysis on the equal ownership of effluent flows from LAGWRP and recycled water consumptions in each city

10

Known efforts by entities outside of the City of Los Angeles that may place quantifiable demands on dry-weather flows within the Los Angeles River include:

- City of Burbank's Recycled Water use expansion (Per Burbank's wastewater change petitions approved by the State Board on April, 20 2018);
- Lower Los Angeles River Revitalization Plan (April 2018); and
- City of Long Beach's Los Angeles River Drinking Water Source Pilot Program (Presented at the WateResue meeting on April 10, 2018 and the American Water Works Associated Annual Conference & Exposition on June 14, 2018).

In addition, the following efforts may result in modifications to dry-weather flows within the Los Angeles River:

- City of Los Angeles' Los Angeles River Revitalization Master Plan;
- U.S. Army Corps of Engineers' Los Angeles River Ecosystem Restoration Integrated Feasibility Report;
- City of Los Angeles' 2012 Recycled Water Master Planning Documents;
- LADWP's 2015 Stormwater Capture Master Plan;
- Enhanced Watershed Management Program for the Upper Los Angeles River Watershed;
- Water Integrated Resources Plan and One Water LA 2040 (includes the Sepulveda Basin Recirculation Project);
- Projected Reduction of Groundwater Upwelling; and
- Future revitalization efforts along Arroyo Seco.

Additional facts in the Administrative Record for these Petitions, including the Mitigated Negative Declaration itself, support a fair argument that significant environmental impacts could occur.

11

The following additional comments reflect specific issues contained in the IS/MND.

1. **ATTACHMENT A. Project Description (Page A-14) and Table A-1**

   Statement: As summarized in Table A-1, LAGWRP discharged 10,500 AF to the River in 2017. As a result of increased demand for recycled water within the GWP (Glendale Water and Power) and PWP (Pasadena Water and Power) service areas, the City of Los Angeles is proposing to gradually increase its use of recycled water (from approximately 2,000 AF to approximately 5,500 AF), thereby reducing its discharge of treated wastewater into the channel over the next ten years from 10,500 AF to approximately 7,000 AF.

Comment: Table A-1 shows the existing and proposed LAGWRP discharges to the Los Angeles River. However, the data shown is the discharge owned by both the City of Los Angeles and Glendale. Glendale's current share of the discharge is approximately 5,664 AFY. Glendale's petition will reduce their discharge to approximately 2,164 AFY, which is nearing a 62 percent reduction based on Glendale's existing discharge flows.

11 (cont.)

The statement implies that substantial flows will continue to be discharged to the Los Angeles River, without accounting for the fact that the City of Los Angeles has stated in multiple planning documents, over the past decade, that its discharges from LAGWRP to the Los Angeles River will eventually be eliminated. These documents include:

- City of Los Angeles' 2006 Water Integrated Resource Plan, [Los Angeles River Recycled Water Evaluation Study Phase 1 Baseline Study / Section ES.3 "Recommendations"];
- 2012 Recycled Water Planning Documents, [Non-Potable Reuse Master Planning Report / Section ES.7 "Water Recycling Project Descriptions" and Section 5 "Supply Assessment"] ; and
- One Water Los Angeles 2040 Plan, [LA River Flow Study (Volume 4) / Section 3.1.2 "Future LA River Flow Conditions"].

2. **ATTACHMENT B. Section IV. Item a. (Page B-18)– Biological Resources**

12

Statement: During dry weather, wastewater discharges dominate flow in the River. Other contributions from urban runoff and groundwater upwelling also add to the River flow.

Comment: The upwelling of groundwater is highly dependent upon local hydrological cycles, and may or may not occur even in the absence of sustained groundwater pumping. Rising groundwater is part of the City of Los Angeles' Pueblo Water Right and should not be considered a reliable water source in the future.

3. **ATTACHMENT B. Section IV. Item a. (Page B-19)– Biological Resources**

13

Statement: As discussed above, the perennial flow would not diminish significantly as a result of the project and other projects within the River's watershed since baseline flows would represent an even smaller proportion of the overall flows in the River channel further downstream. Below the confluence with the Arroyo Seco, numerous storm drains discharge urban runoff to the channel that augments flows in the low-flow channel. These

13 (cont.)

flows would continue to support algal masses once LAGWRP contribution to flow are reduced, and the modeling results indicate that these areas would not dry up as a result of project-related or cumulative flow reductions. Furthermore, the algal mats are not identified as significant habitat areas, and do not support special status species, but rather provide incidental foraging opportunities for birds traveling along the river corridor. As such, to the extent that birds utilize the algal mats for foraging purposes, an incremental reduction in these foraging areas, even if it were to occur, would not substantially adversely affect any special status bird species or other migratory birds, since such birds would simply forage in other areas where food sources are available. Impacts to aquatic habitat below the Arroyo Seco confluence to the estuary would be less than significant.

Comment: This statement does not provide an adequate environmental analysis of the cumulative impacts to the biological resources of the Los Angeles River and the environment from other projects.

Perennial flow is mentioned multiple times in this document; however, the Los Angeles River does not have a defined or quantifiable perennial flow. This conclusion does not account for the reality that the flows in the Los Angeles River are not predicted to remain constant throughout the life of Glendale's project. Future flows are expected to be impacted by increased recycled water projects, environmental considerations, and the reduction of dry-weather flows.

For example, this statement assumes permanent dry-weather flows despite published projected reductions in the 2016 Enhanced Watershed Management Program for the Upper Los Angeles River Watershed. Developed by the City of Los Angeles in cooperation with other agencies, including Glendale, the Enhanced Watershed Management Program for the Upper Los Angeles River Watershed specifies projects and strategies to capture the 85 percentile storm events in addition to dry-weather flows.

4. **ATTACHMENT B. Section XIX. Item b. (Page B-70)– Cumulative Effects**

14

Statement: In preparation of the analysis in this section, ESA reviewed the SWRCB website to gather information regarding all known pending and completed wastewater change petitions that could contribute to cumulative effects in conjunction with the proposed project. Based on this review, two (2) pending wastewater change petitions filed by the City of Burbank were listed by the SWRCB that could potentially affect treated wastewater discharges with the Project Study Area of the River and the corresponding flow volumes. Other wastewater treatment operators in this region may propose to increase the use of recycled water or otherwise propose to reduce discharges to the

14 (cont.)

River. However, unless and until a wastewater treatment operator files a wastewater change petition with the SWRCB for approval of reductions in wastewater, it is not possible to determine the specific cumulative effects of such reductions over time.

Comment: While Glendale has acknowledged the existence of several other planned projects and programs that will reduce flows to the Los Angeles River. According to California law, Glendale must consider the effects of its own project combined with those other projects and programs. The CEQA Guidelines state:

> When assessing whether a cumulative effect requires an EIR, the lead agency shall consider whether the cumulative impact is significant and whether the effects of the project are cumulatively considerable. An EIR must be prepared if the cumulative impact may be significant and the project's incremental effect, though individually limited, is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Cal. Code Regs. tit 14, § 15064(h)(1).

Glendale's statement implies that the threshold for probable future projects is submittal of a wastewater change petition. The definition should be viewed more broadly, such as the likelihood of a project to occur. On multiple occasions, the City of Los Angeles has publically announced probable future projects that would affect flows in the Los Angeles River.

5. **ATTACHMENT B. Section XIX. Item b. (Page B-72)– Cumulative Effects**

15

Statement: While it is acknowledged that the project-related flow reductions within the River would contribute to an overall lowering of water levels in certain areas, the proposed project's contribution to this cumulative effect is not anticipated to be substantial since LAGWRP's discharges currently do not represent a significant percentage of overall flows in the River that support beneficial uses, and the proposed discharge reductions are also not substantial from year to year and would be implemented over time. Thus, while the proposed project could contribute to cumulative effects regarding flow reductions in the River, the project's contribution to such impacts would not be considerable.

15 (cont.)

Comment: Glendale does not adequately analyze the cumulative impacts to the Los Angeles River and the environment because it does not consider other projects and relies upon the City of Los Angeles' exclusive water rights not being exercised to conclude that there is no significant impact to the environment.

The cumulative effects of known projects affecting existing flows in the Los Angeles River have not yet been studied. Proposed initiatives and future projects should be implemented with consideration to the region's overall water supply needs balanced with environmental uses and benefits.

6. **APPENDIX B. Biological Resources Assessment Memo (Page 56)**

16

Statement: The reduction would result in a reduction in water depth of less than one inch throughout the Study Area segments. Flows from other sources would continue to provide water sufficient to span the channel bottom from edge to edge. As a result, none of the riparian habitat that has emerged in the channel would be stranded as a result of the reduced flow and impacts would be unmeasurable. Water would continue to support the root zones beneath the channel. Similarly, the reduced flow would not reduce aquatic habitat acreage since the flow would continue to cover the channel bottom. For these reasons, the reduction of flow will not result in any measurable reduction of black willow thickets (BWT) habitat in the Study Area.

Comment: This statement does not take into account the projected reduced discharge from other sources. The cumulative impact should be studied.

17

LADWP and LASAN reiterate our strong support for Glendale's recycled water project. We look forward to resolving any remaining issues to ensure the successful implementation of this and other water recycling projects. We appreciate the opportunity to respond to the IS/MND. Should you have any questions, please contact Ms. Evelyn Cortez-Davis, LADWP Assistant Director of Water Resources Division at (213) 367-3564 or Mr. Hassan Rad, LASAN Division Manager of Regulatory Affairs at (213) 847-5186.

Sincerely,

Richard F. Harasick
Senior Assistant General Manager
Water System
Los Angeles Department of Water and Power
111 N. Hope Street
Los Angeles, CA 90012

Enrique C. Zaldivar, P.E.
Director and General Manager
Los Angeles Sanitation
1149 S. Broadway, 9th Floor
Los Angeles, CA 90015

cc: Felicia Marcus, Chair, State Water Resources Control Board
Leslie Grober, Deputy Director, Division of Water Rights, State Water Resources Control Board
Liz Crosson, Director of Infrastructure, Office of Los Angeles Mayor Eric Garcetti
Kathryn Mika, Water Policy Advisor, Office of Los Angeles Mayor Eric Garcetti
Michael Affeldt, Director, Office of Los Angeles Mayor Eric Garcetti, LARiverWorks
Traci Minamide, Chief Operating Officer, LASAN
Mas Dojiri, Assistant Director, LASAN
Hassan Rad, Division Manager, Regulatory Affairs Division, LASAN
Nancy Sutley, Chief Sustainability Officer, LADWP
Evelyn Cortez-Davis, Assistant Director of Water Resources Division, LADWP

ATTACHMENT 1

City of Los Angeles Projects that May Affect Los Angeles River Flows

	No.	Projects	Reference Documents	Description	Estimated River Flow Impact (AFY)
Current and Planned City of Los Angeles (LA) Projects	**1**	US Army Corps of Engineers (Corps) ARBOR Project	Corps Ecosystem Restoration Feasibility Study Report and LA One Water Los Angeles River (LAR) Flow Study 2017 Draft	The Corps report identifies consumptive uses from various projects within the 11-mile focus study area of the LAR known as the Area with Restoration Benefits and Opportunities for Revitalization or "ARBOR," which extends from the Headworks site downstream to First Street.	3,000 to 6,500
	2	Sepulveda Sports Complex Water Recycling Project	LA 2012 Recycled Water Master Planning Documents /Los Angeles Department of Water and Power (LADWP) 2016-2017 Recycled Water Annual Report	This project will include the installation of approximately 11,000 feet of recycled water pipeline near Lake Balboa at the Sepulveda Basin Recreation Area.	56
	3	Eastside Water Recycling Project	LA 2012 Recycled Water Master Planning Documents/LADWP 2016-2017 Recycled Water Annual Report	This project will include the installation of approximately 21,000 linear feet of new pipeline in the Boyle Heights area.	465
	4	Increase number of LADWP recycled water customers	LA 2012 Recycled Water Master Planning Documents/LADWP 2016-2017 Recycled Water Annual Report	LADWP intends to expand its recycled water use by acquiring additional recycled water customers.	398
	5	Expanded recycled water use through recirculation of Sepulveda Basin flow through lakes	LADWP Water Recycling Planning Group and LA One Water LA 2040 Plan Draft	Future phases of expanded recycled water use may include re-routing flow from one or more of the flow through lakes near the Donald C. Tillman Water Reclamation Plant (DCTWRP). The three lakes -- Lake Balboa, the Wildlife Lake, and the Japanese Gardens Lake -- are designed so that recycled water flows through them and eventually discharges in the LAR. Changes to the flow through design for any of these lakes will require a new environmental analysis, as this concept was not included in the 2016 EIR for the Groundwater Replenishment (GWR) project. In 2015, as shown in the 2016 EIR, the annual average flow through the lakes was 22.3 million gallons per day (MGD).	up to 25,000 (22 MGD)
	6	LAR Dry-Weather Bacteria Compliance Approach for Segment B	Los Angeles Sanitation (LASAN) Watershed Protection Division - LAR Load Reduction Strategy	This project includes identifying and prioritizing the actively flowing outfalls in Segment B of the LAR based on flow and e. coli loading. Four priority outfalls, and conceptual structual actions to address these outfalls, have been identified to date. The estimated volume reduction is 5 to 8 MGD.	Will reduce dry weather flows to LAR to zero
	7	Enhanced Watershed Management Plan (EWMP) for Upper LAR	LASAN Watershed Protection Division - EWMP implementation projections	This is a comprehensive plan to comply with the MS4 Permit for the Upper LAR Watershed, which focuses on reducing flow during wet weather from 85th percentile rainfall events. The EWMP will reduce potential flows to the LAR by approximately 50,000 AFY when fully implemented by 2037.	
	8	Projects to enhance recharge capacity in the San Fernando Groundwater Basin (SFB)	Annual Status Reports filed in *The City of Los Angeles v. City of San Fernando* , Los Angeles Superior Court Case No. 650079	Since 2007, LA and its partners have implemented centralized and distributed stormwater capture projects that have increased average stormwater capture capacity in the Upper LAR watershed by 10,788 AFY. Planned centralized and distributed stormwater capture projects are expected to increase average stormwater capture in the Upper LAR watershed by an additional 16,849 AFY within the next five years.	

City of Los Angeles Projects that May Affect Los Angeles River Flows

	No.	Projects	Reference Documents	Description	Estimated River Flow Impact (AFY)
Project Concepts	**9**	LAR Recharge into LA Forebay Concept	LA 2012 Recycled Water Master Planning Documents and LA One Water LA 2040 Plan TM 5.2 Draft	This project would divert flows from the LAR to the LA Forebay to recharge the Central Basin. It would require the development of new storage systems that can attenuate stormwater flows within the LAR, pipeline conveyance, and multiple groundwater injection wells.	up to 25,000 (22 MGD)
	10	LA/Glendale Water Reclamation Plant (LAGWRP) to Headworks Reservoir Concept	LA 2012 Recycled Water Master Planning Documents and LA One Water LA 2040 Plan TM 5.2 Draft	This project would treat LAGWRP effluent at an Advanced Water Purification Facility (AWPF) and pump water directly into the LADWP distribution system at Headworks Reservoir. LADWP 2016-2017 Recycled Water Annual Report shows a total non-potable reuse (NPR) demand of 5,171 AFY (2,735 current and 2,436 potential). Assuming half of LAGWRP's capacity of 20 MGD, there is potentially 6,000 AFY of recycled water left for direct potable reuse (DPR) at Headworks.	up to 6,000
	11	Upper LAR to DCTWRP	LA One Water LA 2040 Plan Draft	This project would divert flows from the Upper LAR to DCTWRP for reuse.	4,500 to 5,600
	12	DCTWRP to SFB Injection Wells	LA One Water LA 2040 Plan Draft	This project would treat DCTWRP effluent at an AWPF, recharge it into SFB by injection wells, and later extract it for potable use.	up to 15,000
	13	DCTWRP to Los Angeles Aqueduct Filtration Plant (LAAFP)	LA One Water LA 2040 Plan Draft	This project would expand DCTWRP's AWPF, convey direct potable reuse flows to the LAAFP, and then to LADWP distribution.	up to 15,000
	14	DCTWRP to LADWP Distribution System	LA One Water LA 2040 Plan Draft	This project would treat DCTWRP effluent at an AWPF and pump water directly into the LADWP distribution system.	up to 15,000
	15	Increase recycled water demand beyond 2015 UWMP	LA One Water LA 2040 Plan Draft	This project would include a NPR purple pipe system expansion near Terminal Island WRP and Hyperion WRP.	16,400 to 45,400

Note:
- LA is still evaluating the project concepts. However, the conservative scenario is to assume that all recycled water at DCTWRP will be reused, similar to LAG, once DPR regulations are adopted.
- AFY = acre-feet/year

Sources:
- Corps Ecosystem Restoration Feasibility Study Report
- LA 2012 Recycled Water Master Planning Documents
- LASAN Watershed Protection Division
- LADWP 2016-2017 Recycled Water Annual Report
- LADWP Water Recycling Planning Group
- LA One Water LA 2040 Plan Draft

Websites:
http://www.spl.usace.army.mil/Missions/Civil-Works/Projects-Studies/Los-Angeles-River-Ecosystem-Restoration/
https://planning.lacity.org/eir/CrossroadsHwd/deir/files/references/M211.pdf
https://www.lacitysan.org/san/faces/wcnav_externalId/s-lsh-wwd-wp
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https://www.lacitysan.org/san/faces/home/portal/s-lsh-es/s-lsh-es-owla?_adf.ctrl-state=18vnic5kac_207&_afrLoop=1735739450857060&_afrWindowMode=0&_afrWindowId=null#!%40%40%3F_afrWindowId%3Dnull%26_afrLoop%3D1735739450857060%26_afrWindowMode%3D0%26_adf.ctrl-state%3D10jc62emy8_73

18 (cont.)

LADWP/LASAN Comment Letter

Los Angeles Department of Water & Power
111 N. Hope Street
Los Angeles, CA 90012-2607

LA Sanitation
1149 S. Broadway 9th Floor
Los Angeles, CA 90015

Response to LADWP/LASAN Comment Letter

Response to Comment LADWP/LASAN-1. This comment states support for the City's plans to gradually increase the use of recycled water over the next decade. The comments states that the City of Los Angeles, City of Burbank, and other agencies also have projects that may ultimately reduce current flows to the Los Angeles River. While this comment is noted, it does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. Thus, no further response is warranted.

Response to Comment LADWP/LASAN-2. The commenter states that the Draft IS/MND does not adequately identify and analyze the cumulative effects of the City's plans to decrease the amount of water discharged into the Los Angeles River. This comment is addressed in detail below in Response to Comment LADWP/LASAN-4 and therefore not restated here. The comment also states it may be more appropriate to prepare an EIR. The Draft IS/MND concludes that the project would not have the potential to result in significant impacts. Based on the Initial Study Checklist, it was concluded under CEQA that these impacts would be less than significant based on ample, transparent scientific evidence. Because no significant impacts were identified and none of the information presented by commenters contains substantial evidence to support a "fair argument" that the Project will have a significant impact on the environment, no additional mitigation is required and no further environmental documentation is required. See Response to Comment CDFW-15.

Response to Comment LADWP/LASAN-3. The comment provides the definition of cumulative impacts as defined by CEQA. While this comment is noted, it does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. Therefore, no further response is warranted.

Response to Comment LADWP/LASAN-4. The comment states that the City has not yet, but must undertake the analysis to determine whether its Project, combined with other planned projects are "cumulatively considerable." The LADWP/LASAN Comment letter attaches a list of projects and project concepts (see Attachment 1 to the LADWP/LASAN Comment Letter) and also identifies a few other projects and/or activities in the body of the letter itself that are not identified in Attachment 1 (LADWP/LASAN, page 4).

The Draft IS/MND presents a robust scientific assessment of the proposed project and "probable future projects," as required by CEQA. The Draft IS/MND appropriately and adequately analyzes cumulative impacts.

Overview of Cumulative Impacts Analysis in the IS/MND

The Draft IS/MND provides extensive analyses of the potential environmental impacts associated with the City's proposed gradual reduction of wastewater discharges, together with all other proposed projects that may reduce dry weather river flows in the Los Angeles River. Exhibit A to the Hydraulic Modeling Report describes and evaluates 18 projects (inclusive of "project concepts" and "planning efforts") to determine

whether each qualified as a "present, [or] probable future projects producing related or cumulative impacts" within the meaning of CEQA Guidelines, section 15130(b)(1)(A). With the exception of the City of Burbank's project (Wastewater Change Petitions WW0091 and WW0019, which were approved by the SWRCB in April, 2018), none of the other projects are required to be included in the cumulative impacts analysis for the proposed project.[8]

At the time of preparation of the Draft IS/MND (May, 2018), Exhibit A was prepared using publicly available information obtained from the SWRCB's website of all pending wastewater change petitions, and the State Clearinghouse for all proposed projects potentially affecting the Los Angeles River. All of the projects and "project concepts" that are listed in Attachment 1 to the LADWP/LASAN Comment Letter were reviewed in Exhibit A to the Hydraulic Modeling Report or are addressed herein, as well as several others not identified in Attachment 1 to the LADWP/LASAN Comment Letter. The projects discussed in Exhibit A to the Hydraulic Modeling Report are organized by category and date. The projects identified in Attachment 1 to the LADWP/LASAN Comment Letter are not. Therefore, to assist the commenter, ESA has prepared a chart that lists each of the projects and project concepts identified in the body of the LADWP/LASAN Comment Letter or its attachment and cross-references where the Project was addressed in the Draft IS/MND. (See Response to Comments, Attachment 1.)[9]

Exhibit A to the Hydraulic Modeling Report provides a detailed analysis of each project, whether it was included in the cumulative impacts analysis, and if not, why not. For those projects for which an Environmental Impact Report or Notice of Preparation has been published with the State Clearinghouse (see Hydraulic Modeling Report, Exhibit A, project #s B.5, B.9, B.12), the project was evaluated at a programmatic level or the environmental analysis did not include quantitative data that would allow meaningful analysis of the proposed project's potential to reduce flows in the study area of the Los Angeles River. For Hydraulic Modeling Report, Exhibit A, project #s B.3, B.4, B.7, B.8(c), B.8(d), B.8(e), and B.10, the action is expected to have no impact on dry year flows in the study area or the action is expected to have a positive impact on the recreational values and the biological resources in the Los Angeles River. For the remainder of the projects, no Environmental Impact Report or Notice of Preparation has been published (see Hydraulic Modeling Report, Exhibit A, project # B.1, B.2, B.4, B.6, B.8, B.8a, B.8b, B.10, B.11).

Overview of Cumulative Impacts Analysis Required Pursuant to CEQA

A project qualifies for inclusion in an analysis of cumulative impacts only to the extent that the environmental review for that project provides evidence that the project is both probable and sufficiently certain to allow for a meaningful cumulative impacts analysis. (*San Franciscans for Reasonable Growth v. City & County of San Francisco* (1984) 151 Cal.App.3d 61, 74 (Projects undergoing environmental review are reasonably probably future projects).) Impacts that are uncertain or merely contemplated, rather than likely, are not required to be included in a cumulative impact discussion. In addition, proposals that have not crystallized to the point that it would be reasonable and practical to evaluate its cumulative impacts need not be treated as a probable future project. In assessing the types of projects that should be included in a cumulative impacts analysis, the California Supreme Court has clarified that an EIR need not discuss future action "that is merely contemplated or a gleam in a planner's eye." (*Laurel Heights Improvements Ass'n v. Regents of University of California* (1988) 47 Cal.3d 376, 398.) Accordingly, the City does not have to include every possible future activity, planning

8 Nevertheless, in an abundance of caution, and despite the lack of quantifiable information regarding potential reductions in dry weather River flow resulting from all of the listed projects except the Burbank project, ESA made very conservative flow assumptions in evaluating the impacts of the proposed project (individually and cumulatively).

9 The two projects identified in the LADWP/LASAN Comment Letter, but not discussed in the Draft IS/MND (see reference documents cited in Attachment 1 to the LADWP/LASAN Comment Letter), are discussed below in this Responses to Comments.

effort or project concept in the cumulative impacts analysis for the proposed project. To require otherwise, would be to require the City to speculate about hypothetical and uncertain future impacts.

Under the project "list" approach, the cumulative impact discussion is based on "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency." (14 Cal. Code Reg. § 15130(b)(1)(A).) In developing the list of related projects, the Lead Agency must include existing projects, projects under construction, projects that are approved but unbuilt, and projects that are currently undergoing environmental review by the lead agency. (*San Franciscans for Reasonable Growth v. City and County of San Francisco* (1984) 151 Cal.App.3d 61, 74 (EIRs for four individual office buildings did not address cumulative impacts of other office buildings for which city had received applications).) However, a lead agency has the discretion to establish a reasonable cut-off date after which it would not include any additional projects. (*Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1127–1128 (county could use date of application of proposed project as cut-off date to exclude other future projects).)

Additionally, the Lead Agency must include projects for which applications have been submitted to other agencies if information about those projects is readily available from those agencies. (See *Friends of the Eel River v. Sonoma County Water Agency* (2003) 108 Cal. App. 4th 859, 866–867 (water agency proposing diversions from river must include potential diversions under Federal Energy Regulatory Commission licensing proceedings affecting water levels in same river); *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 723 (agency preparing EIR for power plant with air emissions must include other projects in air basin for which applications are pending with other agencies).) This includes other Wastewater Change Petitions submitted to the SWRCB.

The Sepulveda Basin Recirculation Project is Not a Probable Future Project

The "Sepulveda Basin Recirculation Project" that the City of Los Angeles references does not rise to the level of a "probable future project." "[M]ere awareness of proposed expansion plans or other proposed development does not necessarily require the inclusion of those proposed projects in the EIR. Rather, these proposed projects must become 'probable future projects.' (CEQA Guidelines, § 15130(b)(1)(A).)" (*Gray v. Cty. of Madera* (2008) 167 Cal. App. 4th 1099, 1127, 28 (a project will only be considered a probable future project if the applicant has devoted "significant time and financial resources" for regulatory review).

ESA searched the State Clearinghouse, City of Los Angeles's agendas, and the SWRCB's database of Wastewater Change Petitions and found no mention of a "recirculation project" or "Sepulveda Basin recirculation project." A reference to a line item in a table that was discussed at a SWRCB workshop and in protest settlement meetings with the City does not transform this Project into a "probable future project." In fact, the City of Los Angeles describes the "Recirculation" activity in its comment letter as a future, undefined recycled water "phase" that would require a new, future environmental analysis:

> *Future phases of expanded recycled water use may include rerouting flow from one or more of the flow through lakes near the Donald C. Tillman Water Reclamation Plant (DCTWRP). The three lakes -- Lake Balboa, the Wildlife Lake, and the Japanese Gardens Lake - are designed so that recycled water flows through them and eventually discharges in the LAR. Changes to the flow through design for any of these lakes will require a new environmental analysis, as this concept was not included in the 2016 EIR for the Groundwater Replenishment (GWR) project. In 2015, as shown in the 2016 EIR, the annual average flow through the lakes was 22.3 million gallons per day (MGD).*

Based on this description, and the fact that the City of Los Angeles has committed to continuing to discharge 27 mgd of wastewater from DC Tillman WRP into the Los Angeles River to avoid impacts from its GWR Project (see also Response to Comment SWRCB/LARWQCB-4), it is clear that the "Recirculation" activity referenced by the City of Los Angeles is still a concept that has not been sufficiently defined or studied. For example, none of the publicly available documents nor the City of Los Angeles's Comment Letter includes a project description describing project details or any information about the proposed timing of reduction in discharges. In addition, the City of Los Angeles has not circulated a Supplemental EIR for the GWR Project, or applied to the SWRCB for a Wastewater Change Petition to reduce its discharges from DC Tillman WRP or the LAGWRP, as required by Water Code section 1211. Future projects undergoing "environmental review" only qualify as "probable future projects" to the extent that "the particular 'environmental review' at issue provides evidence that the proposed project is both probable and sufficiently certain to allow for meaningful cumulative impacts analysis." (*City of Maywood v. Los Angeles Unified Sch. Dist*. (2012) 208 Cal. App. 4th 362, 397–98 [concluding that an allegation that a notice of preparation had been issued, combined with a single statement that an agency was studying whether to include a subproject within another project, was not sufficient to demonstrate that the subproject was a "probable future project"].) As a result, the Draft IS/MND relies on the most recent publicly available information which is contained in the 2016 certified final EIR for the City of Los Angeles's approved GWR Project, which includes a commitment to continue to discharge up to 27 mgd to the Los Angeles River.

City of Long Beach Pilot Program is Not a Probable Future Project

Description: The "Los Angeles River Drinking Water Source Pilot Program" is a pilot program to study if the Long Beach Water Department (LBWD) can treat Los Angeles River runoff water safely, cost-effectively and efficiently. LBWD's website explains that it: "intends to operate this pilot plant for approximately two years to gather necessary data in order to evaluate the treatability of the water and the economics of plant operation." According to the LBWD's website, the pilot program will locate a small package treatment plant in a storage container near the Los Angeles River at West Del Amo Blvd. This is in Study Area Segment B, which does not contain soft bottom channel, and therefore will have no impact on Segment A of the Los Angeles River.

Environmental Review: No CEQA documents could be found. In addition, LBWD has not applied to the SWRCB to appropriate water from the Los Angeles River, which may be required to divert water from the Los Angeles River. The City of Long Beach's treated wastewater is currently discharged to the ocean or to Coyote Creek. No quantitative data could be found on how much water will be diverted and treated as part of the pilot study.

Cumulative Impacts: Proposals that have not crystallized to the point that it would be reasonable and practical to evaluate its cumulative impacts need not be treated as a probable future project. Though this program, if ultimately adopted by LBWD, could reduce Los Angeles River flows in Segment B, the 2-year pilot program has not been conducted and thus there has been no project design or project level review and there is no quantitative assessment of the impacts on dry season runoff to the Los Angeles River. Accordingly, it was

not included in the Hydraulic Modeling Report. (*See Marin Mun. Water Dist. v. KG Land California Corp* (1991) 235 Cal.App.3d 1652, 1663 [CEQA does not require analysis of potential impacts from possible future development that are too speculative to evaluate].)

Response to Comment LADWP/LASAN-5. The comment states that the SWRCB has recently initiated the "Los Angeles River In-Stream Flow Study" and states that this study should inform but not replace the City's own analysis. By email dated May 9, 2018, the City was invited to a steering committee meeting "to help scope and plan a new project aimed at helping the Water Boards develop an Instream Flow Policy for the lower LA River." At steering committee meetings held on June 18, 2018 and July 18, 2019, which the City attended, the City was made aware of the preliminary details of this proposed study. The City applauds the SWRCB and LARWQCB for embarking on this effort. To date, the scope of the proposed study has not been defined, nor has all of the funding for the study been secured. Further, the proposed study may not be completed for at least two years. The City is not required to wait for the results of a potential future study that will evaluate *minimum flows* required for beneficial uses of the Los Angeles River, especially in light of the fact that the Draft IS/MND adequately evaluates the environmental impacts of the proposed project individually and cumulatively on worst case existing conditions in the Los Angeles River. Nothing in CEQA contemplates public agencies waiting for the uncertain release of possibly relevant scientific information before completing an environmental document. Lastly, the City understands that this study will focus on identifying a minimum flow needed to protect and sustain instream beneficial uses of the river. The City anticipates, based on its own scientific analysis undertaken for this Draft IS/MND, that the minimum flow needed to support the instream beneficial uses in the Los Angeles River may be significantly less than is currently flowing to the ocean. This is because the Draft IS/MND concludes that the proposed project will not significantly impact biological resources. See also Response to Comment LAW-2.

Response to Comment LADWP/LASAN-6. The comment states that the City is "preparing to submit a wastewater change petition for its Sepulveda Basin Recirculation Project" that will reduce discharges from the Tillman WRP by 20,000 AF. The City supports the City of Los Angeles' efforts to increase the beneficial use of recycled water. However, to date, the City has not proposed such a Project such that the City would be required to include it in its cumulative impacts analysis. At the time of publication of the Draft IS/MND, ESA conducted an exhaustive analysis of all wastewater change petitions filed with the SWRCB and also any Notices of Preparation for proposed projects that could reduce flows to the Los Angeles River. (See Exhibit A to the Hydraulic Report.) Neither the proposed recirculation project, nor any other City of Los Angeles project, was identified. This analysis was conducted again on July 20, 2018 for purposes of preparing these Responses to Comments. Again, no proposed recirculation project, nor any other City of Los Angeles project, was identified. The City is aware of the "planned projects" and "project concepts" described in the LADWP/LASAN Comment Letter and the attached table, however, as described in significant detail in Exhibit A to the Hydraulic Report and in Response to Comment SWRCB/LARWQCB-4, these projects do not amount to "probable future projects" within the meaning of CEQA. Moreover, the proposed recirculation project would appear to be inconsistent with the City of Los Angeles' commitment to continue to discharge at least 27 mgd from the Tillman WRP. The City is entitled to rely on the most recent publicly available information which is contained in the City of Los Angeles' 2016 certified EIR for the GWR. See also Response to Comment SWRCB/LARWQCB-4.

Response to Comment LADWP/LASAN-7. The comment states that the proposal to reduce flows by 20,000 AF in the river has been publically introduced. See Responses to Comments LADWP/LASAN-4 and 6 and SWRCB/LARWQCB-4.

Response to Comment LADWP/LASAN-8. The comment states that the City of Los Angeles repeatedly notified the City that future recycled water projects would be proposed. See Responses to comments LADWP/LASAN-4 and 6 and SWRCB/LARWQCB-4.

Response to Comment LADWP/LASAN-9. The comment states that the Draft IS/MND does not reflect that river flows are not constant and suggests a fair argument exists that the analysis is insufficient. The Hydraulic Modeling Report provides a robust scientific analysis of the proposed project's physical effects to the river based on an analysis of the existing condition, as required by CEQA. See also Response to Comment SWRCB/LARWQCB-14 (evaluating the 2017 low flow condition). This scientific evidence, which is based on ESA's review of 11 years of flow data in the River, necessarily takes into account fluctuations in flow and included variability in the contributions from groundwater to the River (upwelling). The hydraulic analysis estimates that the flow reductions will be barely detectable since the river system is dynamic as suggested in the comment, increasing and decreasing diurnally and seasonally in increments that far surpass the effect of the proposed project. No additional scientific information is needed to come to this conclusion. The argument that conducting more scientific analysis may reach a different conclusion is not supportable.

Response to Comment LADWP/LASAN-10. The comment suggests that several planning documents advise that future flows in the river will be substantially less than the current condition. See Response to Comment SWRCB/LARWQCB-4; Responses to Comments LADWP/LASAN-4 and 6. The Draft IS/MND and the Responses to Comments recognizes planning efforts that are underway that may contribute to reduced flows in the river, including all the planning efforts listed in the City of Los Angeles' comment letter. The cumulative impact to flow in the river resulting from all these projects, if they are proposed and implemented, is unknowable at this time. However, what is clear is that if the City of Los Angeles decides to reduce discharges from the Tillman WRP by 20,000 AF, this will significantly reduce flow in the river compared to the existing condition. The Draft IS/MND complies with CEQA, providing ample evidence of a less than significant effect due both to the diminutive scale of the Project's effect, as well as due to the assumption that the current condition of a cascading perennial flow of treated effluent significantly overwaters the channel compared to its ecological values. The same ecological values can be supported with significantly less water. The City in its discretionary authority under CEQA supported by substantial scientific evidence concludes that the evidence is sufficient to conclude a less than significant direct and future cumulative impact.

Response to Comment LADWP/LASAN-11. The comment notes that rising groundwater may not be a dependable future contribution to the river. The Draft IS/MND notes on page B-18 that rising groundwater currently contributes to the river flows. The contribution is not calculated, since the exact contribution would be difficult to determine. As discussed in Response to Comment SWRCB/LARWQCB-6, treated water discharges, which varies dramatically, are thought to contribute to rising groundwater. Nonetheless, groundwater exfiltration in the ARBOR reach of the river is the reason the channel is soft-bottomed. The Draft IS/MND estimates a future flow condition based on available non-speculative flow contributions derived from published, empirical flow gage data. The Draft IS/MND considered flows in the River over a 11-year period, which necessarily includes variations in rising groundwater. See Hydraulic Modeling Report, Figure 6. The City is not required to speculate as to the extent to which groundwater upwelling continues to contribute flows to the Los Angeles River. The Draft IS/MND properly evaluates the Project impacts (individually and cumulative) as compared to the existing condition. Appropriately, the City selected the worst-case scenario flow conditions over the past 11 years as the existing condition.

Response to Comment LADWP/LASAN-12. The comment states that the Draft IS/MND predicts a perennial, stable future condition, and that rising groundwater is part of the City of Los Angeles' Pueblo Water Right and should not be considered a reliable water source in the future. This statement is not accurate. The scientific assessment contained in the Draft IS/MND uses actual river gage data for a 11-year period and evaluates the impacts of the proposed project (individually and cumulatively) on the lowest flow conditions (e.g., the worst case scenarios). This is an appropriate method of assessing the quantitative impacts of the Project, together with other probable future projects. The Draft IS/MND explains that River flows fluctuate greatly by day, month and year and that the impacts of the Project will be greatest in the worst case scenario, which is presented in detail in the Hydraulic Modeling Report.

Response to Comment LADWP/LASAN-13. This comment states support for the City's plans to gradually increase the use of recycled water over the next decade. While this comment is noted, it does not raise a substantive issue regarding the Draft IS/MND or the analysis presented therein. Thus, no further response is warranted.

Response to Comment LADWP/LASAN-14. The commenter provides a table that includes City of Los Angeles projects that may affect Los Angeles River flow. The table is noted. The comment is addressed in Responses to Comment LADWP/LASAN-4 and 6. No further response is warranted.

Response to Comment LADWP/LASAN-15. The comment states that the City does not adequately analyze the cumulative impacts to the LA River and the environment because it does not consider other projects and relies upon the City of Los Angeles' exclusive water rights. As described in Response to Comment SWRCB/LARWQCB-4, the Draft IS/MND presents a robust scientific assessment of the proposed project and "probable future projects," as required by CEQA. The Draft IS/MND appropriately and adequately analyzes cumulative impacts. The comment is addressed in Responses to Comment LADWP/LASAN-4.

Response to Comment LADWP/LASAN-16. The comment states that the projected reduced discharge from other sources is not taken into account and the cumulative impact should be studied. The Draft IS/MND identifies all of the past, present, and probable future projects that have the potential to result in flow reductions to the Los Angeles River. (See Exhibit A to Hydrologic Modeling Report; see also Response to Comment LADWP/LASAN-4.) The comment is addressed in Responses to Comment SWRCB/LARWQCB-4.

Response to Comment LADWP/LASAN-17. The comment reiterates the strong support from the LADWP and LASAN for the proposed project. No further response is warranted.

Response to Comment LADWP/LASAN-18. This comment provided Attachment 1, City of Los Angeles Projects that May Affect Los Angeles River Flows. All of the projects and "project concepts" that are listed in Attachment 1 to the LADWP/LASAN Comment Letter were reviewed in Exhibit A to the Hydraulic Modeling Report or are addressed herein, as well as several others not identified in Attachment 1 to the LADWP/LASAN Comment Letter. As such, no further response is warranted.

LAW Comment Letter

July 6, 2018

Via e-mail to ekrause@glendaleca.gov; hard copy in US Mail

Mr. Erik Krause, Deputy Director of Community Development
City of Glendale Community Development Department
633 E. Broadway, Room 103
Glendale, CA 91206

RE: Comments of Los Angeles Waterkeeper, Friends of the Los Angeles River, and Coastal Environmental Rights Foundation on the Initial Study/Mitigated Negative Declaration for the Glendale 2018 Wastewater Change Petition Project

The Project is One of Several Similar Projects to Reduce Flows from Publicly Owned Water Treatment Plants into the Los Angeles River, to Allow Increased Water Recycling. 1

On behalf of Los Angeles Waterkeeper (LAW), Friends of the Los River (FoLAR), and Coastal Environmental Rights Foundation (CERF), we submit the following comments on the Glendale 2018 Wastewater Change Petition Initial Study/Mitigated Negative Declaration (MND or the "Project") prepared pursuant to the California Environmental Quality Act (CEQA). The Project includes an eventual proposed decrease in the flow of the Los Angeles River (LAR) by approximately 3,500 acre feet per year, to expand the City of Glendale's water recycling program by about the same volume. During the dry season, this decrease in flow represents up to about 11% of the flow in the LAR. End uses of the water are for "purple pipe" uses such as landscape irrigation and industrial uses. **For the reasons outlined in this letter, we urge the City of Glendale to either withdraw the MND at this time, or otherwise prepare an Environmental Impact Report (EIR) for the Project.**

2

The State Water Resources Control Board (State Board) must ultimately approve the change in flow pursuant to Section 1211 of the California Water Code. The City of Burbank has applied to the State Board for a decrease in flow to the LAR of about 1600 acre feet per year for a similar "purple pipe" water recycling project, and the City of Los Angeles is likely to apply soon for a proposed decrease in flow of up to 20,000-25,000 acre feet per year for a recycling project (the Sepulveda Basin Recirculation Project) focused primarily on Indirect Potable Reuse (i.e., likely advanced treatment of LAR water at the Tillman Water Reclamation Plant and transport to spreading grounds to augment groundwater supplies.) Recognizing the obvious potential for cumulatively significant impacts from these and other current or probable projects involving the LAR, the State Board has provided at least $1.3 million to date to the Southern California Coastal Water Research Project (SCCWRP), for flow and beneficial use modeling of the LAR, and convened an interagency working group focused on these issues in the river. Both LAW and FoLAR attended the first meeting of this interagency group on June 18, 2018 as observers.

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Our Organizations Advocate on Behalf of Water Quality in the Los Angeles River and Throughout Southern California, and We Generally Support Water Recycling.

Los Angeles Waterkeeper (LAW) is a nonprofit environmental organization with over 3,000 members dedicated to protecting and restoring the inland and coastal surface and ground waters throughout Los Angeles County, and ensuring an environmentally sustainable water supply that includes water recycling, preferably for potable reuse. LAW also advocates for the ecologically-sensitive restoration of all of our region's waterways, including the Los Angeles River.

Friends of the Los Angeles River (FoLAR) is an environmental nonprofit with a long-standing legacy advocating for an ecologically healthy and publicly accessible Los Angeles River. Our +50,000 supporter base has been built through decades of community engagement, education and advocacy programs that have coalesced into a nationally recognized river stewardship movement.

Coastal Environmental Rights Foundation (CERF) is a nonprofit environmental organization founded by surfers in North San Diego County and active throughout California's coastal communities. CERF was established to aggressively advocate, including through litigation, for the protection and enhancement of coastal natural resources and the quality of life for coastal residents.

4

The Record is Incomplete, but it Supports a Fair Argument that Environmental Impacts of the Project are Potentially Significant.

We recognize, as do the CEQA Guidelines at Section 15004,[1] that choosing the right time for initiating CEQA review can be challenging. Unfortunately, we believe Glendale has committed that rarest of legal errors – commencing CEQA review too *early*. As a result, there are too many unanswered questions in the Initial Study and Mitigated Negative Declaration (IS/MND). The evidence in the record, incomplete as it is, nonetheless supports a fair argument that the impacts of the Project are potentially significant, thus warranting the preparation of an EIR. The MND also does not include enough information to sufficiently understand the impacts of Glendale's projected reduced flow on the beneficial uses of the river,[2] either in isolation or cumulatively with the impacts of Glendale, Burbank, and Los Angeles' proposed reduced flows on the LAR. Thus the conclusion by Glendale that the Project will not have significant environmental impacts is not supported by substantial evidence. We anticipate that the SCCWRP study, which will take 18-24 months to complete, will reveal information such as the

[1] The CEQA Guidelines are regulations issued by the California Natural Resources Agency, binding on all local and state agencies, for environmental reviews pursuant to CEQA. The Guidelines are codified at 14 Cal. Code Regs. Section 15000 et seq.

[2] Those beneficial uses are listed in the Basin Plan and include contact and non-contact recreation, rare species and aquatic habitat, and water supply.

4 (cont.)

necessary flows to support identified beneficial uses,[3] and then will compare the resulting flow levels of various flow reduction scenarios to the targeted flows.[4] Such information is necessary, indeed crucial, to appropriately understand whether at a minimum the currently approved, pending, and probable future municipal water reuse projects will have a potentially significant environmental impact on the LAR.

We also want to acknowledge and publicly thank the State Board at this time for its recent two-day hearing and workshop in Los Angeles focused on the LAR; its commitments to funding the SCCWRP LAR flow study; and for its leadership in convening and guiding interagency coordination, as evidenced by the interagency working group. We strongly support these efforts and engagement. In addition, we have on information and belief that the State Board intends to await the results of the SCCWRP study before considering the approval of Glendale's change petition. We strongly support this delay. We believe the State Board is well within its discretion to delay consideration of Glendale's change petition until the results of the SCCWRP study is available, and in fact we believe any other course of action would necessitate municipal and/or State Board preparation of multiple EIRs all focused on the same fundamental issues.

5

We also wish to go on record that we support vastly increased reliance on water recycling generally, and we believe the LAR can and should be a source for significant recycled water resources. However, we also believe that "purple pipe" end uses for recycled water are suboptimal, and that potable uses can rightly be preferred, whenever, such as here, such preferences can comport with California's mixed system of appropriative and riparian rights and the Constitutional prohibition on the waste and unreasonable use of water resources. Furthermore, we take no position now on the possible results of the SCCWRP modeling efforts. The SCCWRP study could very well show that the LAR can support all of its beneficial uses while accommodating the cumulative water recycling programs of Los Angeles, Glendale, and Burbank. That is our sincere hope. If Glendale further can demonstrate that its purple pipe end uses comport with California's constitution,[5] we would have no objections to what Glendale is proposing. Our concern at this time with the proposed Project is the inadequate disclosure of information in the MND on cumulative impacts of reduced flows in the LAR, coupled with the potential for Glendale's proposal- in isolation and cumulatively- to significantly affect the water quality in the river.

6

The Mitigated Negative Declaration's Analysis of the Project's Cumulative Impacts on the LA River is Inadequate, and an EIR is Required.

The MND's analysis of cumulative impacts is inadequate, because it does not include a combined analysis of the project's impacts with the impacts of the probable Sepulveda Basin Recirculation Project by the City of Los Angeles that would result in a decrease of LAR flows by

[3] Eric Stein, *Establishing Environmental Flows for the Los Angeles River*, Southern California Coastal Water Research Project Presentation p. 16.
[4] *Id.* at p. 21.
[5] Glendale should demonstrate that its "purple pipe" end uses do not constitute the Waste or Unreasonable Use of water resources. See Cal. Const. Article X Section 2.

6 (cont.)

up to 25,000 acre feet per year. This lack of information concerning cumulative impacts alone requires the preparation of an EIR for the Project.[6]

As a part of statewide efforts to increase water recycling capacity, the Cities of Glendale, Burbank, and Los Angeles each plan to reduce LA River flows. Glendale's MND includes analysis of the project's cumulative impacts with the Burbank flow changes, but omits any analysis of the project's cumulative impacts with the probable changes to flows resulting from the City of Los Angeles Sepulveda Basin Recirculation Project. Los Angeles plans to decrease LAR flows by up to 20,000-25,000 acre feet per year for water recycling, and yet the MND omits any analysis of the cumulative impacts of decrease in flow. For example, in the MND at page B-71, Glendale acknowledges that the cumulative flow analysis would change if the alterations in flow from Los Angeles were accounted for, but declines to analyze what effect such changes would have on the basis that doing so would be "speculative."[7] But the proposed changes from Los Angeles are hardly speculative; in the public comment period at the Regional Water Board meeting on November 8th, 2017, the Los Angeles Department of Water and Power (LADWP) announced an intention to divert 20,000-25,000 acre feet per year from the LAR for recycling purposes, and we have on information and belief that the LADWP informed Glendale officials of the same. The MND improperly declines to analyze the cumulative impacts of its Project with those impacts resulting from the changes by the Sepulveda Basin Recirculation Project proposed by Los Angeles, as well as other probable projects.

The State Board is sponsoring a modeling effort in partnership with the Southern California Coastal Water Resources Project (SCCWRP) to address various flow scenarios and the impacts that multiple Section 1211 Change Petitions could have on the ability of the LA River to support its beneficial uses. The State Board has reached out to cities and agencies likely to reduce flows to the LA River as a part of water recycling efforts, including Los Angeles, Glendale, and Burbank. In addition, the State Board asked relevant agencies to contribute additional resources and input to the study. The State Board expects the study to take 18-24 months, and cost up to $3.6 million.[8] The State and Regional Boards alone have already contributed $1.7 million to the study. This level of financial and staffing commitments by the Water Boards is itself substantial evidence that the State Board expects these flow changes could potentially have cumulatively considerable impacts.[9]

Further, on June 18, 2018, the State Board convened a meeting to discuss the proposed study with representatives from the Los Angeles Regional Water Quality Control Board, LADWP, LA Sanitation, LA County Sanitation, and the Cities of Los Angeles, Glendale, and Burbank, among others. LAW and FoLAR attended as observers.[10] That the State Board is expending so much effort to convene these stakeholders for a series of meetings on flow changes

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[6] See *San Bernardino Valley Audubon Society v. Metropolitan Water District* (1999) 71 Cal.App.4th 382, 398-399.

[7] "[T]he flow contribution to the River from LADWP's Tillman WRP provides a substantial flow volume. If this flow were eliminated, the River may experience significant impacts from flow reduction." IS/MND B-71.

[8] Stein, *supra* note 3, at p. 26-27.

[9] *Ibid.*

[10] Sign-in, Steering Committee Meeting, LA River Flows Project (Jun. 18, 2018).

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to the LA River and possible management responses should, on its own, also be substantial evidence that the § 1211 Change Petitions could have cumulatively considerable impacts on the LA River's capacity to meet its beneficial uses. If the impacts were not cumulatively potentially significant, there would be no need for such multi-agency coordination.

Comments made at the meeting by State Board and SCCWRP representatives only further establish that the proposed Change Petition Project will likely have cumulatively considerable impacts and involve possible conflicts between short term and long term environmental goals. At the meeting, the State Board staff acknowledged that there would possibly be a conflict between all present parties' abilities to divert the desired amount of water from the LA River while supporting its beneficial uses, and resolving the potential conflict was the purpose of convening the parties for the study and the meeting. Staff from the State Board's Division of Water Rights gave a presentation that described changes to the flow levels by the City of Los Angeles as "pending," contradicting the MND's assertion that the project is "not yet well defined or proposed,"[11] or that analysis of the project would be speculative. The SCCWRP presentation, describing the proposed study, made clear that the cumulative impacts that flow changes would have on the LAR are not yet well-known but are likely cumulatively considerable. For example:

- The study will "assess the baseline hydrologic conditions" of the LAR. [12] That such baseline conditions are not well-known when Glendale proposed the MND should establish that the cumulative impacts analysis in the MND is unsupported by substantial evidence, because there is no meaningful baseline for Glendale to compare its own and Burbank's cumulative changes in flows (let alone the changes proposed by Los Angeles).
- The study will "determine flow-ecology relationships."[13] That such relationships are not well-known should establish that the cumulative impacts analysis in the MND is inadequate, because Glendale cannot establish that up to an 11% reduction in flow, combined with the Burbank and probable Los Angeles reduction in flow, will have no significant cumulative impact on the river's ecology.[14]
- The study will examine the relationship between flow and the river's ability to meet its beneficial uses.[15] This is a tacit recognition that the relationship is unknown but potentially problematic. Without adequately understanding these relationships, Glendale cannot meaningfully claim that the cumulative biological and recreational impacts of the Project and Burbank's projects are not significant, as claimed on page B-71-B-72 of the MND.

Further, the aforementioned statements by State Board and SCCWRP officials constitute substantial evidence that this Project, in conjunction with other probable § 1211 Change Petitions on the LAR, will have cumulatively considerable impacts on the LA River. Therefore, pursuant to CEQA Guidelines § 15065(a)(3), an EIR is required to study the cumulative impacts of the

[11] Sean Maguire, *LA River Presentation*, p. 5; IS/MND p. B-71.
[12] Stein, *supra* note 3, at 18.
[13] *Ibid.*
[14] IS/MND Appendix B, p. 54.
[15] Stein, *supra* note 3, at p. 16.

6 (cont.)

project (if Glendale does not withdraw its proposed MND pending completion of the SCWRPP flow modeling studies).[16]

7

The Environmental Impacts of the Glendale Project Considered in Isolation Are Still Unclear, but the Record Supports a Fair Argument that Impacts are Potentially Significant.

In light of the proposed SCCWRP study, it becomes clear that even the environmental impacts of the Glendale project alone need further analysis in an EIR. Glendale plans to reduce discharges by 3.5 thousand acre-feet per year, amounting to up to approximately 11 percent of the LA River's existing dry season flow.[17] In the MND, Glendale asserts that its project will have less than significant impact on the LA River's biological resources.[18] That Glendale's flow reductions would have less than significant impact is not supported by the evidence provided in the MND as a whole. As stated above, one purpose of the SCCWRP study is to "determine flow-ecology relationships."[19] Until flow-ecology relationships are better understood at the conclusion of the SCCWRP study, Glendale's assertions that the proposed reduction in flow from its project will have less than significant impact on the river's biological resources lacks evidentiary support. Also as stated above, one purpose of the SCCWRP study is to examine the relationship between flow and the river's ability to meet its beneficial uses.[20] Until the conclusion of the SCCWRP study allows flow-beneficial use relationships to be better understood, Glendale lacks substantial evidence for the claim made in the MND that its proposed flow reductions wouldn't impair the river's capacity to meet its beneficial uses.[21] While Glendale has adequately quantified the reduction in river depth and breadth resulting from the reduction in flows from its Project in isolation, it does not take the logical – and legally required – next step to relate the reduction in flows to impacts on beneficial uses, which include rare species habitat and both contact and non-contact recreation.[22]

8

Both Individually and Cumulatively, the Glendale Project Potentially Contributes to Further Degradation in the Quality of Already Impaired Reaches of the Los Angeles River with Respect to Copper and Lead, and Could Produce a Potentially Significant Increase in the Toxicity of the Water Column.

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[16] CEQA Guidelines § 15065(a)(3) (stating that "'cumulatively considerable' means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.")
[17] IS/MND Appendix B, p. 54.
[18] IS/MND B-69-70.
[19] Stein, *supra* note 3, at p. 18.
[20] *Id.* at p. 16.
[21] IS/MND B-72. ("LAGWRP's discharges currently do not represent a significant percentage of overall flows in the River that support beneficial uses. . . .")
[22] The list of beneficial uses for the Los Angeles River is available on the Regional Board website at https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/

8 (cont.)

The Water Boards recently promulgated site specific water quality objectives (SSOs) for copper and lead in the LAR and its tributaries.[23] Because the subject is technically complex, we are attaching the transcript of the April 9, 2015 hearing at the Regional Board at which the WERs were first approved to aid in the understanding of the concerns with increased toxicity. The Water Treatment Plants affect Reaches 1-4 of the river, all of which are listed as "impaired" for both copper and lead. (In other words, the concentration of copper and lead in the river water is too high for the river to support its designated beneficial uses and remedial measures are required.)

For copper, the potential for a significant increase in toxicity, from the Glendale Project individually and cumulatively, is potentially quite significant. The SSOs for copper are in the form of "Water Effect Ratios," (WERs) which are multipliers for the equations for both the underlying Water Quality Objectives and for the Total Maximum Daily Loads for metals promulgated to abate the impairments. The WERs are based on toxicity studies involving water fleas, and taking a ratio of toxicity between fleas in a sample of river water compared to a control sample. The lower the WER, the more bioavailable and toxic the copper in the water column. The values of the WERs fluctuate naturally, but to ensure that the WER-based SSOs are as theoretically as protective of beneficial uses as the water quality objectives they replace, the WER should be set at the "critical condition," which is the lowest WER value that occurs in an annual hydrologic cycle. Reaches 1-4 of the LAR have a combined copper WER of 3.97.[24] The Regional Board has found that the critical WER likely occurs in dry weather, and LAW has commented that periods of low flow likely contain critical WERs.[25] Thus, the 11% decrease in flows during August (and nearly the same decrease in other summer months) is of special concern to our organizations.

The values of the copper WERs do not depend on concentrations of copper in the water. However, the WERs do depend on other factors such as the concentration and amount of organic carbon in the water column, temperature, pH, and other factors.[26] Organic carbon tends to bind copper and make it less bioavailable and less toxic to aquatic life. By removing some organic carbon from the water column, the Glendale project would likely result in lower WERs (i.e., reflective of more toxic conditions) *even if the amount and concentration of copper also decreased,* which may or may not happen. The lower WERs would also coincide with the period of the hydrological cycle that likely contains the "critical condition," so there is the potential for significantly increased toxicity of copper in the water column as a result of even a 10-11% diversion in the height of the dry season. If the actual WERs in the LAR fall below the

[23] See Regional Board Resolution R15-004, Attachment A, available at https://www.waterboards.ca.gov/losangeles/water_issues/programs/tmdl/docs/R15-004_BPA_CH_3.pdf.

[24] See Regional Board Resolution R15-004, Attachment A, available at https://www.waterboards.ca.gov/losangeles/water_issues/programs/tmdl/docs/R15-004_BPA_CH_3.pdf.

[25] Response to Comments on Proposed Site-Specific Water-Effect Ratios for Copper and Recalculated Lead Objectives in the Los Angeles River Watershed and Revised TMDL for Metals in the Los Angeles River and Tributaries, available at https://www.waterboards.ca.gov/losangeles/board_decisions/basin_plan_amendments/technical_documents/105_new/ResponsetoComments_LARMetals2015_Final.pdf.

[26] See Regional Board transcript 9-199 to 9-222 for a more detailed discussion of these issues.

8 (cont.)

promulgated values, it would become a mathematical certainty that additional degradation of an already impaired waterway with respect to copper was occurring. This potentially significant impact also implicates the anti-degradation policies discussed below. Cumulatively, with a reduced flow possibly exceeding 50% in dry weather, the effect would be even more potentially significant. The MND entirely fails to address the potentially significant impacts on water quality with respect to changes in river hydrology and potential changes in the bioavailability and toxicity of copper in Reaches 1-4 of the LAR.

The SSOs for lead are based on a "recalculation procedure" that results in a hardness-dependent series of equations setting the new lead objectives. As explained at the Regional Board April 2015 hearing, harder water reduces the bioavailability and toxicity of lead in the water column, thus allowing for a more lenient standard in harder water. Reductions in flows could make the water less hard by changing the amount of calcium and magnesium (the main determinants of hardness) in the remaining water column, depending on the relative hardness of Glendale's effluent versus the river as a whole. In turn, this could affect water quality, and exacerbate the existing impairments for lead. Under both the California Porter-Cologne Water Quality Act[27] and the Federal Clean Water Act,[28] such degradation of impaired waters would be flatly prohibited by applicable Anti-Degradation Policies.[29] The MND entirely ignores this potentially significant impact, as it did with copper. An EIR should be prepared to address this issue, and to integrate the Porter-Cologne water quality and anti-degradation analysis into the CEQA review to the maximum extent feasible.[30]

9

The State Board Might be the Appropriate Lead Agency Under CEQA.

As Glendale recognizes in its MND, it must obtain the State Board's approval for this Project pursuant to California Water Code § 1211.[31] It also identifies itself as the lead agency under CEQA.[32] Although Glendale *might* be an appropriate choice for the lead agency, we believe the State Board should be also considered as a candidate for the lead agency under CEQA under the circumstances.

In *Friends of Cuyamaca Valley v. Lake Cuyamaca Recreation and Park District* (1994) 28 Cal.App.4th 419, 427, the Court of Appeals decided the Lead Agency between two public agencies regarding preparation of a report on potential environmental effects of duck hunting. The choice was between Lake Cuyamaca Recreation and Park District, responsible for operating and managing the hunting season, versus the California Department of Fish and Game, who was responsible for determining when it was permissible to duck hunt.[33] Ultimately, because the Department of Fish and Game decided whether there would be a duck hunting season at all, it was the lead agency "because it ha[d] the 'principal responsibility for … approving a project

[27] See Cal. Wat. Code § 13000 et seq.
[28] See 33 U.S.C. § 1251 et seq.
[29] See 40 C.F.R Section 131.12 and State Board Resolution 68-16, which incorporates §.131.12.
[30] See Banning Ranch Conservancy v. City of Newport Beach (2017) 2 Cal.5th 919, 939, 941.
[31] Cal. Wat. Code § 1211.
[32] IS/MND p. 1.
[33] *Id.*

9 (cont.)

which may have a significant effect upon the environment.'"[34] The Court gave clear priority to the public agency who was responsible for approving an activity versus the public agency responsible for carrying out the activity. Here, without the State Board's approval, the project will unquestionably not occur. Therefore, the State Board could be an appropriate lead agency.

10

If Glendale Approves the Mitigated Negative Declaration, CEQA Guidelines May Lead to the State Board Replacing Glendale as Lead Agency Anyway.

As previously mentioned, one of the main purposes of the SCCWRP study is to create different scenarios of flow and the impacts on beneficial uses associated with water reuse projects cumulatively. The study will then examine the different scenarios' resulting flow reductions and compare them to flow levels the identified beneficial uses require.[35] In other words, it will assess cumulative impacts of all possible outcomes of the existing and pending § 1211 change petitions. Glendale is proposing a 3,500 acre feet per year diversion from the river, which amounts to up to 11% of dry weather flows to the LAR.[36] Burbank's approved § 1211 change petition involves a 1,610 AFY diversion.[37] Lastly, Los Angeles will probably propose a 20-25,000 acre feet per year decrease in flow for the river for the Sepulveda Basin Recirculation Project. Ultimately, if all are approved this could lead to a reduction of *more than half* of the dry weather flow in the LAR.

As it stands, the State Board is a responsible agency under CEQA.[38] However, this status is subject to change as the project review unfolds. Under Guidelines Section 15052, when a responsible agency is tasked with approval for a project subject to CEQA, that agency will become the lead agency if the original lead agency prepared environmental documents but a subsequent EIR is required under § 15162.[39] A subsequent EIR is required pursuant to § 15162 when a lead agency adopted a mitigated negative declaration and new information of substantial importance is revealed that was not known at the time of the negative declaration- which is quite plausible because of the SCCWRP flow modeling and the timing of Glendale's MND.[40]

Here, Glendale is the lead agency and prepared the initial study/mitigated negative declaration. Therefore, if Glendale approves the MND after the comment period expires, there are no legal challenges, and in 18-24 months the SCCWRP study reveals information that presents a fair argument that potential significant environmental impacts may exist, then the State Board could automatically take over the role of lead agency and have to prepare an EIR based on the new information revealed by SCCWRP and funded by the State Board.[41] While from the perspective of the State Board this might represent a case of no good deed going

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[34] *Id.*; Pub. Resources Code § 21067 (1972).
[35] Stein, *supra* note 3, at p. 18, 21.
[36] IS/MND Appendix B, p. 54.
[37] IS/MND Appendix E, p. 9.
[38] Pub. Resources Code § 21069.
[39] CEQA Guidelines § 15052.
[40] CEQA Guidelines § 15162.
[41] CEQA Guidelines § 15052; CEQA Guidelines § 15162; *San Joaquin v. County of Stanisaus* (1996) 42 Cal.App.4th 608, 617; Sierra Club v. County of Sonoma (1992) 6 Cal.App.4th 1307, 1316-17; *See Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 332.

unpunished, we cannot ignore the possibility or what this scenario means for designation of the lead agency now. We believe this plausible scenario argues for Glendale's withdrawal of the current MND.

10 (cont.)

CEQA Guidelines § 15065 Independently Requires Glendale to Prepare an EIR.

11

If a project subject to CEQA has the potential to achieve short term environmental goals at the expense of long-term environmental goals, an EIR is automatically required.[42] Glendale's efforts to increase the city's water recycling could be a worthy short term environmental goal assuming the City can demonstrate that end uses of the water comport with the Californian Constitution. However, the recycled water will be for "purple pipe' uses such as process water and irrigation.[43] While these end uses address the short term environmental goal to increase water recycling generally, it has the potential to negatively affect long-term environmental goals for the LAR and the ability of the City of Los Angeles to meet its own long term goals for water recycling involving potable end uses and its plan to greatly reduce reliance on imported water by 2035.[44] This potential conflict automatically triggers the requirement for Glendale to prepare an EIR for the Project.

As mentioned earlier, State Board staff acknowledged the potential that the currently approved and pending WRP water diversion plans will have a cumulative effect on beneficial uses of the LAR, which the staff presentation on SCCWRP study at the June 18, 2018 interagency meeting echoed. It is evident the maintenance of beneficial uses is a part of the long term plan for the LAR, and the possible dry weather flow reduction of *more than 50%* due to Burbank's approved § 1211 change petition, Glendale's pending § 1211 change petition, and Los Angeles' probable future § 1211 change petition presents a fair argument that these beneficial uses may be significantly impacted by the Glendale Project.[45] Moreover, the fact that Glendale's MND improperly excluded consideration of Los Angeles' probable future § 1211 change petition "enlarge[s] the scope of fair argument by lending a logical plausibility to a wider range of inferences."[46]

Conclusion: We strongly recommend that Glendale either withdraws the MND or prepares an EIR for the proposed Project, as CEQA requires.

12

Thank you for this opportunity to express our concerns. Please contact Arthur Pugsley at LAW at arthur@lawaterkeeper.org or 310-394-6162 x 102 if you have any follow-up questions regarding the above. Signatures and identification of attachments follow on the following pages.

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[42] CEQA Guidelines § 15065(a)(2).

[43] Protest Letter from Arthur Pugsley, Senior Attorney, L.A. Waterkeeper, to Patricia Fernandez, State Water Res. Control Bd. (May 1, 2017).

[44] See City of Los Angeles Executive Directive 5 and the Sustainable City pLAn at *https://www.lacity.org/blog/sustainable-city-plan*

[45] *See* San Joaquin, *supra* note 41, at p. 617; *See* Sierra Club, *supra* note 41, at p. 1316-17; *See* Mejia, *supra* note 41, at p. 332.

[46] *Leonoff v. Monterey County Bd. Of Supervisors* (1990) 222 Cal.App.3d 1337, 1347-48 (explaining that "deficiencies in a record due to the public agency's lack of investigation" may enlarge the scope of fair argument).

Sincerely,

Arthur Pugsley
Senior Attorney
LAW

Riley Smith
Summer 2018 LAW Fellow
LAW

Mark Rutherford
Summer 2018 LAW Fellow
LAW

Sara Kent
Programs Director
CERF

Stephen Mejia-Carranza
Policy and Advocacy Director
FoLAR

cc: Jonathan Bishop, State Water Resources Control Board
Deborah Smith, Los Angeles Regional Water Quality Control Board
Rafael Villegas, Los Angeles DWP
Adena Hopenstand, Los Angeles City Attorney's Office
Stephanie Hastings, Brownstein Hyatt Farber Schreck, for City of Glendale

Attachments:

A: Regional Board Hearing Transcript, April 9, 2015
B: LAW Section 1211 Protest Letter
C: June 18 Interagency Coordination Meeting Sign-In Sheet
D: June 18 SCCWRP Presentation
E: June 18 Division of Water Rights Presentation
F: Los Angeles DWP Presentation to Regional Board, November 8, 2017

ATTACHMENT A

Regional Board Transcript, April 9, 2015

THE LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

In the Matter of)
)
Regular Board Meeting)
)

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

BOARD ROOM

700 NORTH ALAMEDA STREET

LOS ANGELES, CALIFORNIA

THURSDAY, APRIL 9, 2015

9:00 A.M.

Reported by:

Martha L. Nelson

APPEARANCES

BOARD MEMBERS

Charles Stringer, Chair

Irma Munoz, Vice Chair

Maria Mehranian

Madelyn Glickfeld

Fran Diamond

Maria Camacho

Lawrence Yee

STAFF

Sam Unger, Executive Officer

Jennifer Fordyce

Frances McChesney

Deborah Smith

Ronji Moffett

Susana Lagudis

David Hung

Jenny Newman

Celine Gallon

Rene Purdy

Cris Morris

Yue Rong

APPEARANCES

ALSO PRESENT

Fran Spivy-Weber

John Hunter,

Lee Alexanderson, L.A. County Flood Control District

Felicia Federico

Lena Platt, Lyndon LaRouche Political Action Committee

Mary Farkas

Mary Ann Lutz, Mayor, City of Monrovia

Larry Forester, Mayor, City of Signal Hill

Bill DeWitt, Councilmember, City of South Gate

Ken Farfsing, City Manager, City of Signal Hill

Chris Minton, Larry Walker Associates

Shahram Kharaghani,

Peter Shellenbarger, Heal the Bay

Laura Meeker, Los Angeles Waterkeeper

Becky Hayat, Natural Resources Defense Council

Mark Gold

Tatiana Gaur, Los Angeles Waterkeeper

Paul Alva, Los Angeles County Flood Control District

Katy Mica, on behalf of Felicia Federico

Ray Tahir

Gerald Greene

Shawn Warren, Friends of the Los Angeles River

Rita Kampalath, Director of Science and Policy, Heal the Bay

APPEARANCES (CONTINUED)

ALSO PRESENT

Ann Heil, Los Angeles County Sanitation Districts

Grace Hyde, Los Angeles County Sanitation Districts

Steve Petzold, Stop Deep Well Injection in the SCV

Jeanne Duarte, SCV One Water

Martin Hernandez, for Ventura County Supervisor Kathy Long

Mike Solomon, United Water Conservation District

Tony Morgan, United Water Conservation District

Allan Cameron

Nate Dakar

INDEX

PAGE

Introductory Items:

INDEX

PAGE

Uncontested Items:

UNCONTESTED ITEMS

(Items marked with an asterisk are expected to be routine and noncontroversial. The Board will be asked to approve these items at one time without discussion. Any Board member or person may request that an item be removed from the Uncontested calendar. ***Items removed from the Uncontested calendar may be heard at a future meeting.)***

INDEX

PAGE

INDEX

PAGE

INDEX

PAGE

INDEX

PAGE

Closed Session:

following: [Jennifer Fordyce (JF), (916) 3247-6682; Frances McChesney (FM),(916) 341-5174; Nicole Kuenzi (NK), (916) 322-4142; Lori Okun (LO), (916) 341-5165]

16.1 *State Department of Finance, State Water Resources Control Board and Los Angeles Regional Water Quality Control Board v. Commission on State Mandates,* Supreme Court of California Case No. S214855. [Challenging the Commission's decision that portions of the 2001 Los Angeles County MS4 permit created unfunded state mandates]. (JF)

16.2 *In re: Halaco Engineering Company,* United States Bankruptcy Court Central District of California, Northern Division, No. ND-02-1255 RR [Regarding a cease and desist order and cleanup and abatement order at the Oxnard Property]. (JF)

16.3 *In re: Los Angeles Region Water Permit - Ventura County,* Commission on State Mandate Test Claim No. 110-TC-01 [Regarding a test claim filed by Ventura County Watershed Protection District and the County of Ventura alleging that portions of Order No. R4-2010-0108 created unfunded state mandates].

INDEX

PAGE

Closed Session:

(JF)

16.4 *City of Redondo Beach v. Los Angeles Regional* Water Quality Control Board and State Water Resources Control Board, Los Angeles, Superior Court Case No. BS152287 [Challenging assessment of administrative civil liability in Order on Complaint No. R4-2088-0058M]. (FM)

16.5 *Santa Clarita Valley Sanitation District of Los Angeles County v. Commission on State Mandates (Respondent), Los Angeles Regional Water Quality Control Board and Department of Finance (Real Parties in Interest),* Los Angeles County Superior Court, Case No. BS148024 [Challenging the Commission's decision that Resolution No. R4-2008-0012 did not create unfunded state mandates]. (JF)

16.6 *Joan C. Lavine v. State Water Resources Control Board and Los Angeles Regional Board,* Los Angeles County Superior Court Case No. BS128989 [Challenging the Basin Plan Amendment prohibiting on-site wastewater disposal systems in the Malibu Civic Center area]. (FM)

16.7 *Charles Conway et al. v. State Water Resources*

INDEX

PAGE

Closed Session:

INDEX

PAGE

Closed Session:

Board, Los Angeles Regional Board, and Cal/EPA, Los Angeles County Superior Court, Case No. BS 143391 [Challenging the State Water Board's Onsite Wastewater Treatment System Policy].

16.12 *In re: Los Angeles Regional Water Permit – Cities of Los Angeles County*, Commission on State Mandate Test Claim No. 13-TC-01 [Regarding A test claim filed by several cities within Los Angeles County alleging that portions of Order No. R4-2012-0175 created unfunded state mandates]. (JF)

16.13 *In re: Los Angeles Region Water Permit – County of Los Angeles*, Commission on State Mandate Test Claim No. 13-TC-02 [Regarding a test Claim by the County of Los Angeles and Los Angeles County Flood Control District alleging that portions of Order No. R4-2102-0175 created unfunded state mandates]. (JF)

16.14 Consultation with counsel about:

(a) A judicial or administrative adjudicatory proceeding that has been formally initiated to which the Regional Board is a party;

INDEX

PAGE

Closed Session:

(b) A matter that, based on existing facts and circumstances, presents significant exposure to litigation against the Regional Board; or

(c) A matter which, based on existing facts and circumstances, the Regional Board is deciding whether to initiate litigation. (JF/FM/NK)

16.15 Consideration of the appointment, employment, or evaluation of performance about a public employee. (JF/FM/NK)

17. **Adjournment of current meeting.** The next regular meeting of the Board will be held on May 14, 2014, at the Metropolitan Water District of Southern California (Board Room), located at 700 North Alameda Street Los Angeles, CA 90071, beginning at 9:00 a.m. 329

P R O C E E D I N G S

9:16 a.m.

PROCEEDINGS BEGIN AT 9:16 A.M.

LOS ANGELES, CALIFORNIA, THURSDAY, APRIL 9, 2015

CHAIR STRINGER: Good morning everybody. Welcome to the Los Angeles Regional Quality -- Water Quality Control Board's monthly meeting.

EXECUTIVE OFFICER UNGER: Please take your seats.

CHAIR STRINGER: Welcome. Thank you for joining us. And sincere apologies for starting a bit late.

We'll start with the Pledge of Allegiance.

Irma, can you start it?

(Whereupon the Pledge of Allegiance is made.)

CHAIR STRINGER: Ronji, roll call please.

MS. MOFFETT: Yes. Ms. Camacho?

BOARD MEMBER CAMACHO: Present.

MS. MOFFETT: Ms. Diamond?

BOARD MEMBER DIAMOND: Here.

MS. MOFFETT: Ms. Glickfeld?

BOARD MEMBER GLICKFELD: Here.

MS. MOFFETT: Ms. Mehranian?

BOARD MEMBER MEHRANIAN: Here.

MS. MOFFETT: Ms. Munoz?

VICE CHAIR MUNOZ: Present.

MS. MOFFETT: Mr. Stringer?

CHAIR STRINGER: Here.

MS. MOFFETT: And Mr. Yee?

BOARD MEMBER YEE: Here.

CHAIR STRINGER: Thank you, Ronji.

Sam, order of agenda. Any changes?

EXECUTIVE OFFICER UNGER: Yes. There are several changes to the order of agenda. We'll be going after this item to item three, four, five. And then we -- well, we start again with five and six. And then seven, eight, Executive Officer. And then we'll hear the report from State Board. We will then do nine. And then after nine we will be on 13 which is the Basin Plan Amendment, the objectives change. We will then do 13 -- 15, 11 and 12 is recommended.

CHAIR STRINGER: So we're going to go -- I have in my notes here that 10 comes before 13. Does 10 come --

EXECUTIVE OFFICER UNGER: Yes. They were running a little late. They're actually here, so it could be at your -- at your discretion whether you -- everyone is here now for both items 10 and 13.

CHAIR STRINGER: Okay.

EXECUTIVE OFFICER UNGER: So it's -- it's your choice.

BOARD MEMBER GLICKFELD: Mr. Chair?

CHAIR STRINGER: Yes?

BOARD MEMBER GLICKFELD: I hope that we could be able to finish the item 13 before lunch.

CHAIR STRINGER: Okay.

BOARD MEMBER GLICKFELD: So you know, I guess I would recommend that you just watch the clock.

CHAIR STRINGER: And take -- and take 13 before 10?

BOARD MEMBER GLICKFELD: Unless -- unless we're moving really fast.

CHAIR STRINGER: Okay. So -- so we'll go 13, and then 10. And then 11, 12, 15; is that the rest of it?

EXECUTIVE OFFICER UNGER: It's -- it will be 15, 11, 12.

CHAIR STRINGER: Okay; 13, 10, 15, 11, 12?

EXECUTIVE OFFICER UNGER: Yes.

CHAIR STRINGER: Does everybody have that?

BOARD MEMBER YEE: Uh-huh.

CHAIR STRINGER: Great. Next up is approval of the draft minutes from our March 12th meeting.

BOARD MEMBER YEE: Move for approval.

BOARD MEMBER DIAMOND: Second.

CHAIR STRINGER: We have a motion and a second.

BOARD MEMBER CAMACHO: Ooh, sorry.

CHAIR STRINGER: Yes?

MS. MORRIS: Sorry. I think I had a comment on --

CHAIR STRINGER: Thank you. Thank you very much. Those are some really important reminders for all of us. Thank you.

MS. FARKAS: Okay.

CHAIR STRINGER: That concludes public forum. We're going to take a ten minute break, then come back and continue with item 13. Thank you.

(Off the record at 11:06 a.m.)

(On the record at 11:24 a.m.)

CHAIR STRINGER: Okay. So we're starting the hearing on item number 13. This is consideration of the tentative plan -- of tentative Basin Plan amendment to adopt site-specific objectives for lead and copper in the Los Angeles River Watershed and revise the TMDL for Metals in the Los Angeles River and its tributaries.

We are starting with a staff report.

Or actually, Madelyn, do you want to -- do you want to start with your --

BOARD MEMBER GLICKFELD: No, it's not this one.

CHAIR STRINGER: I thought it was item 13?

BOARD MEMBER DIAMOND: Yes, it is.

MR. HERNANDEZ: Oh, I'm sorry. I apologize.

CHAIR STRINGER: We're on item 13.

BOARD MEMBER GLICKFELD: I apologize. I'm skipping around. So --

CHAIR STRINGER: So Board Member Glickfeld had --

BOARD MEMBER GLICKFELD: Yes.

CHAIR STRINGER: -- just a short statement she wanted to make on an ex parte communication she had related to this item. So why don't you go ahead.

BOARD MEMBER GLICKFELD: So this is about a disclosure of the -- of communications -- of ex parte communications on amendments to the Water Quality Control Plan for the L.A. Region, to adopt site-specific objectives for lead and copper in the L.A. River, and to revise the TMDL for Metals in the L.A. River and Tributaries.

It memorializes an ex community -- ex parte communication I had with Dr. Mark Gold regarding the above referenced item. After reading the staff report and realizing that there was -- there -- our determination would be to decide whether or not this was -- this study was adequate to approve the WER, I called Dr. Mark Gold about this. I initiated this communication on April 2nd, 2015 at approximately two o'clock. I asked him to tell me the questions that he would ask to determine if the special studies conducted by the dischargers for this item were adequate and valid to include in the Basin Plan.

I have given the document in question that I wrote after having this conversation to our staff and our staff attorney. They have been distributed to the rest of the

Board. And I think there are copies available here for the public and the stakeholders to look at right now.

So these questions were all asked of staff. And I assume that we can deal with these issues during the hearing. Thank you.

CHAIR STRINGER: Thank you. Thank you very much.

MS. FORDYCE: (Off mike.) And just to confirm that --

CHAIR STRINGER: Great. And it will go on the record.

MS. FORDYCE: -- the memo that Board Member Glickfeld prepared is actually up in front.

CHAIR STRINGER: Great. And we'll --

MS. FORDYCE: And the Board Members all have a copy.

CHAIR STRINGER: Fantastic. So everyone who is planning on speaking on item 13, please stand and raise your right hand.

(Whereupon, all persons presenting testimony on Item 13 are sworn.)

CHAIR STRINGER: Great. We'll start with our staff report. This says 25 minutes, but no one is obligate to use the time allotted to them.

MS. NEWMAN: Good morning, Chair Stringer and Board Members. My name is Jenny Newman. I am chief of one

of the TMDL units at the Regional Board. Also here today is Dr. Celine Gallon, she's a geochemist in the Basin Planning Unit, and Rene Purdy, Chief of the Regional Program Section.

The item before you is a proposed Basin Plan amendment to reflect three changes. The first is water-effect ratios for copper in the Los Angeles River. The second is recalculated lead water quality objectives. And the third is a revision to the Los Angeles River Metals TMDL to conform with the previous two changes.

The proposed changes are the result of two special studies conducted by dischargers in the watershed under oversight of Regional Board staff. EPA presents three approaches to derive site-specific water quality criteria, the water-effect ratio procedure, the recalculation procedure, and the resident species procedure. The special studies underlying the proposed amendments today represent two of those three approaches, a water-effect ratio for copper and a lead criteria recalculation.

Staff's presentation will follow this outline. I'll give a brief history of the Los Angeles River Metals TMDL and WERs. Celine will then give background on the science behind WERs. Then I will review the two special studies, the first study being the copper WER. I'll go over the key elements of that study. And the second study being the lead recalculation. The two studies, again, form the

basis for Staff's proposal.

I'll then present Staff's proposal, go over comments received and the options before the Board, and then give Staff's recommended option.

So here is a history of the L.A. River Metal's TMDL. The original TMDL has been implemented since January 2006. The TMDL addresses impairments of water quality due to a suite of metals, not just copper and lead, but also zinc, cadmium and selenium, which all impact aquatic life in the L.A. River. In dry weather the impairments are due to copper, lead and selenium. In wet weather the impairments are due to copper, lead, zinc and cadmium.

The TMDL assigns numeric targets for these pollutants based on criteria in the California Toxics Rule. When adopting the TMDL the Regional Board recognized that special studies may be warranted in order to evaluate assumptions made during TMDL development. The TMDL includes a schedule that allows time for dischargers to conduct such special studies such as water-effect ratios, and a commitment from the Regional Board to reconsider the TMDL based on the results of the studies.

The TMDL has already been reconsidered once before in 2010 based on a WER Study completed in 2008 which resulted in a WER of 3.96. That WER applied only to certain reaches of river. And the proposed WER today would expand

that study to include more reaches and tributaries.

So the point of this is that the item before you is an anticipated outcome of the original TMDL.

I'll now turn it over to Celine who will go over the science behind water-effect ratios.

MS. GALLON: Good morning. So as Jenny said, I will review the science behind the water-effect ratios. And first I'll go over the factors effecting metal -- metal toxicity.

The toxicity of metals can be influenced by various factors -- site-specific factors which will vary from water body to water body. Those can include the form of metal present in the water, the presence of a natural organic matter, pH, hardness and alkalinity. This slide will show the different forms of metal that it can take in natural water.

Though a specific metal here, copper, can be attached to particles present in the water. It can also be bound to dissolved compounds such as dissolved organic carbon, hydroxides, carbonates or sulfates, and for metal complexes.

And finally, a metal can be found in its free ionic form.

The total metal concentration includes all the forms of metal present in the water, whereas the dissolved

metal concentration only includes the metal complexes and the free iron from. Among those three forms of metal the free iron is the one that can be taken up by -- by invertebrates or fishes, leading to potential toxicity.

This next slide shows how water chemistry effects asphyxiation and biological available or bioavailability or metals in an aquatic system using a fish as an example. As mentioned before, the free iron form is available for uptake. It effects the fish by binding on the gill surface. However, chemical compounds present in the water can influence the metal's ability to be taken up by fish. They can do so by either binding with the metal to form metal complexes or binding to the gill surface of the fish.

Metals can bind very strongly with dissolved organic carbon to form metal complexes. Once formed those complexes are unavailable for binding at the gills and as a result decrease the amount of metal that can be taken up by the fish.

Similarly, metal can form complexes with inorganic compounds such as carbonate an hydroxides that will also be unavailable for binding of the gills. As a side note, pH and alkalinity influence the concentration of these inorganic compounds, and by extension they also influence metal bioavailability.

And finally, major (inaudible) also have a significant impact on metal biovailability as they are competing for binding sites at the fish gill, leaving less sites available for the metal. Among those major (inaudible) are calcium and magnesium irons which comprise hardness.

In order to address metal toxicity to aquatic organisms EPA promulgated the California Toxic Rule or CTR into (inaudible). The CTR established statewide water quality criteria or objective for 126 priority pollutants, including a variety of metals such as copper, zinc and lead. When establishing the national criteria EPA did not address site-specific effects related to the chemistry of a specific water body as those described earlier, except for hardness. Instead, EPA established conservative criteria that are protective of a majority of species and water bodies. However, in order to account for site-specific conditions EPA included a factor called the water-effect ration or WER, WER, in the mathematical equation that is used to calculate the water quality criteria. The CTR gives states the discretion to adjust metal criteria by deriving a site-specific WER for use in calculating site-specific criteria.

The default value of this WER is one, unless the site-specific is de-blocked. Site-specific WERs are given up by doing side-by-side toxicity tests that compare the

toxic concentration of a metal in water from a local site to the toxic concentration of the same metal in a standard test water.

WERs are developed by collecting a series of samples at different times and running toxicity tests on the site-water samples in parallel with toxicity tests using standard laboratory test water. The WER is the ratio -- ratio of the toxic concentration of the metal in site water divided by the toxic concentration of the metal in test water. The criteria are then adjusting for -- adjusted for the specific site by multiplying the national criterion by the site-specific WER.

And I will now handle over the presentation to Jenny who will explain the specifics of the L.A. River WER Study.

MS. NEWMAN: Okay. So to sum up so far, the TMDL anticipated a WER and CTR accommodates a WER.

So in 2010 the L.A. River Metals TMDL Special Steering Committee representing the County of Los Angeles, Caltrans, and 34 cities submitted a work plan to conduct a watershed-wide WER for copper in the L.A. River.

The 2010 work plan expanded upon the 2008 WERs study that I talked about before which only effected the copper wasteload allocations for the three POTWs in the watershed and the numeric targets downstream. The new study

is intended to apply to more reaches and tributaries which are effected by numerous additional sources of both flow and metals.

The 2010 WER study approach was based on USEPA's 1994 Interim Guidance on Determination and Use of Water-effect Ratios for Metals, as well as EPA's 2001 Streamlined Water-effect Ratio Procedure for Discharges of Copper.

In addition, the Executive Officer required additional monitoring and locations -- or, sorry, additional monitoring locations and samples above and beyond what the EPA criteria recommend -- sorry -- beyond what the EPA guidance recommended in order to better reflect the unique sources of flow and metals at each -- in the L.A. River.

The guidance recommends a minimum of three samples at each site. This Copper WER Study had six samples for each site, except Rio Hondo where only five samples could be collected. As a result a total of 83 dry-weather and 20 wet-weather samples were collected at 14 dry-weather sites and 10 wet-weather sites.

These are the 14 dry-weather monitoring sites in the study. The sites were selected to coincide with the sites in the 2008 WER study, as well as monitoring that has been going on in the watershed since 2002 so that the data could be compared across all years. The sites are in reaches -- does this have -- I can't remember. It's okay.

The sites are in Reaches 1 to 4, going from the bottom of the watershed to the top, as well as the major tributaries, Tujunga Wash, Burbank Western Channel, Verdugo Wash, Arroyo Seco, Rio Hondo, and Compton Creek.

And these are the ten wet-weather monitoring sites. Some of them are co-located with the wet-weather auto samplers that are already installed in the main stem for the TMDL monitoring program that's already in place.

EPA guidance requires that WERs be developed for the critical condition when the WER is lowest, when it's closest to one. The critical condition was determined to be dry weather. And the WER calculated for dry weather as protective in both dry and wet weather.

Acute toxicity was performed by exposing the test species ceriodaphnia dubia, which is very sensitive to copper and recommended by EPA as the most useful test species. They exposed the test species to various copper concentrations added to both the WER study sample water and laboratory water to determine a water-effect ratio for each sample using the equation that Celine just described. WERs are derived based on acute toxicity testing because it results in the most protective WERs.

Adding to the protectiveness and conservatism, there are two ways to calculate the sample WER, depending on if you follow the interim guidance or the streamlined

procedure. The study proponents followed both, then chose the procedure that resulted in the lowest, most conservative WER, which is the streamlined procedure. This conservative assumption was applied to the margin of safety in the TMDL in the water quality objectives. The final WER for each site was then calculated as the geometric mean of the sample WERs or each site.

The study was conducted from March 2011 to August 2012 to ensure that the study was representative of long-term conditions in the L.A. River. The study compared general compared general water quality parameters that had been historically collected in the river with the same parameters collected during the WER study.

As I stated before, Staff required that the WER study sampling sits coincide with the existing monitoring in the L.A. River so that where the same constituents were analyzed the data could be compared across the years. The results of the comparison are presented in the WER Study Report in section 6.5. And the comparisons indicate that the WER study parameters such as total suspended solids, dissolved organic carbon and hardness when compared to the historical parameters are within the expected range for the site.

So here is a graph showing the hardness data collected in dry weather under the existing monitoring pro

that's been going on shown in blue and hardness data collected under the WER study shown in yellow. And you can see the concentrations are similar since 2003.

Here's the dry-weather dissolved organic carbon data as collected under the existing monitoring program shown in blue and the WER study shown in yellow. You can see that the concentrations of dissolved organic carbon are similar since 2006. And the data points with values above 20 in the WER study data set are collected in the tributaries, in Rio Hondo and Tujunga Wash, except one point. This results in higher WERs for these tributaries, as you'll see the next slide. This is because the bioavailability of copper in the L.A. River is most sensitive to dissolved organic carbon. So the -- the sites that had the higher dissolved organic carbon are the sites with the higher WERs.

So these are the final WERs. The final WER for Reaches 1 to 4 is 3.97. Because there were no significant differences between the sample WERs for the main stem sites, those 7 sites were combined and the final WER was then based on 42 sample WERs. This is a lot of data points from which to derive a single final WER. Also if you remember I said earlier that the WER calculated in the 2008 study for these reaches was 3.96. These very similar WERs give Staff confidence that the proposed WER is reflective of ongoing

conditions.

This table also shows the WERs for the tributaries not include in the 2008 WER study. The final WERs were calculated separately for each tributary, unlike the main stem.

The reasons for the variability among the WERs for the tributaries is, like I said, due to the varying levels of dissolved organic carbon in the tributaries. And if I add a column to the table, let's see, yeah, you can see, for example, the high WERs for Tujunga Wash and Rio Hondo correspond to the higher dissolved organic carbon values.

So in the cases where the calculated WERs for the tributaries are greater than the WERs for the reaches to which they discharge we asked the study proponents to submit an analysis to make sure that the higher upstream WERs were still protective. They did and the -- the analysis consisted of a mass -- a mass-balance model using flow and concentration data for the tributary and the upstream reach to model concentrations, resulting concentrations in the downstream reaches.

Based on the results Staff found that the higher WERs for the tributaries did not result in exceedances of a WER-adjusted criteria in the downstream reaches, and were therefore protective of all reaches in the L.A. River.

In order to determine the ongoing protectiveness

of the WERs the proposed Basin Plan amendment contains ongoing monitoring with triggers for WER reevaluation if data show that conditions are changing in a way that might affect the toxicity of copper in the river. Monitoring will consist of receiving water monitoring for key chemical parameters needed for estimates of WERs using the Biotic Ligand Model. The Biotic Ligand Model predicts WERs without conducting the side-by-side toxicity tests that are done for our traditional WER. While the WER study followed the traditional WER approach, the Biotic Ligand Model will be a useful tool for ongoing assessment.

The frequency of the WER evaluation monitoring will be specified in the permittees monitoring and reporting programs.

In addition, to address potential downstream impacts there's monitoring in place. While copper associated with particulate matter is less bioavailable in the water column, once the particulate matter settles downstream in the estuary the copper could become potentially bioavailable in the estuary sediment. And to address that potential we looked at monitoring requirements for the estuary.

The Harbors TMDL, which this Board adopted a few years ago, requires MS4 permittees that discharge to the estuary to monitor their discharges of copper-bound

sediment, as well as the levels of copper in the estuary sediments. The Harbors TMDL currently requires MS4 discharges to conduct sampling of copper-bound sediment in runoff three times per year, and sediment monitoring in the estuary every other year.

Staff is proposing to increase the sediment monitoring to annually, which is a change I will discuss at the end of this presentation. We feel that with this monitoring in place that we can track trends and see any potential problems before they become a problem, and we can address them.

But looking at the sediment in the estuary now, under existing conditions, before anything changes, we can see that the bed sediment in the estuary is currently meeting copper standards. Samples collected from various locations in the L.A. River estuary in 2003 and 2006 that were part of the Harbors TMDL development are shown in this graph, and they're the bar graphs on the bottom. They're compared to the numeric targets in the TMDL. The effects range low and the effects range median values. The sample results were used to determine existing conditions and interim wasteload allocations in the Harbors TMDL.

Five out of the six sediment samples from the estuary were below the ERL. The single sample above the ERLs from 2003, and is well below the ERM which is used to

list the water bodies impaired on the 303(d) list.

In addition, the Council for Watershed Health has conducted recent sediment chemistry monitoring in the estuary. In their 2011 annual report the council presented data on the copper concentration and sediment for 2009 and 2011. The copper concentration was slightly higher than the ERL in 2009 but was well below the ERL in both 2010 and 2011. Based on the integration of sediment chemistry, sediment toxicity, and benthic community metrics, also in 2011 the sediment of the L.A. River was scored as having low disturbance.

Okay, so now I'm going to move on to the lead recalculation study. As I said at the beginning of the presentation, EPA specifies three approaches to derive site-specific water quality criteria. The second special study subject -- or underlying this Basin Plan amendment is a recalculation of lead criteria using USEPA's recalculation procedure. This method can either take into account the relative differences between the sensitivity of a species and the National Data Set upon which the criteria were derived, or it can consist of any updates or revisions to the National Data Set which are not necessarily site-specific updates. And this the case here.

The study consisted of recalculating the lead criteria following the same procedure that was used for the

California Toxics Rule, just using the updated data set. The new acute toxicity data set contained 103 acute lead toxicity tests where the data set that was used to calculate CTR has 23. Using the updated data set the study calculated updated final acute value and final chronic value equations which are the proposed water quality objectives for lead.

The recalculated criteria were then evaluated to determine protectiveness of species of interest in the Los Angeles River. Staff reviewed the comparison and finds that the recalculated criteria are protective of species of interest in the L.A. River. Staff also shared the study results with staff at EPA Region 9 and EPA headquarters who reviewed the study and concurred with the results.

The revised objectives were then converted to numeric targets for the TMDL using the same assumptions made in the development of the original TMDL. And this table shows the revised numeric targets. The existing previous numeric targets are in the right-hand column. And the column in the middle shows the new numeric targets based on the revised lead criteria.

So based on these studies Staff is proposing the following amendments: one, incorporate copper WERs for the L.A. River Watershed; two revise lead water quality objectives based on the recalculated final acute and chronic lead values; and three, revise the L.A. River Metals TMDL to

correspond with the Copper WERs and revised lead water quality objectives.

The TMDL revisions include an update to numeric targets, loading capacity, and the load and wasteload allocations in Reaches 1 to 4 of the river and six of its tributaries. The TMDL revisions also adjust monitoring requirements and add footnotes to the wasteload allocations that wasteload allocations and require permit compliance with anti-degradation and anti-backsliding requirements. No changes are being proposed for the TMDL as it applies to zinc, cadmium or selenium.

The proposed changed are shown in underlined strikeout in Attachment A and B to the tentative resolution which are included in your Board packages behind Tabs 13-3 and 13-4.

We also submitted the proposed amendments to external scientific peer review in conformance with the Health and Safety Code. The peer reviewers found that the copper report is consistent with EPA Guidelines and seems conservative and defensible. They noted that the increased sampling beyond what is recommended by the EPA guidance enhances the representativeness of the WERs.

They also found that the suggested monitoring seems reasonable and defensible in insuring that the TMDL continues to protect against copper toxicity. However, they

did note that the TMDL does not state the frequency of the monitoring. In response to this comment the TMDL has been revised to clarify the proposed approach, to use the Biotic Ligand Model to track changes in water quality and trigger WER toxicity monitoring if changes are observed. The TMDL requires responsible parties to propose the criteria for the trigger as part of their monitoring plans which are subject to EO approval. The peer reviewers also found that the lead criteria calculation is consistent with EPA Guidelines.

During the public comment period 36 comments were received by the deadline from the public.

One comment letter from the Special Studies Steering Committee and Technical Committee supported the proposed revisions and had a few additional requested changes.

Twenty-nine comments from municipalities supported the proposed revisions and the changes requested by the Steering and Technical Committees.

Three comment letters from the City of L.A. Bureau of Sanitation, the City of Burbank, and County Sanitation Districts of Los Angeles County supported the proposed revisions and had comments regarding the requirements for the POTWs that they own and operate.

A letter from a consultant representing several cities in the watershed opposed the revisions. A letter

from Heal the Bay and Los Angeles Waterkeeper opposed the revisions.

And a letter from the California Department of Fish and Wildlife had recommendations to avoid potential long-term impacts.

Staff's responses to these comment letters are included in the agenda package, and I'll go over some of the more significant ones right now.

Heal the Bay and Los Angeles Waterkeeper commented that the Copper WER and lead recalculation studies were insufficient to support revised watershed objectives. Specifically, they're concerned with the length of the Copper WER study. Staff addressed this comment by reviewing water quality data conducted as part of the WER study to ensure that data represented long-term conditions in the watershed. The comparisons indicate that the WER study parameters compared to historical parameters are within the expected range for sites, which is the graphs that I went over earlier in the my presentation.

In addition, the 2008 WER Study which determined a final WER of 3.96 was based on data collected in 2005 and 2006. The fact that the final WERs in the 2008 study based on data from 2005 and 2006 matched the WERs under this study based on data collected in 2011 and 2012 give Staff confidence that the WER data are accurately representative

of long-term conditions in the watershed. And again I'll point out that the -- the TMDL has ongoing monitoring to ensure that if conditions do change that the WERs will be reexamined and either revised or rescinded if their shown to be no longer protective or lead to any potential downstream impacts.

EXECUTIVE OFFICER UNGER: Excuse me, Jenny, just very quickly, will you confirm that DOC on this slide is dissolved organic compounds for the Board please?

MS. NEWMAN: Yes. DOC means dissolved organic carbon.

EXECUTIVE OFFICER UNGER: And the same term that Celine was talking about.

MS. NEWMAN: Right. And if you saw one of the figures in the presentation, I showed the -- the plots of the -- the data and one of them was -- one of the graphs was for dissolved organic carbon.

CHAIR STRINGER: Thank you.

MS. NEWMAN: And, yeah, the -- the water-effect ratio is most dependent on dissolved organic carbon. It effects the bioavailability of copper the most of all the parameters.

Heal the Bay and Los Angeles Waterkeeper also commented that it's inappropriate to use a single-sample location for the tributaries because a single location

cannot adequately characterize the water chemistry for the entire reach.

Staff's response is that the Copper WER sampling sites were located within the tributaries at the most downstream part to represent conditions for the length of the tributary because this is what was done in the original TMDL. The lengths of the tributaries evaluated are mostly within the urbanized portions of the watershed and are subject to similar dry- and wet-weather urban runoff from similar land uses throughout the entire length. So we find that the downstream location should be representative.

However, in response to this comment we have added monitoring requirements to the Basin Plan amendment to examine the assumption that the downstream locations are representative.

Heal the Bay and Los Angeles Waterkeeper also commented that the critical condition when the WER should be lowest was not accurately identified by the WER study. They believe that the samples collected in the study do not characterize the variability of water chemistry during all dry-weather conditions, especially dry weather immediately following a rain event when copper concentrations are higher.

Staff disagrees that this time period after a rain event is the critical condition. While copper

concentrations can be higher during wet weather and in the days following a rain event, the copper concentrations don't really effect the value of the WER. Only the concentrations of the constituents that change the viability of copper effect the value of WER, the -- the constituents that Celine reviewed in her part of the presentation.

And also before approving the work plan the Executive Officer required the study proponents to determine the critical condition. They then applied the Biotic Ligand Model to identify the critical condition using historical data in the L.A. River. The Biotic Ligand Model analysis evaluated dry-weather conditions, as well as the conditions that occur during wet weather or shortly thereafter. The findings were that dry weather was the critical condition, not weather -- not wet weather or the time period following wet weather. The predicted WERs actually decreased in the days following a rain event to levels above or within the range of the dry-weather predicted WERs.

Thus, Staff finds that dry weather is the critical condition and it was accurately identified by the study.

And the -- the last Heal the Bay-L.A. Waterkeeper comment I'll bring up is their concerned that the National Draft Data set that was used in the lead recal0culation was not protective of native species in the watershed because the study used surrogate species. And they felt that the

surrogate species used to evaluate the toxicity for the native species in the watershed were inadequate.

Staff's response is that the lead recalculation is based on updates to the National Data Set, not site-specific data. So while the geographic focus of the study was on the L.A. River the recalculation is based on updates to the National Data Set, not site-specific data.

That being said, in conducting the recalculation of the objectives the study does have to consider whether the recalculated objectives would be protective of species of interest in the L.A. River Watershed, including native species. The report used surrogate species for species of interest because there were no data in the USEPA Draft Data set for the four species of interest that were identified for the L.A. River. The chosen surrogate species were the most closely related to the four species of interest that they could find in the data set.

One of the surrogate species used in the report was of the same genus. It was bonytail for arroyo chub. One was of the same tribe. Razorback sucker was used as a surrogate for Santa Ana sucker. Four were of the same family, minnow and others for the Santa Ana -- Santa Ana Speckled dace. And then one was from the same order, marbled salamander for Coastal Range newt. So those are the surrogate species used and they were the closest related

species that could be found in this data set.

But I want to note that the four most sensitive species in the EPA data set were aquatic invertebrates, while the four species of interest in the L.A. River are vertebrates which are less sensitive to lead than the invertebrates. So the criteria calculated to protect the invertebrates will also protect the vertebrate species of interest in the L.A. River.

So Staff finds that the recalculated criteria are protective of species of interest, including native species in the L.A. River.

And the last comment is from the Steering and Technical Committees who requested several revisions to the TMDL and the water quality objectives that Staff has made to correct errors and improve clarity. However, Staff hasn't made all of their requested revisions. One requested change to apply to separate WERs for the Burbank Western Channel upstream and downstream of the wastewater treatment plant was not made.

While their Copper WER Study developed two separate WERs for upstream and downstream of the plant, Staff felt that revising the loading capacity and the allocations in the TMDL by applying two separate WERs would require an adjustment of the critical -- of the critical flows that were contemplated in the original TMDL which is

beyond of the scope of this reconsideration.

And furthermore, we didn't feel that applying a higher WER in the channel segment above the wastewater treatment plant was needed because the existing water quality throughout the whole reach is already below the WER-adjusted criteria using the lower WER. So we didn't feel it was necessary.

And then I'm going to go over the one change I talked about to the sediment monitoring. On page 13-31 of your Board package in the TMDL, it's the -- the Monitoring section and it's the last sentence of the paragraph just -- just above the section on Special Studies. Staff proposes to add this additional sediment monitoring requirement that would expand upon the sediment monitoring that's required under the Harbors TMDL, and that is that,

"Monitoring of sediment chemistry shall be conducted at one site immediately above the Los Angeles River Estuary and one site within the estuary annually for an analysis of general sediment quality constituents and metals."

BOARD MEMBER GLICKFELD: Could you please repeat exactly the location of those?

MS. NEWMAN: Yes. Okay.

BOARD MEMBER GLICKFELD: It's on page -- page what?

MS. NEWMAN: It's on page 13-31. And it's -- it would be a sentence added to the paragraph just above the section on Special Studies. So it's a sentence at -- it's the last -- it would be the last sentence in the WER Protectiveness Monitor section of the monitoring part of the TMDL. And then the language we're proposing is verbatim on the slide. And it would add one site immediately above the estuary and one site in the estuary. And the sampling would be conducted annually instead of semiannually.

So the options before the Board include option one, maintain the current Basin Plan objectives and TMDL and don't act on the proposal. Option two, adopt the Bain Plan amendments with modifications arising as a logical outgrowth of the comments received. And option three, incorporate Copper WERs, revised lead water quality observations, and revise the TMDL accordingly.

Staff recommend option three because the proposed revisions are based on the best available science and a robust data set that reflects the ongoing conditions in the L.A. River Watershed. Any concerns about the representativeness of the data in the study will be addressed through ongoing monitoring and tracking of trends to ensure that if conditions change that could affect the toxicity of copper in the L.A. River the TMDL will be reconsidered to revise or rescind the WER, if necessary.

Also, downstream monitoring will ensure that there are no impacts to sediment downstream.

And regarding lead, the recalculated lead criteria are based on an updated data set with an additional 80 point -- 80 data points that weren't used in the existing criteria. The recalculation followed EPA Guidelines, and we find that they're protective of species of interest in the L.A. River.

That concludes my presentation.

CHAIR STRINGER: Thank you very much. As is usually our custom, I'll hold -- hold questions until after we hear from everybody. Everyone is nodding their head yes.

So what I'd like to do is bring up our elected officials. We have a few elected officials here. We're very -- always very happy, too, when we get elected officials into this perspective on what we're doing and what the constituents are saying and thinking about.

And our first up is our very own Mayor Mary Ann Lutz from the City of Monrovia.

MAYOR LUTZ: Good morning. Thank you, Chair Stringer, Board Members and Staff.

The studies that have been discussed have been worked on in a process that has been lasting the last five years. And we would like to thank the Executive Director Sam Unger and his staff for working with us very diligently,

and this Board, in these studies.

I'm very pleased to be before you as a former member of your Board and as an elected official in the City of Monrovia because one of the priorities that we had when I was a member of this Board was to improve the communication and the collaboration with the permittees and the Regional Board. And I'm encouraged and I'm pleased to be here to talk about the collaboration that has taken place on these studies for the TMDL.

And as you know, the City of Monrovia is in the Los Angeles region -- I'm sorry, the L.A. River Watershed. And our community has been a contributor to these studies the entire time, and they are very well researched and they are very scientific studies. It's important to me and all of the taxpayers of all our cities that the investments that our cities make for water quality are made based on sound science. And it is -- with this plan, with us being an active participant and working together this scientific team and your staff, that I believe that if these were adopted we will have reached those goals of scientific studies that will maintain water quality that makes sound investments for the municipalities that are deemed to making sure that the water quality is -- is met.

However, sound science is not all there is to this. There's another aspect to it which is implementing

these TMDLs. We've been working with the League of California Cities. We've been working with California Contract Association Cities Association. And we've been trying to identify different funding, because without the funding none of the municipalities can manage to make any of this happen. And we have been working with 57 different cities in Los Angeles County to participate in work plans and in researching several different ways in which we can identify funding for these TMDLs and for additional TMDLs.

And we're pleased that we have been collaborating with several agencies and that Senator Ed Hernandez is now sponsoring a bill on our behalf, SB 485. And it's a bill that is in collaboration with Los Angeles Sanitation Districts. And it will help the individual cities and the city groups with the stormwater and the urban runoff water so that we can capture some of this water and recharge it to the best of our ability to help us with not just stormwater and runoff water, but the huge discussion that you had this morning about the drought. This is one of the ways we know we can assist in the drought on the ground in what we're dealing with.

So the cities have also been implementing a lot of water projects, which Mr. Hunter showed you some of that today. They're all working towards their goals of their Watershed Management Plans and their Enhanced Watershed

Management Plans. And we're requesting that to help us in these goals that you approve this Basin Plan amendment in order for -- to give us the ability to meet these water quality goals that I know you and I really want to have for our communities, for the aquatic life, to meet all the beneficial uses that we know need to be met.

So I thank you very much for the time, and thank you very much for considering these plans and these studies.

CHAIR STRINGER: Thank you, Mary Ann.

MAYOR LUTZ: Thank you.

BOARD MEMBER GLICKFELD: Is it okay --

CHAIR STRINGER: Sure.

BOARD MEMBER GLICKFELD: -- Mr. Chair?

I just wanted to ask Mayor Lutz and other elected officials if they could stay until the end of the hearing so we can ask them questions?

MAYOR LUTZ: I think we're all planning to.

CHAIR STRINGER: Great. Thank you very much.

Mayor Forester from Signal Hill. And I know you're Larry Forester.

MAYOR FORESTER: Yes. I've just given copies of my talk so it can be passed out amongst you.

CHAIR STRINGER: Great. Thank you.

MAYOR FORESTER: Honorable Chair and Members, I'm Larry Forester. I'm the Mayor of the City of Signal Hill.

And I want to thank you for the time in considering this Basin Plan amendment. Signal Hill was pleased to coordinate the special studies, working with your staff, 32 cities, Caltrans District 7, and the County of Los Angeles. The theme for today is collaboration.

This is the first time that a scientific study of this magnitude was completed for such a large, diverse group. On one side you have the largest city in the state, the most populous county in the state, and on the other side you have the smallest city in the state, including disadvantaged communities. The success of the study is a tribute to your staff, the stakeholders, permittees, the independent scientific review, and the study team. They have devoted countless hours over the last five years developing the Basin Plan amendment before you today.

However, collaboration does not stop with the approval of the Basin Plan amendment since there is more to be done. I've been working with Mayor Mary Ann Lutz, as she just said, in co-chairing the League of California Cities and Contract Cities Association Working Group that is identifying stormwater funding. The group last year is proud to have worked on the passage of AB 2403 with Heal the Bay. AB 2403 provides a funding option to capture and reuse stormwater. However, it does not solve all of the funding issues. In addition to work on funding option is ongoing,

especially in the area of Proposition 218.

I'm proud that Signal Hill continues to collaborate and take the lead on improving water quality and finding solutions for the L.A. River. We are actively working on implementing the TMDLs, addressing zinc and bacteria impairments in the watershed. Approval of the Basin Plan amendment is one critical piece of a multifaceted approach that will provide improved water quality and secure additional water resources for our community. And I emphasize additional water resources as we've talked about this morning. So thank you.

CHAIR STRINGER: Thank you very much.

Bill DeWitt, a Councilmember from City of South Gate, and apparent USC fan.

MR. DEWITT: We're looking forward to a good season coming up. I'm Bill DeWitt, Councilmember with the City of South Gate since -- on and off since 1980, and a director off and on of the Count Sanitation District since 1982. So anyway, I have something here to read for you.

"Honorable Chair and Members of the Board, I'm a Councilmember here in the City of South Gate. It is located adjacent to the L.A. River and Firestone Boulevard. Our city has been actively working to improve surface water quality, including the installation of a large stormwater capture chamber as part of a new regional shopping center,"

which you saw on the screen here. It's actually a 30-acre site at Firestone and Atlantic Boulevard. And that's capturing basically 30 acres of stormwater runoff which is about the second or third one in our city that we've done.

"We want to thank the Board for assisting our community in obtaining the grant funding for installing the trash screens in our catch basins in order to comply with the Trash TMDLs. This is a great example of working together to improve the environment in a cost effective way.

"The state has identified South Gate as one of several disadvantaged communities in Southeast Los Angeles County in the L.A. River Watershed. Our community is joined by our neighboring communities Commerce, Compton, Cudahay, Bell, Bell Gardens, Maywood and Huntington Park in conforming with these challenging economic issues. Many of our families struggle to make -- to make ends meet.

"South Gate wants to continue to make improvements to the surface water quality but we need to recognize that affordability of the programs to our families is an important consideration.

"We felt it was very important to understand the water quality needs of the river as we begin to plan our capital projects. So we were one of 32 cities who helped fund the copper and lead studies. When the Board adopts these scientific rigorous studies you will be assisting in

the watershed-disadvantaged communities' focus on our limited resources as we continue to work on improving water quality. You will also be addressing the affordability of the TMDLs to our families and allow South Gate to continue to make water quality improvements."

And that's basically my written comment. But is -- it's a lot of money involved. It's a lot of cost. And you look at the cities of Maywood and Bell and our neighboring cities, we don't have a lot of money in those cities. And to put in $1 million or even a couple hundred thousand dollars to these studies is very, very expensive, and we don't have the budget to do it.

So we've struggled greatly to -- to support. And we're very supportive of Monrovia and Signal Hill in their efforts to bring this thing to a head with you folks. But we need to work out the funding of it. It's so critical because the cities by themselves cannot afford, let alone the studies, let alone the implementation of treatment plants to treat all this stuff that comes into the L.A. River.

Now South Gate has about 29 discharges into the L.A. River. Some of them come from surrounding cities. Like the Bandini Channel comes from Bell Gardens. It doesn't -- that water doesn't generate in South Gate. A lot of the water generates in the City of Vernon and it comes

underneath Huntington Park and South Gate. But it's actually discharged into the L.A. River in the City of South Gate.

Monday of this week I had a tour of the river and counted 26 of these discharges on each side of the river, and the Rio Hondo flows into the L.A. River at South Gate.

I thank you very much for your time. If I can answer any questions specifically about South Gate, I'm not a chemist, I'm not a person that understands all this fine detail that you have, but I have been here quite a while. Thank you.

CHAIR STRINGER: Great. Thank you. Thank you very much.

So I think that concludes all the electeds we have on this item, if I'm not mistaken.

So the next up is the Steering Committee. Ken Farfsing and Chris Minton, I believe, from the L.A. River Metals Steering Committee.

MR. FARFSING: Good morning, Chair Stringer, Members of the Board. I'm Ken Farfsing. I'm the City Manager of the City of Signal Hill. And I also for the last seven years chaired the Steering Committee on Special Studies, a bit like herding grasshoppers.

CHAIR STRINGER: Excuse me one minute. I'm sorry.

Ronji, could you set the timer for -- I believe

you were given 15 minutes; is that right?

MR. FARFSING: Twenty, I believe. There's combined. Both of us will speak together, Chris -- Chris and myself.

CHAIR STRINGER: Okay. Yeah, you know --

MR. FARFSING: Yeah.

CHAIR STRINGER: -- there's a lot of speakers, so --

MR. FARFSING: We're -- we want to be cognizant of your time.

CHAIR STRINGER: Yeah. Thank you.

MR. FARFSING: The studies began in 2008 and involved funding from 32 of the watershed's 40 cities, Los Angeles County and Caltrans District 7. As the speakers have indicated the Basin Plan amendment is only one component of what is a multifaceted approach to meeting the Metals TMDL. And if the study is adopted by the Regional Board they will help the permittees implement cost effective programs and assist in the selection and the placement of our regional and sub-regional BMPs that are fully protective of the environment.

Now successful outcomes require a series of actions, including a planning and implementation of BMPs, the reduction of metals at their sources, and scientifically supported adjustments to the California Toxics Rule. Today

we are addressing only the CTR adjustment. However, it's important to remember these -- that there will be other necessary actions. For example, on SB 346 which reduces copper in brake pads, that bill received strong opposition from the automotive industry. The permittees and the environmental community work with the legislature and the administration to ensure the successful passage of that bill.

We are now initiating a similar source control effort to reduce zinc in tires. And the permittees have also completed a number of projects that John Hunter covered a bit earlier. And we're actively working with the Regional Board staff on the WMPs, and also the EWMPs.

Now this was really the first time that the permittees participated in joint -- in a joint water quality study of this size. The degree of interagency cooperation has increased communications among the county, the cities and Caltrans. For one example, an outcome of this increased communication was the preparation and implementation of a coordinated monitoring plan on the L.A. River, which Jenny showed you on the slides. The CMP resulted in the permittees funding a first ever monitoring plan; it installed the five auto samplers. And we also contracted for lab analysis, and then the annual report preparation.

Now working together the permittees completed a

cost effective monitoring program. And I believe the CMP data has significantly increased all of our understanding of the river and its tributaries. The group also completed the WER and the lead studies, and a CIMP development and implementation.

A little bit about the Special Studies Team, we believe it was a rigorous scientific study which involved 30 months of water quality sampling and species toxicity testing. As the peer reviewers pointed out in their comments, the studies follow their exceeded USEPA Guidelines. Each step of the study was overseen by the Regional Board and the Technical Advisory Committee. This Independent Scientific Committee consisted of Steve Bay from SCCWRP. Steve is here in the audience, I believe in the back, so you can ask him questions. Bob Santore from Hydroqual and Tyler Linton from the Great Lakes Environmental Center. The Technical Advisory Committee provided impartial technical expertise, advice and input on questions that arose during the five-year study effort.

The Water Board staff provided invaluable technical input and regulatory guidance. We would like to particularly recognize the efforts of Jenny Newman who attended all of the Steering Committee and Technical Advisory Committee's meetings during the entire five-year period. That's a remarkable accomplishment. I think she

deserves applause for attending all those meetings.

We also appreciate the efforts of Sam Unger and Debbie Smith and Rene Purdy to help us with the study.

Also the study from an organizational standpoint could not have been implemented without the assistance of the Gateway City Council of Governments which served as our fiduciary agent. There was really no management model when we started this study. And none of the permittees could accept total financial responsibility for a study of this magnitude. So the COG (phonetic) coordinated the drafting of the funding agreements between the permittees and the consultants, all of the billing, the auditing and the payments over a five-year period. That's remarkable too.

The consultant team was Larry Walker and Associates, Physis Environmental, Pacific EcoRisk, MBC Applied Environmental Sciences, Flow Science, and Exponent. Now today we're requesting that the Regional Board approve the Basin Plan amendment in order to assist the permittees in the design and implementation of cost effective BMPs that are fully protective of water quality.

I know want to introduce Chris Minton who is our project manager and the lead scientist for the special studies. But before I turn the presentation over to Chris I'd like to request that if you have any question regarding the technical aspects of the studies or feel that changes

are needed, we would greatly appreciate the opportunity to answer questions that you may have. The technical comments you have read or may hear from others were considered at various times during the process and vetted with your staff and the Technical Advisory Committee. We'd like to think that because of this rigorous process in place there was really no stone that was left unturned.

I'll now turn it over to Chris.

CHAIR STRINGER: Thank you.

MR. FARFSING: Thank you.

CHAIR STRINGER: Hey, Sam, I found my speaker cards. They were in the wrong pile. We're good. Sorry.

EXECUTIVE OFFICER UNGER: I've got an extra one, a well.

CHAIR STRINGER: Oh, good. Good. Sorry. We have --

MR. MINTON: That's okay. My name -- as Ken said, my name is Chris --

CHAIR STRINGER: -- shuffling cards up there.

MR. MINTON: Okay. Sorry. My name is Chris Minton with Larry Walker Associates. I was the project manager on the study team. I want to get through this as much as you guys do, so I'm going to try to get through my presentation rather quickly. And also try to acknowledge that Jenny touched on quite a few of the points that I was

going to make in my presentation. And so again, just out of respect for time I'll try to skip over and not repeat some of the things that you've already heard.

So as Jenny touched on, the lead recalculation was an update to the 1984 criteria that was based on relatively limited data in that we used an EPA procedure called the recalculation approach to improve the criteria by taking the old data and adding new data. So she's touched on that.

She also touched a little bit on the acute toxicity data set, how it increased fourfold. So we took the 23 original data points and increased it fourfold. I think one interesting thing about the lead recalculation that speaks to the Copper Water-Effect Ratio is that the national criteria that we're regulated under currently, before today's adoption, was based on 23 data points. The study that we did in the L.A. River for the Copper Water-Effect Ratio collected over 100 data points. So it's pretty significant, the amount of data that's been generated as part of this process for the Copper Water-Effect Ratio.

And Jenny already touched on species of interest, an then the concurrence with Board staff, TAC and -- EPA headquarters on the approach that we took there, so skip through that.

The water-effect ratio was a little bit more involved. As Jenny talked about, there was two guidance

documents. We primarily focused on the 1994 document as our guidance document. But there's really -- there's one real key aspect that I'll touch on a little bit later that we borrowed from the 2001 guidance. We also built on our years of experience. I had worked on the 2008 study. I'd like to think back in how I had no kids when I first started this process and I had a little bit more hair, not a lot but a little bit more. So it's been -- it's been a ten-year journey for myself, and it's pretty exciting to be here today to talk about it in seven minutes.

So we used the work plan, basically EPA guidance. We went through quite a process of working with your staff and the TAC and the public to get feedback to modify our plan. And I won't go through all the modifications, but I think one of the biggest things that came -- that was important to me as a project manager that came out of it is a complicated flow chart that I'm not going to walk you through. But what it did is it -- we did some analysis going into the work plan and we spent a lot of time talking about what is the critical condition? How many samples do we need? And we put a lot of energy trying to figure that out.

And then -- and Steve Bay who's here today, he said, "Well, let's not decide that. Let's not prejudice -- prejudice ourselves to the results. Let's take what we've

learned and go through a process where as we get data in we make decisions as we go." And so that really set up for a real successful path moving forward where we had open communication with the TAC and your Board staff as we went along and tried to make decisions together.

That flow chart led us to kind of our first two critical steps, the first one being what is the critical condition? When is the lower water-effect ratio occurring? Is that summer? Is that winter? Is wet weather?

Our next step, once we had that data, is to say do we have enough data? Is it sufficient to calculate a final water-effect ratio? And once we felt comfortable with the data we went through the process of calculating the water-effect ratio and checking if it watershed protective.

And before we could do those steps we had to go out and get samples. So this is Reach 1 of the L.A. River. It's kind of a typical dry-weather day. It's beautiful. It's gorgeous. You spend 24 hours in the river collecting your samples, composing it, and sending them off to the lab to get a representative sample.

I would say not so beautiful a day, but given our drought this would probably be a beautiful thing right now, so a little bit less comfortable. But we'd spend the whole storm out there collecting the sample to get a representative sample and send it to the lab.

Now things didn't always go smoothly. Sometimes we had some challenges. Our van broke down between our sites and the sample toxicity labs, and sometimes we had to get AAA to help us out. But a study this large doesn't come without its complex challenges. And what we really tried to do is as we ran into those challenges, to communicate them. To not work in a black box and come back to your staff and attack with an answer. So we try, when we ran into these issues, to capture them and then put them in our final report. This was actually one of the easier issues to deal with.

So once we had that data set, that initial data set, we went ahead and did -- we started doing the first steps. So the first step it began by taking that data, going through a data analysis and identifying the critical condition. We did that in a memo that we submitted to your staff and the Technical Advisory Committee, got feedback, did some additional analysis, and came to the conclusion that dry weather, regardless of season, is the critical condition. When we did that first step in terms of characterizing variability the analysis that we did suggested that that initial set of samples that we did was enough to characterize variability.

But thinking forward to today and the final report and feeling 100 percent comfortable with what we did, I

recommended to the study sponsors, your staff and the TAC that we should go ahead and do some additional sampling, and your staff did not object. So we went ahead and did the extra monitoring in the Summer of 2012, and then redid our analysis of critical conditions and redid our analysis of whether we had enough samples and confirmed that we were -- we were doing pretty well with our data. And so we moved forward with the calculation of the final water-effect ratio.

Now as Jenny talked about, we did collect more data than is required. We only use the critical condition data. So we set aside the wet-weather data because that would have raised the water-effect ratios and not been representative of the critical condition. So we set that aside and we went through a process where we got buy-off from your staff and the TAC. And I won't go through the entirety of the table, but the table kind of gives you a sense of how does our study stack up against the guidance? And then other studies, one in the region with the Ammonia SSO, and then one outside the region in terms of the Bay Area Copper Site-Specific Objective.

And did we hand out the slides? Okay. So you can look back at the table if you'd like. Thank you.

The other thing I wanted to touch on, I'd mentioned that we borrowed something from the 2001 guidance.

Jenny had mentioned that this was -- this was an important part of it. What we -- what we did was we recommended using the 2001 guidance because it results in the calculation of a lower water-effect ratio. I don't get into the reasons why. But that's something we proposed to the TAC and the Regional Board to add a level of conservatism and essentially a margin of safety to our study. So we could have followed the '94 guidance. We actually proposed to move forward with the 2001 guidance. And only one is circled. All of the numbers for every reach are lower than in the 2001 guidance.

So the last step was to evaluate the protectiveness. EPA had some guidance on it but it was somewhat limited. So we actually went a little bit beyond that and added some additional ways to check protectiveness. We compared our data for the water-effect ratio to our toxicity testing. We compared it to the previous studies outside the region and within the region. And as Jenny pointed out, the 2008 data looks a lot like the 2014 data. It essentially looks the same. And then we did some additional modeling to evaluate protectiveness. And those different angles gave us confidence that the analysis would result in protective water-effect ratios.

So in summary, fallout exceeded EPA guidance. The lead data set was a significant improvement over the 1984 criteria of fourfold criteria data set improvement. Copper

Water-Effect Ratios were representative. And probably the most important thing to me as a project manager was support from the staff and the TAC and the peer reviewers in terms of the results of the study.

And I don't know how to do this. I have some letters from the Technical Advisory Committee I'd like to -- is that something I can give you guys? Okay.

CHAIR STRINGER: I think just -- just -- give this to Ronji. Just --

MS. FORDYCE: (Off mike.) (Inaudible.)

MR. MINTON: They -- they were after the public comment period. I could read them into the record but I don't think you want me to. They're --

CHAIR STRINGER: Well, that's sort of up -- that's sort of our discretion, right, if we want to let them in. I don't -- I don't have a problem with you putting them into the record, handing them to Ronji.

MR. MINTON: Okay.

CHAIR STRINGER: That's fine.

MR. MINTON: Okay. And I can read them if you want.

CHAIR STRINGER: No. No. We'll trust you that they're relevant.

MR. MINTON: They are. So they're from two of the three Technical Advisory Committee members. I wasn't able

to get a hold of the third.

CHAIR STRINGER: And I'm going to -- I'm going to hear from Jennifer. So I'm --

MR. MINTON: Oh, I'm sorry.

CHAIR STRINGER: Go ahead. So --

MS. FORDYCE: I was just going to say --

CHAIR STRINGER: Can you take a look at them?

MS. FORDYCE: -- I just looked at the (inaudible) report and they're not letters raising any comments that maybe need response by Staff (inaudible).

CHAIR STRINGER: Why don't we -- why don't we do this, because I want to make sure you're comfortable with this, can we have you take a look at them?

MS. FORDYCE: Yeah. (Inaudible) questions. I wanted to make sure that the letters do not raise any comments that need to be -- that need to be addressed by Staff.

MR. MINTON: That's correct. The letters do not --

MS. FORDYCE: They're just letters in support?

MR. MINTON: Just letters in support.

MS. FORDYCE: All right. I'll take that.

CHAIR STRINGER: Why don't you take a look at them just to make sure you're comfortable with them, Jennifer. And so we'll -- we'll defer that, whether we put them into

the record --

MR. MINTON: Okay.

CHAIR STRINGER: -- until after Jennifer takes a look.

MR. MINTON: Okay. I'm sorry for the hiccup.

CHAIR STRINGER: Yeah. No. That's okay.

MR. MINTON: In summary what -- there's some key quotes from the letters, but what I really wanted to just say is as a project manager the response that we got from the TAC and the State Board peer reviewers was -- was very rewarding for two reasons. One is that they found the study very robust and technically solid in that when we made decisions we tried to be conservative in those decisions.

But the other part was that -- was that we were -- we were transparent. We were transparent in our communication with the TAC. We were transparent in our communication in our final report. And for somebody like a State Board peer reviewer who has not been part of the study at all to come back and understand that we were trying to be protective, it's -- it's, again, it's a rewarding thing. I mean, it's rewarding for me, but I think it also just speaks to the quality of the study.

So there are a few comments on the proposed amendments. There was a request to -- for consistency with some recently adopted Metals TMDLs, Ballona Creek, Los

Cerritos Channel, San Gabriel River. It relates to demonstrating compliance with dissolved metals' targets or interim limits based on load reduction. And the response to comments, we do really appreciate the clarity that was provided there. But we think additional clarity is warranted by just putting it in the TMDL. So the TMDL, the Basin Plan amendment is what we tend to read. And so we think the clarity there would be helpful. But we do appreciate the feedback we got in response to comments.

Jenny brought up the Burbank Western Channel water-effect ratios. Again I would like to explain that just a little bit more in so much that there -- the TMDL has an upstream target and a downstream target. And so we did water-effect ratios to note those differences. And so we're not asking for a full revision of the TMDL. At a minimum can you just change chapter three; right? That's not outside of scope today. That is what is the scope today, chapter three.

And then re-opener language. We appreciate being here because there was re-opener language. It was entirely stricken from the record -- or, excuse me, from the TMDL. And so we just ask that that language just remain. We would like a specific date but we acknowledge that we can't necessarily have a specific date. So just maintaining language without a specific date would be appreciated.

Lastly, city sponsors appreciate the Regional Board staff. I really appreciate the Regional Board staff. It hasn't always been fun, it hasn't always been easy, but it's been good. So we support the adoption of SSOs and TMDL, request several revisions for consistency of water-effect ratio.

I'm sorry, there was the change sheet on the monitoring. And I just wanted to -- I'm sorry. Just to respond to the change sheet adding sediment monitoring, I just want to be clear that, as Jenny pointed out, this SSO does not lead to an increase of copper loading. There are regulations in place within the TMDL that limit where we're at. So it's not as if adopting this increases the loading of copper to the estuary. I just wanted to be clear on that. And so while we don't completely agree with the monitoring changes since we'll already be monitoring total loads of copper in our SMPs and the receiving water outfalls, we understand the addition but we feel like the current monitoring we're during through the MS4 Permit and through the Toxics TMDL addresses the issue.

Thank you for your time.

CHAIR STRINGER: Thanks a lot. Don't go away. No, I mean don't go away more generally. There will be questions.

So the City of Los Angeles, Shahram Kharaghani.

MS. FORDYCE: Do you want me to address the letters right now?

CHAIR STRINGER: Oh, I'm sorry. Yeah. Why don't we take a moment to address the --

MS. FORDYCE: Okay. I was going to let you know. So I took a look at the letter, one letter by the Southern California Coastal Water Research Project by Steven Bay, and a letter by the Great Lakes Environmental Center by Tyler Linton. And both are supportive of the proposed amendments and are supportive of the process used. So I see no issue with admitting their letters into the record.

CHAIR STRINGER: Okay. So we'll put -- we'll put those letters into the record. Thank you for looking at them so quickly, Jen.

Shahram? City of Los Angeles, you have five minutes.

MR. KHARAGHANI: Thank you. Good afternoon, Mr. Chair, Board Members. My name is Shahram Kharaghani and I am the Watershed Protection Program Manager for City of Los Angeles. I would like first to express my appreciate for the efforts of your staff, in particular Mr. Sam Unger, Ms. Debbie Smith, Rene Purdy, and Mr. Ival Ridgeway (phonetic) and Ms. Jenny Newman, and the numerous other agencies that have participated in undertaking such a robust set of studies.

Because of the comprehensive nature of the studies and the level of input and review I would like to express my support for the proposed amendments to the Basin Plan incorporating the results of the Copper and Lead special studies, and well as revision to the Metals TMDL.

Additionally, I would also like to support the comments of the L.A. River Steering Committee that were given earlier. The city which runs of the largest programs in the country has implemented a number of projects within the watershed. Additionally, the city has lead the development of metals implementation plans and noise in the process of wrapping up the Upper L.A. River Watershed -- Enhanced Watershed Management Plan which will outline our future steps in improving water quality.

The adoption of the proposed amendments today supports the implementation of the city's Stormwater Program and is only one part of overall effort to address water quality in the watershed.

The city will continue to monitor copper and lead concentration and loading and will be assessing the metal toxicity condition. And if it triggers a revaluation of the assumption it would make those changes. The WER does not change all implementation plans. As you know, those plans have already been created and would be going before the City Council in the two or three weeks. But it would -- may --

may help the city to achieve our goals. The city would continue to take actions within the L.A. River Watershed to improve water quality and their surrounding environment through implementation of our Enhanced Watershed Plan. Thank you very much.

CHAIR STRINGER: Thank you very much.

Next up, the environmental groups at a time slot for today of 15 minutes.

And, Peter, were you going to coordinate this or --

MR. SHELLENBARGER: Yeah.

CHAIR STRINGER: Okay. I wasn't quite sure how you all were planning on working together. I have you down for 15 minutes, and you have 20 minutes on your card. So if we keep this to 15 minutes --

MR. SHELLENBARGER: What -- what was -- I kind of forgot what we agreed upon.

CHAIR STRINGER: I thought we agreed upon 15, but I don't recall myself actually at this point.

MR. SHELLENBARGER: Okay. Well, we might go a little bit over. I mean, there was a lot of --

CHAIR STRINGER: Yeah, there is.

MR. SHELLENBARGER: -- a lot presented upon before we're coming up here. And we would really appreciate the opportunity to comment on that after public comment period

just so everyone, you know, states their -- their positions.

CHAIR STRINGER: Well, why don't you take 15 minutes, see where we are when that time is up and then, you know, there will be lots of conversation, I'm sure, after your presentation. So --

MR. SHELLENBARGER: Okay. We'd just really appreciate if we were in those conversations. So --

CHAIR STRINGER: Yeah. Understood.

MR. SHELLENBARGER: Thank you. So good -- good morning, good afternoon. I'm Peter Shellenbarger. I'm the Water Resources Manager at Heal the Bay. And this is Laura Meeker. She's the Watershed Programs Manager at Los Angeles Waterkeeper. We really appreciate the opportunity to speak on this item today.

MR. SHELLENBARGER: So the L.A. River drains approximately 843 square miles of some of the most urbanized areas in the United States. The L.A. River was listed as impaired in 1998. In 1999 USEPA was involved in a consent decree that involved the development of the TMDLs, and the L.A. Metals TMDL was adopted in 2005. And in 2006 this TMDL was litigated upon which the Regional Board defended, and it was upheld in court in its entirety. So there's been a lot of work that has already happened in this TMDL.

And I just want to highlight that high metals really plague many of the rivers beneficial uses. But to

spite the water quality impairments nearly every stretch and tributary has a restoration of revitalization master plan currently in the works, court adopted.

So we really want to emphasize the seriousness of this SSO being heard today. These comments -- or these amendments are changing water quality standards which are the foundation of the Clean Water Act. And any changes to water quality standards need to be based on sound science and include robust and rigorous study design and data acquisition. SSOs need to ensure that all beneficial uses are protected all of the time, and I want to emphasize all of the time, not just in average conditions. And thus it's imperative that studies analyze conditions that are the most critical and the most representative of what actually occurs in the watershed. And in addition, this SSO sets precedent for all future SSOs.

So we believe the studies used to justify the tentative amendment have serious shortcomings. The Copper WER report critical condition sampling is questionable, and the study is reliant on an extremely limited data set. And the lead recalculation report does not use site-specific data and provides no justification or assurance of protectiveness of identified species of interest. And we also question the transparency of the public process.

So we believe the WER sampling does not capture

when copper is most bioavailable to aquatic organisms. The TMDL defines dry weather by a single threshold, when the maximum daily flow on the river is below 500 CFS. This is the only requirement that separates wet and dry weather. The definition is extremely broad and it is representative of a variety of water conditions and chemistries. And basically dry weather dominates the year most of the year and can occur 1 day, 2, 5, 25 days after a precipitation event.

The Copper WER states that a conservative critical condition is the condition with the lowest WER or the condition in the water body when aquatic life is most threatened. It goes on to identify the critical condition in L.A. River and Tributaries as dry weather, regardless of season. So the Copper WER therefore assumes that dry-weather conditions and water chemistries impacting WERs are constant over much of the year. The study also assumes that dry-weather WERs are independent of wet weather as indicated on page 18 of the Copper WER report, and I'm going to read it here.

"Dry-weather conditions were those where measurable precipitation had not occurred during the seven days prior to a scheduled dry-weather event, or a measurable precipitation had occurred, flow rates returned to levels typical of the seasons," which I would assume would be dry

weather.

This language clearly limits and, we believe, misrepresents the definition of dry weather in the TMDL and greatly limits dry-weather sampling days in which copper could be most bioavailable. Because of the study's definition sampling was never conducted for TMDL dry weather on days preceding a runoff event.

Okay. Next slide. The Copper WER report used and repeatedly referenced two USEPA guidance documents. These documents give direction on really how to construct and execute SSOs for metals. The interim guidance reads that,

"Experimental design should try to take into account the times, location and depths by which the extremes of the physical, chemical and biological conditions occur within the site."

Interim guidance indicates that worst case scenarios need to be sampled. We believe this did not happen.

The streamlined guidance reads,

"The procedure is not designed for regulatory situations where the copper originates primarily from wet weather and non-point sources, and the streamlined procedure should not be applied to situations where elevated copper concentrations are the result of wet-weather runoff."

And so interim guidelines also highlights that it

should be only applied to point-source dominant systems where POTWs are involved, where there's little fluctuation in water chemistry in dry conditions. This is definitely not true for five out of the six tributaries. There's no -- there's no effluent coming down them.

So the following data up here is from the memo used to model and justify the critical condition in the L.A. River main stem and tribs. I wants to note that the sampling was only conducted for this data along the main stem. However, this data was used to justify the critical condition in its tributaries, and these systems are completely different. So -- and I think you guys are very aware of this.

But I really want to direct your attention to the circle, WER ranges on the chart. And most notably the red arrows, these values show predicted WERs from actual data collected during wet- and dry-weather events along the L.A. River main stem. As you can see the spread is large. There is great variability in these WERs in dry weather. I mean, most -- most notably, Tujunga Avenue, WERs are between 9 and 36. Rosecrans Avenue, 8 and 45. Washington Avenue, 7 and 57. And I want really to highlight that these are multiplying the current water quality standard, these WERs.

This data was used to guide when sampling should take place. And the memo concluded that dry weather,

regardless of season, results in lower WERs in wet weather. What the memo failed to identify and should have was the condition in dry weather that resulted in the lowest WERs. There is huge variability in dry weather. And the copper report still based its sampling design on that dry weather as the critical condition regardless of season and did nothing further to refine the sampling schedule and design to capture these lower WERs that are happening in dry weather. This shortcoming has the potential to undermine the protectiveness of this TMDL, the Basin Plan, and watershed management programs that are currently being implemented.

The Copper WER Study did show that there was a slight difference between wet- and dry-weather WERs in the L.A. River main stem. It didn't identify conditions in dry weather that resulted in lower WERs. And how a sampling at random times over the year is addressing these conditions? How is sampling roughly monthly, as identified in the report, is capturing extremes? I'm not really sure. So at no point in the study is there any discussion or analysis why predicted dry-weather WERs are variable.

WERs used to calculate the final WERs, this what we're using the Basin Plan amendments, were highly variable, and this is six samples. Rio Hondo dry-weather WERs ranged from 6.2 to 17.15, and Tujunga Wash from 4.83 and 18.18.

And like I said, these are being used of the geo-mean today in this amendment.

So in order to have the most protective and conservative WERs, sampling needs to be truly representative of the most critical condition in dry weather. And SSO should not be justified and representative of historic average conditions. It's ridiculous. There's no -- who needs to -- they really need to depict when copper is most bioavailable and WERs are the lowest. So we believe it's clear that USEPA guidance was not followed closely enough in the Copper WER studies.

And Laura Meeker will finish the rest of the presentation.

CHAIR STRINGER: Thank you.

MS. MEEKER: Thank you. We believe that there were additional shortcomings with the Copper WER report. The Copper WER report's data collection period was actually only 17 months long and captured only one wet-weather season. This is concerning because 2011 and 2012 were drought years when rainfall was below average which could influence copper loading and water chemistry.

In the staff's presentation it was highlighted that 83 dry-weather samples were collected. I feel that this number in general, when taken to represent the final WERs, is a little misleading since only six dry-weather

samples were used to calculate each of the final WERs that are used -- presented here today.

Two wet-weather sampling events occurred over the single winter season of the study period. However, neither of these wet-weather events captured the first major rainfall or the first flush of the season when copper loading can be expected to be the highest. Given that stormwater is the largest source of copper to our rivers and the ephemeral nature of our highly urbanized watershed, we are concerned that the major rain event -- the first major rain event of the season was not sampled.

Furthermore, no dry-weather samples were collected for calculating WERs in the days immediately following rain events. Copper concentrations spike during stormwater runoff events. And it is unclear how bioavailability of the copper changes in the days following a rain event as flows decrease and other parameters change. Water samples were not collected during the first. During this timeframe to conduct the toxicity testing. We are concerned that the critical condition was then not accurately captured.

Dry weather samples were collected weeks after the last rain event. Overall, we fell that this -- this lack of data and thorough consideration for temporal variability in the watershed to justify changes to water quality objectives that will be driving long-term water quality management is

unjustified.

Regarding the tributaries, only a single-sample location was used to calculate the WERs for each tributary. The sample location was chosen to be located at the most downstream point of the tributary. However, the WER then is applied to the entire upstream reach. We find this unacceptable given the variability within the tributaries.

Many tributaries, as you know, are actually intermixed with unlined natural segments and concrete box channels. Also, tributaries' watersheds cover a range of different land uses throughout their -- throughout the catchment area. Additionally, watershed restoration and channel modification plans exist for almost all of the tributaries. Stream restoration has the potential to change the water chemistry and thus the bioavailability of copper and metals in these segments. However, there was actually no discussion of these restoration plans and proposed stream restoration -- stream changes in the Copper WER report, or how they might affect the applicability of these site-specific objectives.

In an attempt to address our concerns about the lack of data and understanding of copper toxicity in the entire reach of the tributaries the Regional Board has proposed adding additional monitoring locations in the tributaries. We feel that to use incomplete data to support

a water quality objective change and then require additional monitoring after the fact to make sure that water quality objective is protective or not protective of beneficial use is just bad policy making and precedent setting.

I'm going to move on to the lead report, the calculation report. The lead recalculation report relies entirely on a draft USEPA data set. This is something that was not mentioned, actually, in the staff's presentation. The USEPA data set, in fact, has not been finalized. And this data set was not -- we asked also why the USEPA has not pursued a national recalculation. We commented on this and it was not addressed in our comments, only that EPA -- we feel that only EPA has approved the methods and they have not actually approved the results of this study.

Furthermore, the draft data set does not include any species native to the L.A. River, and therefore there's nothing actually site-specific about it. In the goal to establish a site-specific objective why didn't the dischargers and the Regional Board then pursue a WER study for lead similar to copper using actual site-specific data?

In the lead recalculation report there were four species of interest identified. And since toxicity data for these species was not actually found in the draft data set, surrogate species were used to represent their toxicity response. The surrogates used, though, are non-native to

this area. Being of the same taxonomical family is not enough justification, we feel. There was no discussion or explanation in the final report of why these species are appropriate surrogates and how their critical life-cycle stages compare to the species of interest.

Only after we voiced our concerns were the life-cycle stages of two of the seven surrogates compared to the species of interest. Regarding this issue, in the response to comments the Regional Board incorrectly references a 1995 USEPA study to justify the use of their surrogates. Nowhere actually in this USEPA study does it say that the general rule of family taxonomical classification is justification for using a species as a surrogate. The USEPA study does not establish a rule of this sort. The USEPA document does say, however, that hazard assessment using rainbow trout would be most protective of warm-water species. This was actually not a guideline followed, though, in this -- in this study.

CHAIR STRINGER: Ms. Meeker, how much longer do you think you need before this -- to ensure that we hear what you want us to hear?

MS. MEEKER: Maybe two minutes.

CHAIR STRINGER: Okay. Go ahead.

MS. MEEKER: Thank you.

CHAIR STRINGER: Thank you.

MS. MEEKER: Our last major concern that we want to highlight today is in regard to the public process. The copper and lead recalculation reports state that the public participation in development and implementation of these studies consisted of, one, the Metals TMDL Technical Committee which is made up of permittees, two, the Technical Advisory Committee which were selected by permittees, including their paid consultants, and three, the regulatory agency. Where were the environmental groups, the universities and the public throughout this process? How were stakeholders and other MS4 permittees included in the study design and process? The interim guidance specifies even that, to involve individuals. It specifies to involve individuals from states, municipalities, dischargers, environmental groups and the public in the details of sampling and study design.

L.A. Waterkeeper and Heal the Bay have been invited to serve on several TACs and technical committees in the past. We both currently contribute to several different TACs going on right now, including the MS4 RA (phonetic) TAC and the Malibu Civil Center TAC.

I want to reiterate that we were heavily involved, also, in the original development of this TMDL. This is a TMDL that is established because of a consent decree that we're a party to. But we were not actually invited to

participate in the study development. It is also unclear if other public -- public interest stakeholders were -- were invited. And we feel that this is indication of an inappropriate public process for changing a water quality objective of this magnitude for an entire river watershed.

Our recommendation today is not to adopt the site-specific objective. We actually disagree with some of the staff's assessments and recommendations, and we don't agree with how some of the study was conducted and the staff's assessment of them. At minimum we think that the Regional Board should choose option one, to not adopt the amendment and maintain the current water quality objectives and wasteload allocations in the TMDL. The gaps that we identified in our comments remain unaddressed. And before moving forward we also recommend the Regional Board invite all stakeholders to the table to be involved in the study design, assumptions and decision points in the process.

In conclusion, it is vital that a robust and representative scientific data drive such a monumental change to water quality objectives. After the release of the final report and proposed amendments we've actually voiced our concerns with the Regional Board staff, as well as USEPA staff. And it's still unclear, actually, what USEPA's position is on these SSOs. They are certainly not

here today, actually, to support this adoption.

Future monitoring should not be used to placate and fill in gaps after water quality standards are changed. We should simply get it right the first time. Requiring additional monitoring in the tributaries we feel is just -- is inappropriate at this time and should be conducted before the adoption of any site-specific objective.

It comes down to really how confident you are that beneficial uses will not be negatively impacted by the significant increases in these numeric targets, now and into the future. We are certainly not confident of the protectiveness or the representativeness of these site-specific objectives. We can't rely on minimal science and minimal requirements to make such a serious and significant change to TMDLs.

We just want to bring up that, you know, really what we're doing here is changing a longstanding, long-thought water quality objective, and we need to be careful not to undermine future restoration plans. We ask that if there is any doubt in your mind that you not adopt this amendment today.

And I just want to reiterate again that we also have responses to some of the -- the comments that the Regional Board has presented in their presentation. And we also have -- we would also, if able, like to address some of

the comments brought up by the cities, specifically regarding to funding.

CHAIR STRINGER: Okay. Thank you very much.

MS. MEEKER: Thank you.

CHAIR STRINGER: Don't go away, meaning stay in the room if you can -- if you would.

Becky Hayat, NRDC. Hayat?

Next up is Mark Gold after Ms. Hayat.

MS. HAYAT: Good afternoon, Chair Stringer and Members of the Board. My name is Becky Hayat and I am representing the Natural Resources Defense Council. Thank you for the opportunity to comment on the proposed amendment to the Basin Plan.

We share the concerns that Los Angeles Waterkeeper and Heal the Bay have with respect to the studies that were conducted to justify the Basin Plan amendments. In addition, we are deeply troubled by statements that have been made by the Regional Board staff indicating the Board's intent to adopt the proposed amendments and then conduct monitoring post-decision in order to justify the assumptions made in the copper water-effect ratio studies.

The fact the Regional Board staff wants to do additional monitoring after adoption of the proposed amendments not only demonstrates a lack of confidence on the Board staff' part, but also it reinforces our own lack of

confidence in the proposed amendments.

Decisions to change water quality objectives are not to be taken lightly. The TMDLs for copper and lead in the L.A. River and Tributaries have been around for a long time and were carefully designed to prevent future water quality impairment. It is bad public policy to not look at all the necessary data and analysis before amendments to the Basin Plan are proposed. In order to ensure adequate protection of our local waterways a set of robust and scientifically-sound studies must be conducted before any water quality objectives can be relaxed.

Lastly, if the amendments were adopted we believe that it would set a dangerous precedent for the consideration of all future site-specific objectives. Water quality standards and its associated compliance deadlines are at the core of the L.A. County MS4 Permit and the impetus for the development and ultimate implementation of the watershed management programs and the enhanced watershed management programs by the MS4 permittees.

As such, adopting the amendments has huge implication for the future of water quality and from water management plans for the region. If the Regional Board allows inadequate data to justify weak SSOs today, what will stop them from using bad data to justify all the weak SSOs later down the road? Thank you for your time.

CHAIR STRINGER: Thank you very much.

So the clock is ticking down.

You can be seated. Thank you.

The cafeteria closes at 1:30, I believe, so -- is that right? We've got public comments that are going to take us right up to that point. So we'll take those comments and then we'll break for lunch.

Ronji, we may be a few minutes up to there. Could you potentially work your magic to see if they maybe they can stay open a little bit longer? I know we've done that before.

MS. MOFFETT: So then what time? How much longer?

CHAIR STRINGER: By -- by ten minutes longer than 1:30. Because we're going to -- I think we're going to be getting out of here right at 1:30. And you know, there's a number of people that will want to get some food.

MS. MOFFETT: Okay.

CHAIR STRINGER: So that would be great. Thank you. If you can just set up the time, the clocks for three minutes for each speaker. Although the only speakers now with --

MS. MOFFETT: Yes.

CHAIR STRINGER: -- comments will be three minutes. And again, folks, don't feel you need to take that time. If people have already said what you're going to say

just, you know, we've heard everything, you can just say I agree with so and so. So thank you.

Dr. Gold?

DR. GOLD: My name is Mark Gold. I'm here independent, which is an odd thing for me. I feel a little bit like a modern-day Cassandra. Nearly a decade ago in my previous role as president of Heal the Bay I came to the Board and the State Water Resources Control Board thereafter to express my concerns about the inadequacy of the EPA WER process and the potential consequences of the process leading to site-specific objectives that were far less protective of aquatic life. After all, no one has ever performed a WER to strengthen water quality protection, just to weaken them.

The Region 4 stated that this was the sort of state policy and guidance that should be developed by the State Water Resources Control Board. Then it became a priority of the State Water Board to develop such a policy. But here we are a decade later and nothing has occurred in that realm. So today your staff is relying on the adequacy of a WER study based on very weak, out of date guidance from the EPA.

Environmental leadership in this nation comes from California, whether it's on greenhouse gasses, energy efficiency, air quality, and of course, TMDLs. Defaulting

to old guidance from the Bush Administration is not exactly water quality protection.

As a researcher our modeling efforts on the Ballona Creek Watershed have demonstrated that a WER of over 2.5 for copper in Ballona Creek will mean that literally nothing needs to be done to comply with the TMDL requirements in Ballona Creek. We'll finish that work for the L.A. River in about a year. But just to let you know, that's -- that's what we've found so far.

In the midst of extreme variability and stormwater, metals concentration has proven to be false. We did not see copper, zinc or lead concentrations in Ballona Creek exceed standards by more than a factor of three of four over an entire five-year period. We'll be doing L.A. River in a year, so we'll let you know whether that's the same sort of thing. I wish we did that already.

So where are we on these issues? You've seen opposition by the regulated committee to numeric effluent standards for stormwater because of water quality variability. Yet the same variability issue exists for the water-effect ratio to weaken water quality protection in the L.A. River. There's a little bit of a hypocrisy there. The region has been a leader on chronic toxicity bioasset requirements. You dealt with that issue to some extent last meeting. Yet there are no such requirements for the site-

specific objectives when we're talking about aquatic life that is actually at risk here because of toxicity.

The end result, approval of the Copper WER and the potential future of Zinc WER, which believe me, you'll see in the next year or two, I can guarantee it, will render the L.A. River Metals TMDL practically meaningless. So much for widespread, well-funded watershed protection efforts with regional and distributed stormwater structural BMPs in the future. You're just not going to see it happen because this is going to render it basically moot. Thanks for the opportunity to speak.

CHAIR STRINGER: Thank you.

Ms. Gaur, I have a speaker card for you but it said -- you gave notice that only if there are questions; is that correct?

MS. GAUR: Well, that too. But I also would like to address some issue related to the affordable.

CHAIR STRINGER: Okay. Why don't you come forward now and --

MS. GAUR: Yeah.

CHAIR STRINGER: -- start the three minutes.

MS. GAUR: Thank you very much. Tatiana Gaur with the Los Angeles Waterkeeper.

So I guess the message from the environmental groups is focus on the big picture. The TMDL has taken a

decade to develop, adopt, defend by your Board and others, and implement. And the SSOs will basically unravel this work based on inadequate studies and data at a time when we are all focused on revitalizing the L.A. River to restore it to more natural conditions for the benefit of humans and aquatic life. More importantly and more troublingly, the SSOs will result in water quality degradation, as has been pointed out earlier, which must not be allowed now at this time when there are so many cost effective ways to address metals' pollution in stormwater.

This brings me to the second point of my comments, which is affordability and cost that was brought up earlier by permittees and cities which would completely understand. And this has been brought up at every opportunity by MS4 permittees. And it has been discussed, actually, by this Board -- this Board in excruciating detail during the adoption of the L.A. MS4 Permit.

At the time the permit was adopted, and I believe it was in this very room, this Board heard testimony from a State Board economist, as well as his findings in the study evaluating costs of compliance, which study concluded and the economist presented to you, that it is contrary to the permittees assertions, compliance with water quality objectives and TMDLs such as the L.A. River Metals TMDL that you're now reviewing for possible revisions, is affordable,

it's doable, and it will not bankrupt cities.

So in any event the goal of TMDLs and the SSO is to ultimately protect water quality and protect the ecosystems and humans that rely on our rivers, such as the L.A. River. The SSOs that you're reviewing today are not going to accomplish this. They'll -- it will -- they will undermine and reverse all of our accomplishments to date. The Board should not adopt them. Thank you.

CHAIR STRINGER: Thank you. Paul Alva, L.A. County -- L.A. County Flood.

And next up after Mr. Alva is Katy Mica (phonetic) on behalf of Felicia Federico.

MR. ALVA: Good afternoon, Chair and Members of the Board. My name is Paul Alva, Stormwater Program Manager for the County of Los Angeles and the Los Angeles County Flood Control District. I'm here to express support for the proposed amendments for all the reasons outlined in Ms. Newman's presentation. So that -- that's my testimony. Thank you.

CHAIR STRINGER: Thank you very much.

Ms. Mica? Excuse me if I'm mispronouncing your name.

MS. MICA: No, that's great. Like the geology. So I'm going to read Dr. Felicia Federico's --

CHAIR STRINGER: Give us your last name for the

record please?

MS. MICA: Oh, I'm sorry. I'm Katy Mica. And I'm going to be reading the comment for Dr. Felicia Federico from Institute of the Environment and Sustainability at UCLA.

"Good morning. I urge the board" -- good afternoon, I guess -- "I urge the Board not to adopt the proposed site-specific objectives for lead and copper in the L.A. River. Southern California is five years into a bioassessment monitoring program that is looking at the health of streams throughout the region. This regional program began in 2009 under the Stormwater Monitoring Coalition consisting of state, federal and local agencies.

"A final report on the first five years of data has not yet been issued, but preliminary results show that between 35 and 65 percent of stream miles within the L.A. River score within the lowest quartile of scores compared to reference sites for a variety of indices based on thin- or thick-neck or invertebrate and algae (phonetic) communities.

"A final stressor identification analysis has not yet been completed for the five-year data set. And because the study was designed to assess conditions, there are so far insufficient repeat visits to identify trends. I believe that it would be premature and unwise for the Regional Board to adopt the proposed site-specific

objectives based on single-species toxicity tests when we are still in the early stages of characterizing the health of our stream biota and understanding the causes of impairments through efforts such as the Stormwater Monitoring Coalition.

"Bioassessments are designed around species that live or months to years within the stream as integrative measures of stream health. The population and composition of these ecological communities reflects the range of conditions and the synergistic effects of multiple chemical and physical stressors. This contrasts greatly with limited monitoring and single-species testing on which the proposed water-effect ratios are based, conducted per a guidance document developed in 2004, over 20 years ago.

"The early 2000s saw a growing understanding of the need for biological monitoring. To quote from aquatic scientist James Carr (phonetic), 'Chemical criteria based on dose response curves for single toxicants cannot account for synergistic or other interactions of multiple chemicals in the environment. And criteria for one species do not ensure protection for others not tested. Given the widespread nature of poor biological conditions within the L.A. River and are currently limited understanding of specific causes of these conditions it would be highly unwise to adopt the proposed site-specific standards.

"Thank you for the opportunity to provide input on this issue."

CHAIR STRINGER: Thank you.

On to Ray Tahir. And next up is -- after Mr. Tahir is Gerald Greene.

MR. TAHIR: Mr. Chair, how many minutes do I have?

CHAIR STRINGER: You have three minutes, sir.

MR. TAHIR: No. Actually I had requested Sam for ten.

CHAIR STRINGER: Sorry, we don't have ten. We certainly can't do ten before lunch. This is the first I'm hearing this.

MR. TAHIR: How about after lunch? I asked for ten minutes. I emailed you.

EXECUTIVE OFFICER UNGER: Yes.

MR. TAHIR: I mean, actually I asked for 15 and you shot back and said 10, so okay.

EXECUTIVE OFFICER UNGER: I said I'd have to speak to the Chair about this.

MR. TAHIR: Well, I didn't -- I mean, I haven't gotten any word from you on that since that.

EXECUTIVE OFFICER UNGER: Right.

MR. TAHIR: So what does that mean?

CHAIR STRINGER: Let's do this, Mr. Tahir, if you could take a seat, we'll come back after lunch.

MR. TAHIR: Perfect. Thank you.

CHAIR STRINGER: And you've got -- you'll have ten minutes after lunch.

MR. TAHIR: Great. Appreciate it, sir.

CHAIR STRINGER: Okay.

DR. GREENE: Hello. I'm Dr. Jerry Greene. I currently work with a consulting firm who would probably greatly benefit if you do not adopt this objective, this Basin Plan amendment today. But I am actually here to speak for it. I want you to support it. I would like for you to adopt the Basin Plan amendment coming before you. I am speaking, not because I represent agencies, but this felt like a compendium of my life here today.

Fran spoke about SMRF, 25 years, a quarter century I did the pilot scale of SMRF. Twenty years ago I was doing the feasibility of SMRF. Thirteen years ago I took a job with a city agency. Up on the screen John was kind enough to put out some of the LID, some of the 1,000 LID BMPs that came in while I was working for that agency.

The years ago we started on this whole TMDL and people forget, we actually had discussions of WERs prior to this particular path of the WER. There was another one that didn't -- it didn't grow. This one grew. It got -- you got the coordination of the cities and the Board. The cities have been working with the Board staff. We have had

intimate discussions all the way through. This has been an amazing long process. I've sat on committees leading to it and I'm thrilled to see it today before you, and this was the most important thing, to see it come to you.

We spoke about -- people spoke like there's no changes going on. Well, there is changes going on. SB 346 is in place. It is being implemented. Copper is going down, that's baseload, it's going away, it's be reduced. I shouldn't say going away. It's being reduced. Lead is going down. The Toxic Substance Control, they're dealing with the lead real well. You're right, we're worried about the zinc in tires and we're a little worried about a Zinc WER someday. This is the path where we get to get those actions occurring.

The cities need to work together with the Board staff, with the environmentals to get public policy changed. Here's an opportunity for bridging, for making -- for helping us all to work together.

Oh, let's see, monitoring. Yes, there will be more monitoring. You will be hearing and have heard about the WMPs, the SMPs, the EWMPs, all these fun things. Yes, there will be more monitoring sites. There will be outfall monitoring. There will be non-stormwater screening. So there's going to be a lot more information coming to you in the future. And if you see copper going up, if you see

toxicity, there will be opportunities to react to that. I don't think that's going to be the case. It certainly has not been the case in the past.

Let's see, hardness. We talked today about -- well, your staff did a really good simple presentation, which is necessary, that said as your DOC goes up and your hardness goes up the toxicity goes down, that the WER is safer. Guess what? We're in a drought. I looked at Rio Hondo. Rio Hondo is almost dry. It's getting -- probably the DOC -- that's why the Rio Hondo had the relatively high WER number is because we are actually getting into a situation closer to what we'd like to be, which is less non-stormwater outflows. Thank you.

CHAIR STRINGER: Thank you, sir. Thank you.

Shawn Warren, FoLAR.

MR. WARREN: Hi. Thank you for the opportunity to speak today.

CHAIR STRINGER: Thank you.

MR. WARREN: I'm Shawn Warren with Friends of the L.A. River. And Friends of the L.A. River is commenting in opposition to the proposed TMDL revisions today.

It is FoLAR's mission to work towards a swimmable, boatable, fishable L.A. River. And with this in mind FoLAR has two major problems with the amendments. One, that the data informing the new limits on the copper and lead is not

site-specific enough to take into account the variability in sites we see throughout the watershed. And two, increasing the -- increasing the limits on these toxic metals is a step backwards in working towards recreation and projects which promote the involvement of local communities in the review.

The assumption that data collected from downstream ends of the tributaries accurately represents each upstream section is not grounded in what we see in the L.A. River today. The different reaches of the river are varied and unique, ranging from box channels to earth-bottom channels, to riparian habitat in the Tujunga Wash and Pacoima Wash, and the estuary in Long Beach. We need more comprehensive site-specific data that takes into account this variability.

And on top of this the surrogate species chosen to ensure the lead recalculations are protective of the L.A. River fish are not related enough to these fish. The surrogates should have similar life -- should all have similar life cycles for local species so that we can be certain these species are not at risk of toxicity at each of their life stages from egg to adult. FoLAR encourages a higher level of caution by choosing more closely related species which exhibit these same life cycles or studying the local species directly to test for toxicity sensitivity.

Raising the limits on these metals will also

remove incentives for cleanup efforts that should be taking place in sites which impact the water quality of the L.A. River. Some examples of this are the former Nike Missile Base now turned spot-training facility, an Chatsworth Park South. The lead from the ammunition in these sites impact the Browns Canyon Creek Tributary. And the cleanup efforts which need to be conducted to improve the water quality of this reach will be undermined by the relaxation of these metals' standards.

Finally, FoLAR would like to remind the Board of the many projects in the works encouraging recreation in and around the river, establishing a greater connection between L.A. citizens and the river is a primary goal of many of these progressive projects. And with the increased allowances we will be permitting a higher level of metals in the river. We know that raising limits will not inherently increase the amount of metals. But the potential for liable entities to not reduce the amount of lead and copper entering the river still remains a concern.

We again urge the Board to consider the many effects these revisions will have in our river and do not -- and to not approve these revisions until a more comprehensive study is completed. Thank you.

CHAIR STRINGER: Thank you for your comments.

I have one more card on behalf of Steven Bay. It

says here he has requested -- so, Mr. Bay, if you don't mind just hanging out. We have your letter that I think was submitted to the record. And we can come to you if -- if needed and requested by any of the Board Members.

MR. BAY: All right, that's fine. Thank you.

CHAIR STRINGER: Is that okay? Okay. We'll break for lunch. We'll be back here at 2:30.

MS. FORDYCE: And just to announce that the Board will be in closed session to discuss items 16.4, 16.5 and 16.8.

CHAIR STRINGER: Do you think we can get through it before 2:30?

MS. FORDYCE: Oh, yeah, they're very short.

CHAIR STRINGER: Okay. Let's meet back here at 2:15.

(Off the record at 1:23 p.m.)

(On the record at 2:28 p.m.)

CHAIR STRINGER: We're back on the record for item number 12.

Rene, did you have something before we get started?

EXECUTIVE OFFICER UNGER: No. I just -- let Mr. Tahir go first.

CHAIR STRINGER: Yes.

MS. PURDY: Oh.

CHAIR STRINGER: Yeah. Mr. Tahir?

MS. PURDY: I apologize.

CHAIR STRINGER: Thank you. So we have one more public comment from Mr. Tahir. You've got ten minutes.

MR. TAHIR: Good afternoon, Chair, Mr. Stringer. I've got a new name for you. Buzz. Buzz Stringer.

CHAIR STRINGER: Sure, why not.

MR. TAHIR: Well, that didn't work. In any case, good afternoon other Board Member and Staff. Let's just get right to it.

My cities both support and oppose divisions of the SSO. The resulting data provides for wasteload account -- wasteload allocations for wet-weather and dry-weather copper in several reaches of the L.A. River. This is a good thing for cities because it makes the compliance somewhat easier. Nevertheless, exceedances still can occur. Per the 2010-11 CNP (phonetic) report, the (inaudible), exceedances were recorded on several occasions despite the SSO adjustments had they been in effect at the time.

As was mentioned by a couple of presenters, including Heal the Bay, stormwater is highly variable and unpredictable, as noted by -- also as noted by the State Board Committee. Water chemistry is influenced by a number of factors, as already mentioned, including atmospheric deposition.

According to the MS4 permit an exceedance constitutes a violation unless the permittee is covered under and EWMP or WMP because of the Safe Harbor Provision which still stop to forgive violations. But the Safe Harbor has been invalidated as a means of forgiving violations by the courts and USEPA, and the EWMP -- and the State Board in connection with the EWMPs and WMPs. Violations could result in fines of up to $37,000 per day. The recommendation here is that the Regional Board should consider allowing occasional TMDL wasteload allocations to de minimis exceedances through a reopened MS4 permit.

Other issues with the -- with the L.A. River Metals TMDL, not so much the SSO but the TMDL itself, TMDLs are supposed to be ambient to dry-weather standards, not wet-weather standards. The ambient condition of the receiving water is established between 42 and 72 hours following a storm event, and this is per USEPA. This is all in accordance with your SWAP (phonetic) program and a number of other agencies in the United States, including the Richmond County South Carolina Stormwater Management Program which has assert4ed an ambient water quality monitoring of all its testing of streams, rivers and lakes during normal flow conditions. Samples were taken and tested when the effect of runoff from rainfall, even if it's not present. This provides information regarding the overall quality of

the water at these locations. Natural water quality of our rivers, lakes and streams can be influenced by a variety of factors that are detected through ambient monitoring.

The CTR we referenced on multiple occasions earlier. The CTR, and this is in accordance with the Code of Federal Regulations part 131, indicates that water quality standards, including TMDLs, are ambient standards, and ambient standards only that define and protect beneficial uses. Beneficial uses of this protection in this place, so the L.A. River Metals TMDL, are based on ambient wasteload allocations. This has been affirmed by a number of USEPA federal guidance documents. There's one reference, though, that regarded copper that was issued in 1995.

By the way, the State Board also affirmed in precedential Water Quality Order 2001-15 that there is no provision in state or federal law that mandates the adoption of water quality standards for -- for wet-weather conditions, and there's good reason for that. It's the ambient condition that you need to look at, not wet weather.

Apart from the legal basis there's no benefit for setting a wet-weather standard for fish. Wet-weather water quality standards cannot determine beneficial use protection for fish against metal -- metals and (inaudible) because the TMDL does not identify the species of fish. And I know the environmentals raised the issues as native fishes being what

should be protected, you know, that would require their protection during a storm event, and how each type of fish would be effected by certain concentrations of copper or lead. There is no estimated number for any reach of the L.A. River of the species and number of fish that move from upstream to downstream reaches. And how many are killed while caught up in a raging torrent on the way to the ocean? There is also no estimate of how many fish species would die from exposure to high concentrations of copper while caught in a river reach during a storm event. So wet-weather's TMDL for copper of metal for various species of fish becomes an exercise of guessing and assumptions.

Without this information the wet-weather standards should not be attempted, even if it were legal. Complying with a wet-weather standard without purpose constitutes a significant waste of taxpayer money.

As you can see, this is -- this is a portion of the L.A. River, I think Reach 2 where you -- I don't think any fishes in there would survive in that mess.

Clearly the dry-weather ambient standards are better determinants or actually the legally required determinants for fish protection in any receiving water, of course including the L.A. River. The TMDL, however, does not identify the number and types of fishes -- the fish, rather, than the ambient and other wasteload allocations are

intended to protect.

I'll tell you why this is kind of important. Because when you do public education outreach to the community it's important for the community to know what species of fish is being protected so that they can be involved in making sure that the pollutants they discharge are not harmful to them.

Given this the TMDL should be reconsidered with input from MGOs that have experience in this realm, mainly Friends of Los Angeles River and the Council on Watershed Health, and any ichthyologist that might be interested in participating.

By the way, FoLAR and the Council have determined that metals are not problematic to fish. Mercury is the exception, for which the Office of Environmental Health Hazard Assessment or OEHHA has issued fish consumption advisories against largemouth bass for (inaudible) Lake and Peck Park Road Lake [sic]. Those are the only fish species that are apparently in danger. Again, this is due to mercury. However, amazingly none of these water bodies in the 303(d) list is mentioned as being impaired by mercury, and therefore should have been given TMDL status.

Beyond this, the SWMP and the Southern California Research Project -- Coastal Research Project, SCCWRP, recently published a report, a bioassessment report

concluding that metals is a low priority threat to Southern California waters. And it said instead that nutrients was really the problem.

The TMDL mistakenly includes reaches that are impaired by the subject metals. Reach 2 of the Rio Hondo and Reaches 1 and 2 of the Arroyo Seco are listed in the MS4 permit as being subject to the Metals TMDL.

Ms. Mehranian lives in the La Canada-Flintridge area. And your city drains to Reach 2 of the Rio Hondo. But Reach 2 of the Rio Hondo, Maria, is not on the 303(d) list for any metal.

I don't know if Mary Ann Lutz, Mayor Lutz resides in the City of Monrovia, obviously. Monrovia is located in Reach 2 of the Rio Hondo. Reach 2 of the Rio Hondo is also not thrilled to be delisted for any metal.

Regional Board staff in the past has justified extending the Metals TMDL to these reaches because they believe that they contribute pollutants to downstream and reaches (inaudible) and are 303(d) listed for metals. There's nothing in federal law that allows this as a criterion for determining TMDL status. Were that the case it would be a listing factor for the state's water quality and policy for developing California's Clean Water section 303(d) list which was adopted in 2004 and is in the process of being updated.

Reach 2 of the Rio Hondo and Reaches 1 and 2 of the Arroyo Seco should be deleted from the MS4 permit a being subject to the TMDL. The funny thing about it is we can't even apply for delisting any of these TMDLs because they're not listed to begin with.

Okay, and that pretty much says what I needed to say. I shorted my presentation based on your recommendation, Chair Stringer. If you have any questions I'd be more than happy to answer.

CHAIR STRINGER: Appreciate it --

MR. TAHIR: Thank you, sir.

CHAIR STRINGER: -- very much, Mr. Tahir.

I do have a card for William Stracker but I understand that that's not necessarily to speak. I don't know. Is Mr. Stracker is in the audience? Okay. I think -- I think he expressed his support.

Is that correct, Ronji?

MS. MOFFETT: Correct. Yes.

CHAIR STRINGER: Okay. So we have his card here in support of the first staff recommendation.

Okay, that concludes our open comment period for item 13. I think if we could maybe start with staff giving us -- providing us with maybe an overview of your response to what we've heard, if you can start there. And then we can go into questions from the Board. And I think it's

probably likely others may be coming up and asking various questions or help us think this through. So thank you.

MS. PURDY: Great. Thank you so much. My name is Rene Purdy. I'm the Chief of the Regional Program Section. And Jenny Newman and I will start out for just a couple of minutes to give some high level overarching comments and reactions to some of the things that we've heard today. And then I'm sure you'll have lots of questions for us, as well.

But the first thing that we wanted to do is just go back to I wanted to talk about something that Jenny said at the beginning of her presentation, which is that when this Board originally adopted the Metals TMDL back in, I believe it was 2005, the -- at that time we did not have studies to support site-specific criteria like we're discussing today. However, at that time the Board did envision that those sort of studies would be important down the road and built into the TMDL's implementation plan the opportunity to conduct those special studies and then reconsider the TMDL on the basis of those special studies. And some of those that were contemplated, including were -- excuse me, included a water-effect ratio study.

I also want to just remind everybody that the CTR on which the original Metals TMDL is based of course authorizes the use of site-specific water-effect ratios by states. So I wanted to point that out.

The other thing that I wanted to also point out is that -- you've heard some about the peer review that was conducted on this study, as well as the Technical Advisory Committee. And both peer reviewers as well as the Technical Advisory Committee were very supportive of this study as using the best science, having a very large data set compared to many of the studies that they've worked on in the past, and felt like the conclusions were sound and very much supported by the science.

The other thing that I did want to touch on briefly, as well, is we didn't talk too much about EPA's guidance. I mean, we talked to you about it. But you've heard some comments that it's weak, it's out-of-date. And one of the things that we didn't tell you is that recently EPA has just revised their copper water quality criteria, their national criteria. And in fact now they're recommending that what we call the Biotic Ligand Model be used to develop any criteria by states. And so really what you're looking at today in terms of the water-effect ratios is taking into account all of those chemical factors and biological factors that Celine talked to you about earlier. Those are now built in to EPA's national recommended criteria.

And so this is not out-of-date science. These are not out-of-date procedures. These are procedures that are

very much based in science, in chemistry and biology. So I wanted to emphasize that.

The next thing that I wanted to do, and I'm happy to answer more questions about that as we move on, but the other thing that I wanted to touch on is the public participation component of this study. And I want to start out by just speaking very frankly and saying that I was extremely disappointed to hear the characterization that the environmental organizations gave of the public participation that we did as part of this study and the transparency of the study. Because we tried to involve a wide range of stakeholders throughout this process, which I think began in 2009 approximately.

At that time we involved Heal the Bay, we involved -- in fact, we sent out notices to our entire list to make sure that we had stakeholder -- broad stakeholder involvement in this process. And Heal the Bay, in fact, commented on the work plan for this study. They also commented on the draft report for the study and those comments were considered carefully by the Board, by -- by us, staff. And when we gave our comments back on the work plan we carefully considered the comments that we had heard from Heal the Bay in that process.

So it was disappointing for us because you know we pride ourselves very much in stakeholder involvement. And

we really go out of our way to make sure that stakeholders are involved in these processes. So it was, you know, it was a disappointment for us to hear that characterization. But I wanted to make sure to touch on that. If you have any other questions about it, we can answer that.

The other -- I think the final thing that we want to touch on before just giving you a chance to ask all of your questions is it sounded like from some of the comments that we heard that there was some confusion over the impact of this study on revitalization efforts in the L.A. River. And some concerns that something about the study was going to impact revitalization efforts, and also was going to impact implementation of watershed management programs and enhanced watershed programs.

And regarding the first, revitalization, I want to make sure that everybody is clear that this study is not about changing uses. We did, of course, have a study that was done recently to reevaluate recreational uses in the L.A. River. And we came back to you with a commendation that we affirm those uses.

In this case this study is not talking about changing any uses of the L.A. River. All of those uses remain. What this is about is refining the water quality objectives that apply and refining those objectives in a way that will still be fully protective of aquatic life in the

L.A. River Watershed.

The other thing regarding the watershed management programs and the enhanced watershed management programs, there was concern that in some way this is going to mean that nobody needs to take any actions to implement BMPs under the WMPs and the EWMPs that everybody has been working so hard on over the last year, year-and-a-year, and that is certainly not the case. You heard from a number of the cities today that this is but one aspect of their plan to address the numerous problems that these -- this watershed faces. And in fact, this project, which is only based on copper and lead, does not address other things like zinc and like bacteria for which there still will be a great need for implementing many BMPs throughout the watershed.

So I think that it's important for you to understand that this is certainly not going to slow the efforts of the MS4 permittees to do the necessary planning and implementation under the WMPs and the EWMPs.

And I think that's -- was there anything else that you think we should cover now?

I think at that point I'll just stop and let you guys guide us in terms of what your questions are.

CHAIR STRINGER: Okay. Thank you. Just a quick question, then I'm going to work down the line here.

On the public participation, are you -- is this

the first you're hearing this from the environmental groups about them feeling locked out of the process?

MS. PURDY: I would say so. And I certainly am happy to let Jenny speak to that a little bit too. But we were very caught off guard by the characterization that we heard today. They -- they have been invited to participate throughout the process. And they have participated at different, very critical points in the process like reviewing the work plan, and then providing comments on the draft technical reports.

CHAIR STRINGER: Okay. Thanks. I just wanted to -- that was a burning question in my mind.

So, Maria, if I can start with you.

I know, Madelyn, you wanted -- did you want to speak directly --

BOARD MEMBER GLICKFELD: Just as to that issue.

CHAIR STRINGER: Sure.

BOARD MEMBER GLICKFELD: I'm just wondering whether the different might be that they were not on the Technical Advisory Committee themselves for this. Is that -- is that maybe a miscommunication? Because they had been on other technical advisory committees. But were they on this one?

MS. PURDY: They were not on this Technical Advisory Committee. But I would like to say that the

technical advisory committees that we've had for these water-effect ratio studies, of which we've had a couple now, are -- are somewhat unique compared to some of the other TACs that we hear about in the region. And we didn't talk a lot about the qualifications of that TAC, which I was somewhat disappointed that we didn't -- we didn't tell you more about that. Because this TAC, while it was a group of people who were basically paid by the study sponsors, one, we, the Regional Board, approved the Technical Advisory Committee members.

And I can tell you, both for this study, as well as for the study that was conducted that was more focused on the POTWs in the L.A. River, we had an amazing cast of members on the TAC that are basically the people who have written the water-effect ratio procedures at EPA, their previous EPA or current EPA agency staff. And in addition to that they've been involved in writing the national criteria for copper. I mean, literally, we had the cast of characters who has made it their livelihood to develop the WER procedures for all states to use and to develop the national criteria for copper. And it was meant to be a technical advisory committee of experts on doing water-effect ratios and on copper water quality criteria. So we had Charlie Dellos (phonetic) whose with the EPA headquarters, Gary Chapman, Dave Hanson, Tyler Linton, Bob

Santori (phonetic), these are all people who have been involved from basically the mid-'90s, even earlier than that, on developing EPA guidance nationwide, including the 1994 WER guidance, all the way up through the most recent revision to the EPA's water quality criteria.

BOARD MEMBER GLICKFELD: So nonprofits and the university community had nothing to contribute to this?

MS. PURDY: Well, Steve Bay was also -- from SCCWRP was also on the Technical Advisory Committee. And then there was also a Steering Committee.

I'll let Jenny -- do you want to chime in on anything?

CHAIR STRINGER: No, I think what I'd like to do -- so what I'd like to do is --

BOARD MEMBER GLICKFELD: So the answer is, no.

CHAIR STRINGER: What I'd like to do is -- I'm sorry, I started us down this one road and I apologize for that. I just wanted to get some sense of that issue because I know it's on everyone's mind here, at least I assume it is. So let's just -- if we can just pause on that issue, I'm sure we're going to come back to it, and I'd like to start with Maria and work our way down in an orderly fashion. I apologize.

BOARD MEMBER CAMACHO: Did you have to say something? At this point I have -- I have no questions.

Thanks.

BOARD MEMBER MEHRANIAN: I don't have a question.

CHAIR STRINGER: I think your mike needs to be turned on.

BOARD MEMBER MEHRANIAN: Oh. You clarified the consensus process; right? And we understood that everybody was given a chance to be --

CHAIR STRINGER: Yeah. I think Rene just spoke to that.

BOARD MEMBER MEHRANIAN: Okay. That's -- that was my only question. I don't have any other questions.

CHAIR STRINGER: Okay.

BOARD MEMBER DIAMOND: Okay. I guess I have -- I have a few questions. I just want to ask you to address a few of the issues that were raised by -- particularly by the Heal the Bay and Waterkeeper and NRDC. They said that there was incomplete data and that the study didn't sample dry weather occurring after -- I probably need my own notes -- after a wet-weather event. I'll just list a few of the things, and then you can respond to them. Because they're pretty -- you know, they have a lot in common. That you didn't -- that we didn't sample during extreme conditions, during the most critical conditions. That only one wet-weather season was -- was sampled. That it wasn't -- we didn't sample after the first flush, that wasn't captured.

And basically I think that overall theme of not having enough data.

So would you respond to those -- to that generic -- those generic comments?

MS. NEWMAN: Okay. I'll start. So the critical condition was sampled by the study because we determined it to be dry weather. And the study did not collect WER toxicity samples during that period in dry weather immediately following a rain event. That's because before the study was started we used the Biotic Ligand Model to predict when the critical condition would be. And that study showed that the critical condition is dry weather, and specifically dry weather several days after a rain event. So there's a -- for the samples that were collected in the time period immediately after a rain event that were input into the BLM model, those predicted WERs were not the lowest WERs. And so we -- we had the study proponents focus their sampling during dry weather.

The -- the comment that sampling wasn't done during extreme events, if it means extreme storm events then that's true. However, like I just said, the critical condition when the WER is lowest is dry weather. The WER is much higher in wet weather because there's a lot more dissolved organic carbon and other ligands in the water that compete, like Celine showed, for space on the -- the gills

of the fish or the animal that we're concerned about. And so copper is less toxic in wet weather and the WER is higher in wet weather.

And so regardless of the -- or, you know, despite that the study we did required them to collect two samples during wet weather to confirm the prediction that dry weather was the critical condition, and they did and it -- and it -- and it did confirm it. The WERs collected in wet weather were much higher than the WERs that were collected in dry weather.

And so I'm not sure about the fact that no first flush was sampled. I think that might be true because I think the first sample, the first wet-weather sample was in November 2011. So it's possible that there was a rain event before then that would have been the first flush. But from our understanding about the way copper speciates in the -- in the water and the effect of the weather conditions on the, you know, the other stuff in the water that effects speciation, we don't think that the first flush, like any wet-weather event, would result in a lower WER. We think that's going to happen in dry weather.

BOARD MEMBER DIAMOND: And I had another question, and that had to do about the -- the lead recalculation, the fact that national data points or data sets were looked at but were looking for site-specific objectives. And that was

brought up by some other -- some people, as well. I'm wondering if you could explain why that is appropriate and protective?

MS. NEWMAN: Okay. So the national data set was used to update the -- the, you know, criteria that were developed by EPA nationally. And so it's based on studies conducted across the nation and is not site specific. However, part of the recalculation procedure requires the study proponents to -- and the Regional Board to compare the -- the studies -- or the species -- or the -- the species that are in the national data set to species of concern in the site, in the specific watershed that we're talking about which is the L.A. River. And the species of concern in the L.A. River include native species, but also species of significant recreation or commercial importance. And so four were identified.

So those four weren't in the national data set, though. There were 103 data points. None of those toxicity tests were on the specific four species that are the species of concern in the L.A. River Watershed. However, the species in the L.A. River Watershed, I kind of touched on this before, they're -- they're invertebrates. They're -- they're less sensitive to lead than -- than the invertebrates. The recalculation procedure, the way it works is, you know, you -- you rank all of the acute values

for the different species on the national list, and there's some statistics involved. And then the top -- the top four are used to calculate the -- the toxic value. And those were all -- I think they were all daphnia. They were definitely all invertebrates.

So the most sensitive species that resulted in the lowest criteria are more sensitive than the species of concern in the L.A. River. So I do think that the national criteria are protective of the L.A. River.

BOARD MEMBER DIAMOND: And there are -- we were provided with this -- this memo from Board Member Glickfeld with many of the questions. And there were a couple questions that I didn't -- I didn't feel like I had enough information, well, one, and that was the -- I don't think we heard about this, and that was what -- what margins of safety are included in this analysis? And to me that's pretty important. We want to make sure that we have a margin here that -- that we have confidence that we are being as protective as we can be if we adopt these two WERs.

So can you tell us a little bit about the margins of safety?

MS. NEWMAN: Sure. The margin of safety for the Copper WER was based on the use of the more conservative calculation of the final WER based on all of the sample WERs for each of the six samples for the different sites. Like I

said, there's two procedures. There's the interim guidance for all metals and that applies to watersheds with lots of different sources. And so it requires you to take more samples. And then there's the streamlined procedure for water bodies where it's just one point source is the source of the water. And you have to do less sampling under the streamlined procedure. To make up for that the streamlined procedure has a more conservative calculation of the WER.

So what we directed the study proponents to do is to follow the interim guidance in collecting the most samples, and then plus more because we added three, and then -- but use the streamlined procedure to calculation the WER based on those samples, which results in a more protective WER. And that's what we -- we wrote in the -- in the TMDL margin of safety as where we're applying conservatism.

BOARD MEMBER DIAMOND: I have just one last question, and that is was this one -- we've had essentially one year of testing. And I guess I'm wondering why -- why just one year? Is that typical, and is it enough? And why the -- you know, I guess is it enough, and why just one year?

MS. NEWMAN: We think it's enough. It's -- it's not typical in when we talked to the TAC in that it was -- they actually thought that the number of samples we

collected and the data set was larger than what is typical. But we felt it was really important because the unique characteristics of the L.A. River, that we require more sampling. And it was one year. But when we compared constituents that were collected during that year with constituents that have been collected for a long time in L.A. River, they didn't look different. So we were confident that this year -- this year is representative of long-term conditions.

BOARD MEMBER DIAMOND: And so would you -- I guess the other -- the -- coming at it in another way, would you feel that maybe two years would have given us more information or a more robust set of data, that if we were to have waited and done one more year that what we're looking at today might be different?

MS. NEWMAN: I think it would have given us a more robust data set for sure. But I don't -- I wouldn't expect that the WER would be much different because the WER that is before you now is based on data from 2011-2012 is identical almost to the WER that was calculated before based on data collected in 2005 and 2006. So --

EXECUTIVE OFFICER UNGER: Can I add just one thing to that --

BOARD MEMBER DIAMOND: Yeah.

EXECUTIVE OFFICER UNGER: -- if I might? I would

also add, too, that we feel confident that the samples collected are representative because they do represent the critical condition. Basically, that's the most conservative condition that would be in the river in terms of setting the WER for copper. So because dry weather is the -- the critical condition we thought one year is -- is sufficient.

BOARD MEMBER DIAMOND: Okay. Thank you. Thank you. That's all I have now.

CHAIR STRINGER: Thank you. Thank you. Thanks.

Irma?

VICE CHAIR MUNOZ: Okay. Since we met for lunch I've been very troubled, and I guess deeply disappointed and puzzled. These are the three words that I have. At first I understood some of the words and phrases that were used by the environmental organizations because I'd jot them down and want to repeat them so that we remember what some of those were. It was not a public process. It isn't transparent. It misrepresents. It undermines. It's bad public policy. There's no study in the last analysis. Shortcomings. Misleading. Lacks scientific rigor. Bad policy making, and on and on and on.

What I'm troubled about is how we can be so far apart. That's what troubles me. And even more, I was very -- I explained it because I thought if you're not part of the process, of course you're going to come here angry

and upset. Because people want to be part of the process, especially when they can contribute some good things. And I believe that all the environmental organizations here deeply care and can contribute a lot.

Then you -- then you say that they have been part of the process, although they weren't part of the TAC. But I don't think that that excuses the tone and demeanor in which they categorized or described the work of Staff. I'm really taken back as a Board Member that that's occurred. And I heard very similar kinds of things when we were going through the MS4 conversation and discussions. And I really think that I was hoping that at this point there would be, not constant agreement on all these issues because I don't think that's good because that's not good for growth and for better policy, but it just seemed to go like further and further and further apart. And that's very troubling to me.

And I don't know how to resolve it or if it can be resolved. But there's got to be something that we can do. But as a Board Member I feel highly offended by some of those terms that were used to describe not only the staff but others, and I don't get it.

And so as I'm jotting them down it sounded like me when I go to some of those organizations when they exclude my community, immigrant communities, African-Americans, as

part of the policy making and the -- and what they lead. So I understand when one is left out of the conversation, one is not part of the discussion from the very beginning. I get that. But I do -- I don't know where the disconnect was when Staff says you even commented on the work plan and that you were part of the process, that we are so far apart.

That's -- that's the troubling -- and I don't need a response. I just wanted to make an observation on how tragic and sad this is that we're not -- we're not moving forward on something really good, and how inappropriate those comments were and how -- how offensive I took them. Thank you.

CHAIR STRINGER: So Board Member Glickfeld, you requested the last to give a number of questions, so --

BOARD MEMBER GLICKFELD: Yeah. I wanted to have my colleague have a chance because I have a lot of questions.

CHAIR STRINGER: Yeah. Yeah. I know you do.

So Larry, would you mind going next?

BOARD MEMBER YEE: I really appreciate the response that Rene and Jenny have given to our questions and our concerns because you've really answered all of them that I had very well.

And I kind of feel the same way as Irma does. And I'd be really curious from the environmental groups to know,

okay, if we were to not adopt this amendment today, what kind of process would they suggest going forward? Because I think I've been around long enough to know, you know, how this staff operates. And I -- and I feel like Irma, I can't believe that they were so disenfranchised, so excluded, you know, from being involved in this process. And to come today at the, you know, at the end of five years and make the kinds of statements they made it's just like, wow.

So I don't know if they have an answer to that. But otherwise I'm fine, thank you.

MS. PURDY: I thought maybe we would just -- I don't have an answer for -- for either Board Member Munoz or Board Member Yee. But I did want to just say I do think that this -- it's a very contentious issue. I think there's -- I mean, the concern about water-effect ratios I think as we've heard before. It's not something new. The Board has heard -- you know, has had water-effect ratios come before you before which you adopted. And we know that water-effect ratios are concerning to the -- the environmental community in general, at least from what we've heard from Heal the Bay and NRDC and L.A. Waterkeeper over the years. We do understand that they are concerned about these water-effect ratios.

I would just come back to the fact that these -- this -- this study, the water-effect ratio study and the

lead recalculation were very robust studies. As Jenny described, they had much more data than most studies of this kind have. They were longer than most studies of this kind are. So we -- we do understand the concerns because we've heard them before from the environmental community. But these -- these procedures have been very much vetted and have been used in many places and are very scientifically sound procedures. And for this -- these studies in particular we -- we have actually a very robust data set compared to what -- to what is often worked with in these situations.

BOARD MEMBER YEE: Yeah. And I also know enough about science to know that you can study, study, study things until the cows come home and still you can study some more. You know, at some point you have to, you know, make a decision and move on.

CHAIR STRINGER: Member Glickfeld?

BOARD MEMBER GLICKFELD: Let me get to my questions. So rather than -- I'd like to precede my questions with what my concerns are here.

So my concern, I have been listening to people talk about WERs for a long time. . I was part of a group in 2010 that acted on the Upper River WER. And what got my real attention this time was the fact that the WERs across the entire L.A. River are high enough to make all of the --

all of the dischargers in compliance with the -- with the Copper TMDL without doing anything.

So I mean, the point is that once we make that decision their entire work program of investments, significant investments, is guided by that decision. And we can't just go about having them do more studying and we say, oops, we got it wrong and they have to go back now and do this. That's not fair either. We have to get this completely right. We have to get it right enough so that they can plan for the kind of investments that they have to make.

So that was what got my attention and caused me to talk to Dr. Gold about the questions. I was concerned about the year. I was concerned about the variability in the L.A. River. I was concerned about a lot of things, but I didn't even know how to ask the questions because this is like almost the most technical thing we've done since we're here.

So in the course of asking the questions that I shared with my colleagues and with the -- with the audience I had a long conversation with Sam, with Jenny and Rene.

I think, Deb, were you there too or not, on the phone?

MS. SMITH: No, I wasn't.

BOARD MEMBER GLICKFELD: No, you weren't.

So I want -- there were things that we discussed that weren't put on the record today and I want to make sure they are. And there are some other questions that come up from what is on the record today.

So the big key that make a lot of sense to me about the WER is that when the original water quality standards were set they're done in a laboratory setting with pure water, with nothing in it; is that correct?

MS. NEWMAN: There is some things in it to make it standard test water. But it's -- it's pure because it's not site water. It doesn't have the things in it that make copper less bioavailable.

BOARD MEMBER GLICKFELD: And the reason is that natural water varies tremendously all over the place; right? So that's why they call it site-specific objectives. They try to reflect what naturally is in the water that might actually react chemically or physically with the copper to make it not available to organisms; is that right?

MS. NEWMAN: That's right.\

BOARD MEMBER GLICKFELD: Okay. So the big issues as you said earlier is that the issue that is important is how hard is the water, how much calcium, how much magnesium does it have in it, and are there organic carbon particles for the water to -- for the copper to attach to, which then also makes it not bioavailable; is that correct?

MS. PURDY: Yes.

BOARD MEMBER GLICKFELD: Oh, good, I passed my test. Okay.

So then the questions I asked were the following. I asked what happens to these particles as they go down the river? And I believe some of the answers were, well, they flux. Sometimes the -- sometimes the copper stays in the -- with the particles or sometimes they get into the water column. Is -- so that means that they aren't uniformly, boom, this is done, they're attached to a particle and they're treated and they're gone. It -- they do become bioavailable under different circumstance. That's what I understood from our conversation. Is it correct?

MS. NEWMAN: Right. When they're floating in water column they're going to stay stuck to the particles. But when they settle down on the bottom of the river or in the bottom of the river in the downstream estuary they'll sit there and there's various chemical-biological processes that go on that could make them bioavailable, unstuck. And that's why we have water quality standards for the amount of copper allowed in sediment. And one of the graphs that we put up showed that the levels in the sediment based on the current data, the ongoing data of that monitoring in the -- in the estuary are below the effects range low levels. And those are the levels that are -- it's like CTR -- well, I

won't say that. It's the -- it's the levels that we find are protective of the animals that live in the sediment.

BOARD MEMBER GLICKFELD: So the animals in the sediments can uptake this copper?

MS. NEWMAN: Yes.

BOARD MEMBER GLICKFELD: And it can have -- it can have effects on them?

MS. NEWMAN: Yes.

BOARD MEMBER GLICKFELD: And if the copper sediment that's coming from up river gets into saltwater is it not more toxic?

MS. NEWMAN: Yes. The criteria for copper in saltwater is much lower than the criteria in freshwater.

BOARD MEMBER GLICKFELD: So -- and one of the other questions I asked, and I think Sam answered this question, is I asked you about why there wasn't much difference between the wet weather and the dry weather. And in terms of -- I asked you how many years there was of data on hardness and hardness variability and on total organic carbon.

And I think, Sam, I asked you, how is that there's the same amount of organic -- total organic carbon in the water all year round when there's such incredible variability. And I think, Sam, you told me that the total organic carbon is coming from discharges from the -- from

the POTWs. Is that correct?

EXECUTIVE OFFICER UNGER: Yes. I don't think that's a complete answer at the time either. There's -- there's other naturally occurring, as all organic compounds and carbon particulates as well. And I think that was the other -- as Dr. Greene earlier, he looked at the -- I think the Rio Hondo which there you have a high level of dissolved organic compounds. So it's --

BOARD MEMBER GLICKFELD: And you have that in the Big Tujunga Creek, as well --

EXECUTIVE OFFICER UNGER: Big Tujunga Creek, right.

BOARD MEMBER GLICKFELD: -- when they're -- they're above all the POTWs?

EXECUTIVE OFFICER UNGER: Right.

BOARD MEMBER GLICKFELD: And where does that come from?

MS. NEWMAN: We don't know but we --

EXECUTIVE OFFICER UNGER: Some of it -- some of it is naturally occurring.

MS. NEWMAN: -- we guess it's -- yeah, there's -- there's the base flow in the creek from -- there's dam releases, there's -- much of it comes from dry weather urban runoff that -- that goes into the tributaries from the storm drains. And the -- those areas contain higher levels of --

of dissolved organic carbon. And we put a graph to show that in Rio Hondo and Tujunga the levels are much higher.

BOARD MEMBER GLICKFELD: That's why the WER is higher there?

MS. NEWMAN: That's why WER is higher there.

BOARD MEMBER GLICKFELD: Okay. So --

MS. SMITH: But once -- once you do get into those main stem areas with all the POTW dominated effluents you're going to have very little change going down to the estuary.

BOARD MEMBER GLICKFELD: What happens -- you know, we have all been party to hearings where -- particularly the Salt and Nutrient Management Plans that have come before us -- where there is clearly an effort by all POTWs, the City of Los Angeles, City of Burbank, their co-operated Glendale Plant, all of the joint -- I can't remember the new name for the joint outfall system. There is an effort to recycle as much water, particular from the upland flowing into -- discharged into the river, as possible.

Did the study look at what happens if all of that -- if as much water as possible is not discharged into the river and is instead recycled either through purple pipe or through groundwater recharge, which is desperately needed? Is there any discussion about how that would affect the safety -- margin of safety for assuring that these -- that the carbon -- that the copper is attaching to organic

matter?

MS. PURDY: I would just -- that particular question as not evaluated as part of the study in the sense that we didn't do simulations of what would happen if the flow is dramatically decreased.

We did do a number of simulations to look at, as Jenny described, the downstream protectiveness based on the historical record of tributary flows. So we have some, and main stem flows. So we do have information on variable flows, not taking out what makes up a large portion of the dry-weather flows right now, which is the POTW discharge. But that is part of the -- the main purpose of having the monitoring is not so much to confirm what we found here, because we believe under the current studies, based on the study, what we're seeing in terms of the site-specific WERs is protective. But the very purpose of the monitoring is that if conditions do change because a significant amount of flow is pulled out of the river during dry weather, then we will be able to see that as we do this monitoring through -- and getting the input parameters for the Biotic Ligand Model which, as I said, is now what EPA is using and telling -- recommending states to use to develop their criteria.

So the responsible agencies will be collecting all the necessary chemistry to put into this Biotic Ligand Model so that we can see if conditions change chemically in terms

of the major contaminants in the water or the amount of DOC in the water, then we'll be able to see that through those -- those monitoring events and adjust accordingly.

BOARD MEMBER GLICKFELD: Did the EPAs streamlined guidelines and original guidelines specifically talk about how these guidelines should work in effluent-dominated waters which produce their own organic carbon?

MS. NEWMAN: The streamlined procedure was written specifically for waters where effluent comprises the majority of the flow. But the interim guidance, the -- the older guidance applies to all water body types.

EXECUTIVE OFFICER UNGER: And can I just add to that too? It's really -- the WER is really based on the water chemistry. It's not so much based on the source of the water. And of course, that can have an effect on water concentrations.

BOARD MEMBER GLICKFELD: But it's really strange that we're setting a WER, a water-effect ratio based on water that has -- is almost all discharge and has pollutants in it by definition which are not -- you know, we -- I assume that's pollutants within our -- within the standards that we're requiring. But certainly it has -- you're putting -- we have organic material in the water that would not be in a natural stream. We don't have -- that's not the issue with hardness but it is -- the fact that we're

producing this problem, this issue, we are producing this fortuitous situation with effluent. And the question is, what happens when the effluent goes away? So I think that's a really big concern of mine.

My other concern that you did address is that I asked you about the one year of data. And I asked you about the years of data of hardness and organic material. And you said to me that you did have studies that were done earlier for multiple years related to this TMDL that was done by the City of L.A. or others; is that right?

MS. NEWMAN: Yes.

BOARD MEMBER GLICKFELD: So there were -- there's more than the 18 -- 18 data points that you had in total and more than those -- those data points that were collected in -- in this -- that one year. But the report doesn't say anything about that. Could you tell us what -- how much data there is and what you used it for?

MS. NEWMAN: So there's ongoing monitoring in the L.A. River since before the TMDL was adopted. The City of L.A. did the status and trends monitoring. And then after the TMDL was adopted. So there is -- going back to -- well, then there's at least -- going back to at least 2003. But they didn't -- they didn't do the WER toxicity monitoring that was done under this study.

BOARD MEMBER GLICKFELD: They did the -- they did

the organic -- they looked at the parameters that would impact and neutralize the copper; right?

MS. NEWMAN: Well, for sure hardness. All of the sites sample for hardness. And then not every year sampled for dissolved organic carbon, and not every tributary. But for the years that we put up on the slides you can see the -- the hardness and the -- the hardness goes back to --

BOARD MEMBER GLICKFELD: So why did you only talk about the year study when you had all this other data? And do other people -- is it -- is that data posted on our website? Do people know about it?

MS. NEWMAN: It is. It's in -- it's in the --

BOARD MEMBER GLICKFELD: Because I couldn't find it.

MS. NEWMAN: I know. It's because it's in the WER study report. It's not in the staff -- Regional Board staff's report which was just a summary report of the -- the reports that were done by the discharges. So it wasn't probably readily visible to you. It's in the two attachments and it's in Attachment A --

BOARD MEMBER GLICKFELD: Okay. So it's not -- it wasn't mentioned in the staff report but it was mentioned and it was talked about in the actual -- in the actual report done by the stakeholder group?

MS. NEWMAN: Yes.

MS. SMITH: Yes. And, Board Member Glickfeld, we just pulled up one of Jenny's two slides from her presentation.

BOARD MEMBER GLICKFELD: I thought she was referring to that.

MS. SMITH: Yes.

MS. NEWMAN: Yes.

MS. SMITH: And that shows that the new data is very similar, not identical, to the data that was --

BOARD MEMBER GLICKFELD: So I just wanted to make sure that everybody knows that we're not just relying one-year's data. We have more than one-year's data for that purpose.

So you know, I have -- I have a lot of other questions, but I have taken enough time up. I just think that the Board and I -- I'm struggling with the idea that, you know, that we're talking about a copper -- copper that's going to be non-available some of the time, available other times. It's going to go down stream and be available in sediment to -- and will impact, possibly in the estuary and the harbor where it's more toxic.

And I think most of all I'm concerned with something that -- I am concerned with the fact that we need more monitoring and that there's an implication, if they find something different that they can go back and fix it.

But I'm not sure that the stakeholders intend this to be -- or we want this to be something that they can go back and fix.

And I'm also not sure -- one of the things that Staff said is that they're going to have to implement the Metals TMDL because there is still zinc to deal with. Zinc is important. But there's absolutely nothing to keep the stakeholders from submitting a Zinc WER as well.

So we need to get this right. If the WERs work they're going to basically bring people into compliance because of the constituents in the river. And we have to make sure that we don't create a problem downstream. That's what I'm most concerned about. And I question whether or not it's better for us to do that downstream monitoring now and really look at this in the context of the Harbor Toxics TMDL and make sure that there isn't an updated giant fight between the harbor people that are responsible for implementing the Harbor Toxics TMDL and those that are responsible for implementing the L.A. Metals TMDL, and that we start to -- we do something. When we make this decision we make it with enough confidence to know that we're not going to try to go back and change it if more data comes up because we haven't done all the data.

So I have a lot of problems right now voting for this as it is.

CHAIR STRINGER: Do you have any -- any additional reflections based on what Madelyn just said?

MS. PURDY: I'll -- I'll start off with a couple thoughts. And if anybody wants to add, feel free.

I hear your -- your concerns that you're -- you're voicing to us. I would reiterate what I said before about not just zinc, but there are a number of other constituents within the L.A. River Watershed as a whole that MS4 permittees need to address.

BOARD MEMBER GLICKFELD: So bacteria is going to solve metals' problems?

MS. PURDY: Bacteria is a huge issue. I'm sure there's -- there's probably nodding go on behind me from the -- the cities at least. It's -- it's a huge issue in the L.A. River. And the reason it's going to address other things is because as you all know, through the watershed management programs and the enhanced watershed management programs permittees are looking for and prioritizing opportunities to retain stormwater and non-stormwater. And so when they find those opportunities to retain non-stormwater and stormwater they're going to be addressing all the pollutants, not just bacteria. They're going to be addressing all the metals. They're going to be addressing nutrients. They're going to be addressing toxics because they're keeping that water from -- those pollutants from

going into the river and the tributaries.

So I am -- I continue to be confident that because of the approach that MS4 permittees are taking through the WMPs and the EWMPs, that they are going to be addressing the full suite of pollutants. And that's just because now it looks as though they don't need to do as much to address copper, and maybe down the road they won't have to do as much to address zinc, which is not clear yet. They haven't submitted a work plan to us. They haven't embarked on a study yet. But I think even if they were they would still have a tremendous effort to find these opportunities for the stormwater retention projects.

So I would say that the other thing that I would say is we're seeing copper declining. There are efforts going on, source-control efforts. You heard a little bit of talk about those this morning. You've heard about them before. We anticipate that regardless of the site-specific WERs that you're considering today that we're going to continue to see a decrease in copper to discharges to the L.A. River and to the tributaries, and to downstream waters. So -- and that's -- the same is true for lead and for zinc. There are a number of efforts that are going on through CASQA and other organizations to find ways to reduce those metals at the source.

BOARD MEMBER GLICKFELD: So what's the value --

what's the value of the WER if everything is going to just be the same as it was before?

MS. PURDY: Well, the value of the WER from a compliance point of view is that there are compliance deadlines that are coming up for the -- the L.A. River Metals WER -- I mean the Metals TMDL, including for copper. And if these WERs are showing us, which they are, that the copper does not need to be as low as we thought it did and it will still be fully protective of aquatic life, then the permittees are interested in having these site-specific WERs to help them from a compliance point of view. That's not going to help them from a compliance point of view for other things that they have to worry about like zinc and like bacteria. So they are still going to need to take a lot of actions to address a number of problems.

But it -- I mean, I think really it does come down to, one, wanting to make sure that the criteria reflect the best science, which was what CTR intended all along and what -- what EPA has intended all along by developing procedures to allow the development of site-specific objectives. Clearly EPA as a national agency can't develop site-specific objectives everywhere, though they found a way to that now through their 2007 Copper Criteria by basically having the criteria be developed through a modeling effort.

So I don't know if that is responding. I might be

rambling at this point, so I'll stop.

MS. SMITH: I'd like to just add a few things. Rene said much of what I was going to say.

But back to EPA, you know, when EPA developed the site-specific criteria they call it instead of objectives, methods which include recalculation or WERs or some of these other things, you know, they -- they didn't do it to allow more pollution. They did do it to allow for us to look at site-specific water conditions and calculate equally protective standards under those conditions. So -- and that's how we're exercising that in the region. And if -- if some people are in compliance as a result of that, I think that's a good thing and we can focus our efforts elsewhere.

But you know, they are fully protective. We -- this is really, really a robust project with -- with excellent people involved and peer review and everything else. So I just want to ensure you that, you know, these are protective. The monitoring, it's not atypical to have compliance monitoring downstream when we do all sorts of things just to verify that things are correct, that things aren't coming from other sources, that things aren't accumulating in sediments.

There's all sort of dynamics that can happen in the mixing in with the ocean. There's going to be dilution

with the ocean water that could overcome any -- any, you know, impact in the estuary. I mean, there's -- there's all sorts of other chemical interactions that occur. It could go either way. So the monitoring should give us that assurance of what's going on.

So with that I'll stop before I go on and --

CHAIR STRINGER: So thank you.

MS. SMITH: -- misstep somewhere along the way.

CHAIR STRINGER: So that was -- that was very helpful. You wrapped -- you actually tied a number of question that I had.

I would like, Mr. Shellenbarger, if you have a minute. We've heard a lot from both Staff and from -- from us. As you know and you can probably tell, we have a lot of confidence in our staff. And we also take it very seriously when Staff if criticized for things, especially things like leaving people out that should be in the room. So we got a little fuller picture of that I think.

But you know, now is your opportunity to respond. You know, we don't have a lot of time. But if you could just take a few minutes to -- to address whatever, you know, sort of, you know, things you want to address, you know, your priorities, that would be great.

MR. SHELLENBARGER: Okay. I will try to prioritize this as best I can. I'm going to address kind of

what Rene and Jenny have talked about a little bit.

So I guess the first comment I have is this peer review. And I want to -- I don't know what the definition of a peer review is. My definition is you give someone a document and then they review it without posing questions and they give you an honest answer. And I believe the peer review process was here's four questions. Did we follow these questions? Did we fulfill these questions? And they really related to the use of the USEPA guidance which is okay.

But I do want to note that one of the peer reviewers said, "I have not worked with the referenced EPA guidance from these analyses are based on." So I don't really know how great that peer review is if he's never worked with it before. And I'm not quite sure about the other individual. So I guess that's a response to the peer review.

For the USEPA looking at the use of the BLM, they -- we did use the -- I should say Larry Walker and Associates did use the BLM in their analyses.

And if you could pull up my slides, please, from our presentation, I think that would be helpful. Actually, I think it's the fifth slide.

And this is when I was talking about predicted WERs. And they use the BLM to predict WERs in dry weather.

So we are using the most up-to-date science. I just want to respond to that.

One more forward to the chart with the circles. Thank you.

So like right here where it says "Range," those are all BLM predicted values. So we are using the most up-to-date science to show that the variability in dry weather is quite large. And this is looking at both wet and dry weather.

And I also want to point out that -- so there was -- the memo identified dry weather to the critical condition. But wet weather -- the different between wet weather and dry weather is questionable. It was statistically different in two reaches, barely significantly different, and that's White Oak and Sepulveda. And if you look at the mean and the standard deviations, those -- if you're looking at basically the -- the arrow bars that would be associated with the mean and standard deviation. I would argue that they might not be really statistically different. They would be overlapping quite a bit.

And in terms of the public participation and involvement of stakeholders, like I said, we are regularly involved in the TAC meetings with other projects. We are regularly involved in technical committees. At this point we were never included or even included in the decision

making for how the studies would be created and when the sampling would be done.

And I really think that's the crux of it, is when the sampling would be done. We really want to see the sampling be done at the right time to be really driving the correct water quality standard in the WER here. And we feel that the water -- the sampling timing was just -- was not there. It is so broad, the definition of what dry weather is. And to sample a broad definition in L.A. is -- I just don't know how that is really a good way to change a water quality standard.

I think we really want to talk about the average condition.

So if you could go to the very end.

CHAIR STRINGER: Yeah, just a couple more minutes, Peter, to talk.

MR. SHELLENBARGER: Okay. So maybe like five minutes, would that be okay?

CHAIR STRINGER: Three.

MR. SHELLENBARGER: Okay.

CHAIR STRINGER: Thank you.

MR. SHELLENBARGER: I can try.

MS. MEEKER: I just want to bring up that it was mentioned that the additional monitoring that's going to be required in the amendment as proposed in front of you today,

that it's specifically -- you know, there are some additional monitoring locations in the tributaries to address the fact that there was only one location in the tributaries used for calculating the -- the Copper WERs in the study. And it was brought up that, you know, one of the -- one of the kind of checks that was done was that the monitoring, the water chemistry and monitoring results that were done for the WER study fell within range of the historic monitoring, water quality monitoring and chemistry that we have.

I just want to point out that -- I think it's the other slide but I can -- yeah. And this was similar to one of the slides that was just mentioned and brought up in the graphs that really it's hard to tell here because this is talking about hardness and how the WER -- the data collected for the WER study relates to the historic range of hardness for the L.A. River, but it's not broken down by river reaches or the tributaries. So this is just -- as far as I can tell this is an entire watershed, all the hardness data thrown up in one graph. And we're talking about assigning specific WERs for each reach and each tributary. And so, you know, it's hard to tell here how for each of those WERs and each of the tributaries and stretches -- reaches of the river really compare on -- on a more narrow basis there with the historic range.

And on that other graph that you had there, as well, it talks about the DOC. Well, actually in the report it was mentioned that DOC is one of the most sensitive parameters for copper bioavailability. It was DOC and pH. Well, for here the DOC was actually mentioned actually more thoroughly in the Response to Comments that for the tributaries they actually don't have the DOC data, that this DOC data only represents for the main stem.

The Biotic Ligand Model, the modeling that was done as another check to see how it related with the WERs that were -- that were presented here was -- was done -- the Biotic Ligand Model was only conducted -- the modeling was only conducted for main stem. And we're really concerned with the fact that the tributaries, there was only one monitoring location used. There wasn't this robust kind of review of data and historic conditions because the data didn't exist, it seems. And that in the future they plan to collect more data to verify the modeling. And we just don't think that that's really the correct process and most conservative approach here.

MS. KAMPALATH: Hi. I'll just introduce myself. I'm Rita Kampalath. I'm the Director of Science and Policy at Heal the Bay. So I just kind of wanted to give like sort of a broader note, just sort of finish it off. My colleagues have done a really good job, I think, of talking

about the technical details. But I think what this really comes down to again is the idea of the margin of safety and the length of this study. That's really what it comes down to with us. And I think Board Member Diamond brought up that issue.

You know, looking at TMDLs -- in my past life I was a consultant working a lot of -- on a lot of stormwater work and TMDLs, and those are frequently talked about in the 90th percentile year and being protective of that sort of critical condition. And really our concern here is that there's no way of them knowing what that sort of really protective condition is because it's just so short. I mean, the TMDLs ask that you are protective of like a 90th percentile year over a 10-year period of record typically. Whereas here we just have one year which is like a drought year.

I mean, the fact is there's just no way of knowing how this is reflective of other conditions, you know, along a larger time period in the L.A. River. And they do compare it to historic data. But again, what we would say is that it shouldn't be protective of average historic conditions. It should be protective of an extreme condition. So that's kind of what I just wanted to close with.

CHAIR STRINGER: All right. Thank you.

So if you could just sum up in a few --

MR. SHELLENBARGER: Right. Right.

CHAIR STRINGER: -- a few seconds, that would be good.

MR. SHELLENBARGER: Sum up. So --

CHAIR STRINGER: And we're going to ask Rene to come back up.

MR. SHELLENBARGER: I guess our moving forward, and you asked what we -- what we would like, is really to sample the critical condition in dry weather as it really is asked for in the interim guidance method two. There's a lot of assumption that go into USEPA guidance. In the streamlined guidance it should only be applied to effluent dominant areas, single point source. I don't know about you but stormwater is a crazy non-point source program regulated under a point source permit. So I don't know if it's really applicable to be using the streamlined approach.

And if you're looking at the other method in the interim guidance, that's method one, and I believe that that's what we were relying on, it once again talks about a single point source, not multiple point sources. Method two really talks about the multiple point sources we need to identify this variability and really requires that rigor of identifying that worst-case scenario, which wasn't really conducted thus far through these studies.

So -- and at that time we want -- we would like to

get more involved in the process, be sitting at the same table in these decision makings when we're making the - you know, what we -- how the sampling is going to be designed? What are the -- what are the end points? What are the milestones? And I think that that was really missing. And we might have been involved in the public process -- comment on this draft plan. We responded to your comments. I don't know how involved that really is. Thank you very much.

I think that concludes our comments.

CHAIR STRINGER: Okay. Thanks a lot, Mr. Shellenbarger.

Rene, if you could -- okay.

Peter, please stay for one second. Madelyn has a question.

MR. SHELLENBARGER: Yes. Hi.

BOARD MEMBER GLICKFELD: So, yeah, I have a question, and this is a very quick one. All the years I've been on the Board, and I've heard testimony from your predecessors quite a bit on the WER, all I've ever heard is it's a bad thing to do. It's a bad thing to do. They only do it because it makes regulation less onerous for the discharger.

Tell me where your organizations would actually support a WER? What -- under what condition would we have to -- under what condition here would you be willing to

support the WER? Or is this is -- is this all about how bad WERs are? We've already committed to doing the WER.

MR. SHELLENBARGER: Well, I know that Mr. Gold in the past has made it extremely clear that he hates them. You know, and I think that if -- if you're looking at what was the impetus for conducting the site-specific objective was its relaxed water quality standards so you don't have to implement something. And I think that that is an applicable to use the CTR and to use the site-specific objectives. But it needs to be done, and you need to have 100 confidence that -- that that is -- we're moving forward and we're going to be protective of aquatic life and that it's going to protect beneficial uses. And I think that being sound and robust, and we're using these words, but I'm really talking about 100 percent confident that sampling is representing the worst-case scenario and that we're realistically looking at other assumptions that we're making and that they're correct for the use of the USEPA guidance. And that's what we're really questioning and scratching our heads because we question that. So --

CHAIR STRINGER: Okay. Thank you.

MR. SHELLENBARGER: -- that would be our position.

CHAIR STRINGER: That's helpful.

Rene, respond to what you just heard. And then, you know, I'm sure you're going to cover it but in case you

don't, what you heard at the very end there.

MS. PURDY: Okay. All right. Sounds good.

And, Jenny, please join me.

CHAIR STRINGER: Sorry.

MS. PURDY: I may --

CHAIR STRINGER: I'm so used to -- the MS4 is still in my brain, so I'm essentially the same way.

MS. PURDY: Right.

CHAIR STRINGER: I apologize, Jenny.

MS. NEWMAN: It's okay.

MS. PURDY: Okay. Because I definitely do want Jenny to respond to a couple of things. She's pulled out some information.

Maybe I'll start -- once again, I don't know if you want me to touch again on the public participation or not. I --

CHAIR STRINGER: I think we've heard enough on that.

MS. PURDY: Okay.

CHAIR STRINGER: I think, you know, from my perspective --

MS. PURDY: Okay.

CHAIR STRINGER: -- I'm going to be interested in hearing going forward, you know --

MS. PURDY: Yeah.

CHAIR STRINGER: -- ideas you have about maybe more robust inclusion, especially around sampling protocols --

MS. PURDY: Right.

CHAIR STRINGER: -- and methods and all the things that -- that the organizations seem to care a lot about, for good reason.

MS. PURDY: Right. And I think we'll be thinking about a way to make sure that they -- they do not feel excluded from the process and --

CHAIR STRINGER: I think they need full inclusion is the key --

MS. PURDY: Right.

CHAIR STRINGER: -- part.

MS. PURDY: Right.

CHAIR STRINGER: Yeah.

MS. PURDY: Yeah. So one thing we heard again was regarding the analysis that went into determining what the critical condition was, and a discussion about the -- the difference between dry weather and wet weather and the -- the environmental community not being convinced that wet -- or that dry weather was the critical condition.

And I just want to say that the -- the Steering Committee, the project proponents did a statistical analysis, a very thorough statistical analysis to look at

the -- the differences between wet weather and dry weather. They did ANOVA analysis to look at which was going to provide the more -- the lower or the smaller water-effect ratio and found through that statistical analysis that dry weather was the critical condition, and we feel very confident in that.

It's not the first time that that's been done. A similar analysis was done in the previous water-effect ratio study. And in that case, also, it was found that the dry weather was the critical condition.

So that -- there was a very thorough analysis that was done to determine that dry weather is the -- the appropriate condition to be looking at.

So when we talk about -- you heard discussion of looking at the 90th percentile condition and stormwater. I mean, when we're talking about wet weather, yes, those -- it's important to look at that 90th percentile condition, that extreme condition. But in this case we found that actually the important condition for water-effect ratios is dry weather. So that was -- that was one of the things that heard.

I think the other thing that I heard brought up again was the margin of safety. And you heard Jenny respond to that earlier about whether there was a sufficient margin of safety included. I think that I'd like to add maybe --

let's see here. I know I'm shuffling my papers around here because I put some notes down. I wanted to respond to that just a little bit more.

First of all, and it kind of relates to something else you heard because you heard that the streamlined procedure should not be used in this situation. And I want to emphasize that the -- as you heard from us and from the Steering Committee the focus was on the 1994 guidance for developing a water-effect ratio. But in one case the streamlined procedure was used but it was used because it provided an additional level of conservatism and a margin of safety that resulted in lower water-effect ratios. And I'm sorry, I don't have the page number in front of me, but that was presented in Appendix A to the staff report. There was a comparison between the final water-effect ratios that were derived from the 1994 guidance and those from the 2001 streamlined guidance. So that was one aspect of the margin of safety.

There are other aspects to the margin of safety which we didn't really get into in a great amount of detail in your questions but Jenny covered in her presentation which is, for example, the type of test, toxicity test, that was used to derive the water-effect ratio was we picked the test that would result in the lowest water-effect ratios. And then that gets applied to the chronic criteria from the

CTR. So that actually adds another aspect of a margin of safety to the analysis by taking -- by selecting that toxicity test that will result in a lower water-effect ratio.

The -- the other aspect to the margin of safety that I did want to point out, and hopefully I'm not going into too much detail here, but just the very implicit underlying water quality criteria themselves have a pretty significant margin of safety built into them in that EPA is very clear that the criteria, the intended level of protection of the criteria, which then the WERs are designed to achieve, is to protect the majority of species and the majority of water bodies. And they -- they select, basically, the most sensitive species to whatever pollutant it is and they determine what the toxic concentration is for that species, and then they divide it in half. And so there fundamentally another margin of safety that's in the very nature of how criteria are derived, even on a national basis.

So that was margin of safety. The -- I'm trying to think, what else did we touch on, unless --

EXECUTIVE OFFICER UNGER: I thought there was -- there's one point I'd like to just be sure the Board is clear on before we proceed is that there seems -- I think there may be some confusion over the fact that there was a

Technical Advisory Committee, but there was also a peer review which was separate from that. Just to be sure that you know that's a state process. We work with State Board. These are the people who are -- have not been involved in the process. And they look solely on, you know, what -- the words on the page of all the reports. So -- and we received positive views from the -- the peer review, as well.

CHAIR STRINGER: Right. Yeah.

MS. PURDY: Are there other things that -- that you heard Peter and Laura comment on that you want us to respond to?

CHAIR STRINGER: Not for me. I guess the question is, is there anything we need to -- we need to tweak in any of the decision documents regarding involvement going forward or is that more of you've got a very strong statement in the record if that needs to occur and we'll hear about it if it doesn't or it's not --

MS. PURDY: Yes. I don't -- I don't know that there's anywhere in the documents today where we would put something like that. But we certainly, as you've said, have certainly heard very much that the -- the Heal the Bay and NRDC and L.A. Waterkeeper would like to have a more meaningful role from their perspective.

BOARD MEMBER MEHRANIAN: Chair, I have -- I have a problem with the language there, because it's as if we're

not doing it and we should be doing it. I mean, after being through MS4 and a number of other permits like that, for us to now go back and say let's put language that we have meaningful inclusion of everything, I have -- I would not vote for that.

EXECUTIVE OFFICER UNGER: Okay. I understand.

BOARD MEMBER MEHRANIAN: So like --

EXECUTIVE OFFICER UNGER: Sure.

BOARD MEMBER MEHRANIAN: -- putting it all back to zero and then start it all over again.

CHAIR STRINGER: And I don't -- I personally wouldn't want to single out those groups.

MS. SMITH: Uh-huh. Uh-huh.

CHAIR STRINGER: And I think that all stakeholders should have a meaningful role in what you're doing. I think that there are some -- there are some stakeholders that are somewhat unique in their -- their technical expertise that they can bring to the table --

MS. SMITH: Uh-huh. Uh-huh.

CHAIR STRINGER: -- that are -- that perhaps make them different from others. But that -- that shouldn't provide any access that isn't available to anyone else.

MS. SMITH: And we certainly --

VICE CHAIR MUNOZ: I'd like to add just a few things about that. When (inaudible) was involved with the

development of the master plan for the revitalization of the L.A. River a lot of folks who actually lived near and around the river were excluded from their opinion and their thinking. And we may not have formal organizations such as the traditional barrios, but you do have folks who are in neighborhood councils who are in the neighborhoods who are just as concerned about water quality, concerned about all of the issues that we talk about. But because their working while we're meeting their opinion usually is not heard here.

So I do want to make the extra effort, and I can give you the names of these folks, that we can be much more inclusive to make sure that we get the -- the feedback from the people that live near and around an area that they're going to be more impacted than others. So make that commitment to you because it's difficult, but I know who they are. Because I think if we're talking about bringing in stakeholders we need to be much more inclusive.

BOARD MEMBER GLICKFELD: So, Mr. Chair --

CHAIR STRINGER: Yeah?

BOARD MEMBER GLICKFELD: -- one thing we could say is that there is going to be additional sampling in the lower river. There is not any proposed additional sampling in the tributaries. Is that correct or not correct?

MS. PURDY: There is additional sampling proposed in the tributaries as well.

MS. SMITH: Yes, in Response to Comments.

BOARD MEMBER GLICKFELD: So I would like to ask, and it doesn't have to be part of any kind of amendment, I would like to ask that the environmental organizations and other organizations that we identified be brought to the table with the stakeholder groups that are working on this and try to come to a consensus on what future sampling is going to be and what kinds of changes that you could -- it would bring about.

And I also want to make sure that -- that the dischargers understand that this future sampling could bring a change about in what we're -- in what our -- in how that WER works and what their responsibilities are in the future. I wouldn't want that if I were them but that's how we're leaving things. If we vote on this today or approve this WER we're leaving it open for -- for change.

And so that would be something that I hope everybody understands, that we would save a whole lot of time and a lot a grief on everybody's part if everyone was at the table and they were finding everything out and came to us with their few less disagreements rather than this.

CHAIR STRINGER: Great.

MS. SMITH: And I just wanted to say one thing if I could.

CHAIR STRINGER: Go ahead.

MS. SMITH: And we have clear-clear direction from you guys about involving people.

But I do think, you know, we greatly value our relationship with our environmental colleagues and others. And I -- you know, it's been an unfortunate dialogue today about some of that. And I can't help but think that some of it might be because of staff turnover and that kind of thing. Because I know Jenny has conveyed to me a lot of conversation she's had with Kirsten and others who are no longer with the organization. So I think some of that may have been just lost with -- with turnover of staff and that kind of thing too, and that's unfortunate.

But I did want to put that out there because there -- there was -- you know, results came in, and Jenny's on the phone calling Kirsten and that kind of thing. So I did want to convey that to you guys, that there was a lot more that occurred than what you heard today.

But aside from that, we've got clear direction on making sure it happens --

CHAIR STRINGER: And that wasn't --

MS. SMITH: -- strongly and more in the future.

CHAIR STRINGER: And that wasn't lost on us, the comment you just made.

So I would like --

BOARD MEMBER MEHRANIAN: Can I just make one

comment before -- before we move?

CHAIR STRINGER: Yeah. Let's -- let me ask for a motion. And -- and if I can get a second, then we can make some comments and close it out.

BOARD MEMBER MEHRANIAN: Before making the motion I just want to make a comment.

CHAIR STRINGER: I was going to wait until after the motion -- the motion, if that's okay. But go ahead. That's fine.

BOARD MEMBER MEHRANIAN: Yeah. You know, the comment -- you know, the reason I want to do this is because before the motion is on the table and --

CHAIR STRINGER: Yeah. Go ahead.

BOARD MEMBER MEHRANIAN: -- yeah, that this was a very technical -- one of probably, as Madelyn Glickfeld said, it's one of the most technical issues that we're here. And as a Board Member you want to make sure you have all the right pointers to make the good decisions. So -- and I just want to just, you know, say that for me being a person that does not understand water chemistry there are a few pointers that are very important. And one of them is the process, and the process has two parts. It has the technical part, validity of the data, validity of the scientific methodology, and then it has the community participation and consensus building part.

So I want to make sure that the processes are -- that they have had their full integrity. And from everything that I'm learning and the background of the work that we've had with the staff, I feel like it's there and nothing is broken, in my mind. And in a sense, the reason I feel like these comments are important is because I want to reconstruct in my mind that things are not broken as there were certain comments to that -- to that effect.

And then I'm thinking of timeline. This thing has been in process for five years. This has not happened over a day or three months that people were left out. So timelines there.

And then it comes to the other -- the context of this. There was a peer review group. State Water Board was involved. And there was a Technical Advisory Committee of experts. So going forward with more context is that in relations -- this -- this has to be seen in relations to MS4 and what everybody has to do when they're reading the MS4 permit. And also in relations of the long-term efforts like -- like decreasing copper and all this stuff.

So when I put it in this context I can go for the staff recommendation. And that's why before the -- the motion is out there, and if we're going to work with the motion, I'm in full support of the way that Staff recommended.

CHAIR STRINGER: So do I have a motion -- is that a motion?

BOARD MEMBER MEHRANIAN: Yes. Yes.

BOARD MEMBER YEE: Second.

CHAIR STRINGER: Okay. We have a motion. And a second. Any more comments --

BOARD MEMBER GLICKFELD: Yes.

CHAIR STRINGER: -- before we go for a vote? Yes?

BOARD MEMBER GLICKFELD: So our Board and our staff are no pushovers. I know that they didn't come to this decision easily. It troubles me -- the things that I talked about today still trouble me. And it also troubles me that it's the immanency of the deadline that is really pushing this. Are we going to do this every time the deadline after how many years, 17 years after we file these conditions, and 10 years after we pass the TMDL, and the deadline is coming up and nobody's done anything, is this what we're going to do? Are we going to have a TSO or are we going to pass the WER and just relieve the responsibilities after all this time?

It's -- I can say, yes, but I think what I can't say yes to is that we would do it with the kind of legitimate disagreements that I fear about the science. So I'm going to respectfully decline to vote on this.

CHAIR STRINGER: Ronji, can you -- any more

comments?

BOARD MEMBER DIAMOND: I actually would like to say one thing. The thing that I am -- that I am hopeful about is that we are going to be continually monitoring. And I guess I would disagree, at least in my assessment, in that I don't believe that we have continually monitoring and we find that what we have confidence in today is not what we have confidence in tomorrow, that things cannot be reopened.

So I would like to, you know, to say to everybody here involved, particularly the dischargers, the -- the staff and the Board will look at the monitoring results. And if we are not convinced that we should have the confidence that is there today, then things will have to change. So that's like a tight wire for all of us, particular the dischargers.

So I would have been happier, frankly, and would be happier if we had -- didn't have this deadline put upon us because of other -- other factors, if we had another year to look at this. And I'm a little uncomfortable that we don't have another year to look at this.

Anyway, so I am -- I'm not going to -- I'm not going to vote on this today because I do have a degree of discomfort that I just don't feel confident enough to do that.

MS. FORDYCE: I'm sorry. I know you wanted to --

CHAIR STRINGER: So no, we're -- we're --

MS. FORDYCE: I just want to make clear for the record, for Board Members Glickfeld and Diamond, are you abstaining from the decision or are you voting no?

CHAIR STRINGER: I think that -- I think that will come with the roll call.

MS. FORDYCE: Okay. I just want to make sure you have the terminology. So Board Member Mehranian made the motion, and then --

CHAIR STRINGER: And the motion, for the record, was to support the staff recommendation.

MS. FORDYCE: And I think -- did Board Member Yee second?

CHAIR STRINGER: And Board Member Yee seconded the motion. And now we're just in comment period.

So any more comments before the roll call?

Ronji, roll call?

MS. MOFFETT: Okay. Ms. Camacho?

BOARD MEMBER CAMACHO: Aye.

MS. MOFFETT: Ms. Diamond?

BOARD MEMBER DIAMOND: No.

MS. MOFFETT: Ms. Glickfeld?

BOARD MEMBER GLICKFELD: No.

MS. MOFFETT: Ms. Mehranian?

BOARD MEMBER MEHRANIAN: Yes.

MS. MOFFETT: Ms. Munoz?

VICE CHAIR MUNOZ: Yes.

MS. MOFFETT: Mr. Stringer?

CHAIR STRINGER: Yes.

MS. MOFFETT: And Mr. Yee?

BOARD MEMBER YEE: Yes.

CHAIR STRINGER: Thank you. That closes item 13.

MS. FORDYCE: And just the motion carries.

CHAIR STRINGER: Motion carries, yeah. That closes item 13.

We're now going to move to item 15 which is hopefully a quickie.

EXECUTIVE OFFICER UNGER: Yes, we hope so.

CHAIR STRINGER: I'm going to read a very short statement for the record. We're doing 15 now. I apologize. We're flipping the order very quickly.

People who are leaving, if you could take your conversations outside the room please. Deb, Staff, Rene, if you guys need to talk please take your conversations out of the room.

So item 15, I'm going to make a brief opening comment and then we're going to proceed with this item.

"This is the time and place for continuation of the hearing to consider renewal of the NPDES Permit for the San Jose Creek Water Reclamation Plant. I am the Chair of

CERTIFICATE OF TRANSCRIBER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.

Martha L. Nelson

MARTHA L. NELSON, CERT**367

June 10, 2015

ATTACHMENT B

LAW Section 1211 Protest Letter May 2017

LOS ANGELES WATERKEEPER®

Via e-mail with follow-up copy via US Mail to:

patricia.fernandez@waterboards.ca.gov
Ms. Patricia Fernandez
State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

May 1, 2017

RE: Response Pursuant to California Water Code Section 1703.1 to Petition WW0097 filed by the City of Glendale to reduce the rate of discharge to the Los Angeles River

Dear Ms. Fernandez:

Los Angeles Waterkeeper has reviewed the Petition referenced above submitted by the City of Glendale and submits the following response/protest on the basis that the proposed appropriation might have an adverse environmental impact.

Los Angeles Waterkeeper (LAW) is a nonprofit environmental organization with over 3,000 members dedicated to protecting and restoring all surface and ground waters in Los Angeles County and ensuring an environmentally and socially sustainable water supply. LAW advocates the "4R" approach to Integrated Water Management: Reduce use of water through conservation with a goal of 50/gallons/person/day; Reuse greywater and capture stormwater; Recycle through wastewater reclamation with priority for potable end uses; and Restore watershed health both in source areas of water supply and in the aquifers underlying the San Fernando Valley and West and Central Basins.

While LAW is generally very supportive of efforts to increase water recycling in the watershed of the Los Angeles River, we have several concerns with the proposal by the City of Glendale. LAW has outlined many of these concerns in a recent comment letter submitted to the Los Angeles Regional Water Quality Control Board ("Regional Board") concerning approval of the NPDES for the Los Angeles-Glendale Water Reclamation Plant, and in a Petition to the State Water Resources Control Board ("State Board") based on the approval of the NPDES Permit by the Regional Board. The letter and Petition are attached to this protest, are incorporated as if set forth fully herein, and spell out our concerns.

Our main concern expressed previously, and repeated now in the context of the Glendale Section 1211 Petition, is for adverse cumulative impacts on the ecology of the Los Angeles River; and the need to establish an appropriate base flow for the river, both to facilitate

///

Specific objections:

Possible adverse environmental impact; please see body of this letter and attachments for additional details.

Possible Measures to Resolve Protest:

Conducting appropriate environmental analyses, and holding a workshop on environmental and public interest topics related to recycled water issues related to the municipal reclamation plants in the Los Angeles River watershed.

Manner of Serving Applicant:

LAW has served a copy of this letter to the City of Glendale at the address specified in the public notice:

City of Glendale
c/o Brownstein Hyatt Farber Schreck LLP
attn.: Stephanie Hastings
1020 State Street
Santa Barbara, CA 93101

Thank you for this opportunity to formally lodge our concerns.

Sincerely,

Arthur Pugsley

Senior Attorney, for Protestant
Los Angeles Waterkeeper

Attachments:

LAW Comment letter on Los Angeles River WRP Tentative NPDES Permits dated February 2, 2017

LAW Petition to SWRCB on Los-Angeles Glendale WRP NPDES Permit Approval dated March 31, 2017

ATTACHMENT C

June 18 Interagency Coordination Meeting Sign-in Sheet

LA RIVER FLOWS PROJECT
STEERING COMMITTEE MEETING
JUNE 18, 2018

Name	Organization	E-mail	Phone
Bill MACES	Burbank Water & Power	bmaces@ci.burbank.ca.us	(818) 238-3558
MICHAEL DEGHETTO	GLENDALE WATER & POWER	mdeghetto@glendaleca.gov	(818) 551-3023
Richard Ruyle	Glendale water+power	rruyle@glendaleca.gov	818-482-9375
STEVE WEISBERG	SCCWRP	STEVEW@SCCWRP.ORG	714 755 3203
Stephen Mejia	Friends of the Los Angeles River (FoLAR)	smejia@folar.org	323-223-0585
PAUL ALVA	LACFCD	PALVA@dpw.lacounty.gov	626-458-~~35~~4325
MATT BEQUETTE	City Of LA	MATTHEW.BEQUETTE@LACITY.ORG	(213) 847 5183
Mark Gold	UCLA	mgold@comet.ucla.edu	310-386-7576
Renee Purdy	RWQCB	Renee.Purdy@waterboards.ca.gov	213 576 6622

LA RIVER FLOWS PROJECT
STEERING COMMITTEE MEETING
JUNE 18, 2018

Name	Organization	E-mail	Phone

LA RIVER FLOWS PROJECT
STEERING COMMITTEE MEETING
JUNE 18, 2018

Name	Organization	E-mail	Phone
Robert Ferrante	LA County SAN	rferrante@lacsd.org	562 908 4288
GUNACHI AMAH	LARWQCB	Gunachi.Amah@waterboards.ca.gov	213 576-6685
[illegible]	" "		
Susana Lagudes	LARWQCB	Susana.lagudes@waterboards.ca.gov	213-576-6694
Harry Stratton	Caltrans	[illegible]	805. [illegible]
Deb Smith	RWQCB	Deborah.Smith@waterboards.ca.gov	213 576 6605
Sarah Rascon	MRCA (Mountains Rec Conservation Authority)	Sarah.Rascon@mrca.ca.gov	323 221 4161 x 104
Chris Soiek	USACE	Christopher.w soiek usace.army.mil	213-452-3698

LA RIVER FLOWS PROJECT
STEERING COMMITTEE MEETING
JUNE 18, 2018

Name	Organization	E-mail	Phone
Shirley Birosik	RWQCB	Shirley.Birosik@waterboards.ca.gov	213-576-6679
Rafael Villegas	LADWP Water Rights	Rafael.Villegas@ladwp.com	213-367-1289
Evelyn Cortez-Davis	LADWP Water Resources	Evelyn.Cortez-Davis@ladwp.com	213 367-3564
Michael Affeldt	City of LA	Michael.Affeldt@lacity.org	213. 978.2225
melanie Tory	LA City Attorney's Office	melanie.tory@ladwp.com	213-367-4550
Kathrine Robin	LADWP Wastewater Quality & Comp. Env. Affairs	kathrine.robin@ladwp.com	213-367-0436
Amy Steinfeld	BHFS on behalf of Cities of Glendale & Burbank	amysteinfeld@gmail.com	805 882-1409
Eric Stein	SCCWRP	ericsc@sccwrp.org	
MAS DOJIRI	LA SANITATION	mas.dojiri@lacity.org	213-485-2210
Ray Tremblay	LA County SAN	rtremblay@lacsd.org	562-699-7411 x 2700

ATTACHMENT D

June 18 SCCWRP Presentation

Establishing Environmental Flows for the Los Angeles River

Eric Stein
Southern California Coastal Water Research Project

SCCWRP Established 1969

CALIFORNIA DEPARTMENT OF FISH & WILDLIFE

CALIFORNIA Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

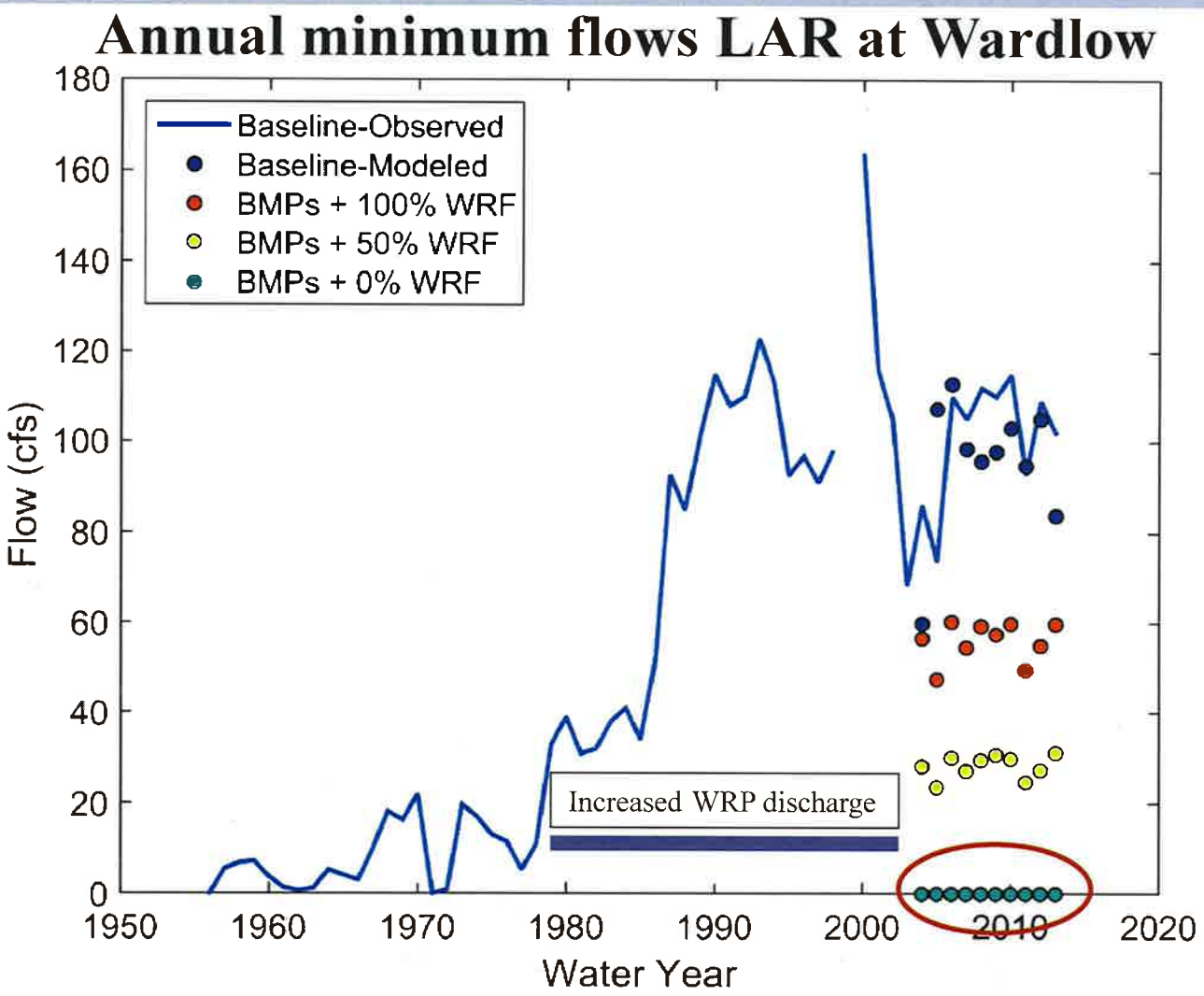
CALIFORNIA WATER QUALITY MONITORING COUNCIL

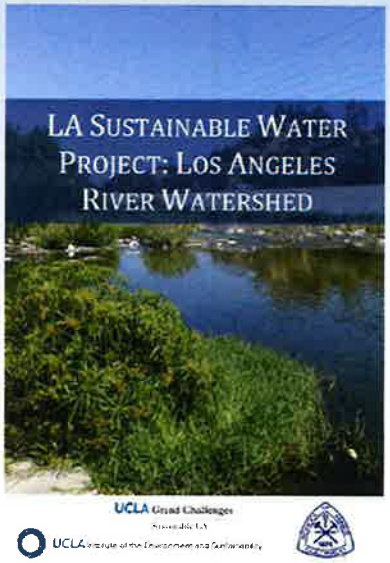
UC DAVIS
UNIVERSITY OF CALIFORNIA

UCLA

COLORADO SCHOOL OF MINES
EARTH • ENERGY • ENVIRONMENT

Effect of Reduce WRP Discharge





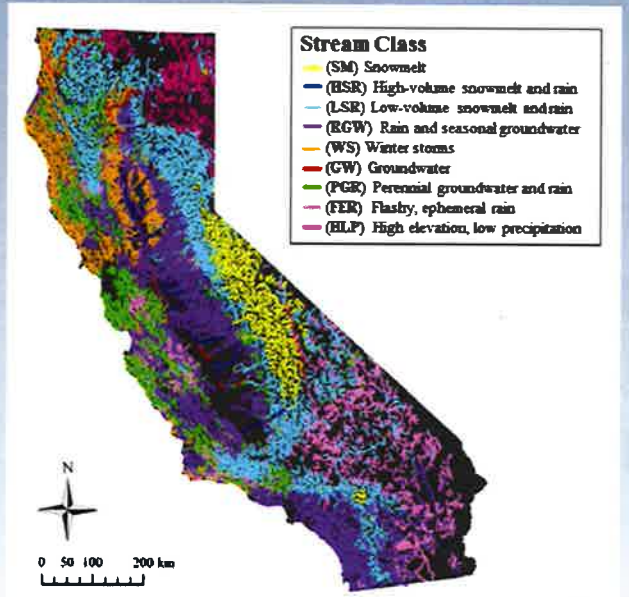
Potential Conflicts

- Need to determine instream flow needs that balance protection of beneficial uses with desire for reuse
- Need to establish procedures for allocating flow reductions among multiple dischargers into a single water body
- Need to consider intra and inter annual flow variability in making determinations

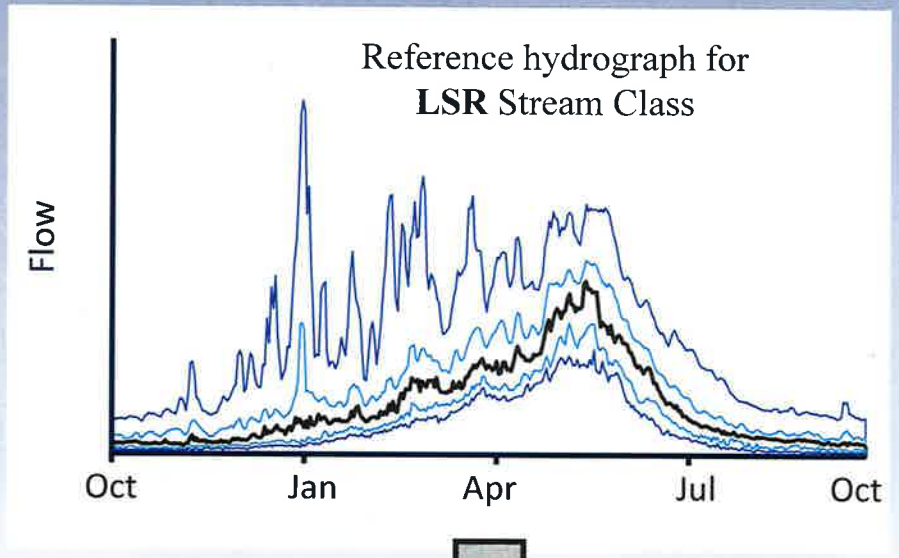
Fortunately.. We are Not Starting from Scratch

- California Environmental Flows Framework (CEEF)
  - SWRCB, Division of Water Rights
- S. CA. Flow Criteria for Benthic Condition (CSCI)
  - Proposition 84
- LAR Effect of Climate Change on Instream Flows
  - LA Regional Water Quality Control Board

Stream Classification



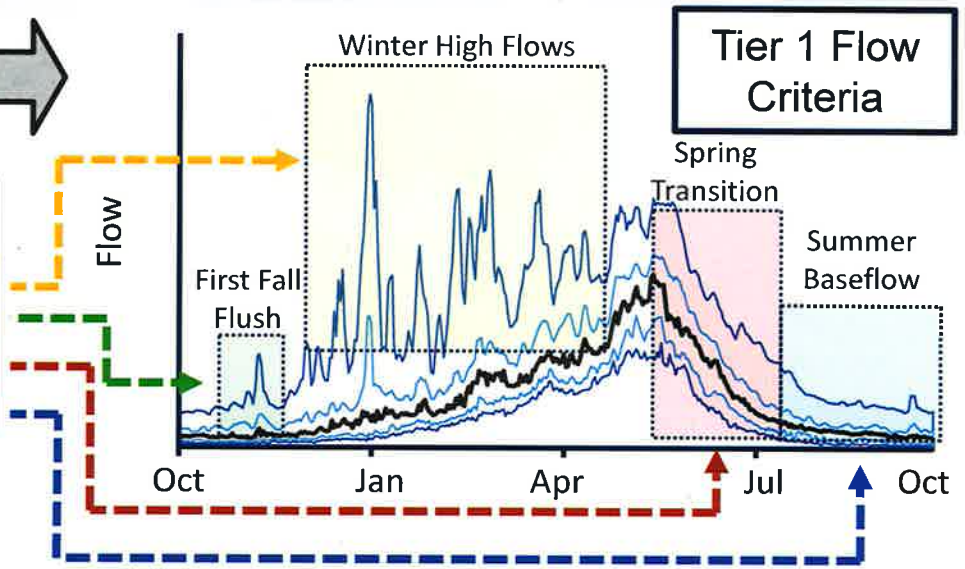
Develop reference hydrographs and identify flow components



TIER 1

	Flow Metrics			
Flow Component	Magnitude	Timing	Duration	...
Winter High Flows	2,000 cfs	Jan 3	7 days	
First Fall Flush	200 cfs	Nov 22	3 days	
Spring Transition	-10 cfs/day	May 19	82 days	
Summer Baseflow	50	Aug 20	123 days	

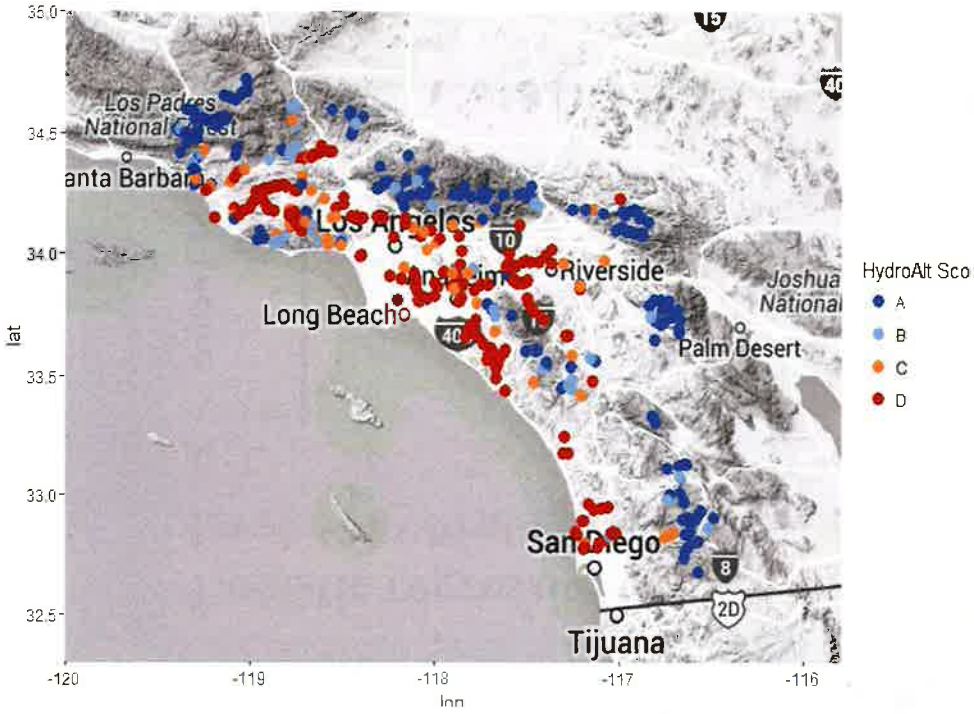
Estimate and Predict Functional Flow Metrics



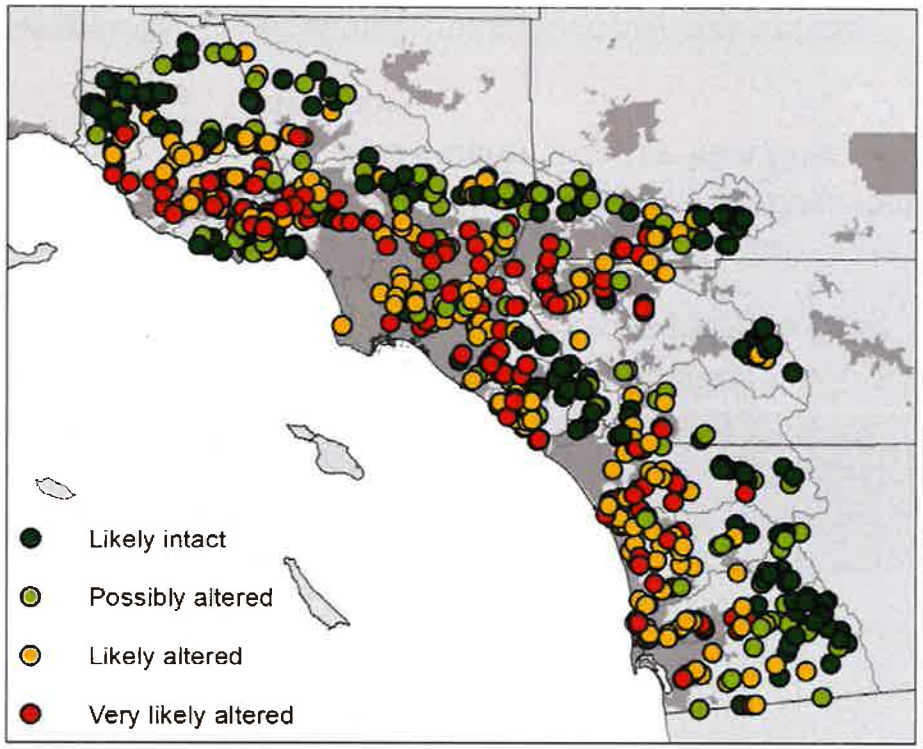
Develop quantitative flow criteria

S. CA Flow Criteria for Benthic Invertebrates

Hydrologic Alteration



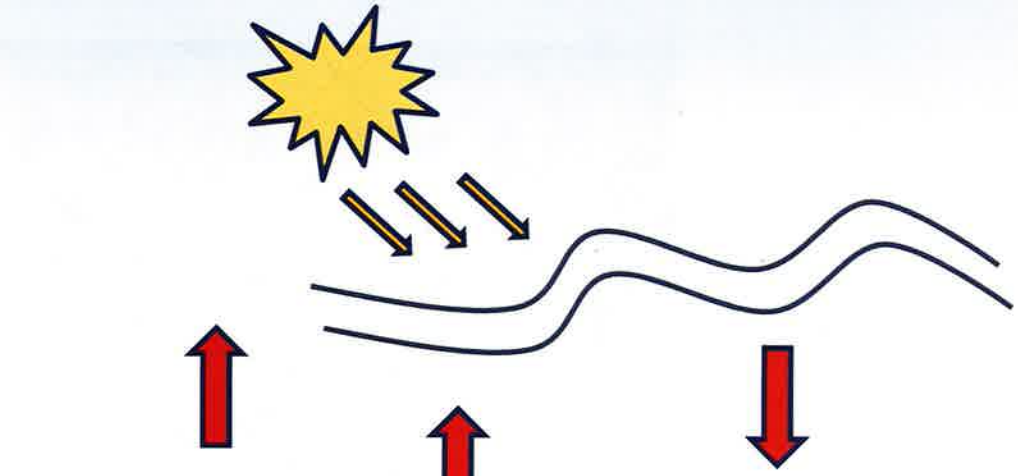
Biologic Alteration



Establish criteria that relate degree of hydrologic alteration to biological response

Effect of Climate Change on Instream Flows

How will climate change induced alterations in streamflow and temperature affect key ecologically and recreationally important biological communities in the Los Angeles Region



Stream Temperature

Evaporation

Dry weather streamflow

wet weather streamflow

Assessing Environmental Flows for LAR

Activity 1: Stakeholder Coordination

↓

Activity 2: Adapt CEFF for Application to LAR

↓

Activity 3: Evaluate Effects of Flow Modification

↓

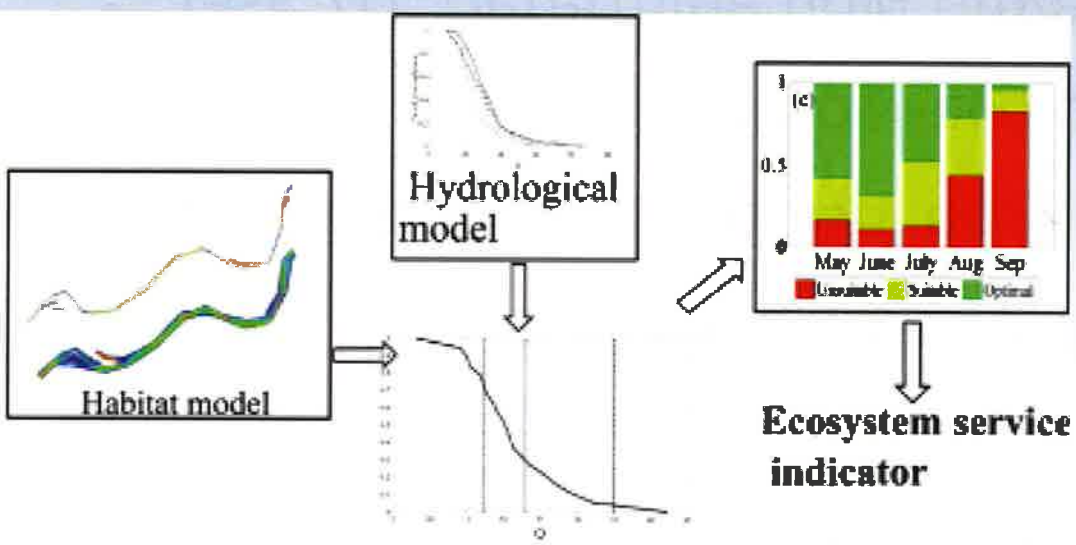
Activity 4: Monitoring and Adaptive Management

→ **WRP Water Reuse**

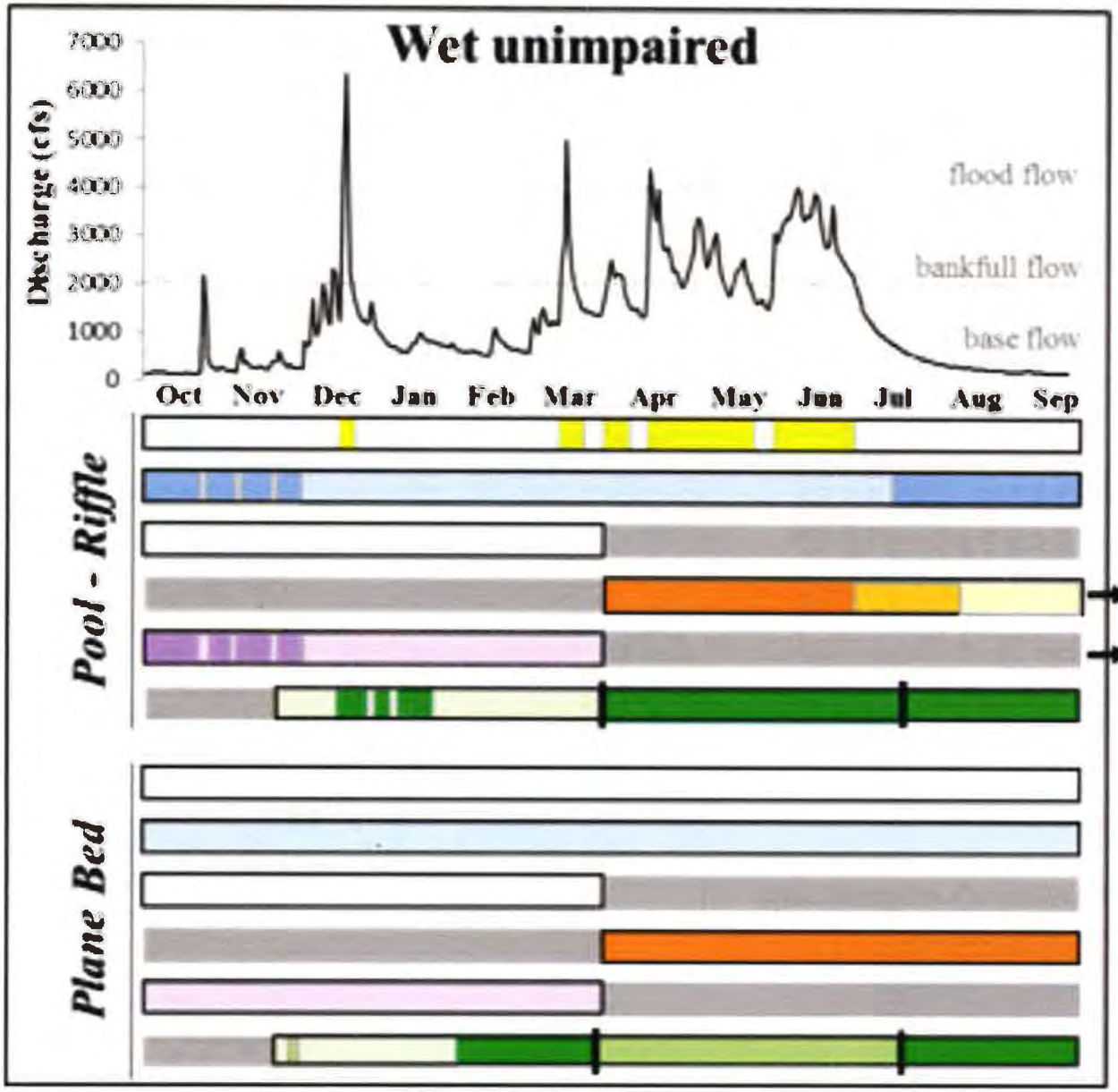
→ **Options for Other Scenarios**

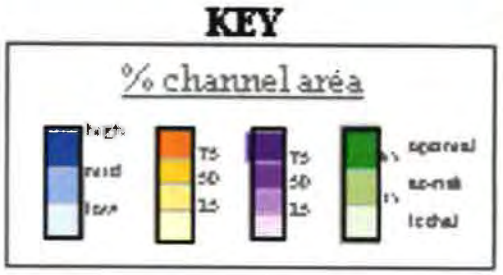
- Stormwater
- Groundwater
- Conservation
- Environmental restoration

Relate Flow Patterns to Uses



Develop Ecohydrologic Relationships





Ecosystem Functions

Velocity reversal

Hydraulic diversity

Salmonid redd dewatering risk

Salmonid bed preparation

Salmonid bed occupation

Riparian recruitment

Activity 3

Apply Environmental Flows Framework to quantify effects of flow modification on the Los Angeles River and evaluate management scenarios

- Task 3A: Analyze tolerances of system to flow modifications
- Task 3B: Analyze water reuse scenarios
- Task 3C: Establish recommended flow criteria
  - In coordination with stakeholders

Activity 3 – Optional Tasks

- Stormwater capture scenarios
- Groundwater interactions
- Outdoor water use conservation scenario
- Non-flow related habitat modifications
  - Offset flow reduction impacts

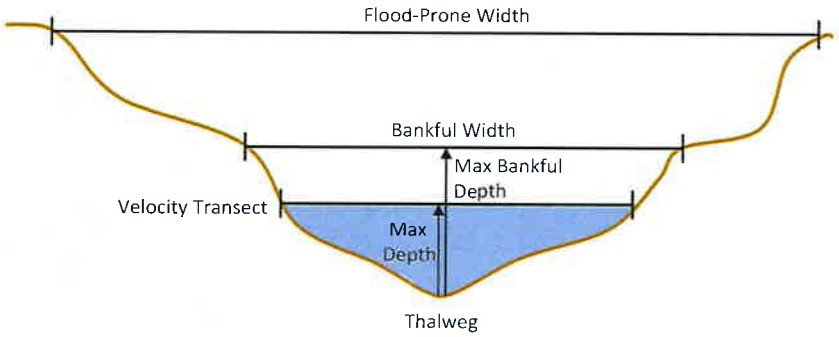
Activity 4

Develop recommended monitoring strategy

- Permanent flow monitoring stations

- Flow or physical habitat following critical storm events or specific times of year

- Biological responses



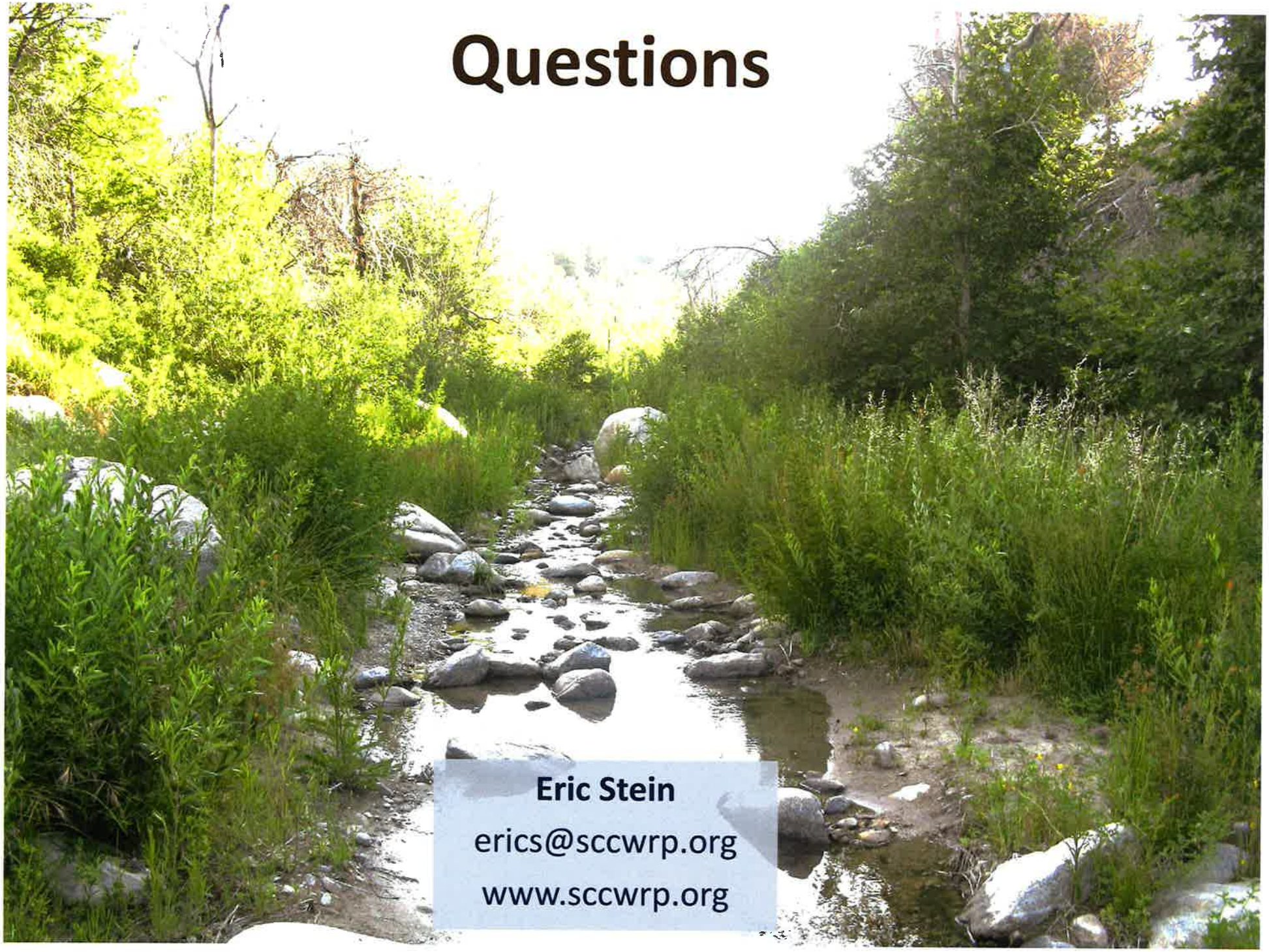
Detailed Preliminary Budget

	State Water Board	Local Partners	LA Regional Board
Stakeholder coordination	To Be Determined		
Adapt CEFF for LAR	**$1.4 M**	$250 K	**$300 K**
Apply framework for water reuse		$350 K	
Additional biological indicators		$200 K	
Stormwater capture		$250 K	
Groundwater interactions		$310 K	
Conservation practices		$220 K	
Habitat restoration		$250 K	
Monitoring strategy		$50 K	
CEQA analysis	To Be Determined		
TOTAL	**$1.4 M**	**$650 K/ $1.9 M**	**$300K**

RED = funds already committed by state and regional water boards

YELLOW = optional task

Questions



Eric Stein
erics@sccwrp.org
www.sccwrp.org

Focal Species

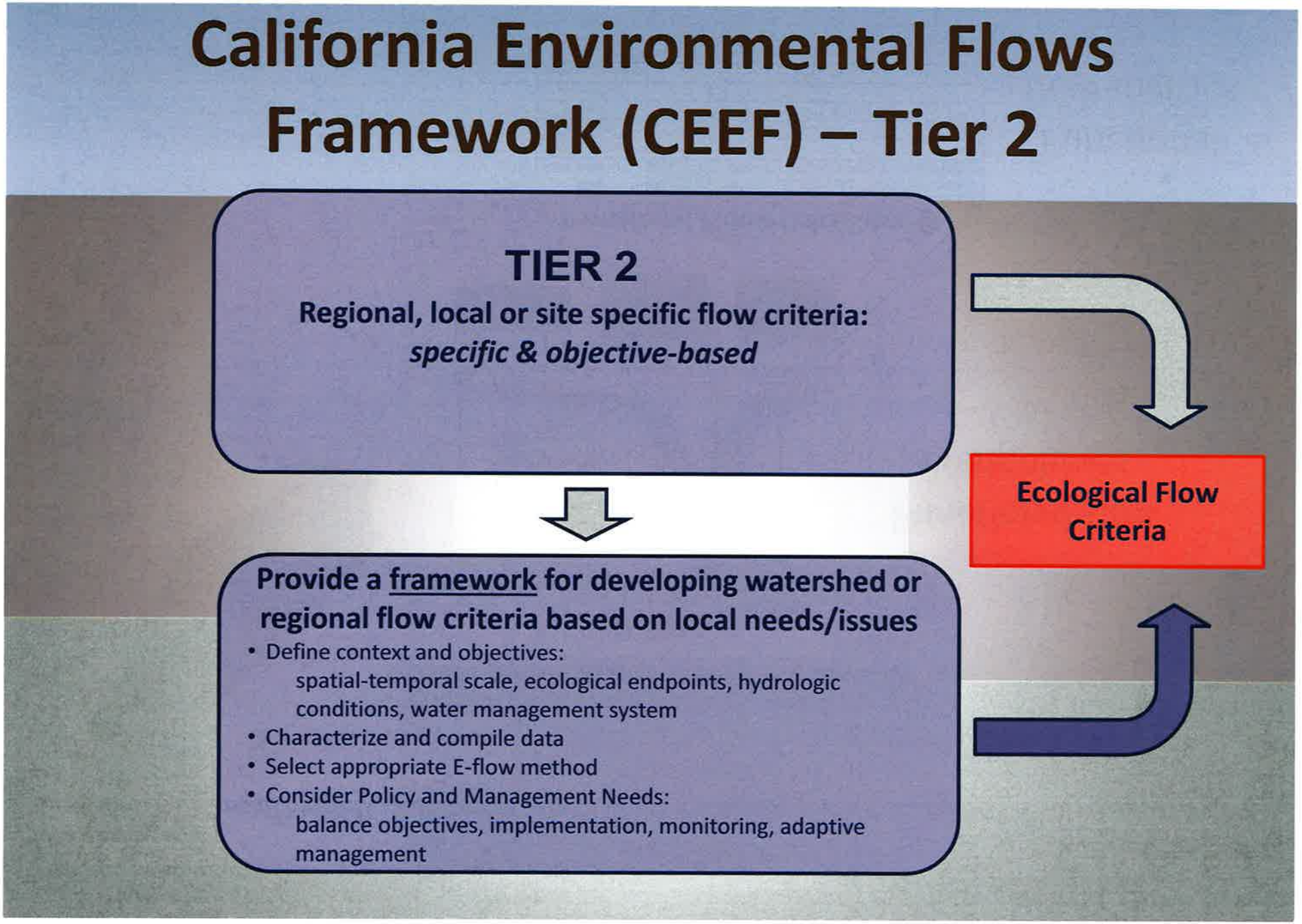
- ✓Species selection through review of riparian dependent vertebrates in the region
- ✓Clustering to select a few species with environmental needs representative of many species

Outcomes/Products

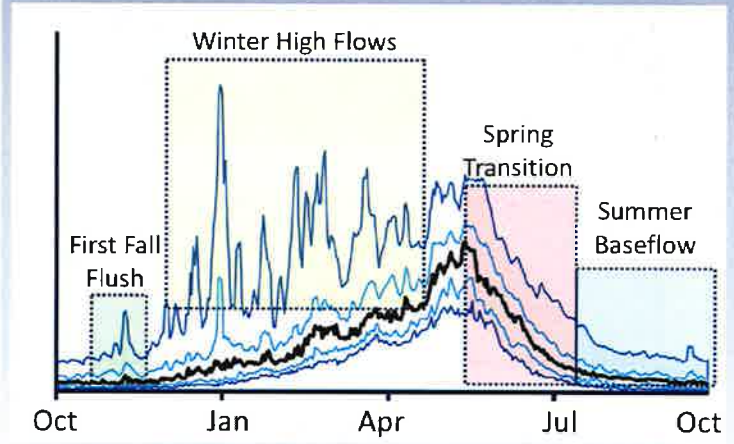
- Evaluation of risks & benefits to key ecological endpoints associated with flow modification
- Set of acceptable ranges for flow/depth and wetted area to protect beneficial uses
  - Representative of all ecologically relevant flows
- Process of evaluating tradeoffs in management actions

These products will provide the information necessary for Division of Water Rights to develop a LA River Instream Flow Policy

California Environmental Flows Framework (CEEF) – Tier 2



Functional Flow Metrics

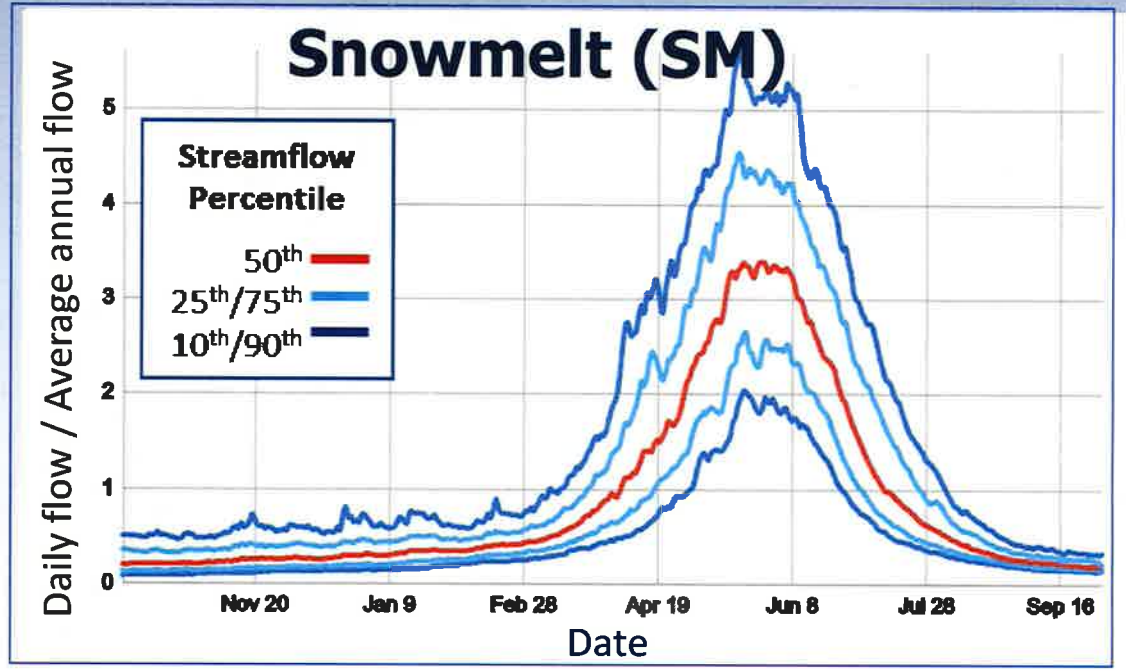


Metrics not related to any specific organism.

Metrics relate to general health based on *reference conditions*

Flow Component	Flow Characteristic	Metric
Annual	Rate of change (%)	coeff. of variation of daily flow
	Average (cfs)	average annual daily flow
First Fall Flush	Magnitude (cfs)	magnitude of first fall flush
	Timing (date)	start date of first fall flush
	Duration (days)	duration of first fall flush
Winter High Flows	Timing (date)	start of wet season
	Magnitude (cfs)	wet season average baseflow
	Magnitude (cfs)	peak magnitude: 2%, 5%, 10%, 20%, 50%
	Timing (date)	start date: 2%, 5%, 10%, 20%, 50%
	Duration (days)	# days: 2%, 5%, 10%, 20%, 50%
	Frequency (#)	# of events in record: 2%, 5%, 10%, 20%, 50%
Spring Transition	Magnitude (cfs)	flow at start (spring peak)
	Rate of change (%)	percent decrease per day
	Timing (date)	start date
	Duration (days)	# days (start-end)
Summer Baseflow	Magnitude (cfs)	baseflow magnitude (10P and 50P)
	Timing (date)	start date of summer
	Duration (days)	# days (start-wet) and (start to first fall flush)
	Frequency (#)	# of no flow days

Dimensionless Reference Hydrographs (DRHs)



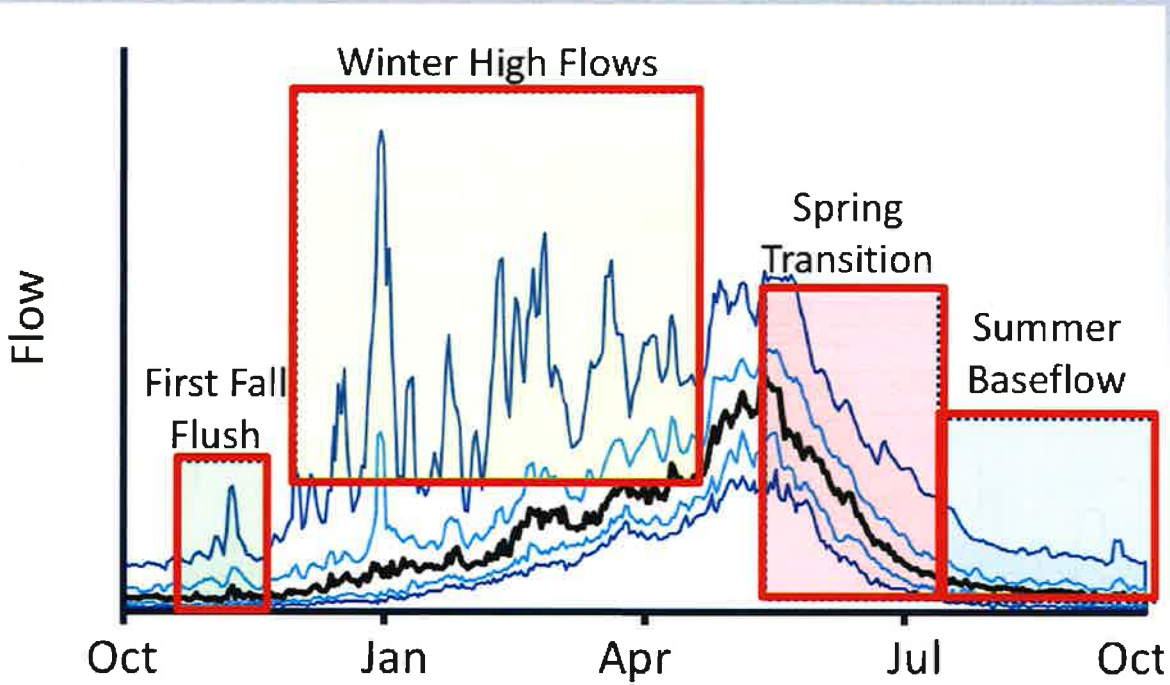
Purpose:

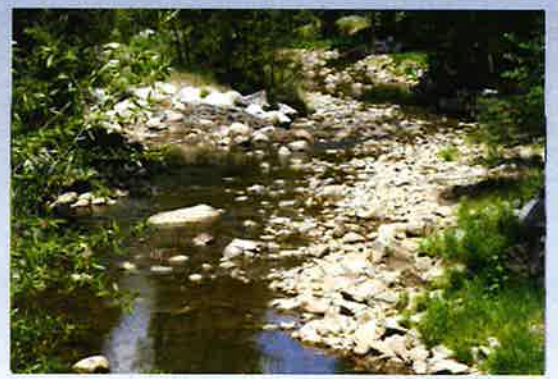
To characterize comparable seasonal and inter-annual flow patterns for each stream class.

Methods:

For each reference gage in a stream class, divide daily flow values by water year average annual flow. Calculate nondimensional flow percentiles for each date across all gauges and years.

Functional Flow Components





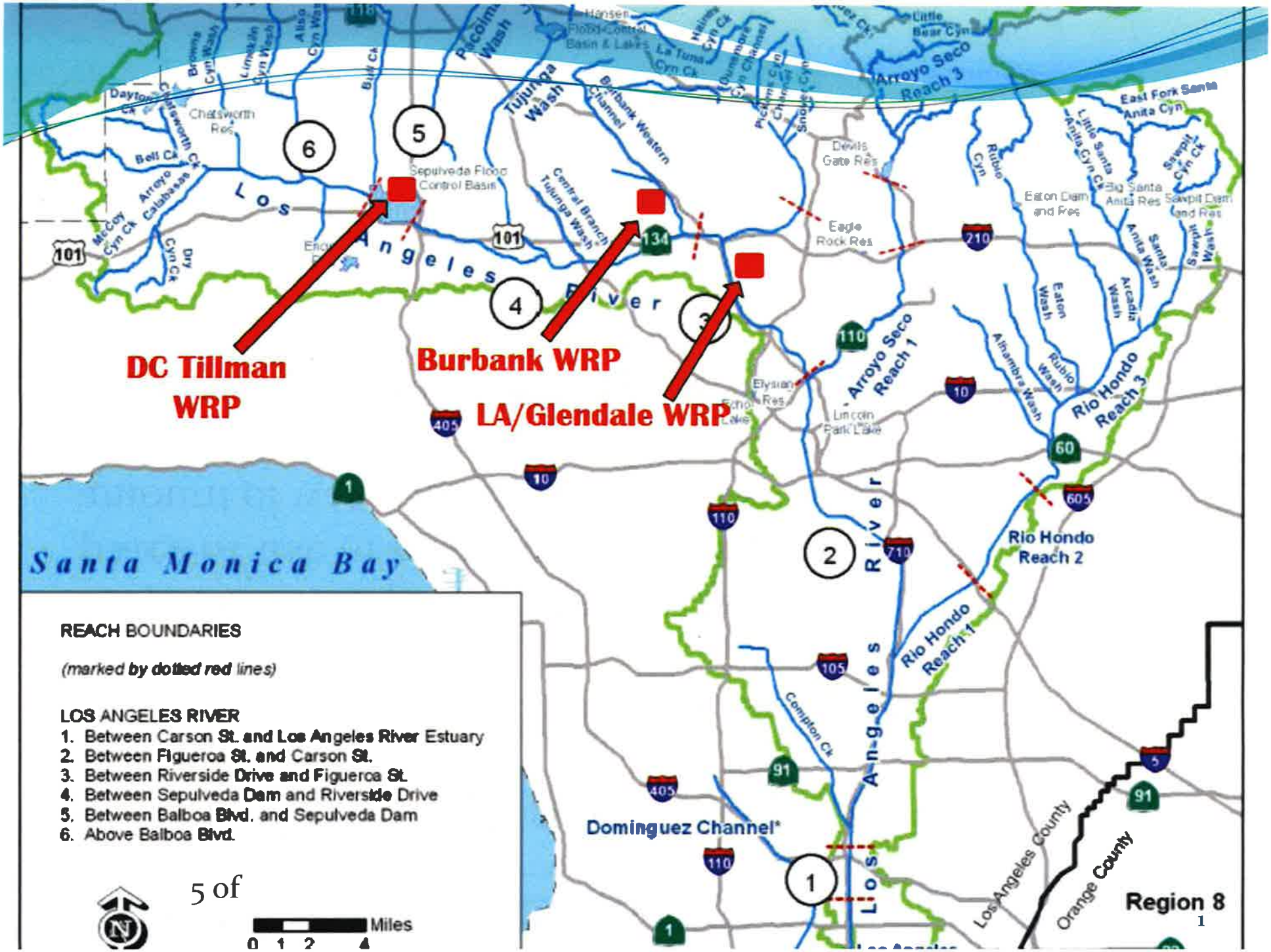
Constrain habitat,
limiting for exotic species

Sub-annual aspects of the natural flow regime
expected to support key ecosystem functions

Yarnell et al. 2015

ATTACHMENT E

JUNE 18 Division of Water Rights Presentation


DC Tillman WRP
Burbank WRP
LA/Glendale WRP
Santa Monica Bay
Los Angeles River
Arroyo Seco Reach 3
Arroyo Seco Reach 1
Rio Hondo Reach 3
Rio Hondo Reach 2
Rio Hondo Reach 1
Dominguez Channel*
Sepulveda Flood Control Basin
Chatsworth Res
Devils Gate Res
Eagle Rock Res
Eaton Dam and Res
Big Santa Anita Res
Sawpit Dam and Res
Elysian Res
Lincoln Park Lake
Tujunga Wash
Burbank Western Channel
Central Branch Tujunga Wash
Eaton Wash
Arcadia Wash
Santa Anita Wash
Athambra Wash
Rubio Wash
Rubio Cyn
Compton Ck
Los Angeles County
Orange County
Region 8
REACH BOUNDARIES
(marked by dotted red lines)
LOS ANGELES RIVER
1. Between Carson St. and Los Angeles River Estuary
2. Between Figueroa St. and Carson St.
3. Between Riverside Drive and Figueroa St.
4. Between Sepulveda Dam and Riverside Drive
5. Between Balboa Blvd. and Sepulveda Dam
6. Above Balboa Blvd.
Miles
0 1 2 4

Wastewater Change Petitions

- Petitions are NOT required if the discharge volume to the receiving water course does NOT decrease or if the receiving body is the ocean or a bay
- Not required when there are reductions in flows outside the control of the discharger – such as conservation
- Any future changes to a change petition also require approval from Division of Water Rights

Los Angeles River WC 1211 Petitions

- Burbank WW19 and ww091 – Order issued April 2018
  - Includes term reserving jurisdiction to modify to implement a future flow policy
- City of Glendale
- City of Los Angeles – Pending
- Other wastewater change petitions - Pending

ATTACHMENT F

LADWP Presentation to Regional Board November 2017

Los Angeles Department of Water & Power

City of Los Angeles' Local Water Supplies and the LA River

November 8, 2017

State Water Resources Control Board

Los Angeles, CA

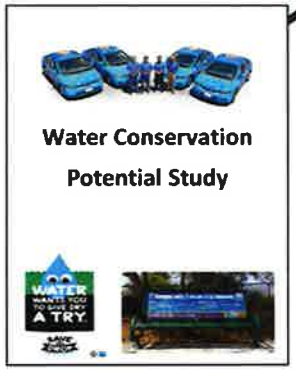
Putting Customers First

Water Supply Planning Efforts

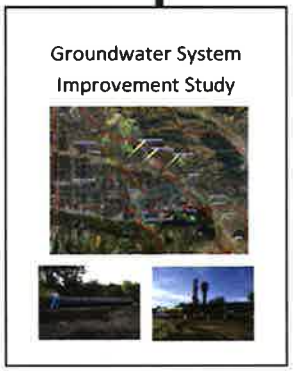
Recycled Water Master Planning Documents (2012)

2015 Urban Water Management Plan

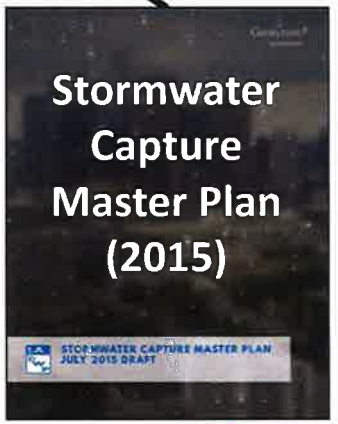
Mayor's ED5 & Sustainable City pLAn (2015)



Water Conservation Potential Study (on-going)



GSIS Remedial Investigation Update Report (2015)



One Water LA

Centralized vs. Distributed Capture

Dam Improvements

Centralized

Spreading Basins

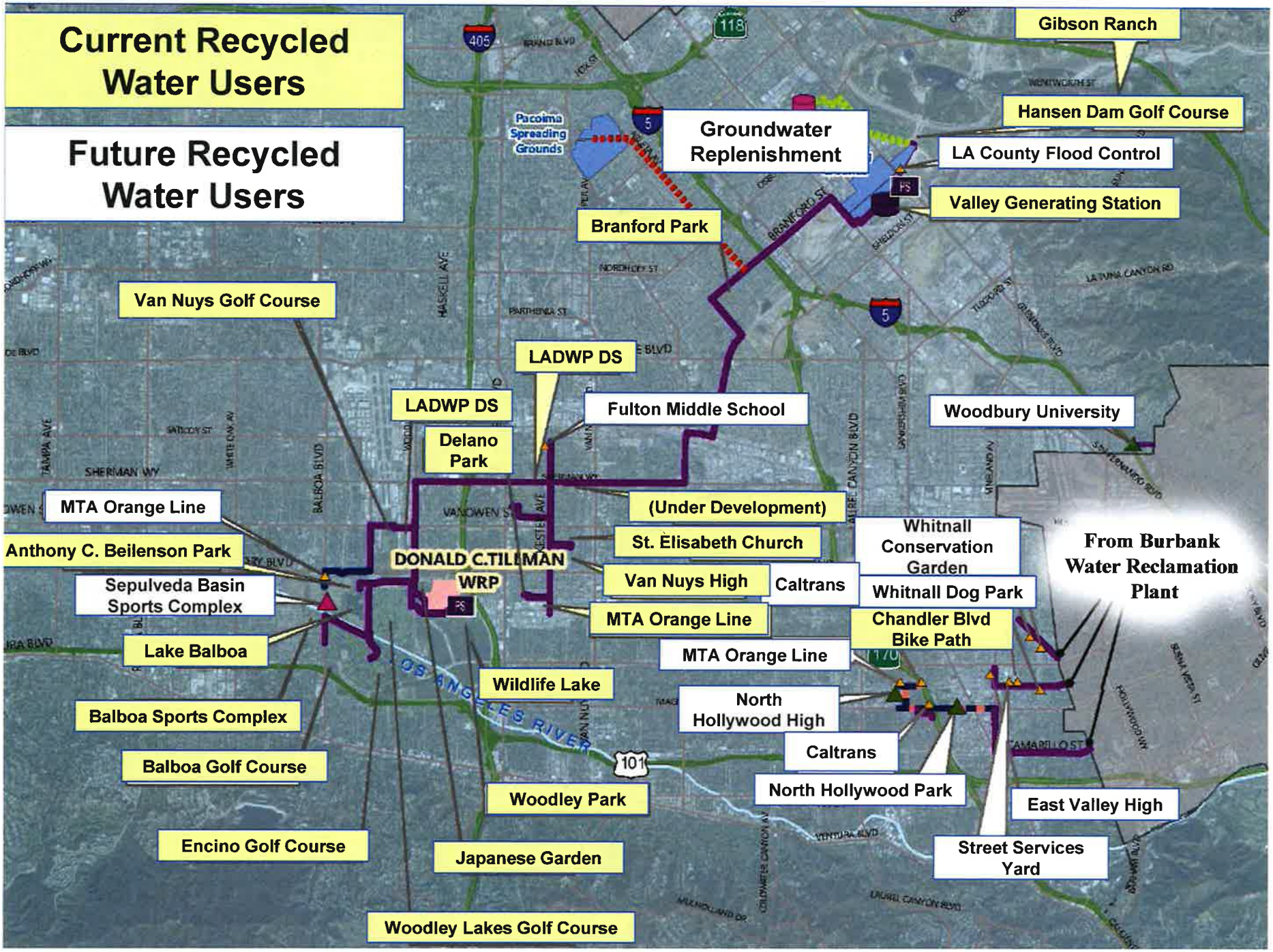
Dry Wells

Cisterns

Distributed

Green Streets

Sub-regional


Current Recycled Water Users
Future Recycled Water Users
Gibson Ranch
Hansen Dam Golf Course
Groundwater Replenishment
LA County Flood Control
Valley Generating Station
Pacoima Spreading Grounds
Branford Park
Van Nuys Golf Course
LADWP DS
LADWP DS
Fulton Middle School
Woodbury University
Delano Park
MTA Orange Line
(Under Development)
Anthony C. Beilenson Park
St. Elisabeth Church
Whitnall Conservation Garden
From Burbank Water Reclamation Plant
DONALD C.TILLMAN WRP
Sepulveda Basin Sports Complex
Van Nuys High
Caltrans
Whitnall Dog Park
MTA Orange Line
Chandler Blvd Bike Path
Lake Balboa
MTA Orange Line
Wildlife Lake
North Hollywood High
Balboa Sports Complex
Caltrans
Balboa Golf Course
North Hollywood Park
East Valley High
Woodley Park
Encino Golf Course
Japanese Garden
Street Services Yard
Woodley Lakes Golf Course

Current and Planned City of LA Projects that May Affect LA River Flows

No.	Projects	Estimated River Flow Impact (AFY)
1	US Army Corps of Engineers ARBOR Project	3,000 to 6,500
2	Sepulveda Sports Complex Water Recycling Project	56
3	Eastside Water Recycling Project	465
4	Increase number of LADWP recycled water customers	398
5	Expanded recycled water use through recirculation of Sepulveda Basin flow through lakes	up to 25,000 (22 MGD)
6	LAR Dry-Weather Bacteria Compliance Approach for Segment B	Will reduce dry weather flows to LAR to zero
7	Enhanced Watershed Management Plan for Upper LAR	
8	Projects to enhance recharge capacity in the San Fernando Groundwater Basin (SFB)	

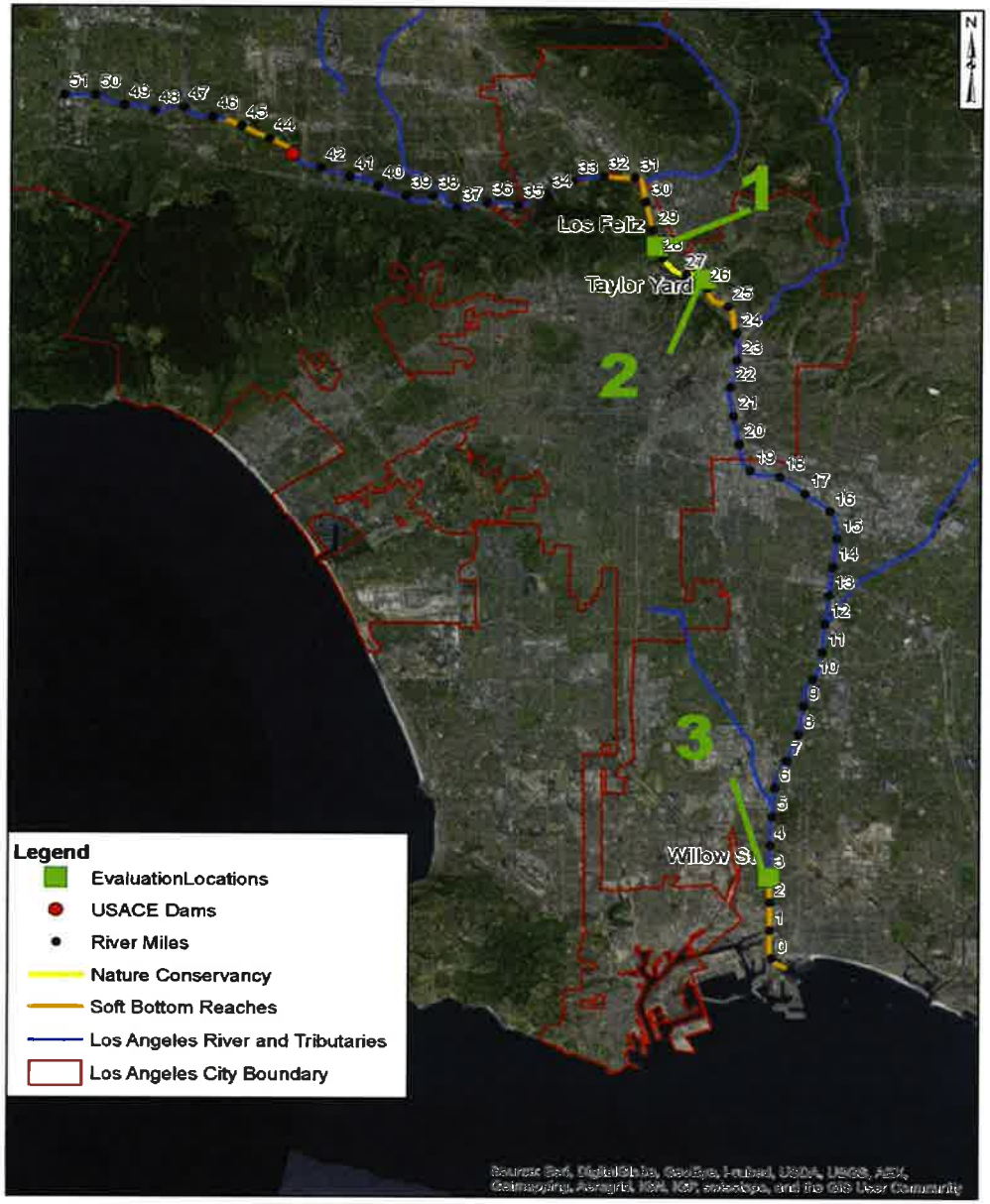
AFY = acre-feet/year

Los Angeles River Low Flow Study

Purpose

To identify considerations, assumptions, and areas of future study necessary to determine optimal flow conditions in the LA River.

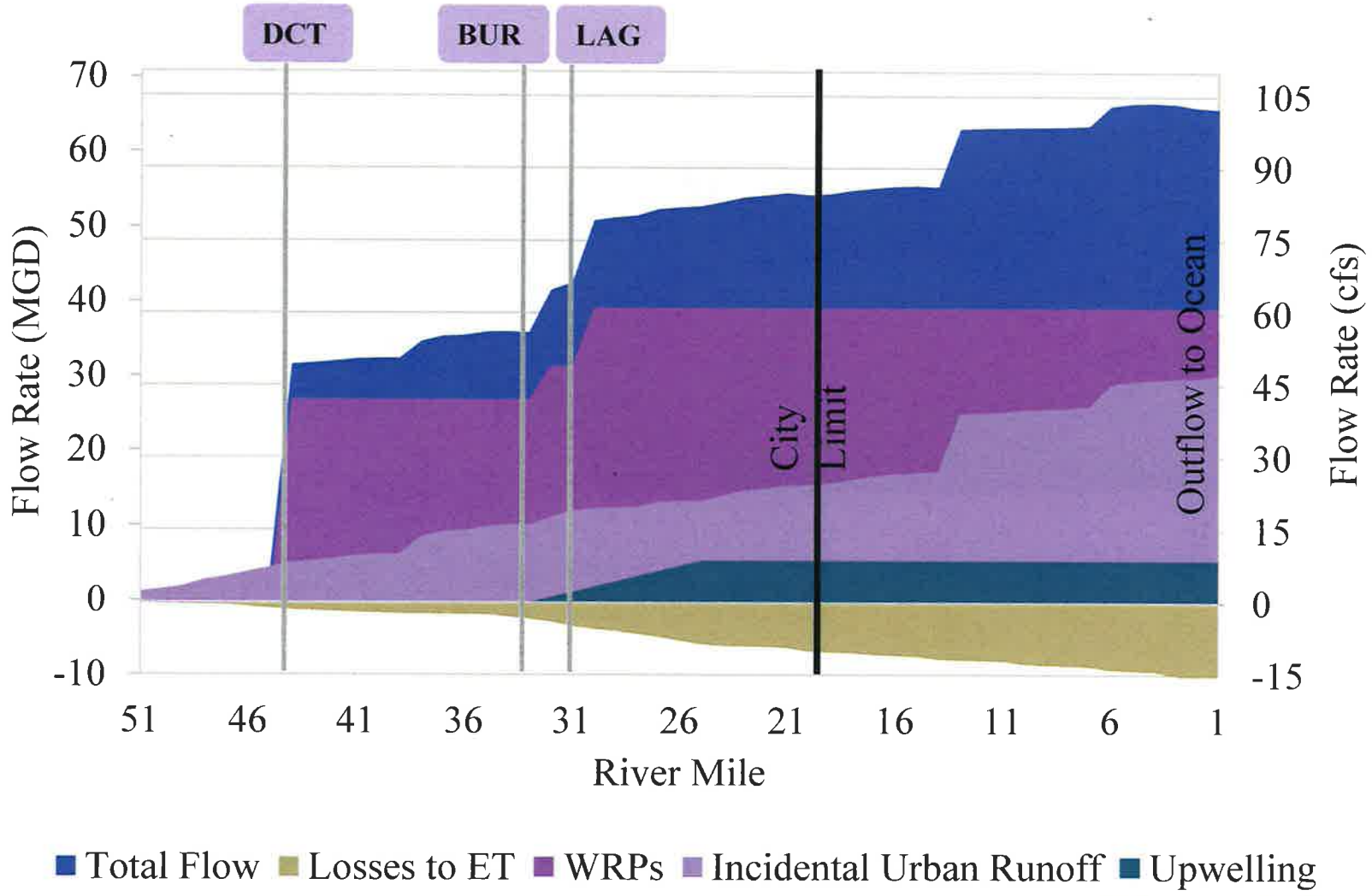
These conditions would **balance** the City's water supply needs with the River's water-dependent uses and regulatory requirements.



Los Angeles River

- 51 miles – Headwaters to the Ocean
- Hydrologic mile-by-mile modeling
- Three sites modeled in more detail
  - Los Feliz
  - Taylor Yard
  - Willow Street

LA River Dry Weather Flow Analysis



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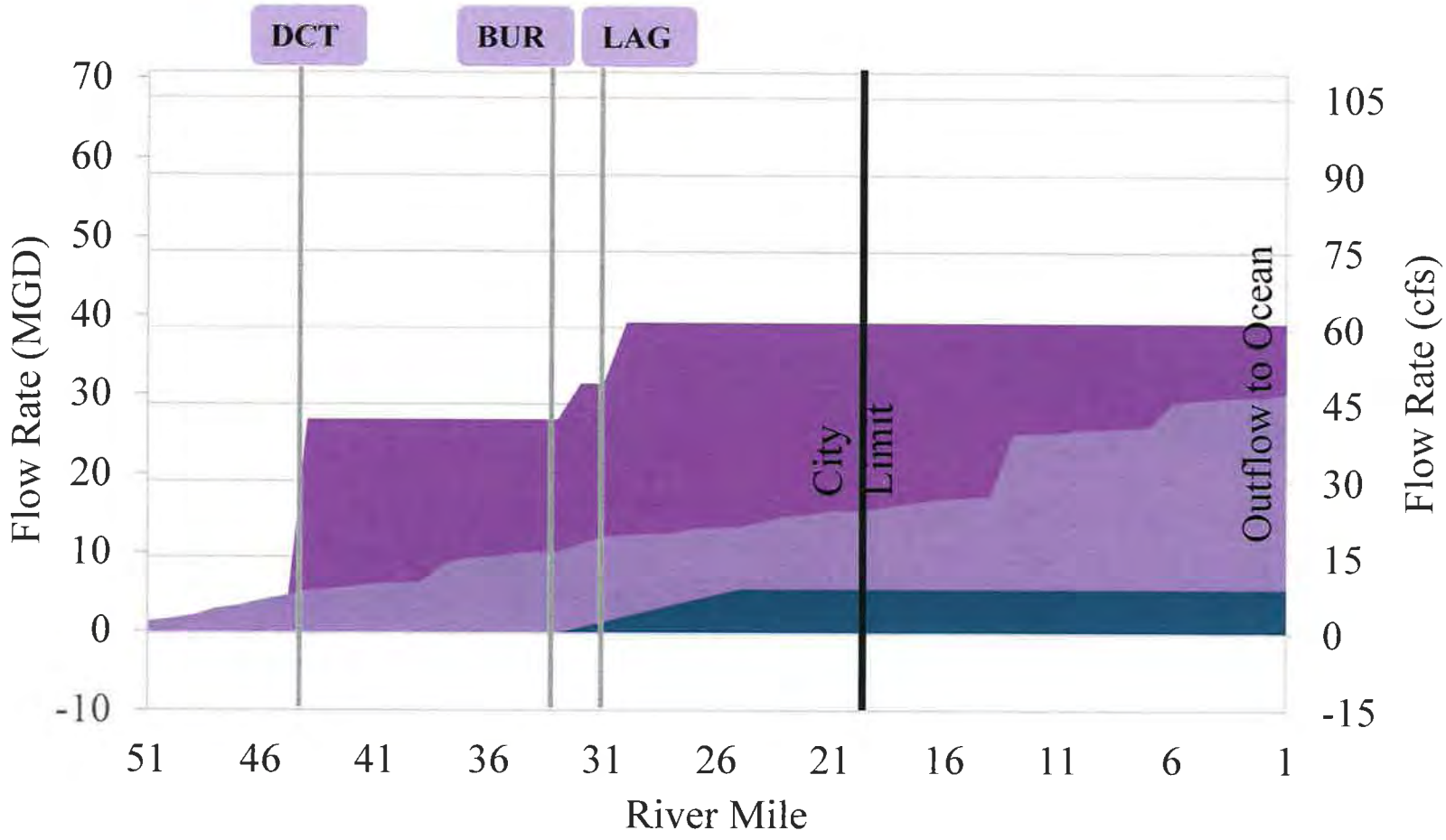
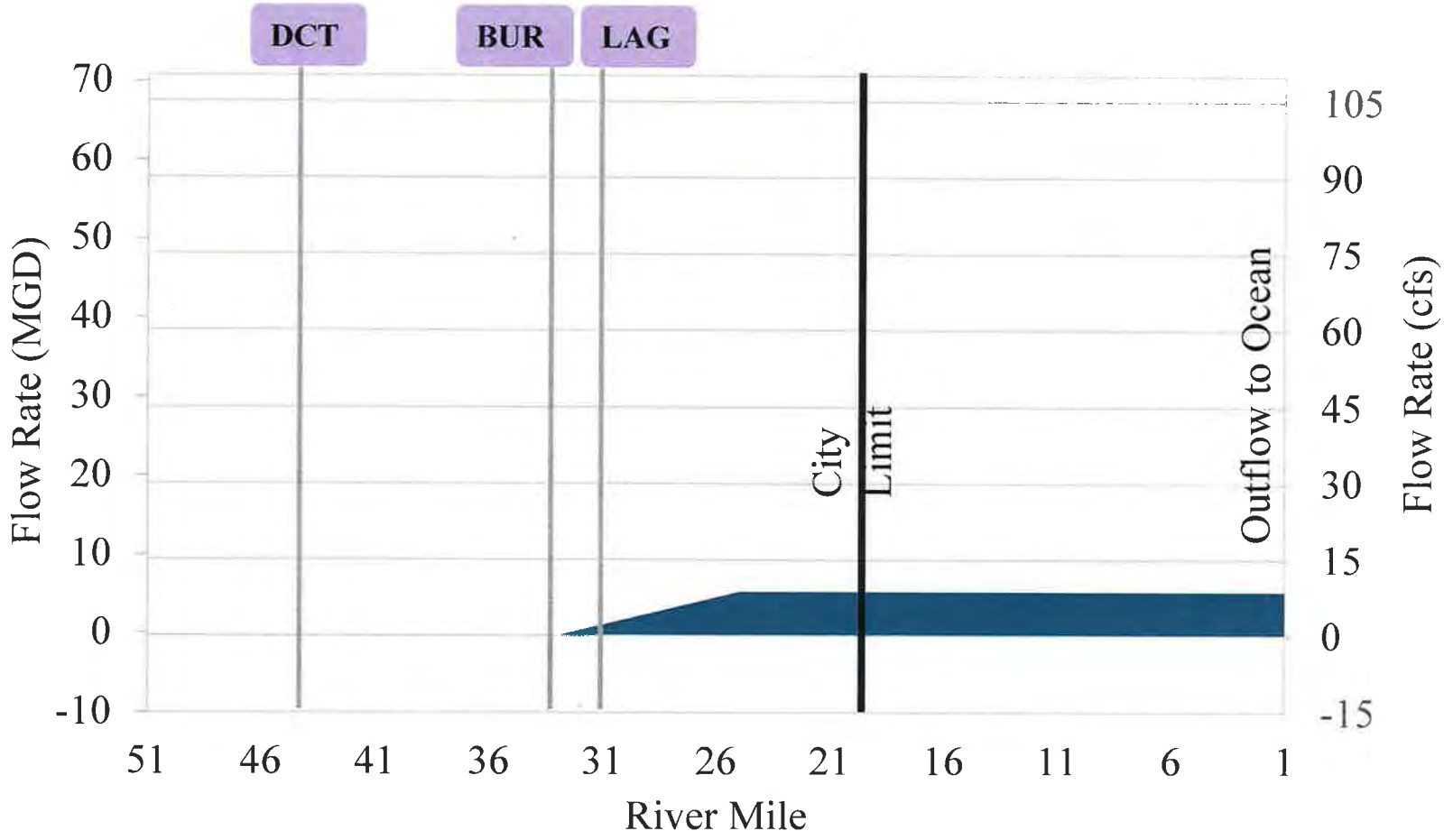


LA River Dry Weather Flow Analysis



Thank You

Questions?

Evelyn Cortez-Davis
Assistant Director, Water Resources Division
Los Angeles Department of Water and Power
Evelyn.cortez-davis@ladwp.com

COUNTY OF LOS ANGELES
FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294
(323) 881-2401
www.fire.lacounty.gov

"Proud Protectors of Life, Property, and the Environment"

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

LACFD Comment Letter

July 19, 2018

Erik Krause, Deputy Director
City of Glendale
Community Development Department
633 East Broadway
Glendale, CA 91206

Dear Mr. Krause:

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION, "GLENDALE 2018 WASTEWATER CHANGE PETITION," PROPOSES TO GRADUALLY DECREASE THE VOLUME OF TREATED WASTEWATER DISCHARGED FROM THE LOS ANGELES-GLENDALE WATER RECLAMATION PLANT TO THE LOS ANGELES RIVER IN ORDER TO INCREASE THE DELIVERY OF RECYCLED WATER TO VARIOUS USERS, CITYWIDE, GLENDALE, FFER 201800064

1

The Notice of Intent to Adopt a Mitigated Negative Declaration has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department.

The following are their comments:

PLANNING DIVISION:

2

We have no comments.

LAND DEVELOPMENT UNIT:

3

This project is located entirely in the City of Glendale. Therefore, the City of Glendale Fire Department has jurisdiction concerning this project and will be setting conditions. This project is located in close proximity to the jurisdictional area of the Los Angeles County Fire Department. However, this project is unlikely to have an impact that necessitates a comment

concerning general requirements from the Land Development Unit of the Los Angeles County Fire Department. 3 (cont)

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

Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department Land Development Unit's, Inspector Claudia Soiza at (323) 890-4243 or Claudia.Soiza@fire.lacounty.gov.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS: 4

The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed.

The County of Los Angeles Fire Department's Forestry Division has no further comments regarding this project.

HEALTH HAZARDOUS MATERIALS DIVISION: 5

The Health Hazardous Materials Division (HHMD) of the Los Angeles County Fire Department has no comments for the project at this time because the project site is located outside of HHMD's current jurisdiction. The City of Glendale Fire Department, Certified Unified Program Agency is the governing local environmental agency for the project.

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

Very truly yours,

Michael Y. Takeshita

MICHAEL Y. TAKESHITA, ACTING CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

MYT:ac

LAW Comment Letter

Los Angeles Waterkeeper

Response to LAW Comment Letter

Response to Comment LAW-1. The comment requests that an EIR be prepared for the Project. No EIR is required. (See Response to Comment CDFW-15.)

Response to Comment LAW-2. The comment states that the SWRCB is initiating a study of the river and that the City has commenced its environmental review too early. Waterkeeper's claim that the City must wait for the SWRCB to complete the proposed instream flow study has no merit. Delaying environmental analysis of the City's proposed project for the results of an open-ended scientific minimum flow analysis that may take over two years to complete is contradictory to the SWRCB's own Recycled Water Policy. Nothing in CEQA contemplates public agencies waiting for the uncertain release of possibly relevant scientific information before completing an environmental document. In fact, the instream flow study has not been formally commissioned or fully funded. (Response to Comment LADWP/LASAN-5.) The initial stated purpose of the study is to determine if a minimum instream flow is needed to protect Los Angeles River beneficial uses. The study will be completed in a minimum of 18-24 months, and the results are unknown. For example, the study may find that existing and future projected flows are sufficient to support instream beneficial uses. As a reference point, it took the SWRCB six years to establish the North Coast Instream Flow Policy. CEQA does not mandate that a lead agency wait for an undefined, future study. CEQA requires that decisions be informed and balanced. It must not be subverted into an instrument for the oppression and delay of social or economic development or advancement. (CEQA Guidelines §1.16.)

The Draft IS/MND provides extensive analyses of the potential environmental impacts associated with the City's proposed gradual reduction of wastewater discharges, together with other proposed projects that may reduce river flow. At the time the City published the Draft IS/MND, there was sufficient publicly available information for the City to perform a robust analysis of the Project's impacts on flows and habitat in the Los Angeles River. Where the information was not available, the City performed its own field surveys and analysis. (See CEQA Guidelines § 15204(a) [a lead agency is not required to conduct every test or perform all research, studies or experimentation a commenter requests].). See response to comment LADWP/LASAN-4.

In addition, the commenter claims "This lack of information concerning cumulative impacts alone requires the preparation of an EIR for the Project" and cites this case for support: *San Bernardino Valley Audubon Society v. Metropolitan Water Dist*. (1999) 71 Cal.App.4th 382, 398-99. That case is not relevant here. In *San Bernardino Valley Audubon Society*, the court found that the negative declaration's one paragraph summary discussion of cumulative impacts was inadequate. (*Id*. at p. 399.) Here, the City conducted a robust review of all publically-available reports and information on activities and reports with the potential to adversely impact the Los Angeles River. (See Response to Comment LADWP/LASAN-4 and 6; Draft IS/MND, Exhibit A to the Hydraulic Modeling Report and Attachment 1 to these Responses to Comments.)

Response to Comment LAW-3. The comment introduces the organizations. No response is necessary.

Response to Comment LAW-4. The comment states that CEQA was conducted too early to appropriately evaluate impacts of the Project. The City understands that the SWRCB and LARWQCB are embarking on a study of the river to determine a minimum flow that is protective of the system's instream beneficial uses. The Draft

IS/MND conducts its own robust scientific impact assessment of the flow reductions proposed. See Response to Comment, LADWP/LASAN-5.

Although not required to be evaluated as part of the cumulative impacts analysis, the Draft IS/MND recognizes on page B-71 that future dramatic decreases in river water may reduce flows to levels that affect ecological values at some unspecified and unplanned time in the future. If future flows are reduced dramatically by the City of Los Angeles from either DC Tillman WRP or at LAGWRP, the proposed project's contribution to that reduction will have occurred many years earlier, would be barely detectable, and would not add considerably to any impact that may occur.

Response to Comment LAW-5. The comment states that potable reuse is a more important use for recycled water than landscape irrigation and that landscape irrigation may be deemed a Waste or Unreasonable Use of water resources. This statement is not accurate. First, Direct Potable Reuse is not currently permitted in California. Second, state law and policy clearly supports the beneficial use of recycled water for non-potable purposes, including for landscape irrigation and industrial uses. The SWRCB's Recycled Water Policy provides that "[t]he SWRCB finds that the use of recycled water in accordance with this Policy…which ideally substitutes for use of potable water, is presumed to have a beneficial impact. Other public agencies are encouraged to use this presumption in evaluating the impacts of recycled water projects on the environment as required by [CEQA]."[10] In addition, Glendale's Recycled Water Policy requires "recycled water to be used in a manner that is in compliance with all applicable laws, ordinances and regulations that will achieve the following: (1) Extend and enhance local water supplies by using recycled water for special nonpotable purposes to free up potable supplies for higher uses" and (2) "Control and limit run-off of recycled water by controlling the installation of systems using recycled water." (City Municipal Code, §13.28.010(A).) The City's code also provides that "[w]here the use of recycled water is feasible, appropriate and acceptable to all applicable regulatory agencies for the purposes of landscape irrigation, agricultural irrigation, filling of decorative fountains, in office buildings for toilet flushing, construction water, industrial process water, or recreational/ornamental impoundments or other uses permitted by the regulatory agencies, it is the policy of the city to require the applicant, owner or customer to use recycled water in lieu of potable water." (City Municipal Code, §13.28.010(B).) See also Response to Comment SWRCB/LARWQCB-6.

Response to Comment LAW-6. The comment states that the Draft IS/MND should have considered the City of Los Angeles' Sepulveda Basin Recirculation Project. The proposed recirculation project is not a probable future project and therefore no analysis is required by CEQA. See Responses to Comments SWRCB/LARWQCB-4, LADWP/LASAN-4 and 6 and LADWP/LASAN-10.

Response to Comment LAW-7. The comment states that the Draft IS/MND adequately quantifies the increment of effect to flow but does not adequately assess that effect on biological resources. The Draft IS/MND includes a detailed analysis of the biological resources in the river channel in Appendix B. The assessment concludes that the effects would be barely detectable. Additional scientific analysis is not necessary to make this conclusion. Determining a minimum flow in the river is different from conducting an impact analysis of a specific flow reduction. No additional scientific analysis is needed to conclude the effects of the proposed project on biological resources.

[10] SWRCB, Recycled Water Policy (Effective April 25, 2013). The SWRCB's proposed amendments to the Recycled Water Policy (released for public comment on May 9, 2018) do not modify this finding. Draft amendments to the Recycled Water Policy are located at: https://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/docs/2018/draft_amendments_policy_for_recycled_water_markup.pdf

Response to Comment LAW-8. The comment states that the flow reduction could increase the toxicity of the discharge. On the contrary, reducing the loading of copper and other contaminants including nutrients will reduce contaminant loading overall. The concentration of contaminants in the remaining flow and in the receiving water would not change. The comment suggests that the discharge reduction would reduce carbon concentrations that would increase toxicity. This is not correct. The Water Effect Ratios measure toxicity in receiving water. The proposed project would not change the chemistry of either the receiving water or the effluent discharge. This applies to both copper and lead. Therefore, the relative volume of discharge is not relevant to the compliance with this NPDES permit requirement. In fact, the volume of discharge is not consistent all day long, but fluctuates diurnally. The effluent quality will be unchanged and the resultant chemical reactions that may occur in the receiving water would also be unchanged. The statement that a reduction in tertiary-treated effluent into a flowing stream could violate Anti-Degradation Policies is incorrect. LAGWRP is under no obligation to discharge water that improves water quality in the river. In any case, the City's discharges from LAGWRP will continue to be subject to the terms and conditions of the NPDES permit for LAGWRP. Compliance with an NPDES permit does not require completion of an EIR.

Response to Comment LAW-9. The comment suggests that SWRCB might be the appropriate lead agency under CEQA. The SWRCB is not normally the lead agency for municipal recycled water projects. These "purple-pipe" projects have been successfully implemented throughout California with local lead agencies. The SWRCB is a Responsible Agency with one of the necessary approvals. The most important approval is to commit funds to build infrastructure and provide recycled water to serve non-potable demand and to reduce demands on the potable water system.

Overview of Lead Agency Determination. CEQA expressly allows public agencies to serve as lead agencies for projects that they carry out. (Pub. Res. Code, §21067.) The City's role as lead agency for the Project is not new or unusual. Case law confirms that agencies and cities regularly serve as lead agency for their own projects. (*See, e.g., North Coast Rivers Alliance v. Marin Mun. Wat. Dist*. (2013) 216 Cal.App.4th 614, 620-21*; Cal. Oak Found. v. Regents of the Univ. of Cal*. (2010) 188 Cal.App.4th 227, 241-2 (Cal. Oak); *City of Long Beach v. L.A. Unif. Sch. Dist*. (2009) 176 Cal.App. 4th 889, 895 (City of Long Beach).)

Commenter's case does not assist its claim that the SWRCB should have been the lead agency. In *Friends of Cuyamaca Valley v. Lake Cuyamaca Recreation and Park District* (1994) 28 Cal.App.4th 419, the court held that the Department of Fish and Game was the proper lead agency to permit duck hunting season. This holding was based on two critical factors. First, state and federal law vested authority to the state to determine whether duck hunting would be allowed in any given year, as well as the rules governing that hunting, in the state. (*Id*. at 428.) Second, an agreement between the state and the park district gave authority to establish hunting to the state. (*Ibid*.) The park district had only administrative oversight of the regulations adopted by the state. (*Ibid*.) That is not the case here. While the City has submitted its Wastewater Change Petition to the SWRCB for review and approval of its proposed reduction in discharges to the Los Angeles River, the City retains authority over the creation and use of its wastewater, co-operation of its reclamation plant, and its recycled water infrastructure as a whole. The City will carry out its recycled water program, not simply implement a SWRCB approval or program.

The City provides tertiary treatment of wastewater at LAGWRP that it co-owns with the City of Los Angeles. Treated water is either recycled and reused by the City and its customers, or the City discharges this treated water into the Los Angeles River near Colorado Street. As more fully described in its Wastewater Change Petition, the City proposes changes to the use and delivery of recycled water, specifically to gradually increase delivery of recycled water to local users—including the City of Pasadena—which, in turn, will result in a gradual decrease in the total quantity of wastewater flows that the City discharges from LAGWRP into the Los Angeles River. The proposed project involves the increased application of recycled water in the City service area, as well as construction and operation of three new recycled water distribution pipelines and pump stations within the City, and a new connection to the Pasadena Water & Power (PWP) recycled water distribution system.[11]

The City is the proper lead agency because it conceived of and designed its recycled water Project, determined that additional water would be needed to serve recycled water demands, will manage and oversee Project operations, and exercised discretion to enter into an agreement with the City of Pasadena to provide them with a portion of City's recycled water.

In contrast, the SWRCB's role here is limited to one aspect of the Project: confirming that the City's proposed change in discharge will not injure any other legal users of water. (Water Code, § 1211.) When multiple agencies have approval authority over a Project, CEQA also provides the lead agency is the first public agency with a discretionary decision—the so-called "first to act" rule. (CEQA Guidelines §15051(c).) Here, the City filed a Wastewater Change Petition in September 2016 with the SWRCB, sufficiently defining the Project to enable it to conduct its CEQA review.

Overview of Responsible Agency Determination. Responsible agencies are agencies, other than the lead agency, that have some discretionary authority for carrying out or approving a project (CEQA Guidelines § 15381). Accordingly, as set forth in the Draft IS/MND, the SWRCB is a responsible agency for the Project because it is charged with reviewing and approving the City's Wastewater Change Petition. Its sole duty is to determine if the reduction in discharge to the Los Angeles River will impact other legal users of water. (Water Code, § 1211.) The SWRCB will review and consider the environmental effects of the Project that are within its purview, and reach its own conclusions on whether and how to approve the Project.

The SWRCB's own website sets forth its role as a CEQA Responsible Agency in the Section 1211 process.

> *It is important to solicit input from the State Water Resources Control Board as a responsible agency in the CEQA process. The petition should identify the extent, if any, to which fish and wildlife would be affected by the change, and a statement of any measures proposed to be taken for the protection of fish and wildlife in connection with the change. Therefore, the CEQA document must include an evaluation of any impacts from the reduced flows.*[12]

Consistent with its role as lead agency for its Project, the City consulted with the SWRCB throughout the CEQA process.

---

11 The City of Pasadena served as Lead Agency in its review of its Non-Potable Water Project EIR, SCH No. 214081091, certified February 22, 2016, available at: https://ww5.cityofpasadena.net/water-and-power/wp-content/uploads/sites/54/2017/08/PWP_Final-EIR_23Dec15.pdf.

12 SWRCB Wastewater Change Petition Homepage, Overview of Wastewater Change Petitions, available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/applications/wastewaterchange/.

Response to Comment LAW-10. The comment states that the SWRCB may replace the City as lead agency on the Project. The City has communicated with the SWRCB throughout the development of this Project and the SWRCB has not asserted any claim to lead agency status.

Response to Comment LAW-11. The comment states that the City's short term goals of water recycling would adversely affect the City of Los Angeles' long term goals for recycled water and the Los Angeles River. The City's proposed increased use of recycled water to support customers within the City and the City of Pasadena supports and furthers long term environmental goals and the public interest. Water recycling is required under California's constitutional mandate that the waters of the state be put to beneficial use to the maximum extent feasible and not wasted. The Draft IS/MND explains that the purpose of the proposed changes is to meet both the City's and the City of Pasadena's long-term increasing demand for recycled water and to reduce these users' reliance on imported and potable water supplies, which in turn leads to a reduction in greenhouse gas impacts. The City and the City of Pasadena have invested millions of dollars into constructing a purple-pipe system to serve their customers' long term non-potable demands and to replace potable water with non-potable supplies. As such, the Petition, and associated changes, are not only consistent with, but further, the state's water recycling mandates and long term environmental goals, and the City's and the City of Pasadena's long term environmental goals, and therefore are in the public interest. (See City Municipal Code, §13.28.010.) As demonstrated by the Draft IS/MND, the Project will have a less than significant impact on the Los Angeles River. Lastly, any impact on the City of Los Angeles' future, undefined projects are not required to be analyzed here and CEQA does not require that one lead agency prioritize another public agency's goals. See also Response to Comment LAW-4.

Response to Comment LAW-12. The comment requests that an EIR be prepared. The Draft IS/MND provides substantial information on the hydrologic effects to the river and to the biological resources within the river. The notion that a 6 percent reduction in depth to the river would adversely affect the biological resources in the river is not founded in fact. No new evidence is provided that shows any potential for additional adverse effects. No sensitive resources are identified that the Draft IS/MND did not consider. It is reasonable to assume that the current condition in the Los Angeles River in late summer significantly overwaters the channel compared with its ecological value. Additional scientific analysis is not needed to make this reasonable conclusion.

COUNTY OF LOS ANGELES
FIRE DEPARTMENT

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DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

LACFD Comment Letter

July 19, 2018

Erik Krause, Deputy Director
City of Glendale
Community Development Department
633 East Broadway
Glendale, CA 91206

Dear Mr. Krause:

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION, "GLENDALE 2018 WASTEWATER CHANGE PETITION," PROPOSES TO GRADUALLY DECREASE THE VOLUME OF TREATED WASTEWATER DISCHARGED FROM THE LOS ANGELES-GLENDALE WATER RECLAMATION PLANT TO THE LOS ANGELES RIVER IN ORDER TO INCREASE THE DELIVERY OF RECYCLED WATER TO VARIOUS USERS, CITYWIDE, GLENDALE, FFER 201800064

1

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The following are their comments:

PLANNING DIVISION:

2

We have no comments.

LAND DEVELOPMENT UNIT:

3

This project is located entirely in the City of Glendale. Therefore, the City of Glendale Fire Department has jurisdiction concerning this project and will be setting conditions. This project is located in close proximity to the jurisdictional area of the Los Angeles County Fire Department. However, this project is unlikely to have an impact that necessitates a comment

concerning general requirements from the Land Development Unit of the Los Angeles County Fire Department. 3 (cont)

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Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department Land Development Unit's, Inspector Claudia Soiza at (323) 890-4243 or Claudia.Soiza@fire.lacounty.gov.

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

Very truly yours,

Michael Y. Takeshita

MICHAEL Y. TAKESHITA, ACTING CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

MYT:ac

LACFD Comment Letter

County of Los Angeles Fire Department
Daryl L. Osby, Fire Chief, Forester & Fire Warden
1320 North Eastern Avenue
Los Angeles, CA 90063-3294

Response to LACFD Comment Letter

Response to Comment LACFD-1. This comment provides a summary of the Los Angeles County Fire Department (LACFD) divisions that reviewed the Draft IS/MND. No further response is warranted.

Response to Comment LACFD-2. The commenter states that the Planning Division of the LACFD does not have any comments. No further response is warranted.

Response to Comment LACFD-4. The comment states that the Project is located within the jurisdiction of the City of Glendale Fire Department. The comment further states that the Project Site is located within close proximity of the LACFD but is unlikely to have an impact from the Land Development Unit. As such, no further response is warranted.

Response to Comment LACFD-4. This comment provides a summary of the responsibilities of the LACFD Forestry Division. No further comments are provided. As such, no further response is warranted.

Response to Comment LACFD-5. The commenter states that the Health Hazardous Materials Division (HHMD) of the LACFD has no comments as the Project Site is located outside of the HHMD's current jurisdiction. The comment states that the City of Glendale Fire Department, Certified Unified Program Agency is the governing local environmental agency. No further response is warranted.

Attachment 1 to Response to Comments

Current and Planned City of LA Activities (Attachment to LA Comment Letter)		Activities Analyzed in IS/MND, Additional Responses
1	US Army Corps of Engineers (Corps) ARBOR Project (See LA Comment letter Attachment and p. 4.)	See Exhibit A, pp. 3-4 (B.4) to Appendix E: Hydraulic Modeling Report
2	Sepulveda Sports Complex Water Recycling Project	See Exhibit A, p. 6 (B.8) to Appendix E: Hydraulic Modeling Report
3	Eastside Water Recycling Project	See Exhibit A, p. 6 (B.8) to Appendix E: Hydraulic Modeling Report
4	Increase number of LADWP recycled water customers	See Exhibit A, p. 6 (B.8) to Appendix E: Hydraulic Modeling Report
5	Expanded recycled water use through recirculation of Sepulveda Basin flow through lakes	See Response to Comment LADWP/LASAN-4.
6	LAR Dry-Weather Bacteria Compliance Approach for Segment B	See Exhibit A, pp. 4-5 (B.5) to Appendix E: Hydraulic Modeling Report
7	Enhanced Watershed Management Plan (EWMP) for Upper LAR (See LA Comment letter Attachment and p. 4.)	See Exhibit A, pp. 4-5 (B.5) to Appendix E: Hydraulic Modeling Report
8	Projects to enhance recharge capacity in the San Fernando Groundwater Basin (SFB)	See Exhibit A, pp. 8-9 (B.8.e. & B.9) to Appendix E: Hydraulic Modeling Report
Project Concepts (Attachment to LA Comment Letter)		
9	LAR Recharge into LA Forebay Concept	See Exhibit A, pp. 2, 6 (B.1 and B.8) to Appendix E: Hydraulic Modeling Report
10	LA/Glendale Water Reclamation Plant (LAGWRP) to Headworks Reservoir Concept	See Exhibit A, pp. 2, 6 (B.1 and B.8) to Appendix E: Hydraulic Modeling Report
11	Upper LAR to DCTWRP	See Exhibit A, p. 2 (B.1) to Appendix E: Hydraulic Modeling Report
12	DCTWRP to SFB Injection Wells	See Exhibit A, p. 2 (B.1) to Appendix E: Hydraulic Modeling Report
13	DCTWRP to Los Angeles Aqueduct Filtration Plant (LAAFP)	See Exhibit A, p. 2 (B.1) to Appendix E: Hydraulic Modeling Report
14	DCTWRP to LADWP Distribution System	See Exhibit A, pp. 2, 6 (B.1 & B.8) to Appendix E: Hydraulic Modeling Report
15	Increase recycled water demand beyond 2015 UWMP	See Exhibit A, pp. 2, 6 (B.1 & B.8) to Appendix E: Hydraulic Modeling Report

16	Projected reduction of groundwater upwelling (See LA Comment letter Attachment and p. 4.)	See Response to Comment LADWP/LASAN-9.
17	Future revitalization efforts along Arroyo Seco (See LA Comment letter Attachment and p. 4.)	See Exhibit A, p. 11 (B.11) to Appendix E: Hydraulic Modeling Report
City of Los Angeles Efforts (Comment Letter, p. 4)		
18.	City of LA Los Angeles River Revitalization Master Plan	See Exhibit A, p. 11 (B.10) to Appendix E: Hydraulic Modeling Report
19.	City of LA 2012 Recycled Water Master Planning Documents	See Exhibit A, p. 8 (B.8) to Appendix E: Hydraulic Modeling Report
20.	LADWP 2015 Stormwater Capture Master Plan	See Exhibit A, p. 5 (B.6) to Appendix E: Hydraulic Modeling Report
21.	Water Integrated Resources Plan and One Water LA 2040	See Exhibit A, pp. 8, 11 (B.1, and B. 12.) to Appendix E: Hydraulic Modeling Report
Efforts by Non-LA Entities (City of LA Comment Letter, p. 4)		
22.	City of Burbank's Recycled Water Use Expansion	See Exhibit A, p. 1 (A.1) to Appendix E: Hydraulic Modeling Report
23.	Lower Los Angeles River Revitalization Plan (April 2018)	See Exhibit A, p. 11 (B.10) to Appendix E: Hydraulic Modeling Report
24.	City of Long Beach's Los Angeles River Drinking Water Source Pilot Program	See Response to Comment LADWP/LASAN-4.

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Attachment D
Corrections and Additions

ATTACHMENT D – CORRECTIONS AND ADDITIONS

A. INTRODUCTION

Any corrections to the Draft Initial Study/Mitigated Negative Declaration (IS/MND) and to the Effects of Los Angeles – Glendale Water Reclamation Plant Discharge Reductions on the Los Angeles River (Appendix E, Hydraulic Modeling Report) text generated from responses to comments are stated in this section. The Draft IS/MND and Appendix E, Hydraulic Modeling Report, text has not been modified to reflect these modifications.

This Final IS/MND errata is provided to clarify, refine, and provide supplemental information for the Glendale Recycled Water Project, including the 2018 Wastewater Change Petition (SWRCB WW0097) (proposed project or Project). Changes may be corrections or clarifications to the text of the original Draft IS/MND and Appendix E, Hydraulic Modeling Report. Other changes to the Draft IS/MND and Appendix E, Hydraulic Modeling Report, clarify the analysis in the Draft IS/MND based upon the information and concerns raised by commentors during the public review period. None of the information contained in these Draft IS/MND and Appendix E, Hydraulic Modeling Report, modifications constitute significant new information or changes to the analysis or conclusions of the Draft IS/MND.

Please note, all of the flow depth, velocity, and area data in Appendix E, Hydraulic Modeling Report, is accurate and remains unchanged, but corrections were made to some of the percent changes to depth and velocity in ARBOR Reaches 4-6. To summarize:

For the LA River between LAGWRP and the Arroyo Seco confluence (ARBER Reaches 4-6, Segment A):
Average change in depth due to the Project effect = -0.4 inches = -4%;
Average change in depth due to the Cumulative effect = -0.6 inches = -6%.

For ARBOR Reach 6 (e.g. discussion on effects on kayaking):
Project effect = -0.6 inches = -4%;
Cumulative effect = -0.9 inches = -6%.

For simplicity, the Draft IS/MND and Appendix E, Hydraulic Modeling Report, modifications contained in the following pages are in the same order as the information appears in the Draft IS/MND. Changes in text are signified by strikeouts (~~strikeouts~~) where text has been removed and by double underlining (<u>underline</u>) where text has been added. The applicable page numbers from the Draft IS/MND are also provided where necessary for easy reference.

B. CORRECTIONS AND ADDITIONS

The corrections and additions to the Draft IS/MND are presented below. A line through text indicates it has been deleted, while double underlined text is text that has been added.

Draft IS/MND Attachment A – Project Description

Page A-8. Modify text in the first paragraph as follows:

d. Existing Permits

The City of Los Angeles and the City of Glendale jointly own LAGWRP. However, the City of Los Angeles is the sole operator LAGWRP pursuant to the Joint Powers Agreement between the two cities. LAGWRP currently receives wastewater from the cities of Glendale, Burbank, Los Angeles, and La Canada-Flintridge and from the Los Angeles Zoo. The discharge of wastewater is regulated under Order No. R4-2011-0197 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0053953 adopted on December 8, 2011. This Order was subsequently revised by Order No. ~~R4-2011-0197-A01~~ R4-2017-0063 adopted by the Los Angeles Regional Water Quality Control Board (LARWQCB) on July 12, 2012. Order No. R4-2011-0197 also serves as a permit under the National Pollutant Discharge Elimination System (NPDES No. CA0053953).

Page A11. Modify text in the first paragraph as follows:

Glendale is proposing to continue to implement its recycled water reuse program and sell 3,100 AFY of recycled water to Pasadena pursuant to the 1991 Participation Agreement in order to increase local water supply reliability and maximize the use of recycled water consistent with state law and policy including, but not limited to Water Code sections 461, 13500 et seq., and 13575 et seq., Government Code section 65601 et seq., the SWRCB's Recycled Water Policy, and the Executive Order issued by the Governor on April 25, 2014. The City of Pasadena's Non-Potable Water Project would provide 3,100 AFY for citywide non-potable water use, meeting nearly 10 percent of the City of Pasadena's total water demand.

Draft IS/MND Attachment B – Explanation of Checklist

Page B-16. Modify text in the last paragraph as follows:

No special-status fish or other aquatic species are known to occur in these segments of the channel. The potential effects of any hypothetical flow reduction to a river may include: (1) reductions in water depth and velocity that can affect aquatic habitat (e.g. changes in fish habitat or fish migration potential), (2) changes in wetted channel area that can affect aquatic habitat (e.g. changes in benthic macroinvertebrate productivity), and (3) changes in water level that can affect riparian habitat (e.g. declines in water level below tree root depths). The effects of the proposed project during the driest single month within the last eleven years include a flow depth reduction of less than half an inch (< 0.5-inch), a change in velocity of two percent (~~2~~3%), and a shrinkage of wetted area during the summer months equivalent to a strip 14 inches wide along both banks (two percent [2%] of the existing wetted area along the River edges).

Page B-20. Modify text in the second to last paragraph as follows:

The BWT in the Study Area helps to slow the velocity of water and creates pools that are used by certain non-native fish and aquatic species, as well as birds. The reduced discharge would reduce the depth of flow within the River channel, but would not significantly reduce or eliminate areas of slow-moving water or

pools around the margins of areas with BWT. The current typical maximum depth of water in the study areas is 6.5 feet. The flow reduction could lower the depth of water by less than one inch (~~0.5~~ 4 percent).

Page B-39. Modify text in the first paragraph as follows:

Based on the topography and geology of the project site, and proposed depths of excavation for construction, it is not anticipated that substantial dewatering would be required. However, if localized incidental dewatering is ultimately required, it would generate minimal quantities of discharge water, which would be pumped into existing storm drains nearby. This discharge water is not expected to contain any contaminants that would cause its release to violate any water quality standards or waste discharge requirements. Any dewatering required to install the recycled water distribution system will need to be enrolled under the General Permit R4-2013-0095 – Discharges of Groundwater from Construction and Project Dewatering to Surface Waters. ~~All dewatering discharges would be carried out in accordance with all applicable requirements of Order No. R4-2011-0197/NPDES No. CA0053953.~~ Therefore, no significant impacts to water quality from construction of the proposed project are anticipated and no mitigation is required.

Page B-41. Modify text in the first paragraph as follows:

The proposed project flows constitute a 10 percent reduction in flows in the River upstream of the Arroyo Seco confluence, and a 4 percent reduction in flows to the estuary during the August 2008 Condition. The August 2008 Condition represents the lowest flow in the River during the most recent 11-year period for which data is available and is used as the baseline. As such it is a highly conservative (worst-case) baseline (makes the project effect appear much greater than during more typical conditions). The proposed project flow reduction translates to an average reduction in flow depth between LAGWRP discharge point and the confluence with the Arroyo Seco of four-tenths of an inch (4/10") and a reduction in flow velocity of ~~2~~ 3 percent.

Page B-62. Modify text in the second paragraph as follows:

As discussed above under Section IX, Hydrology and Water Quality, of this Initial Study, in ARBOR Reach 6, average flow depth in the center of the channel is 14.9 inches under the August 2008 Condition, and is predicted to fall to 14.4 inches under the with-project condition, a decline of 0.6 inches or negative ~~0.3~~ -4 percent. The reduction in wetted channel area within Reach 6 is 0.8 acres (2.6 percent of the existing wetted area) of which 27 percent is concrete channel. As such, the proposed project is not likely to have a noticeable effect on recreation within Reach 6, or elsewhere.

Page B-71. Modify text in the second paragraph as follows:

The Report concludes that during low flow conditions in August, the cumulative condition (proposed project plus the proposed Burbank diversion) would result in a reduction of 0.1 feet per second velocity (-6.8%) and a 0.6-inch reduction in average depth ~~(-0.5~~ -6%). The Hydrology Report concludes that under the cumulative condition, total wetted area would be reduced by 2.5 acres, 26 percent of which would occur on the concrete channel walls spread out over five miles of river channel. The Report concludes that both the "Project effects and cumulative project effects are very minor, and fall well within the range of data collection and hydraulic model uncertainty and error. The Project hydrologic effects would likely be almost undetectable in the field, and the cumulative effects barely detectable."

Page B-72. Modify text in the first paragraph as follows:

Potential Impacts to Recreation

As summarized in Hydraulic Modeling Report, a 2.5-mile reach within Study Area Segment A, the Elysian Valley River Recreation Area, is permitted for kayaking and canoeing. Under the cumulative effects scenario average flow depth in the center of the channel is predicted to fall from 14.9 inches to 14.1 inches a decline of 0.9 inches or ~~-0.5~~ -6%. This level of reduction will not impact recreational boating activities. Thus, the cumulative effects on recreation will be less than significant, and are likely to be barely noticeable within Reach 6, or elsewhere.

Appendix E – Effects of Los Angeles – Glendale Water Reclamation Plant Discharge Reductions on the Los Angeles River, Hydraulic Modeling Report

Page 20, Section 3.1.4, Changes to Velocity, Depth and Wetted Channel Area. Modify text in the third paragraph from the bottom as follows:

The hydraulic model results for the Project show that under the August 2008 Conditions: (1) the average velocity within Study Area Segment A would be slightly reduced, from 1.48 to 1.43 feet/sec (~~-2~~ -3% change), and (2) the average depth in the deepest part of the channel would be slightly reduced from 9.9 to 9.6 inches (0.4 inches, or ~~-0.3~~ -4%), as shown in Figure 10 and Table 5.

Page 20, Section 3.1.4, Changes to Velocity, Depth and Wetted Channel Area. Modify text in the second paragraph from the bottom as follows:

Under August 2008 Conditions, the hydraulic model results for the Project and Burbank project (cumulative effects) are: (1) the average velocity within Study Area Segment A would be reduced from 1.48 feet/sec to 1.38 feet/sec (-6.8%), and (2) the average depth would be reduced from 9.9 to 9.3 inches (0.6 inches, or ~~0.5~~ -6%).

Page 27, Section 3.1.5.1, Effects of Project Reductions. Modify text in the last paragraph as follows:

In ARBOR reach 6, average flow depth in the center of the channel is 14.9 inches under the August 2008 Condition, and is predicted to fall to 14.4 inches under the with-Project condition, a decline of 0.6 inches or ~~-0.3~~ -4% (values rounded to nearest tenth of inch). The reduction in wetted channel area within reach 6 is 0.8 acres (2.6% of the existing wetted area) of which 27% is concrete channel.

Page 28, Section 3.1.5.2, Cumulative Effects of Project Plus Burbank Project Reductions. Modify text in the second paragraph as follows:

Under the cumulative effects scenario average flow depth in the center of the channel is predicted to fall from 14.9 inches to 14.1 inches a decline of 0.9 inches or ~~-0.5~~ -6%. The reduction in wetted channel area within reach 6 is 1.2 acres (4.0% of the existing wetted area) of which 27% is concrete channel. Given that the reduction in flow resulting from the Project and Burbank project, under the worst-case condition, will not reduce flows below 1.0 feet, the cumulative effects on recreation are not likely to be significant, and are likely to be barely noticeable within Reach 6, or elsewhere.

Page 36. 5.1, Segment A. Modify text in the second paragraph as follows:

The Project flow reduction translates to an average reduction in flow depth between the LAG WRP discharge point and the confluence with the Arroyo Seco of four tenths of an inch, and a reduction in flow velocity of ~~2~~3%. The shrinkage in wetted channel area is 1.5 acres over a 5.4-mile reach (1.9% of the existing wetted channel area (81 acres) under the August 2008 Condition, equivalent to a 7-inch wide strip on either side of the channel).

Attachment E
Mitigation Monitoring and Reporting Program

ESA

ATTACHMENT E – MITIGATION MONITORING AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP), which is provided in **Table E-1**, *Mitigation Monitoring and Reporting Program,* has been prepared pursuant to Public Resources Code Section 21081.6, which requires adoption of a MMRP for projects in which the Lead Agency has required changes or adopted mitigation to avoid significant environmental effects. The City of Glendale (City) is the Lead Agency for the Glendale Recycled Water Project, including the 2018 Wastewater Change Petition (SWRCB WW0097) (proposed project or Project) and therefore is responsible for administering and implementing the MMRP. The decision-makers must define specific reporting and/or monitoring requirements to be enforced during Project implementation prior to final approval of the Project. The primary purpose of the MMRP is to ensure that the mitigation measures identified in the IS/MND are implemented, thereby minimizing identified environmental effects.

The MMRP for the Project will be in place through all phases of the Project, including design (pre-construction), construction, and operation. The City will ensure that monitoring is documented through periodic reports and that deficiencies are promptly corrected. The designated environmental monitor will track and document compliance with mitigation measures, note any problems that may result, and take appropriate action to remedy problems.

Each mitigation measure is categorized by impact area, with an accompanying identification of:

- The action required, including the phase during which the mitigation measure should be monitored;
- The timing of implementation of the mitigation measure;
- The responsible party; and
- The monitoring/enforcement agency

Table E-1

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
IV. Biological Resources							
MM BIO-1: Prior to removal, trimming, or disturbance of vegetation that could be used as nesting habitat for birds during nesting season (typically February through August), a qualified biologist will conduct a preconstruction survey for nesting birds. If active nests are identified, the biologist will apply a no-work buffer around the nest at an appropriate distance that would insure no incidental take of the nest from the project. Typical buffer distances are 300 feet for songbirds and 500 feet for raptors, but the distance in the field will be determined by the biologist and will be based on the ambient conditions, type of work proposed and distance from the nest, and the species of bird that is nesting. The buffer may be considerably less than the typical 300 or 500 feet, at the discretion of the project biologist. The no-work buffer will remain in place until the biologist has determined the young have fledged and are no longer dependent on the nest site.	Confirm surveys are conducted prior to construction activities.	Prior to construction activities in suitable habitat areas where construction is anticipated.	Project Applicant.	City of Glendale.			

Table E-1 (Continued)

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
MM BIO-2: An Indigenous Tree Program permit will be obtained from the City of Glendale prior to removal, encroachment, or substantial trimming (topping or pruning more than one-quarter of total live foliage) of native trees protected by the City of Glendale's Indigenous Tree Program, including western sycamore (Platanus racemosa) and coast live oak (Quercus agrifolia). For every tree removed by the project, two replacement trees at a minimum 15-gallon size shall be planted.	Confirm and review removal request and replacement plan(s).	Prior to removal or encroachment or substantial trmming of any street tree.	Project Applicant.	City of Glendale.			
V. Cultural Resources							
MM CUL-1: Prior to the issuance of a demolition permit, an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 2008) (Qualified Archaeologist) shall be retained. The Qualified Archaeologist shall conduct cultural resources sensitivity training for construction personnel prior to construction. Construction personnel shall be trained on measures that will be implemented during construction and shall also be informed of the	Confirm retention of qualified professional(s) and monitoring of earthmoving activities.	Prior to issuance of demolition, grading, or building permit.	Project Applicant.	City of Glendale.			

Table E-1 (Continued)

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
types of cultural resources that may be encountered, and the proper procedures to be followed in the event of an inadvertent discovery during construction. The City of Glendale shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.							
MM CUL-2: An archaeological monitor (working under the direct supervision of the Qualified Archaeologist) shall observe all ground-disturbing activities, including but not limited to: demolition, grubbing, trenching, grading, or any other construction excavation activity in the particular areas of the Project site that have been designated as archaeologically sensitive (see Figure 4, Archaeological Sensitivity Map). These areas include portions of the Glendale Tee component, north of Doran Street and the western portion of the Chevy Chase Country Club component. The frequency of monitoring shall be based on the rate of excavation and grading activities, the materials being excavated (younger sediments vs. older	Confirm retention of qualified professional(s) and monitoring of earthmoving activities.	Prior to the issuance of a demolition, grading, or building permit.	Project Applicant.	City of Glendale.			

Table E-1 (Continued)

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
sediments), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring may be reduced to part-time inspections, or ceased entirely, if determined adequate by the Qualified Archaeologist.							
MM CUL-3: In the event that historic (e.g., bottles, foundations, refuse dumps/privies, railroads, etc.) or prehistoric (e.g., hearths, burials, stone tools, shell and faunal bone remains, etc.) archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. An appropriate buffer area shall be established by the Qualified Archaeologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by Project construction activities shall be evaluated by the Qualified Archaeologist. If a resource is determined by the Qualified Archaeologist to	Monitor grading and construction activities; halt or relocated work if resources encountered.	Throughout grading and construction activities.	Project Applicant.	City of Glendale.			

Table E-1 (Continued)

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
constitute a "historical resource" pursuant to CEQA Guidelines Section 15064.5(a) or a "unique archaeological resource" pursuant to Public Resources Code Section 21083.2(g), the qualified Archaeologist shall coordinate with the City of Glendale to develop a formal treatment plan that would serve to reduce impacts to the resources. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any archaeological material collected shall be curated at a public, non-profit institution with a research interest in the materials, such as the Fowler Museum, if such an institution agrees to accept the material. If no							

Table E-1 (Continued)

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.							
MM CUL-4: The Qualified Archaeologist shall prepare a final report and appropriate California Department of Parks and Recreation Site Forms at the conclusion of archaeological monitoring. The report shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources with respect to the California Register of Historical Resources and CEQA. The report and the Site Forms shall be submitted to the City of Glendale, the South Central Coastal Information Center, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the required mitigation measures.	Confirm completion and submittal of final report.	Prior to release of the Project grading bond.	Project Applicant.	City of Glendale.			
MM CUL-5: If human remains are encountered unexpectedly during implementation of the Project, State Health and Safety Code Section 7050.5 requires that	Halt construction activities in the area of the discovery and contact the County	Throughout grading and construction activities.	Project Applicant.	City of Glendale.			

Table E-1 (Continued)

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). The MLD may, with the permission of the landowner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Upon the discovery of the Native American remains, the	Coroner. Coordinate with Coroner and NAHC, as appropriate.						

Table E-1 (Continued)

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment. Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendants and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized							

Table E-1 (Continued)

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance.							
MM PALEO-1: Prior to the issuance of a demolition permit, a qualified paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards (SVP, 2010) (Qualified Paleontologist) shall be retained. The Qualified Paleontologist shall conduct paleontological resources sensitivity training for construction personnel prior to construction. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project site and the procedures to be followed in the event of an inadvertent discovery during construction. The City of Glendale shall ensure that construction personnel are made available for and attend the	Confirm retention of qualified professional(s) and monitoring of earthmoving activities.	Prior to the issuance of a demolition, grading, or building permit.	Project Applicant.	City of Glendale.			

Table E-1 (Continued)

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
training and retain documentation demonstrating attendance							
MM PALEO-2: If a potential fossil is encountered, construction activities in the vicinity of the discovery shall cease and be temporarily diverted or redirected to an area outside a 50-foot radius from the discovery. The Qualified Paleontologist shall be contacted immediately and allowed to evaluate the discovery, determine its significance, and to recommended appropriate treatment measures. An appropriate buffer area shall be established by the Qualified Paleontologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. At the Qualified Paleontologist's discretion, and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock/sediment samples for initial processing and evaluation. If the Qualified Paleontologist deems the resource significant, and if preservation in place is not feasible, the Qualified Paleontologist shall implement a	Monitor grading and construction activities; halt or relocated work if resources encountered.	Throughout grading and construction activities.	Project Applicant.	City of Glendale.			

Table E-1 (Continued)

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
paleontological salvage program in accordance with the standards of the Society for Vertebrate Paleontology (2010) in order to remove the resource from the location. Any fossils encountered and recovered shall be prepared to the point of identification and catalogued before they are submitted to their final repository. Any fossils collected shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County, if such an institution agrees to accept the fossils. If no institution accepts the fossil collection, they shall be donated to a local school in the area for educational purposes. Accompanying notes, maps, and photographs shall also be filed at the repository and/or school. The Qualified Paleontologist shall also determine the need for paleontological construction monitoring during construction of the Project. The Qualified Paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology							

Table E-1 (Continued)

Mitigation Monitoring and Reporting Program

Mitigation Measure	Action Required	Timing	Responsible Party	Monitoring/ Enforcement Agency	Compliance Verifications		
					Initial	Date	Comments
used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Applicant to the City of Glendale, the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the Project and required mitigation measures.							
XII. Noise							
MM NOISE-1: During pipeline construction activities within 25 feet to noise-sensitive receptors (e.g., residences), the proposed project shall avoid the use of vibratory rollers. Other means of paving shall be employed to ensure that transient vibration velocities do not exceed 0.24 in/sec PPV at any sensitive receptor.	Confirm vibratory rollers will not be used during pipeline construction activities within 25 feet to noise-sensitive recepectors.	Prior to contract award for construction; throughout construction activities.	Project Applicant.	City of Glendale.			

Appendices

Appendix A
Air Quality Modeling Data

ESA

Project Construction Schedule[1]

Phase	CalEEMod Phase Type	Start Date	End Date	# of construction days	Max daily # of workers	Total one-way worker trips per day	Vendor Trips per Day	Total-one way Vendor Trips per day	Total Haul Trucks[2]	Max Daily Haul Trucks per Day	Total One-Way Haul Trips per Day
Glendale T (Phase 1)		**1/1/2018**	**8/12/2018**	**160**							
Mobilization	Site Preparation	1/1/2018	1/2/2018	2	20	40	5	10	5	5	10
Pavement Cutting	Demolition	1/3/2018	1/12/2018	8	20	40	5	10	74	9	19
Excavation, Pipe Laying, Backfilling	Building Construction	1/13/2018	7/25/2018	138	20	40	5	10	550	4	8
Paving	Paving	7/26/2018	8/8/2018	10	20	40	5	10	-	-	-
De-Mobilzation	Site Preparation	8/9/2018	8/12/2018	2	20	40	5	10	5	5	10
Chevy Chase (Phase 2)		**8/13/2018**	**3/26/2019**	162							
Mobilization	Site Preparation	8/13/2018	8/14/2018	2	10	20	5	10	5	5	10
Pavement Cutting	Demolition	8/15/2018	8/24/2018	8	10	20	5	10	81	10	20
Excavation, Pipe Laying, Backfilling	Building Construction	8/25/2018	1/27/2019	110	10	20	5	10	710	6	13
Paving	Paving	1/28/2019	2/8/2019	10	10	20	5	10	-	-	-
Pump Station	Building Construction	2/9/2019	3/22/2019	30	10	20	5	10	1	1	2
De-Mobilzation	Site Preparation	3/23/2019	3/26/2019	2	10	20	5	10	5	5	10
Chevy Oaks/Camino San Rafael (Phase 3)		**3/27/2019**	**9/24/2019**	130							
Mobilization	Site Preparation	3/27/2019	3/28/2019	2	10	20	5	10	5	5	10
Pavement Cutting	Demolition	3/29/2019	4/4/2019	5	10	20	5	10	40	8	16
Excavation, Pipe Laying, Backfilling	Building Construction	4/5/2019	6/21/2019	56	10	20	5	10	810	14	29
Paving	Paving	6/22/2019	6/28/2019	5	10	20	5	10	-	-	-
Pump Station	Building Construction	6/29/2019	9/20/2019	60	10	20	5	10	1	1	2
De-Mobilzation	Site Preparation	9/21/2019	9/24/2019	2	10	20	5	10	5	5	10
Hoover,Toll,Keppel		Already constructed									

1 Based on Client Construction Information

2 Mobilization/Demobilization equipment total of 5 heavy duty trucks (2 flatbeds and 3 trucks towing the lowboy trailer)

Construction Subphase and Equipment	CalEEMod Equipment Type	# of equipment	Hours/day		
Glendale T					
Mobilization					
Flatbed Truck	Included in Haul Trucks	2	-		
Lowboy (Trailer)	No Emissions/ trucks pulling trailer inclu	3	-		
Pavement Cutting					
Pavement Saw	Concrete/Industrial Saws	1	8	81	0.73
Pick-Up Truck	Included in Worker Trips	1	-		
Excavation, Pipe Laying, Back Filling					
Air compressor	Air Compressors	2	8	78	0.48
Backhoe	Tractors/Loaders/Backhoes	2	8	97	0.37
Dump truck	Included in Haul Trucks	2	-		
Excavator	Excavators	2	8	158	0.38
Forklift	Forklifts	1	8	89	0.2
Generator	Generator Sets	2	8	84	0.74
Mechanic truck	Inlcuded in Worker Trips	1	-		
Pick-up truck	Included in Worker Trips	2	-		
Welding truck	Welders	1	8	46	0.45
Paving					
Grinding machine	Crushing/Proc. Equipment	1	8	85	0.78
Paving machine	Paving Equipment	1	8	132	0.36
Steam roller	Rollers	1	8	80	0.38
De-mobilization					
Flatbed truck	Included in Haul Trucks	2	-		
Lowboy (Trailer)	No Emissions/ trucks pulling trailer inclu	3	-		
Street sweeper	Sweepers/Scrubbers	1	8	64	0.46

Construction Subphase and Equipment	CalEEMod Equipment Type	# of equipment	Hours/day		
Chevy Chase					
Mobilization					
Flatbed Truck	Included in Haul Trucks	2	-		
Lowboy (Trailer)	No Emissions/ trucks pulling trailer inclu	3	-		
Pavement Cutting					
Pavement Saw	Concrete/Industrial Saws	1	8	81	0.73
Pick-Up Truck	Included in Worker Trips	1	-		
Excavation, Pipe Laying, Back Filling					
Air compressor	Air Compressors	2	8	78	0.48
Backhoe	Tractors/Loaders/Backhoes	2	8	97	0.37
Dump truck	Included in Haul Trucks	2	-		
Excavator	Excavators	2	8	158	0.38
Forklift	Forklifts	1	8	89	0.2
Generator	Generator Sets	2	8	84	0.74
Mechanic truck	Inlcuded in Worker Trips	1	-		
Pick-up truck	Included in Worker Trips	2	-		
Welding truck	Welders	1	8	46	0.45
Paving					
Grinding machine	Crushing/Proc. Equipment	1	8	85	0.78
Paving machine	Paving Equipment	1	8	132	0.36
Steam roller	Rollers	1	8	80	0.38
Pump Stations					
Dump truck	Included in Haul Trucks	1	-		
Excavator	Excavators	1	8	158	0.38
Pick-up truck	Included in Worker Trips	1	-		
Crane (2 days)	Cranes	1	8	231	0.29
Cement truck (5 days)	Included in Vendor Trips	1	-		
De-mobilization					
Flatbed truck	Included in Haul Trucks	2	-		
Lowboy (Trailer)	No Emissions/ trucks pulling trailer inclu	3	-		
Street sweeper	Sweepers/Scrubbers	1	8	64	0.46

Construction Subphase and Equipment	CalEEMod Equipment Type	# of equipment	Hours/day		
Chevy Oaks/ Camino San Rafael					
Mobilization					
Flatbed Truck	Included in Haul Trucks	2	-		
Lowboy (Trailer)	No Emissions/ trucks pulling trailer inclu	3	-		
Pavement Cutting					
Pavement Saw	Concrete/Industrial Saws	1	8	81	0.73
Pick-Up Truck	Included in Worker Trips	1	-		
Excavation, Pipe Laying, Back Filling					
Air compressor	Air Compressors	2	8	78	0.48
Backhoe	Tractors/Loaders/Backhoes	2	8	97	0.37
Dump truck	Included in Haul Trucks	2	-		
Excavator	Excavators	2	8	158	0.38
Forklift	Forklifts	1	8	89	0.2
Generator	Generator Sets	2	8	84	0.74
Mechanic truck	Inlcuded in Worker Trips	1	-		
Pick-up truck	Included in Worker Trips	2	-		
Welding truck	Welders	1	8	46	0.45

Paving						
	Grinding machine	Crushing/Proc. Equipment	1	8	85	0.78
	Paving machine	Paving Equipment	1	8	132	0.36
	Steam roller	Rollers	1	8	80	0.38
Pump Stations						
	Dump truck	Included in Haul Trucks	1	-		
	Excavator	Excavators	1	8	158	0.38
	Pick-up truck	Included in Worker Trips	1	-		
	Crane (2 days)	Cranes	1	8	231	0.29
	Cement truck (5 days)	Included in Vendor Trips	1	-		
De-mobilization						
	Flatbed truck	No Emissions/ trucks pulling trailer inclu	2	-		
	Lowboy (Trailer)	No Emissions	3	-		
	Street sweeper	Sweepers/Scrubbers	1	8		

Demolition Quantities

Phase	Acres[1]	sqft	Concrete/Pavement Thickness	Volume (ft3)	Volume (CY)	Concrete Weight (lb/CY)[2]	Tons of Debris	Haul Truck Capacity[3]	Total Haul Trucks	Max Daily Haul Trucks per Day	Total One-Way Haul Trips per Day
Glendale T	0.92	40128	0.5	20064	743	4050	1505	10	74	9	19
Chevy Chase	1.01	44000	0.5	22000	815	4050	1650	10	81	10	20
Chevy Oaks/Camino San Rafael	0.50	21764	0.5	10882	403	4050	816	10	40	8	16

1 Based on Client Construction Information

2 http://syracuselandbank.org/wp-content/uploads/2014/07/CD-weight-to-volume-calculation-Waste-Cap-from-other-sources.pdf

3 http://www.earthhaulers.com/news/how-much-dirt-can-a-dump-truck-carry/

Excavation Quantities

Phase	Import (CY)[1]	Export (CY)[1]	Total Material Movement (CY)	Haul Truck Capacity (CY)[2]	Total Haul Trucks	Max Daily Haul Trucks per Day	Total One-Way Haul Trips per Day
Glendale T	2,500	3,000	5,500	10	550	4	8
Chevy Chase	3,300	3,800	7,100	10	710	6	13
Chevy Oaks/Camino San Rafael	3,900	4,200	8,100	10	810	14	29

1 Based on Client Construction Information

2 http://www.earthhaulers.com/news/how-much-dirt-can-a-dump-truck-carry/

City of Glendale Wastewater Project
Air Quality Construction Analysis

Unmitigated Construction Scenario

Regional Summary	ROG	NOX	CO	SO2	PM10 Total	Total PM2.5
Source				**lb/day**		
Phase 1 Mobilization - 2018	<1	2	2	<1	1	<1
Phase 1 Pavement Cutting - 2018	1	8	7	<1	1	1
Phase 1 Excavation, Pipe Laying, Backfill - 2018	4	31	29	<1	2	2
Phase 1 Paving - 2018	1	11	11	<1	1	1
Phase 1 De-mobilization - 2018	1	5	4	<1	1	<1
Phase 2 Mobilization - 2018	<1	2	1	<1	<1	<1
Phase 2 Pavement Cutting - 2018	1	8	6	<1	1	1
Phase 2 Excavation, Pipe Laying, Backfill - 2018	4	32	28	<1	2	2
Phase 2 Excavation, Pipe Laying, Backfill - 2019	3	26	26	<1	2	2
Phase 2 Paving - 2019	1	10	10	<1	1	1
Phase 2 Pump Station - 2019	1	10	7	<1	1	<1
Phase 2 De-mobilization - 2019	<1	4	3	<1	1	<1
Phase 3 Mobilization - 2019	<1	2	1	<1	<1	<1
Phase 3 Pavement Cutting - 2019	1	7	5	<1	1	1
Phase 3 Excavation, Pipe Laying, Backfill - 2019	3	31	29	<1	2	2
Phase 3 Paving - 2019	1	10	10	<1	1	1
Phase 3 Pump Station - 2019	1	10	7	<1	1	<1
Phase 3 De-mobilization - 2019	<1	4	3	<1	1	<1
Daily Maximum Emissions	**4**	**32**	**29**	**<1**	**2**	**2**
SCAQMD Regional Threshold	75	100	550	150	150	55
Above/(Under)	(71)	(68)	(521)	(150)	(148)	(53)
Exceeds Threshold?	No	No	No	No	No	No

Air Quality Construction Analysis

Unmitigated Construction Scenario

Localized Emissions Summary	NOX	CO	PM10 Total1	Total PM2.5
Source			**lb/hr**	
Phase 1 Mobilization - 2018	3	3	1	<1
Phase 1 Pavement Cutting - 2018	4	4	1	1
Phase 1 Excavation, Pipe Laying, Backfill - 2018	29	27	2	2
Phase 1 Paving - 2018	10	9	1	1
Phase 1 De-mobilization - 2018	3	2	<1	<1
Phase 2 Mobilization - 2018	2	2	<1	<1
Phase 2 Pavement Cutting - 2018	5	4	1	1
Phase 2 Excavation, Pipe Laying, Backfill - 2018	29	27	2	2
Phase 2 Excavation, Pipe Laying, Backfill - 2019	26	27	2	2
Phase 2 Paving - 2019	9	9	1	1
Phase 2 Pump Station - 2019	9	6	<1	<1
Phase 2 De-mobilization - 2019	3	2	<1	<1
Phase 3 Mobilization - 2019	2	1	<1	<1
Phase 3 Pavement Cutting - 2019	4	4	1	1
Phase 3 Excavation, Pipe Laying, Backfill - 2019	26	27	2	2
Phase 3 Paving - 2019	9	9	1	1
Phase 3 Pump Station - 2019	9	6	<1	<1
Phase 3 De-mobilization - 2019	3	2	<1	<1
Daily Maximum Emissions	**29**	**27**	**2**	**2**
SCAQMDLocalized Threshold	69	535	4	3
Above/(Under)	(40)	(508)	(2)	(1)
Exceeds Threshold?	No	No	No	No

Glendale Wastewater Project (Pasadena)

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2019
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	1115.33	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Installation of Pipeline

Construction Phase - Project Specific Information

Off-road Equipment - Project Specific Information

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tblConstructionPhase	NumDays	0.00	8.00
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2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.8305	31.6051	29.2864	0.0524	4.8793	1.8561	5.1694	0.7948	1.7914	1.9469	0.0000	5,130.3527	5,130.3527	0.8345	0.0000	5,151.0417
2019	3.3913	31.0638	28.5300	0.0580	3.9202	1.6016	4.1679	0.6449	1.5459	1.7474	0.0000	5,734.0804	5,734.0804	0.8571	0.0000	5,755.5069
Maximum	**3.8305**	**31.6051**	**29.2864**	**0.0580**	**4.8793**	**1.8561**	**5.1694**	**0.7948**	**1.7914**	**1.9469**	**0.0000**	**5,734.0804**	**5,734.0804**	**0.8571**	**0.0000**	**5,755.5069**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1 Mobilization	Site Preparation	1/1/2018	1/2/2018	5	2	11
2	Phase 1 Pavement Cutting	Demolition	1/3/2018	1/12/2018	5	8	12
3	Phase 1 Excavation, Pipe Laying, Backfill	Building Construction	1/13/2018	7/25/2018	5	138	13
4	Phase 1 Paving	Paving	7/26/2018	8/8/2018	5	10	14
5	Phase 1 De-mobilization	Site Preparation	8/9/2018	8/12/2018	5	2	15
6	Phase 2 Mobilization	Site Preparation	8/13/2018	8/14/2018	5	2	16
7	Phase 2 Pavement Cutting	Demolition	8/15/2018	8/24/2018	5	8	17
8	Phase 2 Excavation, Pipe Laying, Backfill	Building Construction	8/25/2018	1/27/2019	5	110	18
9	Phase 2 Paving	Paving	1/28/2019	2/8/2019	5	10	19
10	Phase 2 Pump Station	Building Construction	2/9/2019	3/22/2019	5	30	20
11	Phase 2 De-mobilization	Site Preparation	3/23/2019	3/26/2019	5	2	21
12	Phase 3 Mobilization	Site Preparation	3/27/2019	3/28/2019	5	2	22
13	Phase 3 Pavement Cutting	Demolition	3/29/2019	4/4/2019	5	5	23
14	Phase 3 Excavation, Pipe Laying, Backfill	Building Construction	4/5/2019	6/21/2019	5	56	24
15	Phase 3 Paving	Paving	6/22/2019	6/28/2019	5	5	25
16	Phase 3 Pump Station	Building Construction	6/29/2019	9/20/2019	5	60	26
17	Phase 3 De-mobilization	Site Preparation	9/21/2019	9/24/2019	5	2	27

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1 Mobilization					
Phase 1 Mobilization					
Phase 1 Pavement Cutting	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 1 Excavation, Pipe Laying, Backfill	Air Compressors	2	8.00	78	0.48
Phase 1 Excavation, Pipe Laying, Backfill	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1 Excavation, Pipe Laying, Backfill	Excavators	2	8.00	158	0.38
Phase 1 Excavation, Pipe Laying, Backfill	Forklifts	1	8.00	89	0.20
Phase 1 Excavation, Pipe Laying, Backfill	Generator Sets	2	8.00	84	0.74
Phase 1 Excavation, Pipe Laying, Backfill	Welders	1	8.00	46	0.45
Phase 1 Paving	Crushing/Proc. Equipment	1	8.00	85	0.78
Phase 1 Paving	Paving Equipment	1	8.00	132	0.36
Phase 1 Paving	Rollers	1	8.00	80	0.38
Phase 1 De-mobilization	Sweepers/Scrubbers	1	8.00	64	0.46
Phase 2 Mobilization					
Phase 2 Mobilization					
Phase 2 Pavement Cutting	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 2 Excavation, Pipe Laying, Backfill	Air Compressors	2	8.00	78	0.48
Phase 2 Excavation, Pipe Laying, Backfill	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2 Excavation, Pipe Laying, Backfill	Excavators	2	8.00	158	0.38
Phase 2 Excavation, Pipe Laying, Backfill	Forklifts	1	8.00	89	0.20
Phase 2 Excavation, Pipe Laying, Backfill	Generator Sets	2	8.00	84	0.74
Phase 2 Excavation, Pipe Laying, Backfill	Welders	1	8.00	46	0.45
Phase 2 Paving	Crushing/Proc. Equipment	1	8.00	85	0.78
Phase 2 Paving	Paving Equipment	1	8.00	132	0.36
Phase 2 Paving	Rollers	1	8.00	80	0.38
Phase 2 Pump Station	Excavators	1	8.00	158	0.38
Phase 2 Pump Station	Cranes	1	8.00	231	0.29
Phase 2 De-mobilization	Sweepers/Scrubbers	1	8.00	64	0.46

Phase 3 Mobilization					
Phase 3 Mobilization					
Phase 3 Pavement Cutting	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 3 Excavation, Pipe Laying, Backfill	Air Compressors	2	8.00	78	0.48
Phase 3 Excavation, Pipe Laying, Backfill	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 3 Excavation, Pipe Laying, Backfill	Excavators	2	8.00	158	0.38
Phase 3 Excavation, Pipe Laying, Backfill	Forklifts	1	8.00	89	0.20
Phase 3 Excavation, Pipe Laying, Backfill	Generator Sets	2	8.00	84	0.74
Phase 3 Excavation, Pipe Laying, Backfill	Welders	1	8.00	46	0.45
Phase 3 Paving	Crushing/Proc. Equipment	1	8.00	85	0.78
Phase 3 Paving	Paving Equipment	1	8.00	132	0.36
Phase 3 Paving	Rollers	1	8.00	80	0.38
Phase 3 Pump Station	Excavators	1	8.00	158	0.38
Phase 3 Pump Station	Cranes	1	8.00	231	0.29
Phase 3 De-mobilization	Sweepers/Scrubbers	1	8.00	64	0.46

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1 Mobilization	0	40.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Pavement Cutting	1	40.00	10.00	74.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Excavation, Pipe Laying, Backfill	10	40.00	10.00	550.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Paving	3	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 De-mobilization	1	40.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Mobilization	0	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Pavement Cutting	1	20.00	10.00	81.48	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Excavation, Pipe Laying, Backfill	10	20.00	10.00	710.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Paving	3	20.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Pump Station	2	20.00	10.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 De-mobilization	1	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Phase 3 Mobilization	0	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Pavement Cutting	1	20.00	10.00	40.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Excavation, Pipe Laying, Backfill	10	20.00	10.00	810.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Paving	3	20.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Pump Station	2	20.00	10.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 De-mobilization	1	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Phase 1 Mobilization - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0227	0.7863	0.1523	1.9900e-003	0.0437	3.0400e-003	0.0467	0.0120	2.9100e-003	0.0149		215.3236	215.3236	0.0155		215.7099
Vendor	0.0430	1.2149	0.3084	2.6000e-003	0.0640	8.8800e-003	0.0729	0.0184	8.4900e-003	0.0269		277.0092	277.0092	0.0191		277.4875
Worker	0.2137	0.1541	2.0012	4.9000e-003	0.4471	3.5900e-003	0.4507	0.1186	3.3100e-003	0.1219		487.4880	487.4880	0.0167		487.9046
Total	**0.2795**	**2.1553**	**2.4619**	**9.4900e-003**	**0.5548**	**0.0155**	**0.5703**	**0.1490**	**0.0147**	**0.1637**		**979.8209**	**979.8209**	**0.0512**		**981.1020**

3.3 Phase 1 Pavement Cutting - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.0252	0.0000	4.0252	0.6094	0.0000	0.6094			0.0000			0.0000
Off-Road	0.5194	3.9150	3.7241	6.2600e-003		0.2670	0.2670		0.2670	0.2670		592.6646	592.6646	0.0459		593.8118
Total	**0.5194**	**3.9150**	**3.7241**	**6.2600e-003**	**4.0252**	**0.2670**	**4.2921**	**0.6094**	**0.2670**	**0.8764**		**592.6646**	**592.6646**	**0.0459**		**593.8118**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0841	2.9093	0.5636	7.3700e-003	0.1616	0.0113	0.1728	0.0443	0.0108	0.0550		796.6974	796.6974	0.0572		798.1265
Vendor	0.0430	1.2149	0.3084	2.6000e-003	0.0640	8.8800e-003	0.0729	0.0184	8.4900e-003	0.0269		277.0092	277.0092	0.0191		277.4875
Worker	0.2137	0.1541	2.0012	4.9000e-003	0.4471	3.5900e-003	0.4507	0.1186	3.3100e-003	0.1219		487.4880	487.4880	0.0167		487.9046
Total	**0.3408**	**4.2783**	**2.8732**	**0.0149**	**0.6727**	**0.0237**	**0.6964**	**0.1813**	**0.0226**	**0.2038**		**1,561.1947**	**1,561.1947**	**0.0930**		**1,563.5186**

3.4 Phase 1 Excavation, Pipe Laying, Backfill - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5100e-003	0.0000	4.5100e-003	6.8000e-004	0.0000	6.8000e-004			0.0000			0.0000
Off-Road	3.5376	28.2831	26.7339	0.0417		1.8376	1.8376		1.7737	1.7737		4,022.5859	4,022.5859	0.7671		4,041.7643
Total	**3.5376**	**28.2831**	**26.7339**	**0.0417**	**4.5100e-003**	**1.8376**	**1.8421**	**6.8000e-004**	**1.7737**	**1.7744**		**4,022.5859**	**4,022.5859**	**0.7671**		**4,041.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0362	1.2535	0.2428	3.1700e-003	0.0696	4.8500e-003	0.0745	0.0191	4.6400e-003	0.0237		343.2695	343.2695	0.0246		343.8853
Vendor	0.0430	1.2149	0.3084	2.6000e-003	0.0640	8.8800e-003	0.0729	0.0184	8.4900e-003	0.0269		277.0092	277.0092	0.0191		277.4875
Worker	0.2137	0.1541	2.0012	4.9000e-003	0.4471	3.5900e-003	0.4507	0.1186	3.3100e-003	0.1219		487.4880	487.4880	0.0167		487.9046
Total	**0.2930**	**2.6225**	**2.5524**	**0.0107**	**0.5807**	**0.0173**	**0.5980**	**0.1561**	**0.0164**	**0.1725**		**1,107.7668**	**1,107.7668**	**0.0604**		**1,109.2774**

3.5 Phase 1 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1739	9.6902	8.8718	0.0137		0.6338	0.6338		0.6097	0.6097		1,338.4416	1,338.4416	0.2706		1,345.2067
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1739**	**9.6902**	**8.8718**	**0.0137**		**0.6338**	**0.6338**		**0.6097**	**0.6097**		**1,338.4416**	**1,338.4416**	**0.2706**		**1,345.2067**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0430	1.2149	0.3084	2.6000e-003	0.0640	8.8800e-003	0.0729	0.0184	8.4900e-003	0.0269		277.0092	277.0092	0.0191		277.4875
Worker	0.2137	0.1541	2.0012	4.9000e-003	0.4471	3.5900e-003	0.4507	0.1186	3.3100e-003	0.1219		487.4880	487.4880	0.0167		487.9046
Total	**0.2567**	**1.3690**	**2.3096**	**7.5000e-003**	**0.5111**	**0.0125**	**0.5236**	**0.1370**	**0.0118**	**0.1488**		**764.4972**	**764.4972**	**0.0358**		**765.3921**

3.6 Phase 1 De-mobilization - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3113	2.6668	2.0155	2.5400e-003		0.2224	0.2224		0.2046	0.2046		255.7499	255.7499	0.0796		257.7404
Total	**0.3113**	**2.6668**	**2.0155**	**2.5400e-003**		**0.2224**	**0.2224**		**0.2046**	**0.2046**		**255.7499**	**255.7499**	**0.0796**		**257.7404**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0227	0.7863	0.1523	1.9900e-003	0.0437	3.0400e-003	0.0467	0.0120	2.9100e-003	0.0149		215.3236	215.3236	0.0155		215.7099
Vendor	0.0430	1.2149	0.3084	2.6000e-003	0.0640	8.8800e-003	0.0729	0.0184	8.4900e-003	0.0269		277.0092	277.0092	0.0191		277.4875
Worker	0.2137	0.1541	2.0012	4.9000e-003	0.4471	3.5900e-003	0.4507	0.1186	3.3100e-003	0.1219		487.4880	487.4880	0.0167		487.9046
Total	**0.2795**	**2.1553**	**2.4619**	**9.4900e-003**	**0.5548**	**0.0155**	**0.5703**	**0.1490**	**0.0147**	**0.1637**		**979.8209**	**979.8209**	**0.0512**		**981.1020**

3.7 Phase 2 Mobilization - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0227	0.7863	0.1523	1.9900e-003	0.0437	3.0400e-003	0.0467	0.0120	2.9100e-003	0.0149		215.3236	215.3236	0.0155		215.7099
Vendor	0.0430	1.2149	0.3084	2.6000e-003	0.0640	8.8800e-003	0.0729	0.0184	8.4900e-003	0.0269		277.0092	277.0092	0.0191		277.4875
Worker	0.1069	0.0770	1.0006	2.4500e-003	0.2236	1.7900e-003	0.2254	0.0593	1.6500e-003	0.0609		243.7440	243.7440	8.3300e-003		243.9523
Total	**0.1726**	**2.0783**	**1.4613**	**7.0400e-003**	**0.3312**	**0.0137**	**0.3449**	**0.0897**	**0.0131**	**0.1027**		**736.0768**	**736.0768**	**0.0429**		**737.1497**

3.8 Phase 2 Pavement Cutting - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.4135	0.0000	4.4135	0.6683	0.0000	0.6683			0.0000			0.0000
Off-Road	0.5194	3.9150	3.7241	6.2600e-003		0.2670	0.2670		0.2670	0.2670		592.6646	592.6646	0.0459		593.8118
Total	**0.5194**	**3.9150**	**3.7241**	**6.2600e-003**	**4.4135**	**0.2670**	**4.6805**	**0.6683**	**0.2670**	**0.9352**		**592.6646**	**592.6646**	**0.0459**		**593.8118**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0932	3.2238	0.6245	8.1600e-003	0.1782	0.0125	0.1907	0.0489	0.0119	0.0608		882.8269	882.8269	0.0633		884.4105
Vendor	0.0430	1.2149	0.3084	2.6000e-003	0.0640	8.8800e-003	0.0729	0.0184	8.4900e-003	0.0269		277.0092	277.0092	0.0191		277.4875
Worker	0.1069	0.0770	1.0006	2.4500e-003	0.2236	1.7900e-003	0.2254	0.0593	1.6500e-003	0.0609		243.7440	243.7440	8.3300e-003		243.9523
Total	**0.2431**	**4.5158**	**1.9335**	**0.0132**	**0.4657**	**0.0232**	**0.4889**	**0.1266**	**0.0221**	**0.1486**		**1,403.5801**	**1,403.5801**	**0.0908**		**1,405.8503**

3.9 Phase 2 Excavation, Pipe Laying, Backfill - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3000e-003	0.0000	7.3000e-003	1.1100e-003	0.0000	1.1100e-003			0.0000			0.0000
Off-Road	3.5376	28.2831	26.7339	0.0417		1.8376	1.8376		1.7737	1.7737		4,022.5859	4,022.5859	0.7671		4,041.7643
Total	**3.5376**	**28.2831**	**26.7339**	**0.0417**	**7.3000e-003**	**1.8376**	**1.8449**	**1.1100e-003**	**1.7737**	**1.7748**		**4,022.5859**	**4,022.5859**	**0.7671**		**4,041.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0587	2.0301	0.3933	5.1400e-003	0.1306	7.8600e-003	0.1384	0.0353	7.5200e-003	0.0428		555.9264	555.9264	0.0399		556.9237
Vendor	0.0430	1.2149	0.3084	2.6000e-003	0.0640	8.8800e-003	0.0729	0.0184	8.4900e-003	0.0269		277.0092	277.0092	0.0191		277.4875
Worker	0.1069	0.0770	1.0006	2.4500e-003	0.2236	1.7900e-003	0.2254	0.0593	1.6500e-003	0.0609		243.7440	243.7440	8.3300e-003		243.9523
Total	**0.2085**	**3.3221**	**1.7022**	**0.0102**	**0.4181**	**0.0185**	**0.4366**	**0.1130**	**0.0177**	**0.1306**		**1,076.6797**	**1,076.6797**	**0.0674**		**1,078.3635**

3.9 Phase 2 Excavation, Pipe Laying, Backfill - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3000e-003	0.0000	7.3000e-003	1.1100e-003	0.0000	1.1100e-003			0.0000			0.0000
Off-Road	3.1307	25.5412	26.4895	0.0417		1.5761	1.5761		1.5216	1.5216		3,992.7303	3,992.7303	0.7429		4,011.3033
Total	**3.1307**	**25.5412**	**26.4895**	**0.0417**	**7.3000e-003**	**1.5761**	**1.5834**	**1.1100e-003**	**1.5216**	**1.5227**		**3,992.7303**	**3,992.7303**	**0.7429**		**4,011.3033**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0556	1.9218	0.3845	5.0700e-003	0.5215	7.1800e-003	0.5286	0.1312	6.8700e-003	0.1381		549.2171	549.2171	0.0394		550.2018
Vendor	0.0390	1.1479	0.2831	2.5700e-003	0.0640	7.6100e-003	0.0716	0.0184	7.2800e-003	0.0257		274.5122	274.5122	0.0185		274.9739
Worker	0.0971	0.0680	0.8959	2.3700e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		236.0723	236.0723	7.4000e-003		236.2573
Total	**0.1917**	**3.1377**	**1.5634**	**0.0100**	**0.8090**	**0.0165**	**0.8255**	**0.2089**	**0.0158**	**0.2247**		**1,059.8016**	**1,059.8016**	**0.0653**		**1,061.4330**

3.10 Phase 2 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0464	8.6415	8.8029	0.0137		0.5411	0.5411		0.5203	0.5203		1,327.5332	1,327.5332	0.2636		1,334.1221
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0464**	**8.6415**	**8.8029**	**0.0137**		**0.5411**	**0.5411**		**0.5203**	**0.5203**		**1,327.5332**	**1,327.5332**	**0.2636**		**1,334.1221**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0390	1.1479	0.2831	2.5700e-003	0.0640	7.6100e-003	0.0716	0.0184	7.2800e-003	0.0257		274.5122	274.5122	0.0185		274.9739
Worker	0.0971	0.0680	0.8959	2.3700e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		236.0723	236.0723	7.4000e-003		236.2573
Total	**0.1361**	**1.2159**	**1.1789**	**4.9400e-003**	**0.2875**	**9.3600e-003**	**0.2969**	**0.0777**	**8.8900e-003**	**0.0866**		**510.5845**	**510.5845**	**0.0259**		**511.2312**

3.11 Phase 2 Pump Station - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7648	8.6889	5.5563	0.0109		0.3840	0.3840		0.3533	0.3533		1,082.3362	1,082.3362	0.3424		1,090.8972
Total	**0.7648**	**8.6889**	**5.5563**	**0.0109**		**0.3840**	**0.3840**		**0.3533**	**0.3533**		**1,082.3362**	**1,082.3362**	**0.3424**		**1,090.8972**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.9000e-004	9.9200e-003	1.9900e-003	3.0000e-005	5.8000e-004	4.0000e-005	6.2000e-004	1.6000e-004	4.0000e-005	2.0000e-004		2.8363	2.8363	2.0000e-004		2.8414
Vendor	0.0390	1.1479	0.2831	2.5700e-003	0.0640	7.6100e-003	0.0716	0.0184	7.2800e-003	0.0257		274.5122	274.5122	0.0185		274.9739
Worker	0.0971	0.0680	0.8959	2.3700e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		236.0723	236.0723	7.4000e-003		236.2573
Total	**0.1364**	**1.2258**	**1.1809**	**4.9700e-003**	**0.2881**	**9.4000e-003**	**0.2975**	**0.0779**	**8.9300e-003**	**0.0868**		**513.4208**	**513.4208**	**0.0261**		**514.0726**

3.12 Phase 2 De-mobilization - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2854	2.4781	1.9970	2.5400e-003		0.2011	0.2011		0.1850	0.1850		251.6470	251.6470	0.0796		253.6375
Total	**0.2854**	**2.4781**	**1.9970**	**2.5400e-003**		**0.2011**	**0.2011**		**0.1850**	**0.1850**		**251.6470**	**251.6470**	**0.0796**		**253.6375**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0215	0.7444	0.1489	1.9600e-003	0.0437	2.7800e-003	0.0465	0.0120	2.6600e-003	0.0146		212.7249	212.7249	0.0153		213.1063
Vendor	0.0390	1.1479	0.2831	2.5700e-003	0.0640	7.6100e-003	0.0716	0.0184	7.2800e-003	0.0257		274.5122	274.5122	0.0185		274.9739
Worker	0.0971	0.0680	0.8959	2.3700e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		236.0723	236.0723	7.4000e-003		236.2573
Total	**0.1576**	**1.9602**	**1.3278**	**6.9000e-003**	**0.3312**	**0.0121**	**0.3434**	**0.0897**	**0.0116**	**0.1012**		**723.3094**	**723.3094**	**0.0411**		**724.3375**

3.13 Phase 3 Mobilization - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0215	0.7444	0.1489	1.9600e-003	0.0437	2.7800e-003	0.0465	0.0120	2.6600e-003	0.0146		212.7249	212.7249	0.0153		213.1063
Vendor	0.0390	1.1479	0.2831	2.5700e-003	0.0640	7.6100e-003	0.0716	0.0184	7.2800e-003	0.0257		274.5122	274.5122	0.0185		274.9739
Worker	0.0971	0.0680	0.8959	2.3700e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		236.0723	236.0723	7.4000e-003		236.2573
Total	**0.1576**	**1.9602**	**1.3278**	**6.9000e-003**	**0.3312**	**0.0121**	**0.3434**	**0.0897**	**0.0116**	**0.1012**		**723.3094**	**723.3094**	**0.0411**		**724.3375**

3.14 Phase 3 Pavement Cutting - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4930	0.0000	3.4930	0.5289	0.0000	0.5289			0.0000			0.0000
Off-Road	0.4620	3.5885	3.7022	6.2600e-003		0.2294	0.2294		0.2294	0.2294		592.6657	592.6657	0.0417		593.7086
Total	**0.4620**	**3.5885**	**3.7022**	**6.2600e-003**	**3.4930**	**0.2294**	**3.7224**	**0.5289**	**0.2294**	**0.7583**		**592.6657**	**592.6657**	**0.0417**		**593.7086**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0689	2.3820	0.4765	6.2800e-003	0.1397	8.9000e-003	0.1486	0.0383	8.5200e-003	0.0468		680.7198	680.7198	0.0488		681.9403
Vendor	0.0390	1.1479	0.2831	2.5700e-003	0.0640	7.6100e-003	0.0716	0.0184	7.2800e-003	0.0257		274.5122	274.5122	0.0185		274.9739
Worker	0.0971	0.0680	0.8959	2.3700e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		236.0723	236.0723	7.4000e-003		236.2573
Total	**0.2050**	**3.5978**	**1.6554**	**0.0112**	**0.4273**	**0.0183**	**0.4455**	**0.1160**	**0.0174**	**0.1334**		**1,191.3042**	**1,191.3042**	**0.0747**		**1,193.1715**

3.15 Phase 3 Excavation, Pipe Laying, Backfill - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0164	0.0000	0.0164	2.4800e-003	0.0000	2.4800e-003			0.0000			0.0000
Off-Road	3.1307	25.5412	26.4895	0.0417		1.5761	1.5761		1.5216	1.5216		3,992.7303	3,992.7303	0.7429		4,011.3033
Total	**3.1307**	**25.5412**	**26.4895**	**0.0417**	**0.0164**	**1.5761**	**1.5925**	**2.4800e-003**	**1.5216**	**1.5241**		**3,992.7303**	**3,992.7303**	**0.7429**		**4,011.3033**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1245	4.3067	0.8615	0.0114	0.2526	0.0161	0.2687	0.0692	0.0154	0.0846		1,230.7657	1,230.7657	0.0883		1,232.9724
Vendor	0.0390	1.1479	0.2831	2.5700e-003	0.0640	7.6100e-003	0.0716	0.0184	7.2800e-003	0.0257		274.5122	274.5122	0.0185		274.9739
Worker	0.0971	0.0680	0.8959	2.3700e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		236.0723	236.0723	7.4000e-003		236.2573
Total	**0.2606**	**5.5225**	**2.0405**	**0.0163**	**0.5402**	**0.0255**	**0.5656**	**0.1469**	**0.0243**	**0.1712**		**1,741.3501**	**1,741.3501**	**0.1141**		**1,744.2036**

3.16 Phase 3 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0464	8.6415	8.8029	0.0137		0.5411	0.5411		0.5203	0.5203		1,327.5332	1,327.5332	0.2636		1,334.1221
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0464**	**8.6415**	**8.8029**	**0.0137**		**0.5411**	**0.5411**		**0.5203**	**0.5203**		**1,327.5332**	**1,327.5332**	**0.2636**		**1,334.1221**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0390	1.1479	0.2831	2.5700e-003	0.0640	7.6100e-003	0.0716	0.0184	7.2800e-003	0.0257		274.5122	274.5122	0.0185		274.9739
Worker	0.0971	0.0680	0.8959	2.3700e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		236.0723	236.0723	7.4000e-003		236.2573
Total	**0.1361**	**1.2159**	**1.1789**	**4.9400e-003**	**0.2875**	**9.3600e-003**	**0.2969**	**0.0777**	**8.8900e-003**	**0.0866**		**510.5845**	**510.5845**	**0.0259**		**511.2312**

3.17 Phase 3 Pump Station - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7648	8.6889	5.5563	0.0109		0.3840	0.3840		0.3533	0.3533		1,082.3362	1,082.3362	0.3424		1,090.8972
Total	**0.7648**	**8.6889**	**5.5563**	**0.0109**		**0.3840**	**0.3840**		**0.3533**	**0.3533**		**1,082.3362**	**1,082.3362**	**0.3424**		**1,090.8972**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.4000e-004	4.9600e-003	9.9000e-004	1.0000e-005	2.9000e-004	2.0000e-005	3.1000e-004	8.0000e-005	2.0000e-005	1.0000e-004		1.4182	1.4182	1.0000e-004		1.4207
Vendor	0.0390	1.1479	0.2831	2.5700e-003	0.0640	7.6100e-003	0.0716	0.0184	7.2800e-003	0.0257		274.5122	274.5122	0.0185		274.9739
Worker	0.0971	0.0680	0.8959	2.3700e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		236.0723	236.0723	7.4000e-003		236.2573
Total	**0.1362**	**1.2208**	**1.1799**	**4.9500e-003**	**0.2878**	**9.3800e-003**	**0.2972**	**0.0778**	**8.9100e-003**	**0.0867**		**512.0026**	**512.0026**	**0.0260**		**512.6519**

3.18 Phase 3 De-mobilization - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2854	2.4781	1.9970	2.5400e-003		0.2011	0.2011		0.1850	0.1850		251.6470	251.6470	0.0796		253.6375
Total	**0.2854**	**2.4781**	**1.9970**	**2.5400e-003**		**0.2011**	**0.2011**		**0.1850**	**0.1850**		**251.6470**	**251.6470**	**0.0796**		**253.6375**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0215	0.7444	0.1489	1.9600e-003	0.0437	2.7800e-003	0.0465	0.0120	2.6600e-003	0.0146		212.7249	212.7249	0.0153		213.1063
Vendor	0.0390	1.1479	0.2831	2.5700e-003	0.0640	7.6100e-003	0.0716	0.0184	7.2800e-003	0.0257		274.5122	274.5122	0.0185		274.9739
Worker	0.0971	0.0680	0.8959	2.3700e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		236.0723	236.0723	7.4000e-003		236.2573
Total	**0.1576**	**1.9602**	**1.3278**	**6.9000e-003**	**0.3312**	**0.0121**	**0.3434**	**0.0897**	**0.0116**	**0.1012**		**723.3094**	**723.3094**	**0.0411**		**724.3375**

Glendale Wastewater Project (Pasadena)

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2019
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	1115.33	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Installation of Pipeline

Construction Phase - Project Specific Information

Off-road Equipment - Project Specific Information

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	30.00
tblConstructionPhase	NumDays	0.00	56.00
tblConstructionPhase	NumDays	0.00	60.00

tblConstructionPhase	NumDays	0.00	138.00
tblConstructionPhase	NumDays	0.00	110.00
tblConstructionPhase	NumDays	0.00	5.00
tblConstructionPhase	NumDays	0.00	8.00
tblConstructionPhase	NumDays	0.00	8.00
tblConstructionPhase	NumDays	0.00	5.00
tblConstructionPhase	NumDays	0.00	10.00
tblConstructionPhase	NumDays	0.00	10.00
tblConstructionPhase	NumDays	0.00	2.00
tblConstructionPhase	NumDays	0.00	2.00
tblConstructionPhase	NumDays	0.00	2.00
tblConstructionPhase	NumDays	0.00	2.00
tblConstructionPhase	NumDays	0.00	2.00
tblConstructionPhase	NumDays	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	81.00	40.00

tblTripsAndVMT	HaulingTripNumber	0.00	810.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	149.00	74.00
tblTripsAndVMT	HaulingTripNumber	0.00	550.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	163.00	81.48
tblTripsAndVMT	HaulingTripNumber	0.00	710.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	40.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	3.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00

tblTripsAndVMT	WorkerTripNumber	3.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	8.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	3.00	20.00
tblTripsAndVMT	WorkerTripNumber	3.00	40.00
tblTripsAndVMT	WorkerTripNumber	0.00	40.00
tblTripsAndVMT	WorkerTripNumber	8.00	40.00
tblTripsAndVMT	WorkerTripNumber	3.00	40.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	3.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	8.00	20.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.8539	31.6437	29.1593	0.0520	4.8793	1.8564	5.1698	0.7948	1.7917	1.9471	0.0000	5,087.0981	5,087.0981	0.8370	0.0000	5,107.8206
2019	3.4059	31.1305	28.5416	0.0576	3.9202	1.6020	4.1682	0.6449	1.5463	1.7477	0.0000	5,691.3751	5,691.3751	0.8614	0.0000	5,712.9112
Maximum	**3.8539**	**31.6437**	**29.1593**	**0.0576**	**4.8793**	**1.8564**	**5.1698**	**0.7948**	**1.7917**	**1.9471**	**0.0000**	**5,691.3751**	**5,691.3751**	**0.8614**	**0.0000**	**5,712.9112**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1 Mobilization	Site Preparation	1/1/2018	1/2/2018	5	2	11
2	Phase 1 Pavement Cutting	Demolition	1/3/2018	1/12/2018	5	8	12
3	Phase 1 Excavation, Pipe Laying, Backfill	Building Construction	1/13/2018	7/25/2018	5	138	13
4	Phase 1 Paving	Paving	7/26/2018	8/8/2018	5	10	14
5	Phase 1 De-mobilization	Site Preparation	8/9/2018	8/12/2018	5	2	15
6	Phase 2 Mobilization	Site Preparation	8/13/2018	8/14/2018	5	2	16
7	Phase 2 Pavement Cutting	Demolition	8/15/2018	8/24/2018	5	8	17
8	Phase 2 Excavation, Pipe Laying, Backfill	Building Construction	8/25/2018	1/27/2019	5	110	18
9	Phase 2 Paving	Paving	1/28/2019	2/8/2019	5	10	19
10	Phase 2 Pump Station	Building Construction	2/9/2019	3/22/2019	5	30	20
11	Phase 2 De-mobilization	Site Preparation	3/23/2019	3/26/2019	5	2	21
12	Phase 3 Mobilization	Site Preparation	3/27/2019	3/28/2019	5	2	22
13	Phase 3 Pavement Cutting	Demolition	3/29/2019	4/4/2019	5	5	23
14	Phase 3 Excavation, Pipe Laying, Backfill	Building Construction	4/5/2019	6/21/2019	5	56	24
15	Phase 3 Paving	Paving	6/22/2019	6/28/2019	5	5	25
16	Phase 3 Pump Station	Building Construction	6/29/2019	9/20/2019	5	60	26
17	Phase 3 De-mobilization	Site Preparation	9/21/2019	9/24/2019	5	2	27

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1 Mobilization					
Phase 1 Mobilization					
Phase 1 Pavement Cutting	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 1 Excavation, Pipe Laying, Backfill	Air Compressors	2	8.00	78	0.48
Phase 1 Excavation, Pipe Laying, Backfill	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1 Excavation, Pipe Laying, Backfill	Excavators	2	8.00	158	0.38
Phase 1 Excavation, Pipe Laying, Backfill	Forklifts	1	8.00	89	0.20
Phase 1 Excavation, Pipe Laying, Backfill	Generator Sets	2	8.00	84	0.74
Phase 1 Excavation, Pipe Laying, Backfill	Welders	1	8.00	46	0.45
Phase 1 Paving	Crushing/Proc. Equipment	1	8.00	85	0.78
Phase 1 Paving	Paving Equipment	1	8.00	132	0.36
Phase 1 Paving	Rollers	1	8.00	80	0.38
Phase 1 De-mobilization	Sweepers/Scrubbers	1	8.00	64	0.46
Phase 2 Mobilization					
Phase 2 Mobilization					
Phase 2 Pavement Cutting	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 2 Excavation, Pipe Laying, Backfill	Air Compressors	2	8.00	78	0.48
Phase 2 Excavation, Pipe Laying, Backfill	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2 Excavation, Pipe Laying, Backfill	Excavators	2	8.00	158	0.38
Phase 2 Excavation, Pipe Laying, Backfill	Forklifts	1	8.00	89	0.20
Phase 2 Excavation, Pipe Laying, Backfill	Generator Sets	2	8.00	84	0.74
Phase 2 Excavation, Pipe Laying, Backfill	Welders	1	8.00	46	0.45
Phase 2 Paving	Crushing/Proc. Equipment	1	8.00	85	0.78
Phase 2 Paving	Paving Equipment	1	8.00	132	0.36
Phase 2 Paving	Rollers	1	8.00	80	0.38
Phase 2 Pump Station	Excavators	1	8.00	158	0.38
Phase 2 Pump Station	Cranes	1	8.00	231	0.29
Phase 2 De-mobilization	Sweepers/Scrubbers	1	8.00	64	0.46

Phase 3 Mobilization					
Phase 3 Mobilization					
Phase 3 Pavement Cutting	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 3 Excavation, Pipe Laying, Backfill	Air Compressors	2	8.00	78	0.48
Phase 3 Excavation, Pipe Laying, Backfill	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 3 Excavation, Pipe Laying, Backfill	Excavators	2	8.00	158	0.38
Phase 3 Excavation, Pipe Laying, Backfill	Forklifts	1	8.00	89	0.20
Phase 3 Excavation, Pipe Laying, Backfill	Generator Sets	2	8.00	84	0.74
Phase 3 Excavation, Pipe Laying, Backfill	Welders	1	8.00	46	0.45
Phase 3 Paving	Crushing/Proc. Equipment	1	8.00	85	0.78
Phase 3 Paving	Paving Equipment	1	8.00	132	0.36
Phase 3 Paving	Rollers	1	8.00	80	0.38
Phase 3 Pump Station	Excavators	1	8.00	158	0.38
Phase 3 Pump Station	Cranes	1	8.00	231	0.29
Phase 3 De-mobilization	Sweepers/Scrubbers	1	8.00	64	0.46

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1 Mobilization	0	40.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Pavement Cutting	1	40.00	10.00	74.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Excavation, Pipe Laying, Backfill	10	40.00	10.00	550.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Paving	3	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 De-mobilization	1	40.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Mobilization	0	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Pavement Cutting	1	20.00	10.00	81.48	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Excavation, Pipe Laying, Backfill	10	20.00	10.00	710.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Paving	3	20.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Pump Station	2	20.00	10.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 De-mobilization	1	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Phase 3 Mobilization	0	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Pavement Cutting	1	20.00	10.00	40.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Excavation, Pipe Laying, Backfill	10	20.00	10.00	810.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Paving	3	20.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Pump Station	2	20.00	10.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 De-mobilization	1	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Phase 1 Mobilization - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0233	0.7973	0.1638	1.9600e-003	0.0437	3.1000e-003	0.0468	0.0120	2.9700e-003	0.0149		211.7483	211.7483	0.0161		212.1505
Vendor	0.0448	1.2175	0.3406	2.5300e-003	0.0640	9.0200e-003	0.0730	0.0184	8.6300e-003	0.0271		269.6413	269.6413	0.0205		270.1529
Worker	0.2343	0.1693	1.8237	4.5900e-003	0.4471	3.5900e-003	0.4507	0.1186	3.3100e-003	0.1219		457.3010	457.3010	0.0157		457.6925
Total	**0.3025**	**2.1841**	**2.3280**	**9.0800e-003**	**0.5548**	**0.0157**	**0.5705**	**0.1490**	**0.0149**	**0.1639**		**938.6907**	**938.6907**	**0.0522**		**939.9959**

3.3 Phase 1 Pavement Cutting - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.0252	0.0000	4.0252	0.6094	0.0000	0.6094			0.0000			0.0000
Off-Road	0.5194	3.9150	3.7241	6.2600e-003		0.2670	0.2670		0.2670	0.2670		592.6646	592.6646	0.0459		593.8118
Total	**0.5194**	**3.9150**	**3.7241**	**6.2600e-003**	**4.0252**	**0.2670**	**4.2921**	**0.6094**	**0.2670**	**0.8764**		**592.6646**	**592.6646**	**0.0459**		**593.8118**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0864	2.9501	0.6062	7.2400e-003	0.1616	0.0115	0.1731	0.0443	0.0110	0.0553		783.4689	783.4689	0.0595		784.9568
Vendor	0.0448	1.2175	0.3406	2.5300e-003	0.0640	9.0200e-003	0.0730	0.0184	8.6300e-003	0.0271		269.6413	269.6413	0.0205		270.1529
Worker	0.2343	0.1693	1.8237	4.5900e-003	0.4471	3.5900e-003	0.4507	0.1186	3.3100e-003	0.1219		457.3010	457.3010	0.0157		457.6925
Total	**0.3655**	**4.3369**	**2.7704**	**0.0144**	**0.6727**	**0.0241**	**0.6968**	**0.1813**	**0.0229**	**0.2042**		**1,510.4112**	**1,510.4112**	**0.0956**		**1,512.8021**

3.4 Phase 1 Excavation, Pipe Laying, Backfill - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5100e-003	0.0000	4.5100e-003	6.8000e-004	0.0000	6.8000e-004			0.0000			0.0000
Off-Road	3.5376	28.2831	26.7339	0.0417		1.8376	1.8376		1.7737	1.7737		4,022.5859	4,022.5859	0.7671		4,041.7643
Total	**3.5376**	**28.2831**	**26.7339**	**0.0417**	**4.5100e-003**	**1.8376**	**1.8421**	**6.8000e-004**	**1.7737**	**1.7744**		**4,022.5859**	**4,022.5859**	**0.7671**		**4,041.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0372	1.2711	0.2612	3.1200e-003	0.0696	4.9500e-003	0.0746	0.0191	4.7300e-003	0.0238		337.5698	337.5698	0.0256		338.2109
Vendor	0.0448	1.2175	0.3406	2.5300e-003	0.0640	9.0200e-003	0.0730	0.0184	8.6300e-003	0.0271		269.6413	269.6413	0.0205		270.1529
Worker	0.2343	0.1693	1.8237	4.5900e-003	0.4471	3.5900e-003	0.4507	0.1186	3.3100e-003	0.1219		457.3010	457.3010	0.0157		457.6925
Total	**0.3164**	**2.6579**	**2.4254**	**0.0102**	**0.5807**	**0.0176**	**0.5983**	**0.1561**	**0.0167**	**0.1727**		**1,064.5121**	**1,064.5121**	**0.0618**		**1,066.0563**

3.5 Phase 1 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1739	9.6902	8.8718	0.0137		0.6338	0.6338		0.6097	0.6097		1,338.4416	1,338.4416	0.2706		1,345.2067
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1739**	**9.6902**	**8.8718**	**0.0137**		**0.6338**	**0.6338**		**0.6097**	**0.6097**		**1,338.4416**	**1,338.4416**	**0.2706**		**1,345.2067**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0448	1.2175	0.3406	2.5300e-003	0.0640	9.0200e-003	0.0730	0.0184	8.6300e-003	0.0271		269.6413	269.6413	0.0205		270.1529
Worker	0.2343	0.1693	1.8237	4.5900e-003	0.4471	3.5900e-003	0.4507	0.1186	3.3100e-003	0.1219		457.3010	457.3010	0.0157		457.6925
Total	**0.2792**	**1.3868**	**2.1642**	**7.1200e-003**	**0.5111**	**0.0126**	**0.5237**	**0.1370**	**0.0119**	**0.1489**		**726.9423**	**726.9423**	**0.0361**		**727.8454**

3.6 Phase 1 De-mobilization - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3113	2.6668	2.0155	2.5400e-003		0.2224	0.2224		0.2046	0.2046		255.7499	255.7499	0.0796		257.7404
Total	**0.3113**	**2.6668**	**2.0155**	**2.5400e-003**		**0.2224**	**0.2224**		**0.2046**	**0.2046**		**255.7499**	**255.7499**	**0.0796**		**257.7404**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0233	0.7973	0.1638	1.9600e-003	0.0437	3.1000e-003	0.0468	0.0120	2.9700e-003	0.0149		211.7483	211.7483	0.0161		212.1505
Vendor	0.0448	1.2175	0.3406	2.5300e-003	0.0640	9.0200e-003	0.0730	0.0184	8.6300e-003	0.0271		269.6413	269.6413	0.0205		270.1529
Worker	0.2343	0.1693	1.8237	4.5900e-003	0.4471	3.5900e-003	0.4507	0.1186	3.3100e-003	0.1219		457.3010	457.3010	0.0157		457.6925
Total	**0.3025**	**2.1841**	**2.3280**	**9.0800e-003**	**0.5548**	**0.0157**	**0.5705**	**0.1490**	**0.0149**	**0.1639**		**938.6907**	**938.6907**	**0.0522**		**939.9959**

3.7 Phase 2 Mobilization - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0233	0.7973	0.1638	1.9600e-003	0.0437	3.1000e-003	0.0468	0.0120	2.9700e-003	0.0149		211.7483	211.7483	0.0161		212.1505
Vendor	0.0448	1.2175	0.3406	2.5300e-003	0.0640	9.0200e-003	0.0730	0.0184	8.6300e-003	0.0271		269.6413	269.6413	0.0205		270.1529
Worker	0.1172	0.0847	0.9118	2.3000e-003	0.2236	1.7900e-003	0.2254	0.0593	1.6500e-003	0.0609		228.6505	228.6505	7.8300e-003		228.8463
Total	**0.1854**	**2.0995**	**1.4162**	**6.7900e-003**	**0.3312**	**0.0139**	**0.3451**	**0.0897**	**0.0133**	**0.1029**		**710.0402**	**710.0402**	**0.0444**		**711.1496**

3.8 Phase 2 Pavement Cutting - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.4135	0.0000	4.4135	0.6683	0.0000	0.6683			0.0000			0.0000
Off-Road	0.5194	3.9150	3.7241	6.2600e-003		0.2670	0.2670		0.2670	0.2670		592.6646	592.6646	0.0459		593.8118
Total	**0.5194**	**3.9150**	**3.7241**	**6.2600e-003**	**4.4135**	**0.2670**	**4.6805**	**0.6683**	**0.2670**	**0.9352**		**592.6646**	**592.6646**	**0.0459**		**593.8118**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0957	3.2690	0.6718	8.0300e-003	0.1782	0.0127	0.1909	0.0489	0.0122	0.0610		868.1682	868.1682	0.0660		869.8169
Vendor	0.0448	1.2175	0.3406	2.5300e-003	0.0640	9.0200e-003	0.0730	0.0184	8.6300e-003	0.0271		269.6413	269.6413	0.0205		270.1529
Worker	0.1172	0.0847	0.9118	2.3000e-003	0.2236	1.7900e-003	0.2254	0.0593	1.6500e-003	0.0609		228.6505	228.6505	7.8300e-003		228.8463
Total	**0.2577**	**4.5712**	**1.9241**	**0.0129**	**0.4657**	**0.0235**	**0.4893**	**0.1266**	**0.0225**	**0.1490**		**1,366.4600**	**1,366.4600**	**0.0942**		**1,368.8161**

3.9 Phase 2 Excavation, Pipe Laying, Backfill - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3000e-003	0.0000	7.3000e-003	1.1100e-003	0.0000	1.1100e-003			0.0000			0.0000
Off-Road	3.5376	28.2831	26.7339	0.0417		1.8376	1.8376		1.7737	1.7737		4,022.5859	4,022.5859	0.7671		4,041.7643
Total	**3.5376**	**28.2831**	**26.7339**	**0.0417**	**7.3000e-003**	**1.8376**	**1.8449**	**1.1100e-003**	**1.7737**	**1.7748**		**4,022.5859**	**4,022.5859**	**0.7671**		**4,041.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0603	2.0585	0.4230	5.0500e-003	0.1306	8.0100e-003	0.1386	0.0353	7.6600e-003	0.0429		546.6957	546.6957	0.0415		547.7340
Vendor	0.0448	1.2175	0.3406	2.5300e-003	0.0640	9.0200e-003	0.0730	0.0184	8.6300e-003	0.0271		269.6413	269.6413	0.0205		270.1529
Worker	0.1172	0.0847	0.9118	2.3000e-003	0.2236	1.7900e-003	0.2254	0.0593	1.6500e-003	0.0609		228.6505	228.6505	7.8300e-003		228.8463
Total	**0.2223**	**3.3607**	**1.6754**	**9.8800e-003**	**0.4181**	**0.0188**	**0.4369**	**0.1130**	**0.0179**	**0.1309**		**1,044.9875**	**1,044.9875**	**0.0698**		**1,046.7331**

3.9 Phase 2 Excavation, Pipe Laying, Backfill - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.3000e-003	0.0000	7.3000e-003	1.1100e-003	0.0000	1.1100e-003			0.0000			0.0000
Off-Road	3.1307	25.5412	26.4895	0.0417		1.5761	1.5761		1.5216	1.5216		3,992.7303	3,992.7303	0.7429		4,011.3033
Total	**3.1307**	**25.5412**	**26.4895**	**0.0417**	**7.3000e-003**	**1.5761**	**1.5834**	**1.1100e-003**	**1.5216**	**1.5227**		**3,992.7303**	**3,992.7303**	**0.7429**		**4,011.3033**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0571	1.9480	0.4126	4.9800e-003	0.5215	7.3200e-003	0.5288	0.1312	7.0000e-003	0.1382		539.9829	539.9829	0.0410		541.0074
Vendor	0.0407	1.1493	0.3135	2.5000e-003	0.0640	7.7300e-003	0.0717	0.0184	7.4000e-003	0.0258		267.1389	267.1389	0.0198		267.6328
Worker	0.1066	0.0747	0.8139	2.2200e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		221.4335	221.4335	6.9400e-003		221.6070
Total	**0.2044**	**3.1720**	**1.5401**	**9.7000e-003**	**0.8090**	**0.0168**	**0.8258**	**0.2089**	**0.0160**	**0.2249**		**1,028.5553**	**1,028.5553**	**0.0677**		**1,030.2472**

3.10 Phase 2 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0464	8.6415	8.8029	0.0137		0.5411	0.5411		0.5203	0.5203		1,327.5332	1,327.5332	0.2636		1,334.1221
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0464**	**8.6415**	**8.8029**	**0.0137**		**0.5411**	**0.5411**		**0.5203**	**0.5203**		**1,327.5332**	**1,327.5332**	**0.2636**		**1,334.1221**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0407	1.1493	0.3135	2.5000e-003	0.0640	7.7300e-003	0.0717	0.0184	7.4000e-003	0.0258		267.1389	267.1389	0.0198		267.6328
Worker	0.1066	0.0747	0.8139	2.2200e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		221.4335	221.4335	6.9400e-003		221.6070
Total	**0.1473**	**1.2240**	**1.1274**	**4.7200e-003**	**0.2875**	**9.4800e-003**	**0.2970**	**0.0777**	**9.0100e-003**	**0.0867**		**488.5724**	**488.5724**	**0.0267**		**489.2398**

3.11 Phase 2 Pump Station - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7648	8.6889	5.5563	0.0109		0.3840	0.3840		0.3533	0.3533		1,082.3362	1,082.3362	0.3424		1,090.8972
Total	**0.7648**	**8.6889**	**5.5563**	**0.0109**		**0.3840**	**0.3840**		**0.3533**	**0.3533**		**1,082.3362**	**1,082.3362**	**0.3424**		**1,090.8972**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.9000e-004	0.0101	2.1300e-003	3.0000e-005	5.8000e-004	4.0000e-005	6.2000e-004	1.6000e-004	4.0000e-005	2.0000e-004		2.7886	2.7886	2.1000e-004		2.7939
Vendor	0.0407	1.1493	0.3135	2.5000e-003	0.0640	7.7300e-003	0.0717	0.0184	7.4000e-003	0.0258		267.1389	267.1389	0.0198		267.6328
Worker	0.1066	0.0747	0.8139	2.2200e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		221.4335	221.4335	6.9400e-003		221.6070
Total	**0.1476**	**1.2341**	**1.1296**	**4.7500e-003**	**0.2881**	**9.5200e-003**	**0.2976**	**0.0779**	**9.0500e-003**	**0.0869**		**491.3610**	**491.3610**	**0.0269**		**492.0338**

3.12 Phase 2 De-mobilization - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2854	2.4781	1.9970	2.5400e-003		0.2011	0.2011		0.1850	0.1850		251.6470	251.6470	0.0796		253.6375
Total	**0.2854**	**2.4781**	**1.9970**	**2.5400e-003**		**0.2011**	**0.2011**		**0.1850**	**0.1850**		**251.6470**	**251.6470**	**0.0796**		**253.6375**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0221	0.7545	0.1598	1.9300e-003	0.0437	2.8300e-003	0.0465	0.0120	2.7100e-003	0.0147		209.1483	209.1483	0.0159		209.5451
Vendor	0.0407	1.1493	0.3135	2.5000e-003	0.0640	7.7300e-003	0.0717	0.0184	7.4000e-003	0.0258		267.1389	267.1389	0.0198		267.6328
Worker	0.1066	0.0747	0.8139	2.2200e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		221.4335	221.4335	6.9400e-003		221.6070
Total	**0.1694**	**1.9785**	**1.2873**	**6.6500e-003**	**0.3312**	**0.0123**	**0.3435**	**0.0897**	**0.0117**	**0.1014**		**697.7207**	**697.7207**	**0.0426**		**698.7849**

3.13 Phase 3 Mobilization - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0221	0.7545	0.1598	1.9300e-003	0.0437	2.8300e-003	0.0465	0.0120	2.7100e-003	0.0147		209.1483	209.1483	0.0159		209.5451
Vendor	0.0407	1.1493	0.3135	2.5000e-003	0.0640	7.7300e-003	0.0717	0.0184	7.4000e-003	0.0258		267.1389	267.1389	0.0198		267.6328
Worker	0.1066	0.0747	0.8139	2.2200e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		221.4335	221.4335	6.9400e-003		221.6070
Total	**0.1694**	**1.9785**	**1.2873**	**6.6500e-003**	**0.3312**	**0.0123**	**0.3435**	**0.0897**	**0.0117**	**0.1014**		**697.7207**	**697.7207**	**0.0426**		**698.7849**

3.14 Phase 3 Pavement Cutting - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4930	0.0000	3.4930	0.5289	0.0000	0.5289			0.0000			0.0000
Off-Road	0.4620	3.5885	3.7022	6.2600e-003		0.2294	0.2294		0.2294	0.2294		592.6657	592.6657	0.0417		593.7086
Total	**0.4620**	**3.5885**	**3.7022**	**6.2600e-003**	**3.4930**	**0.2294**	**3.7224**	**0.5289**	**0.2294**	**0.7583**		**592.6657**	**592.6657**	**0.0417**		**593.7086**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0707	2.4144	0.5114	6.1800e-003	0.1397	9.0700e-003	0.1488	0.0383	8.6800e-003	0.0470		669.2746	669.2746	0.0508		670.5443
Vendor	0.0407	1.1493	0.3135	2.5000e-003	0.0640	7.7300e-003	0.0717	0.0184	7.4000e-003	0.0258		267.1389	267.1389	0.0198		267.6328
Worker	0.1066	0.0747	0.8139	2.2200e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		221.4335	221.4335	6.9400e-003		221.6070
Total	**0.2180**	**3.6384**	**1.6389**	**0.0109**	**0.4273**	**0.0186**	**0.4458**	**0.1160**	**0.0177**	**0.1337**		**1,157.8470**	**1,157.8470**	**0.0775**		**1,159.7841**

3.15 Phase 3 Excavation, Pipe Laying, Backfill - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0164	0.0000	0.0164	2.4800e-003	0.0000	2.4800e-003			0.0000			0.0000
Off-Road	3.1307	25.5412	26.4895	0.0417		1.5761	1.5761		1.5216	1.5216		3,992.7303	3,992.7303	0.7429		4,011.3033
Total	**3.1307**	**25.5412**	**26.4895**	**0.0417**	**0.0164**	**1.5761**	**1.5925**	**2.4800e-003**	**1.5216**	**1.5241**		**3,992.7303**	**3,992.7303**	**0.7429**		**4,011.3033**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1279	4.3653	0.9247	0.0112	0.2526	0.0164	0.2690	0.0692	0.0157	0.0849		1,210.0724	1,210.0724	0.0918		1,212.3681
Vendor	0.0407	1.1493	0.3135	2.5000e-003	0.0640	7.7300e-003	0.0717	0.0184	7.4000e-003	0.0258		267.1389	267.1389	0.0198		267.6328
Worker	0.1066	0.0747	0.8139	2.2200e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		221.4335	221.4335	6.9400e-003		221.6070
Total	**0.2752**	**5.5893**	**2.0521**	**0.0159**	**0.5402**	**0.0259**	**0.5661**	**0.1469**	**0.0247**	**0.1716**		**1,698.6448**	**1,698.6448**	**0.1185**		**1,701.6079**

3.16 Phase 3 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0464	8.6415	8.8029	0.0137		0.5411	0.5411		0.5203	0.5203		1,327.5332	1,327.5332	0.2636		1,334.1221
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0464**	**8.6415**	**8.8029**	**0.0137**		**0.5411**	**0.5411**		**0.5203**	**0.5203**		**1,327.5332**	**1,327.5332**	**0.2636**		**1,334.1221**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0407	1.1493	0.3135	2.5000e-003	0.0640	7.7300e-003	0.0717	0.0184	7.4000e-003	0.0258		267.1389	267.1389	0.0198		267.6328
Worker	0.1066	0.0747	0.8139	2.2200e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		221.4335	221.4335	6.9400e-003		221.6070
Total	**0.1473**	**1.2240**	**1.1274**	**4.7200e-003**	**0.2875**	**9.4800e-003**	**0.2970**	**0.0777**	**9.0100e-003**	**0.0867**		**488.5724**	**488.5724**	**0.0267**		**489.2398**

3.17 Phase 3 Pump Station - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7648	8.6889	5.5563	0.0109		0.3840	0.3840		0.3533	0.3533		1,082.3362	1,082.3362	0.3424		1,090.8972
Total	**0.7648**	**8.6889**	**5.5563**	**0.0109**		**0.3840**	**0.3840**		**0.3533**	**0.3533**		**1,082.3362**	**1,082.3362**	**0.3424**		**1,090.8972**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5000e-004	5.0300e-003	1.0700e-003	1.0000e-005	2.9000e-004	2.0000e-005	3.1000e-004	8.0000e-005	2.0000e-005	1.0000e-004		1.3943	1.3943	1.1000e-004		1.3970
Vendor	0.0407	1.1493	0.3135	2.5000e-003	0.0640	7.7300e-003	0.0717	0.0184	7.4000e-003	0.0258		267.1389	267.1389	0.0198		267.6328
Worker	0.1066	0.0747	0.8139	2.2200e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		221.4335	221.4335	6.9400e-003		221.6070
Total	**0.1475**	**1.2290**	**1.1285**	**4.7300e-003**	**0.2878**	**9.5000e-003**	**0.2973**	**0.0778**	**9.0300e-003**	**0.0868**		**489.9667**	**489.9667**	**0.0268**		**490.6368**

3.18 Phase 3 De-mobilization - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2854	2.4781	1.9970	2.5400e-003		0.2011	0.2011		0.1850	0.1850		251.6470	251.6470	0.0796		253.6375
Total	**0.2854**	**2.4781**	**1.9970**	**2.5400e-003**		**0.2011**	**0.2011**		**0.1850**	**0.1850**		**251.6470**	**251.6470**	**0.0796**		**253.6375**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0221	0.7545	0.1598	1.9300e-003	0.0437	2.8300e-003	0.0465	0.0120	2.7100e-003	0.0147		209.1483	209.1483	0.0159		209.5451
Vendor	0.0407	1.1493	0.3135	2.5000e-003	0.0640	7.7300e-003	0.0717	0.0184	7.4000e-003	0.0258		267.1389	267.1389	0.0198		267.6328
Worker	0.1066	0.0747	0.8139	2.2200e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		221.4335	221.4335	6.9400e-003		221.6070
Total	**0.1694**	**1.9785**	**1.2873**	**6.6500e-003**	**0.3312**	**0.0123**	**0.3435**	**0.0897**	**0.0117**	**0.1014**		**697.7207**	**697.7207**	**0.0426**		**698.7849**

Appendix B
Biological Resources Assessment Memo

ESA

ESA

2121 Alton Parkway
Suite 100
Irvine, CA 92606
949.753.7001 phone
949.753.7002 fax

www.esassoc.com

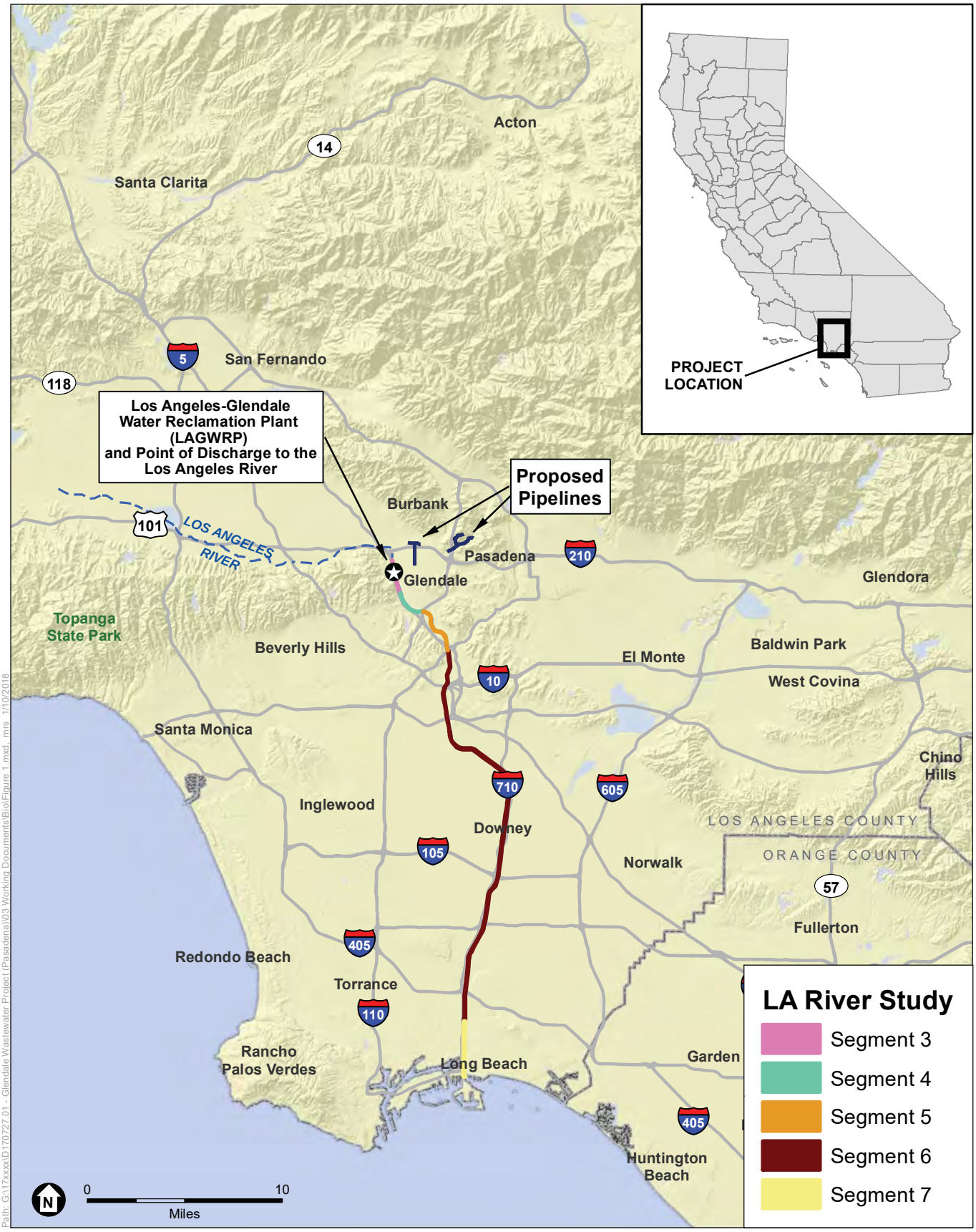
memorandum

date	June 4, 2018
to	Glendale Water and Power
cc	
from	Matthew South, Certified Wildlife Biologist, ESA
subject	Glendale Water and Power Wastewater Change Petition and Recycled Water Distribution Project Biological Resources Assessment

This memorandum summarizes the results of a site survey and literature search of the sensitive biological resources that may occur within the City of Glendale (City or City of Glendale), and the aquatic and riparian habitat within the Los Angeles River (River) between the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) located at 4600 Colorado Boulevard and the River terminus at the Pacific Ocean. The survey was conducted by ESA on December 15 and 16, 2017 to evaluate the potential effects of the Glendale Water and Power (GWP) Wastewater Change Petition and Recycled Water Distribution Project. A brief description of the proposed project and methods used during the literature review and survey is provided below.

Proposed Project Description

The City is proposing to incrementally reduce discharges of tertiary-treated wastewater from the LAGWRP to the River, in order to allow for increased use of recycled water for irrigation and other non-potable uses within the Glendale Water & Power (GWP) and Pasadena Water & Power (PWP) service areas. The proposed project includes a reduction in wastewater discharges from the LAGWRP to the River to support increased application of recycled water in the GWP and PWP service areas, construction and operation of three new recycled water distribution pipelines and associated pump stations within the City of Glendale, and a pipeline connection to Pasadena's recycled water distribution system. Pursuant to the City's 2017 Wastewater Change Petition WW0097 and associated change in place of use filed with the State Water Resources Control Board (SWRCB) (Wastewater Change Petition), the proposed project would occur over time, and would not involve construction activities or other physical changes to the environment other than the aforementioned pipeline construction and the increased use of recycled water to offset and/or supplement potable water use. The City of Glendale's proposed recycled water distribution facilities are described as follows and are depicted below in **Figures 1** and **2**.

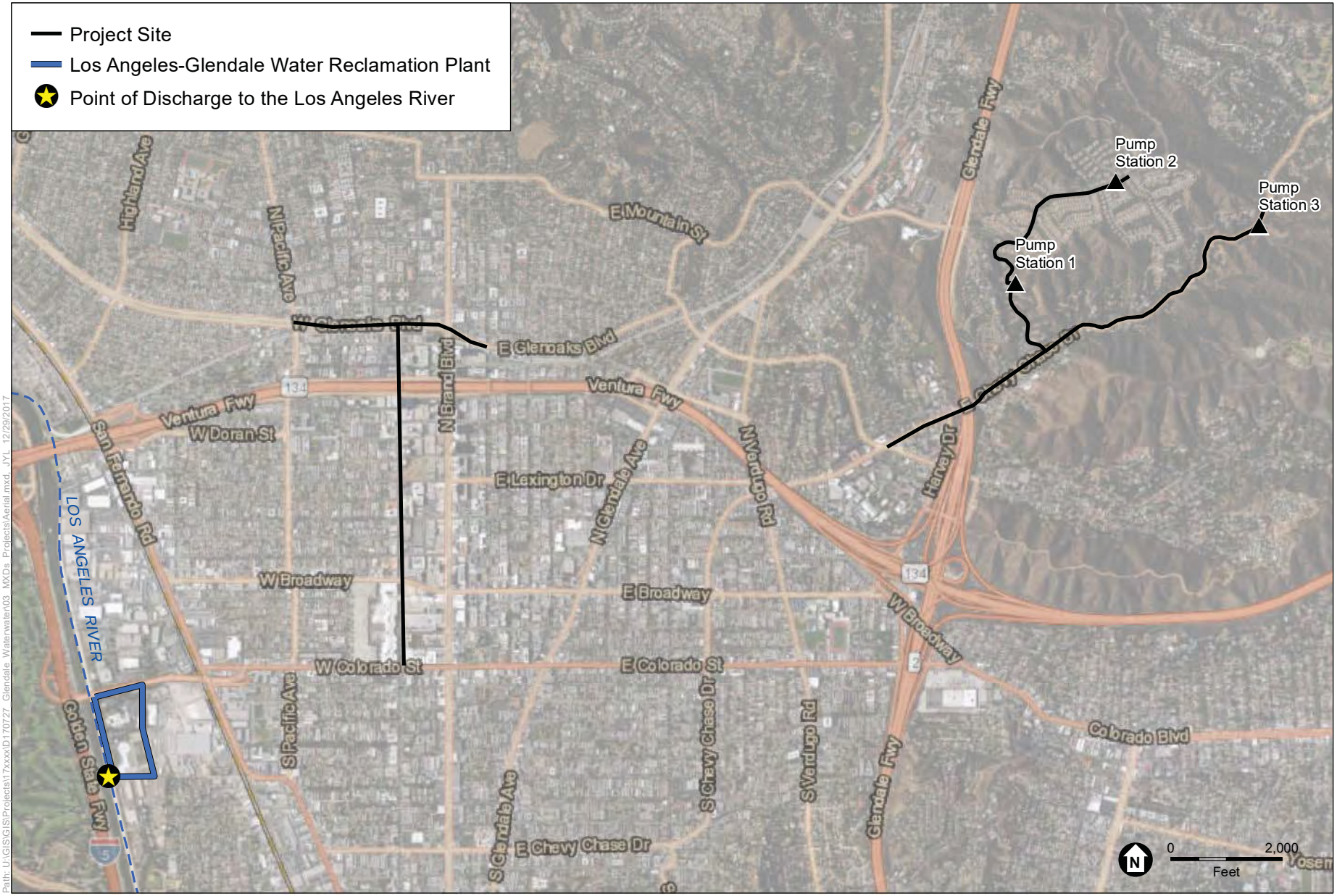


SOURCE: ESRI

Glendale 2017 Wastewater Change Petition Project

Figure 1
Regional Vicinity Map

ESA



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SOURCE: ESRI

Glendale 2017 Wastewater Change Petition Project

Figure 2

Aerial Photograph

ESA

1. **Glendale Tee (*Total Recycled Water Demand: 50 AFY*) –** Extend current recycled system by installing 11,500 feet of 8-inch polyvinyl chloride (PVC) pipeline from Colorado Street along Central Avenue and connecting (loop) the Brand Park and Verdugo Scholl recycled water pipelines via Glenoaks Boulevard in order to provide recycled water to dual-plumbed office buildings for toilet flushing and to provide landscape irrigation water for commercial buildings in the Glendale downtown area.

2. **Chevy Chase Country Club (*Total Recycled Water Demand: 100 AFY*) –** Install a pump station and 11,000 linear feet of 8-inch PVC pipeline in Chevy Chase Drive and up Chevy Chase Canyon from Holly to Golf Club Drive.

3. **Camino San Rafael Homes Recycled Water (*Total Recycled Water Demand: 125 AFY*)** – This improvement consists of installing 8,300 feet of 8-inch PVC pipeline and two booster pumps stations. It would extend Glendale's recycled water distribution system to provide recycled water for common area irrigation to the Chevy Oaks and Camino San Rafael Homes.

Wastewater Reuse and Discharge Reduction

Pursuant to its Wastewater Change Petition, the City is proposing the sale of additional recycled water to customers within the Upper Los Angeles River Area (ULARA), which would reduce the City's current discharge of treated water to the River. This proposed change will not require the construction of additional facilities or grading-related activity at LAGWRP. The City will continue to discharge treated water at the same point of diversion, but in lesser quantities, as summarized below in **Table 1**, *Existing and Proposed LAGWRP Discharges*.

TABLE 1
EXISTING AND PROPOSED LAGWRP DISCHARGES

	million gallons per day (mgd)												Acre-Feet (AF)
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual**
Present	11.89	10.19	10.24	8.79	8.04	7.37	7.12	8.08	9.03	9.49	9.88	11.20	10,500
Proposed	10.98	8.97	8.78	5.91	4.07	2.44	1.27	2.85	4.70	6.49	7.87	10.15	7,000
Change	*0.91*	*1.22*	*1.46*	*2.88*	*3.97*	*4.93*	*5.85*	*5.23*	*4.33*	*3.00*	*2.01*	*1.05*	*3,500*

Source: City of Glendale, 2017

During normal operation, approximately 39 percent of Glendale's share of LAGWRP's tertiary-treated effluent (approximately 2,000 AF in 2016) is currently beneficially reused for landscape irrigation and industrial uses and the remainder is discharged into the River (approximately 3,155 AF in 2016). As a result of increased demand for recycled water within the ULARA, the City is proposing to gradually increase its use of recycled water (from approximately 2,000 AFY to approximately 5,500 AFY), thereby reducing its discharge of treated wastewater into the channel over the next ten years from 10,500 AFY to approximately 7,000 AFY.

Study Area

The Study Area included the three proposed pipeline alignments and three pump stations described above and shown in Figures 1 and 2. The Study Area includes those areas that will be directly impacted by construction and the immediately surrounding areas within 50 feet that may be subjected to indirect impacts from construction (i.e. noise, vibration, and lighting).

The Study Area also included approximately 30 linear-miles of the River, between LAGWRP and the Pacific Ocean, with a focus on wetted areas. This Study Area is depicted in **Figure 3**, which also includes information on habitats within the River. The River is approximately 200-350 feet wide, and has water depths to 6.5 feet in the deepest part of the Study Area (FoLAR 2008). Geometry of the channel changes in the Study Area varying between trapezoidal and box and flow velocity varies from 15-20 feet per second, and up to 30 feet per second (FoLAR 2008).

ESA completed a study of the Los Angeles River in January of 2017 (ESA 2017) that included a Study Area divided into seven Segments, five of which (Segments 1-5) were assessed in a habitat assessment of the River as described in the US Army Corps of Engineers (USACE) *Los Angeles River Ecosystem Restoration Feasibility Study* (USACE 2013). These five segments correspond to Segment A of the Hydraulic Modeling Report (ESA 2018). LAGWRP occurs in the northern section of Segment 3, and to maintain consistency with the previous studies (ESA 2017), the Study Area within the River in this analysis includes Segments 3-7 (see Figure 1 above); Segments 1 and 2 will not be discussed any further in this memo as they are upstream of the Project and therefore will not be impacted by the Project as the River flows downstream, towards the ocean. Segments 3, 4, and 5 are soft bottom with trapezoidal concrete slopes, and Segment 7 is soft bottom with boulder rip-rap reinforced slopes. Segment 6, the longest segment, is concrete lined and varies in shape between box and trapezoidal (shown in Pages 8-27 of **Figure 3**). Segment B of the Hydraulic Modeling Report Study Area includes the southern half of Segment 6 and all of Segment 7 of the Biological Resources Assessment Study Area. The River segment number scheme for this Biological Resources Assessment is consistent with the earlier ESA biological study of the River, as this conforms best to the resources present. Based on a visual inspection during the December 16 survey, the composition of substrate in the soft bottom Segments was estimated to be about 80 percent boulders, large rocks, and cobble; and 20 percent gravel and sand. The Study Area Segments are described below in **Table 2**.

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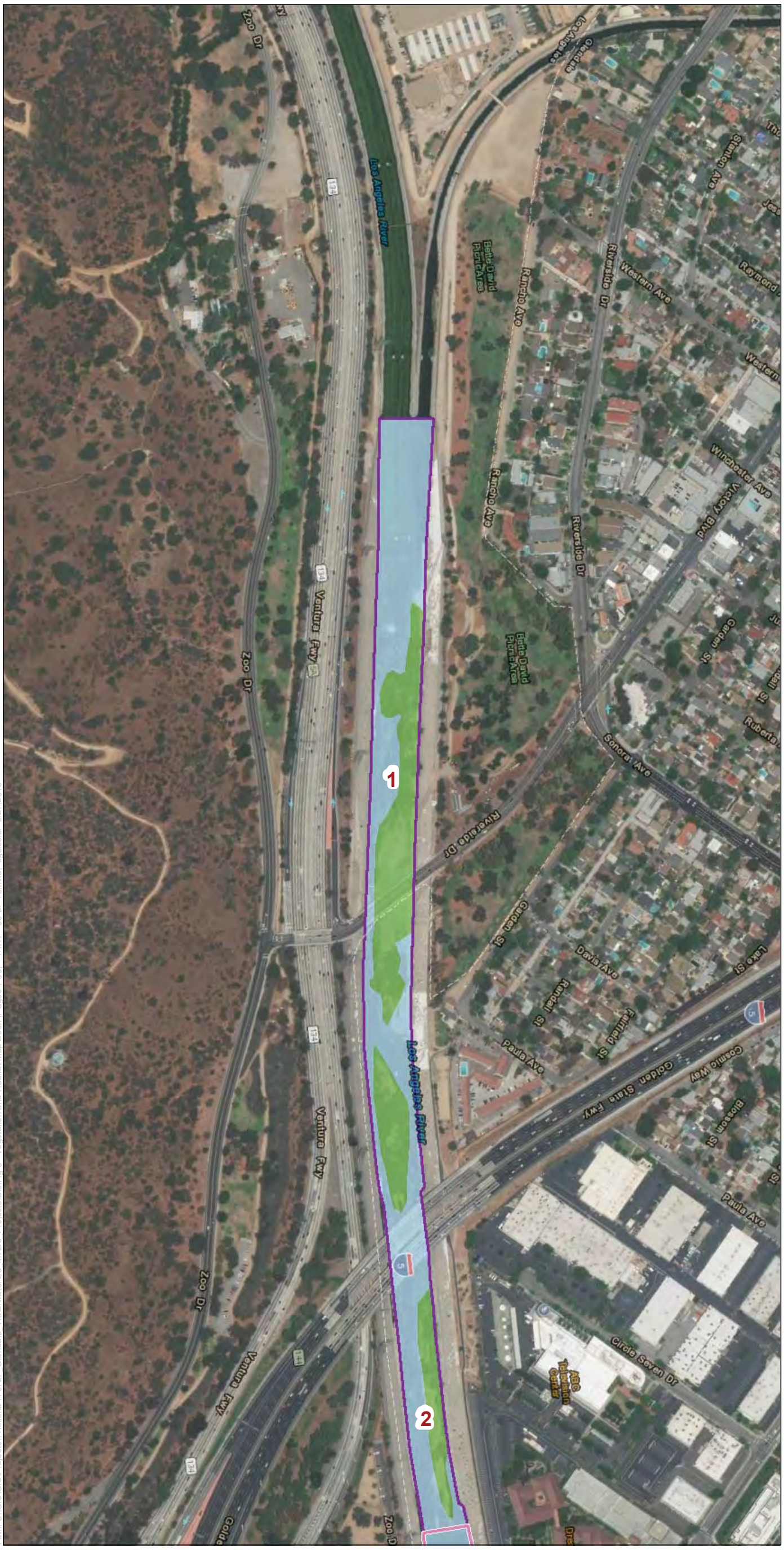
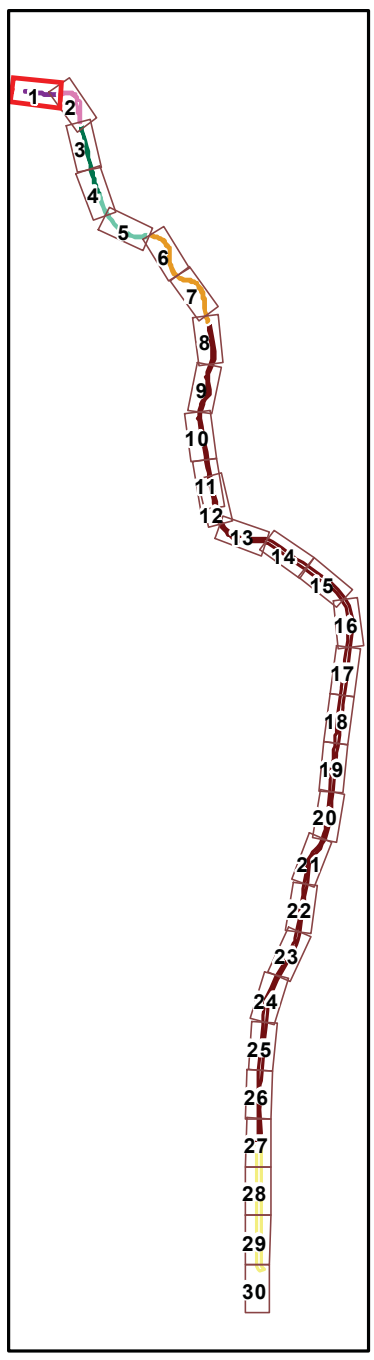




\# - Map Page

Study Area

- Segment 1
- Segment 2

Vegetation and Habitat

- Black Willow Thickets
- Water

0 420

Feet

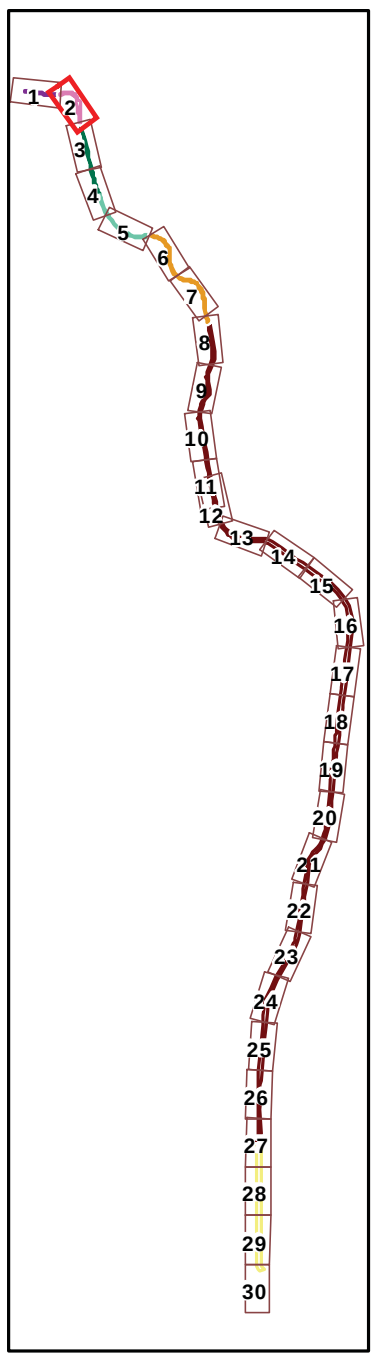
Path: U:\GIS\GIS\Projects\17xxx\D170727 Glendale Waterwater\03 MXDs Projects\Bio\Fig 3 - Vegetation and Habitat Map Book (Pages 1-30) - 11x17 - 03-27-18.mxd sgeissler 3/27/2018

SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 1



- Map Page

Study Area

- Segment 1
- Segment 2
- Segment 3

Vegetation and Habitat

- Black Willow Thickets
- Water

0 420
Feet

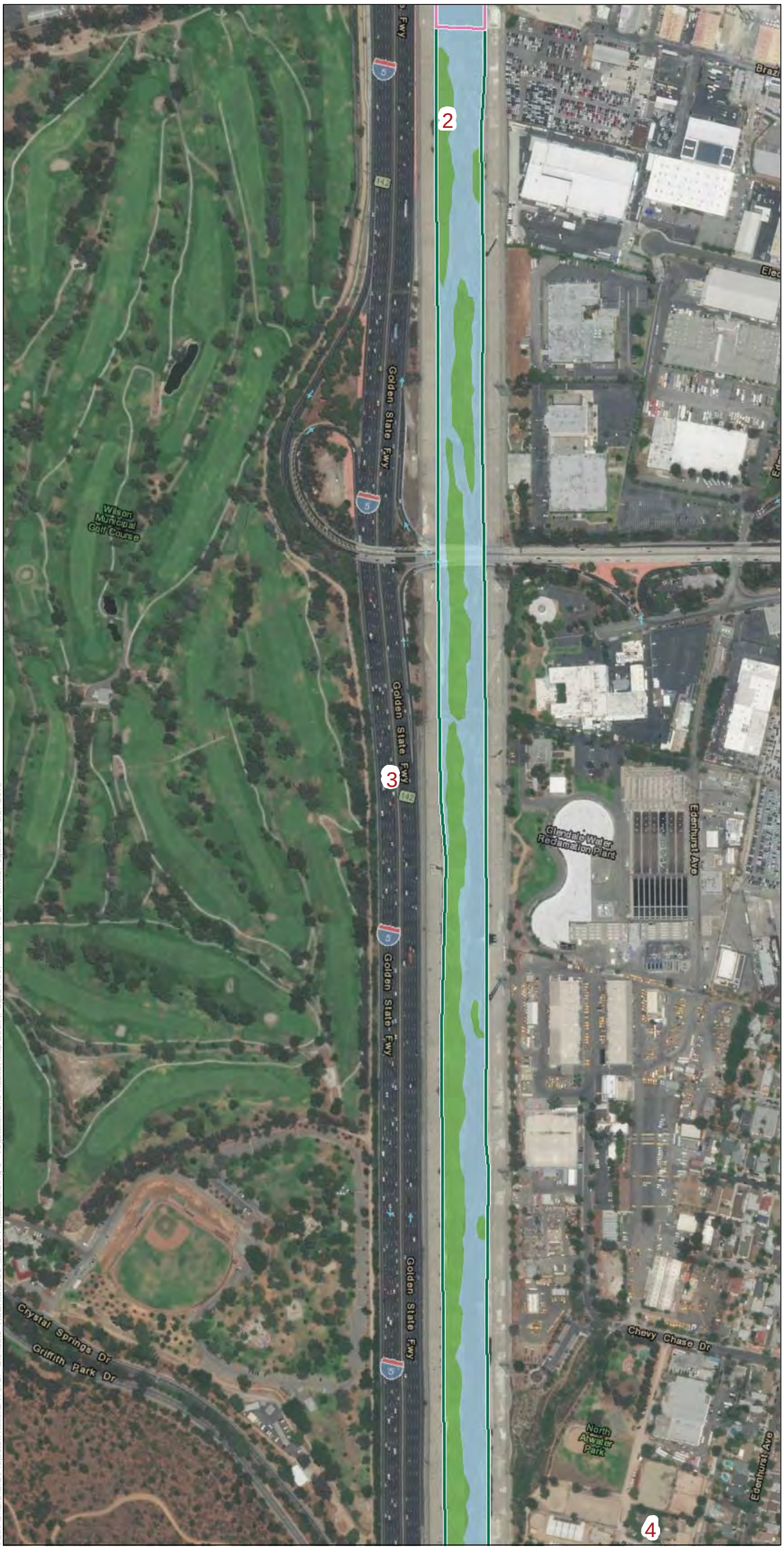
Path: U:\GIS\GIS\Projects\17xxx\D170727 Glendale Waterwater\03 MXDs Projects\Bio\Fig 3 - Vegetation and Habitat Map Book (Pages 1-30) - 11x17 - 03-27-18.mxd sgelsler 3/27/2018

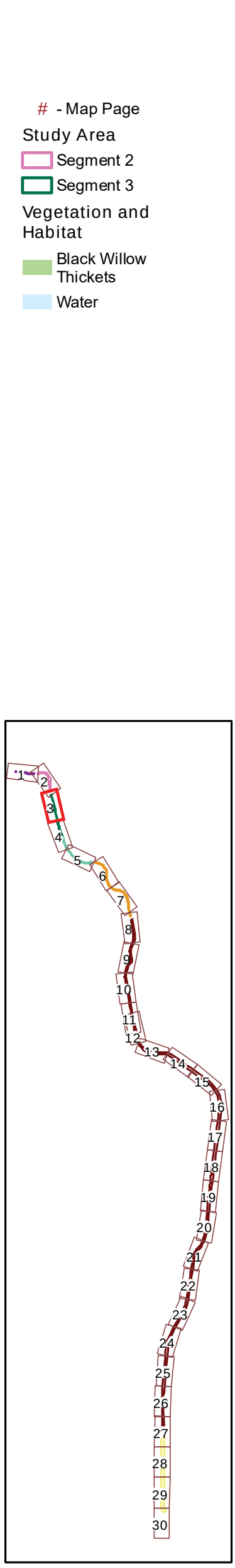
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 2





- Map Page

Study Area
- Segment 2
- Segment 3

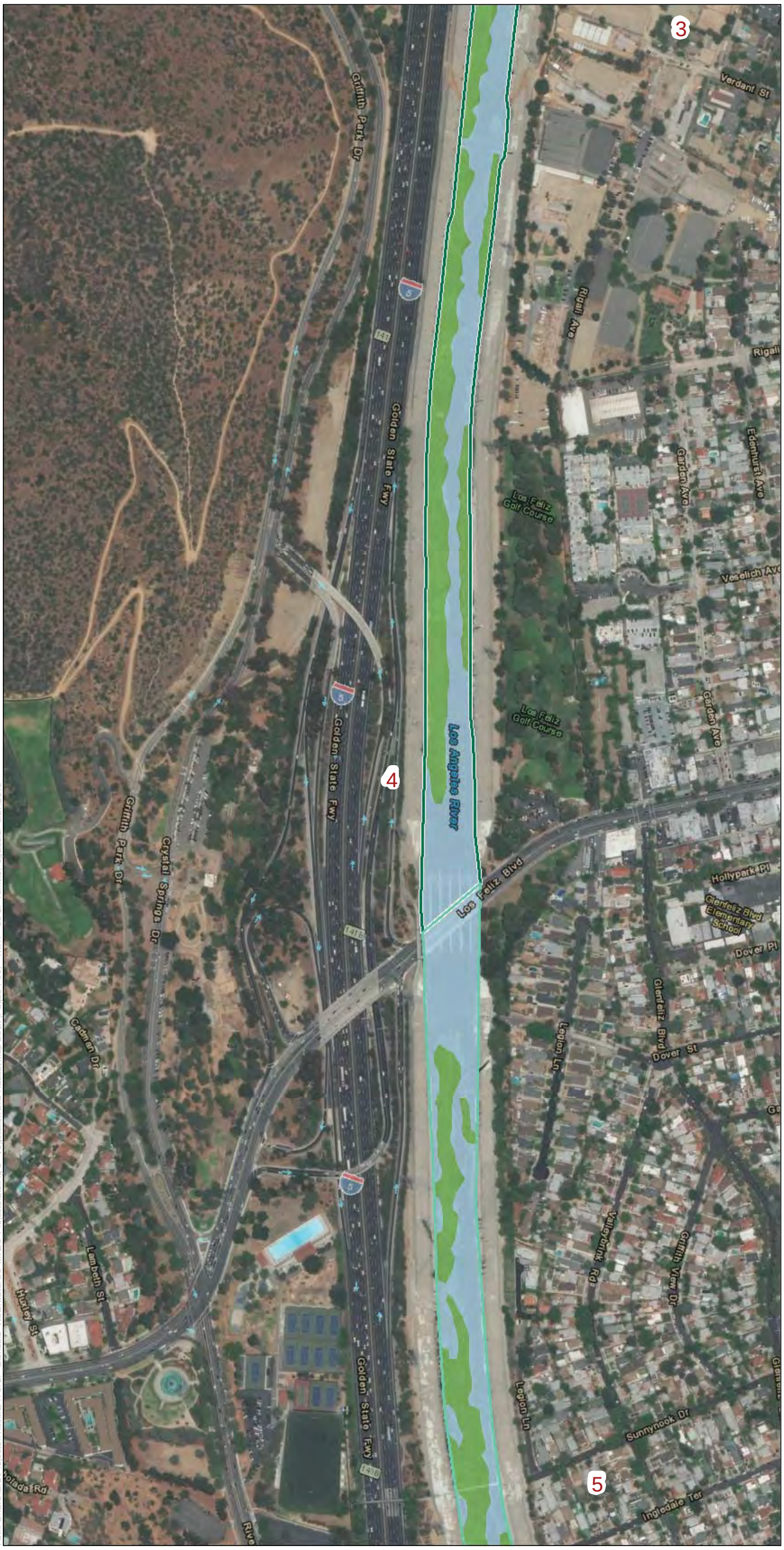
Vegetation and Habitat
- Black Willow Thickets
- Water

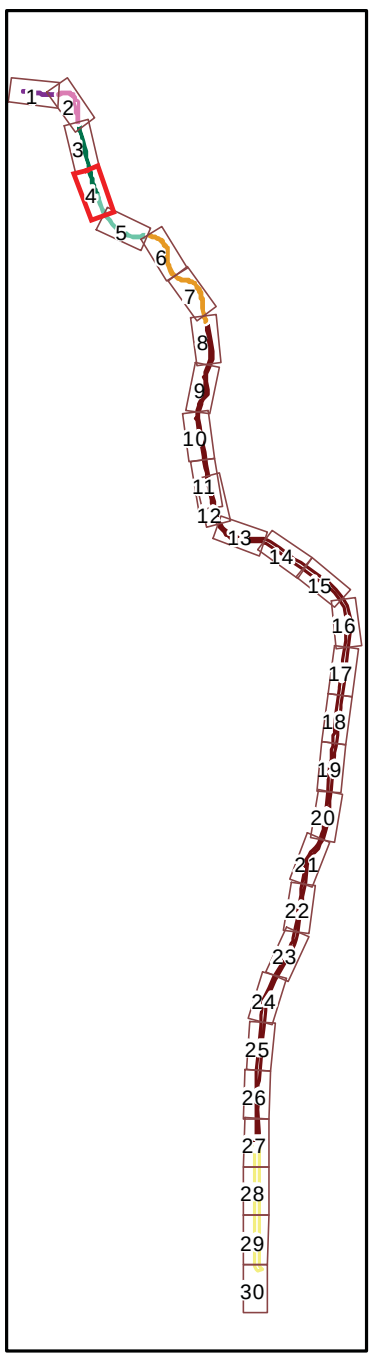
0 420
Feet

Path: U:\GIS\GIS\Projects\17xxx\D170727_Glendale_Waterwater\03_MXDs_Projects\Bio\Fig 3 - Vegetation and Habitat Map Book (Pages 1-30) - 11x17 - 03-27-18.mxd sjeissler 3/27/2018

SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project
Figure 3
Vegetation and Habitat Map Book - Page 3





- Map Page

Study Area
- Segment 3
- Segment 4

Vegetation and Habitat
- Black Willow Thickets
- Water

0 420
Feet

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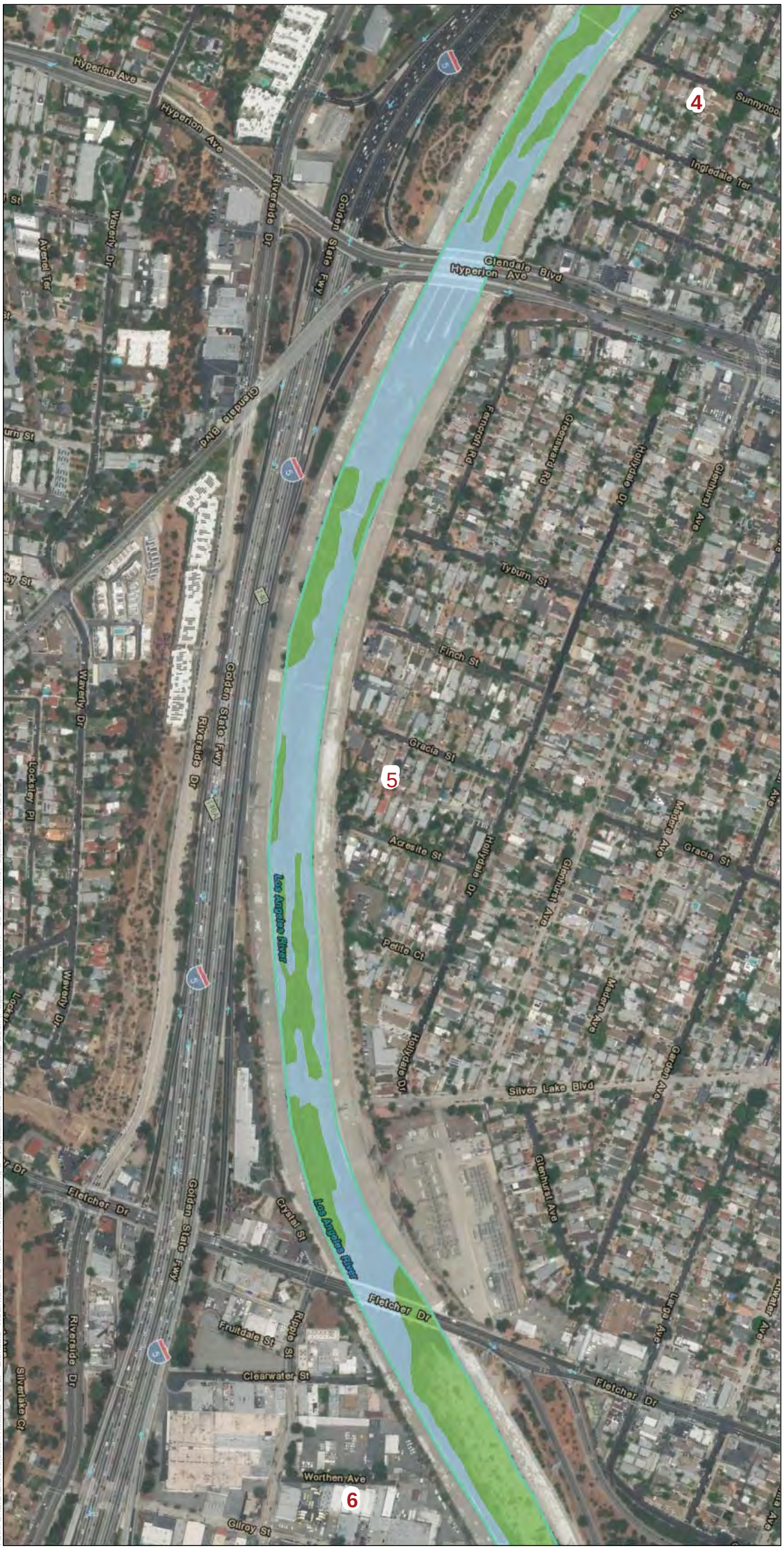
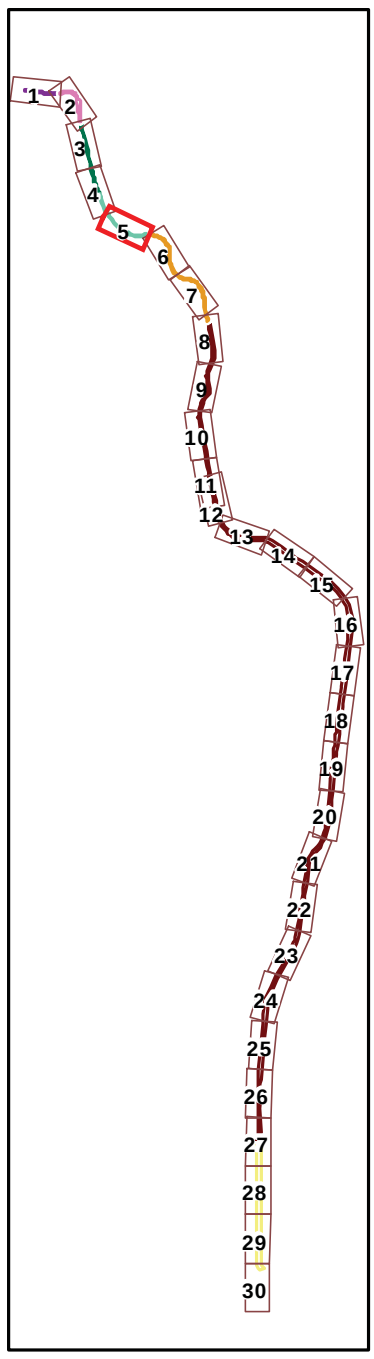
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project
Figure 3
Vegetation and Habitat Map Book - Page 4





- Map Page

Study Area

Segment 4

Vegetation and Habitat

Black Willow Thickets

Water

0 420

Feet

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SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 5

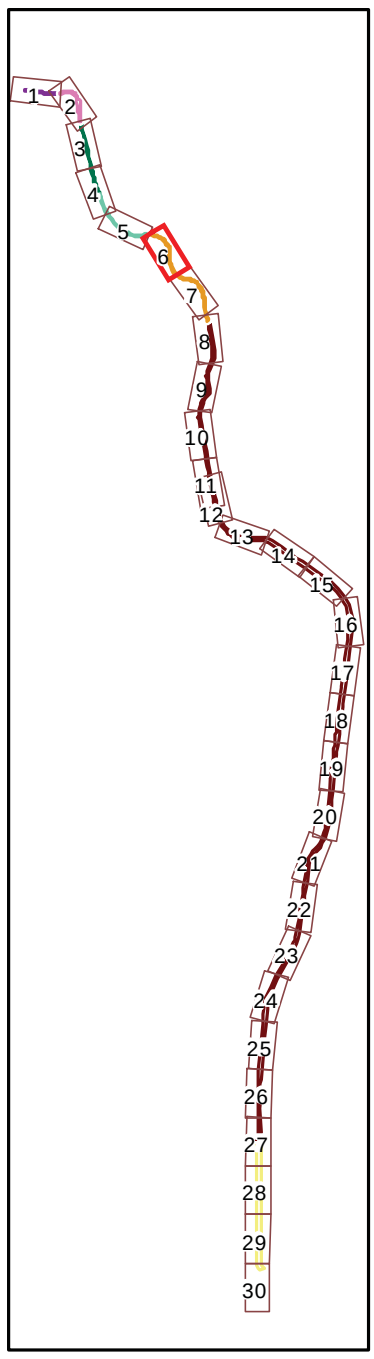
- Map Page

Study Area

- Segment 4
- Segment 5

Vegetation and Habitat

- Black Willow Thickets
- Water



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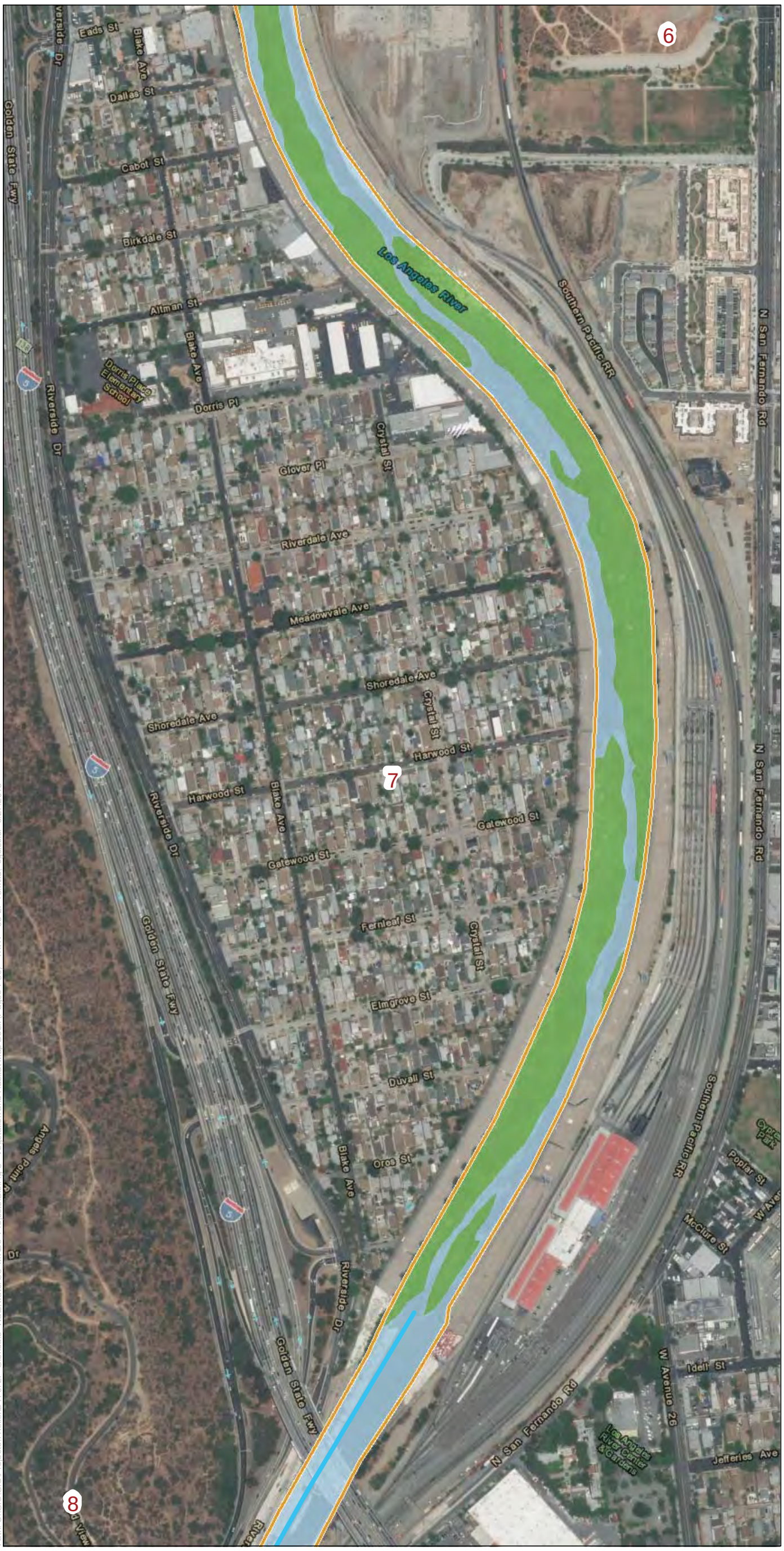
Feet

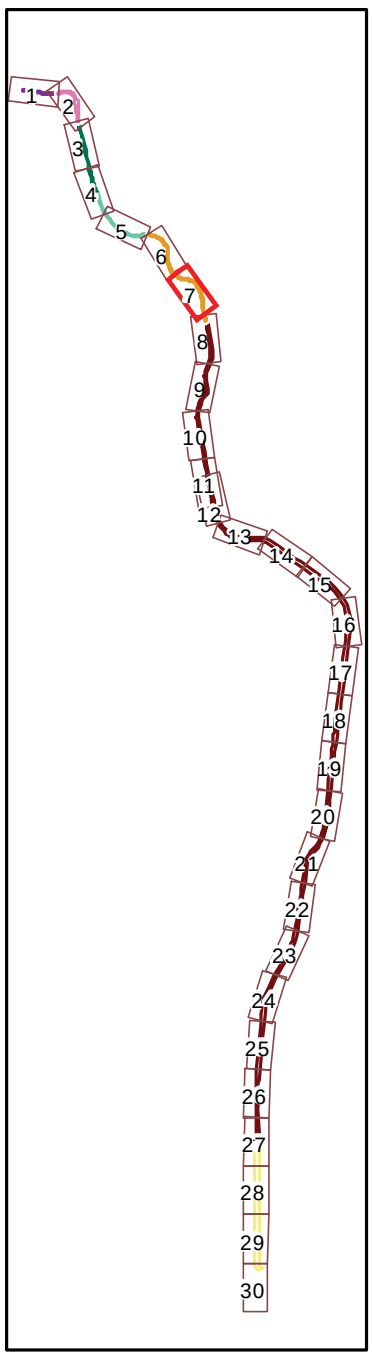
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 6





- Map Page

Study Area

Segment 5

Vegetation and Habitat

Black Willow Thickets

Water

Low Flow Channel

SOURCE: DigitalGlobe (2016-07-09), Aerial.

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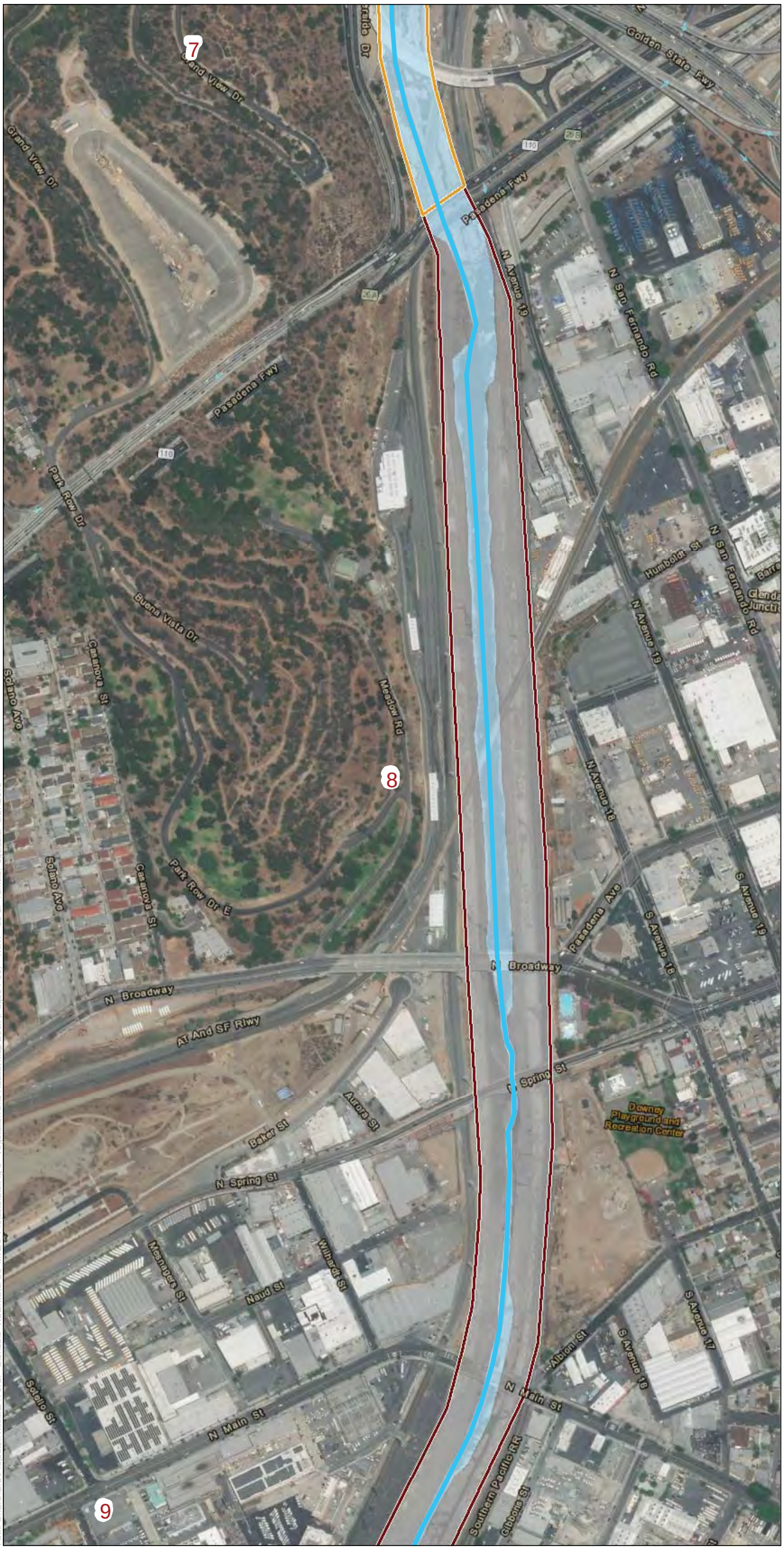
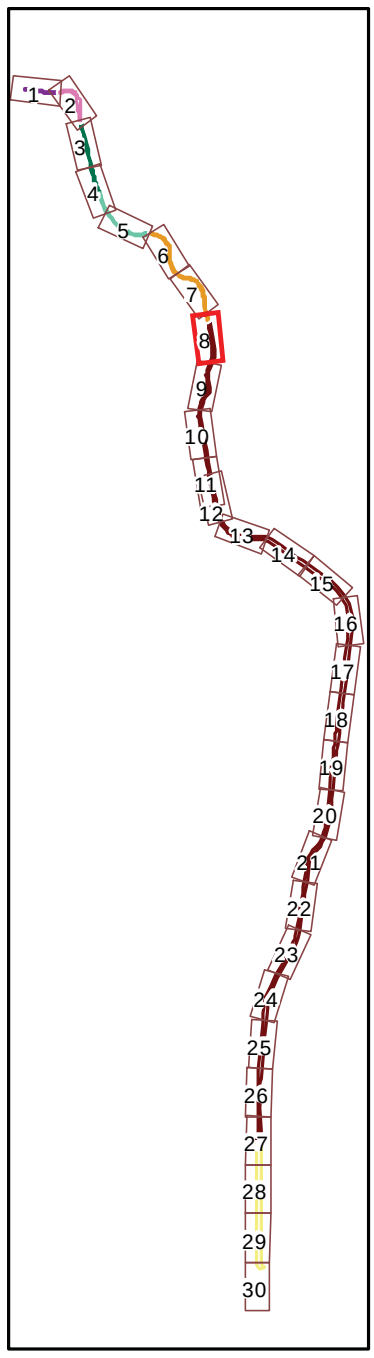
Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 7





- Map Page

Study Area
- Segment 5
- Segment 6

Vegetation and Habitat
- Concrete
- Water
- Low Flow Channel

0 420
Feet

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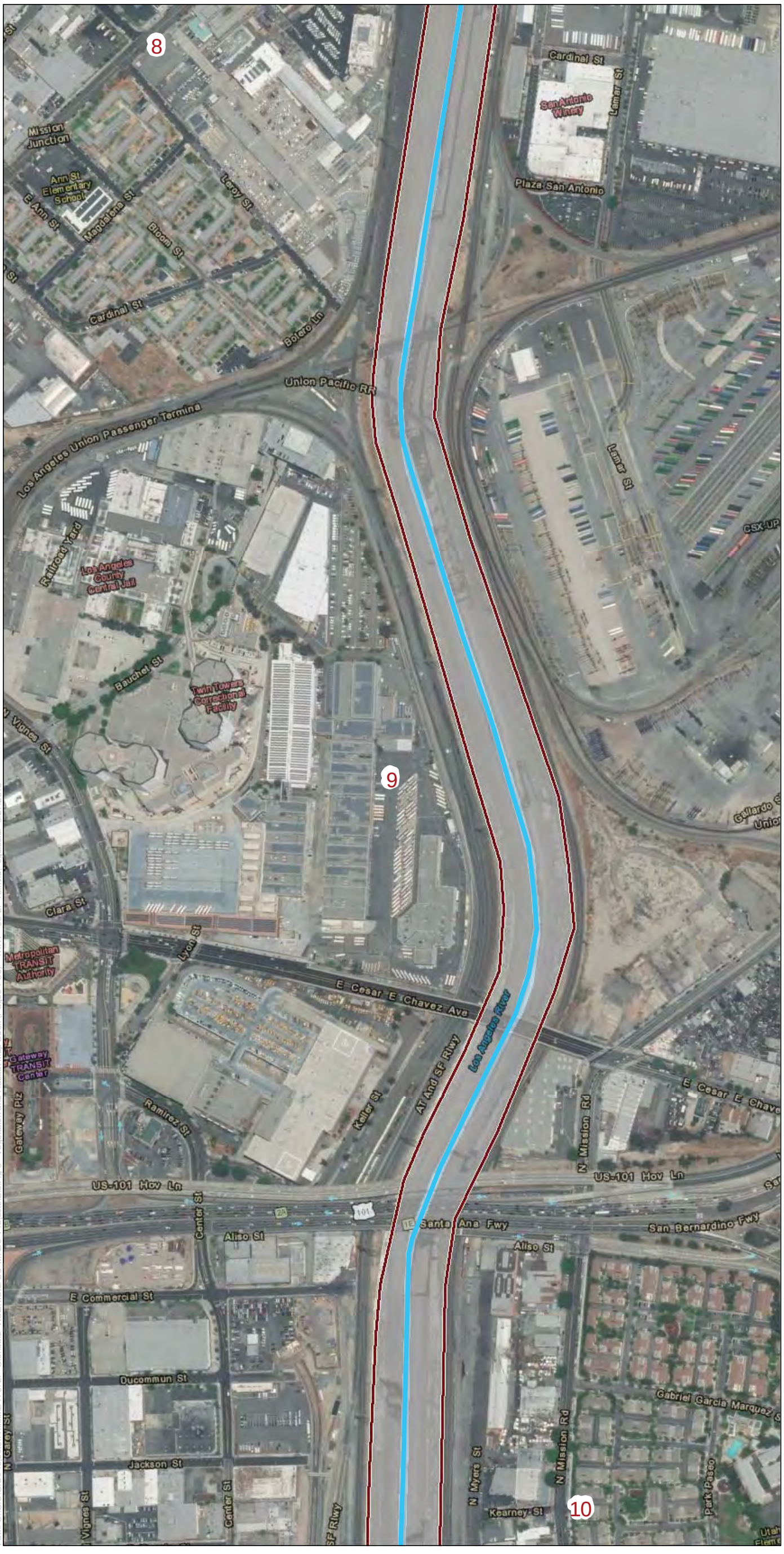
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project
Figure 3
Vegetation and Habitat Map Book - Page 8



- Map Page

Study Area

Segment 6

Vegetation and Habitat

Concrete

Water

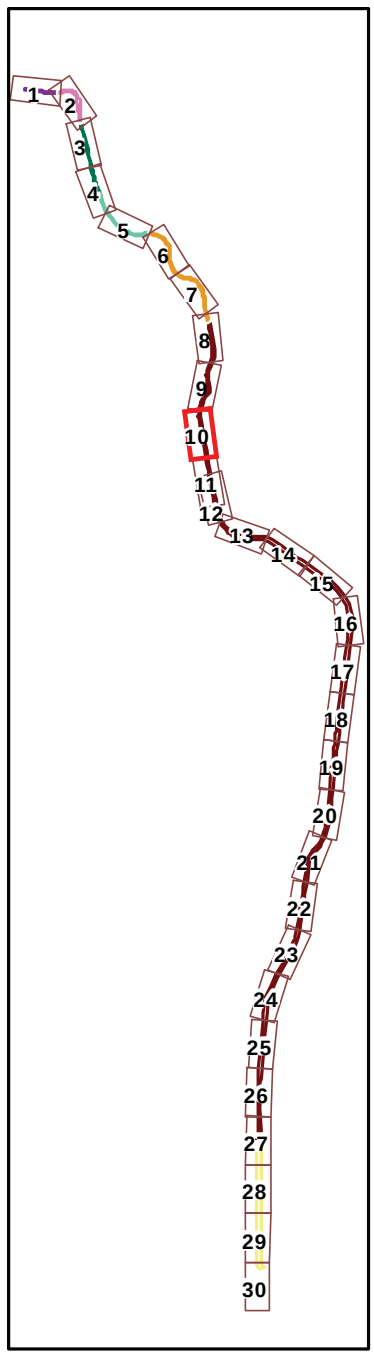
Low Flow Channel

SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 9



- Map Page

Study Area

Segment 6

Vegetation and Habitat

Concrete

Water

Low Flow Channel

0 420

Feet

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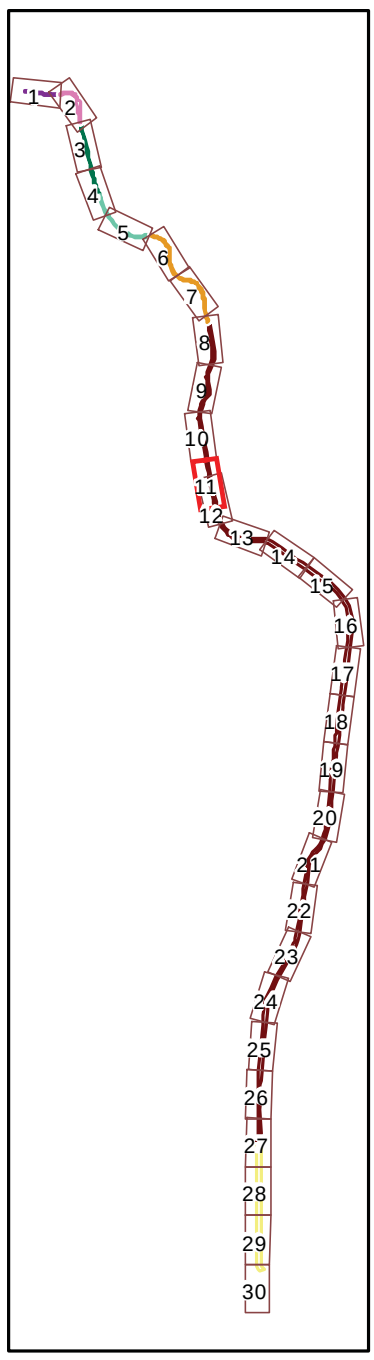
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 10



- Map Page

Study Area

Segment 6

Vegetation and Habitat

Concrete

Water

Low Flow Channel

0 420

Feet

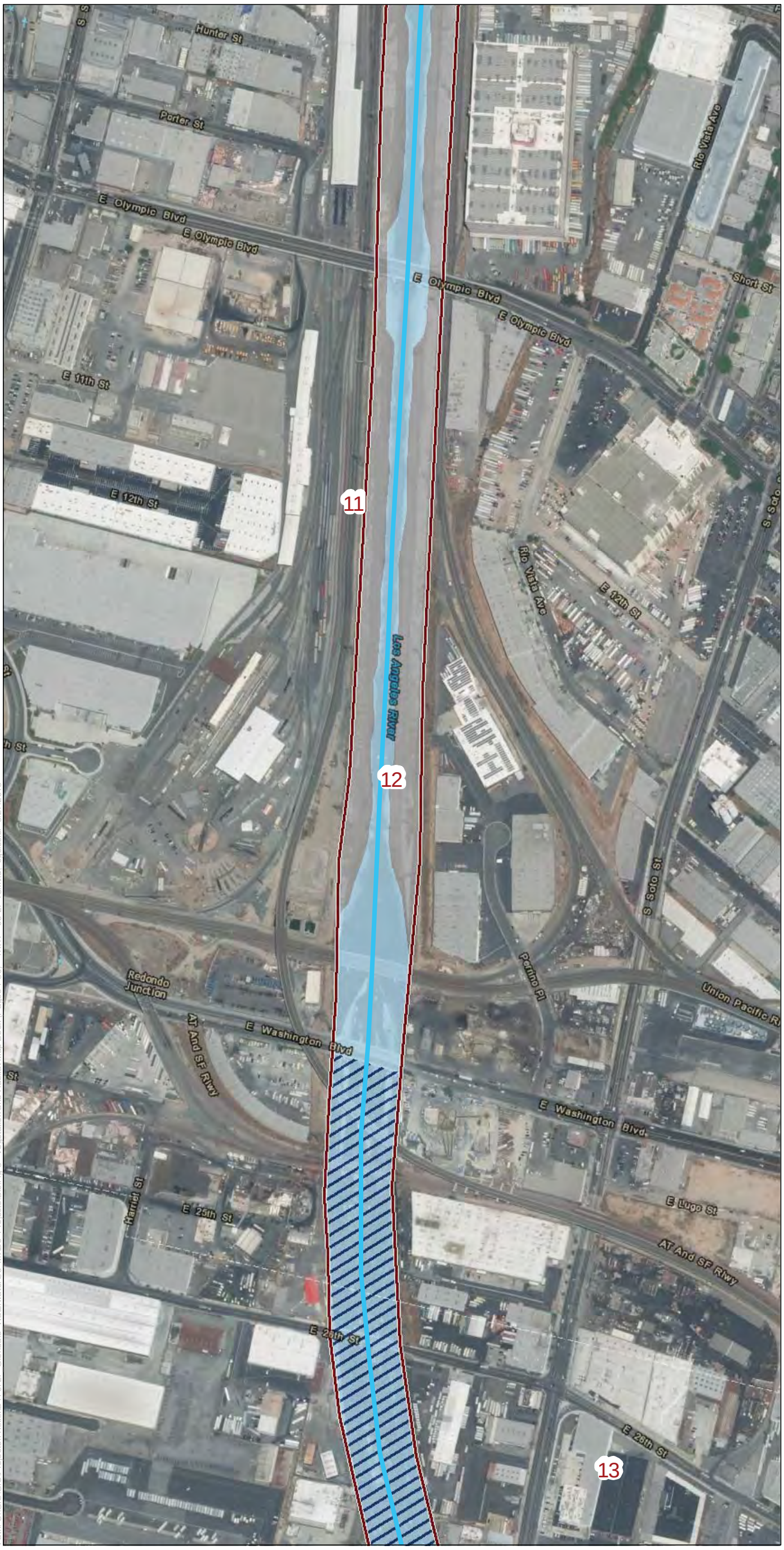
Path: U:\GIS\GIS\Projects\17xxx\D170727 Glendale Waterwater\03 MXDs Projects\Bio\Fig 3 - Vegetation and Habitat Map Book (Pages 1-30) - 11x17 - 03-27-18.mxd - sgelssler 3/27/2018

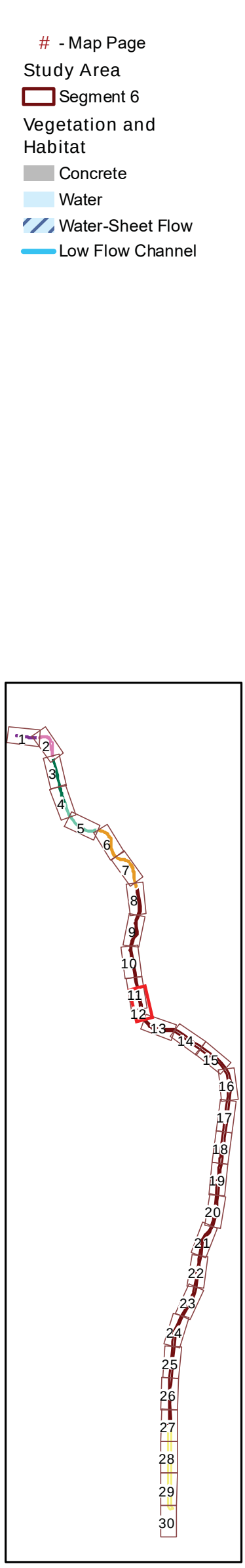
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 11





- Map Page

Study Area

Segment 6

Vegetation and Habitat

Concrete

Water

Water-Sheet Flow

Low Flow Channel

0 420

Feet

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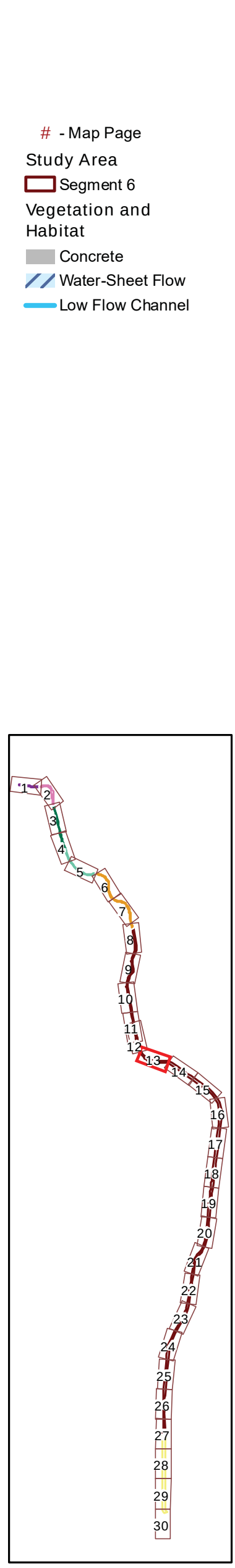
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 12



- Map Page

Study Area

Segment 6

Vegetation and Habitat

Concrete

Water-Sheet Flow

Low Flow Channel

0 420

Feet

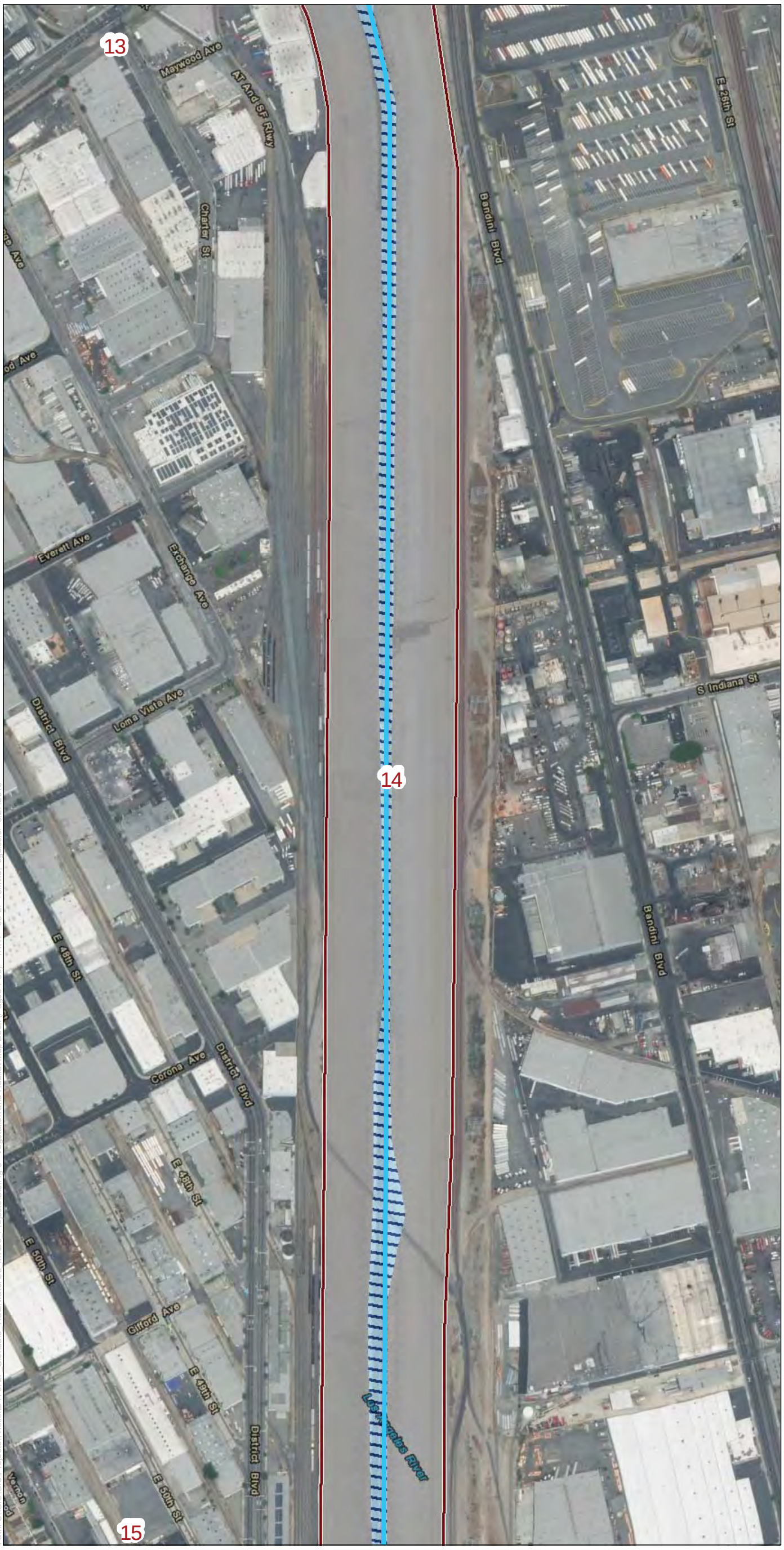
Path: U:\GIS\GIS\Projects\17xxx\D170727_Glendale_Waterwater\03_MXDs_Projects\BioFig 3 - Vegetation and Habitat Map Book (Pages 1-30) - 11x17 - 03-27-18.mxd sjelsler 3/27/2018

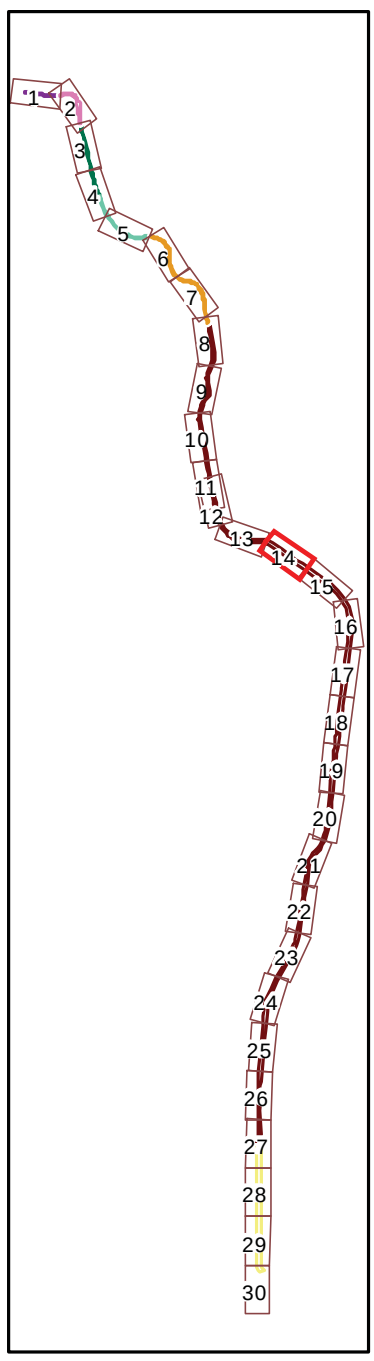
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

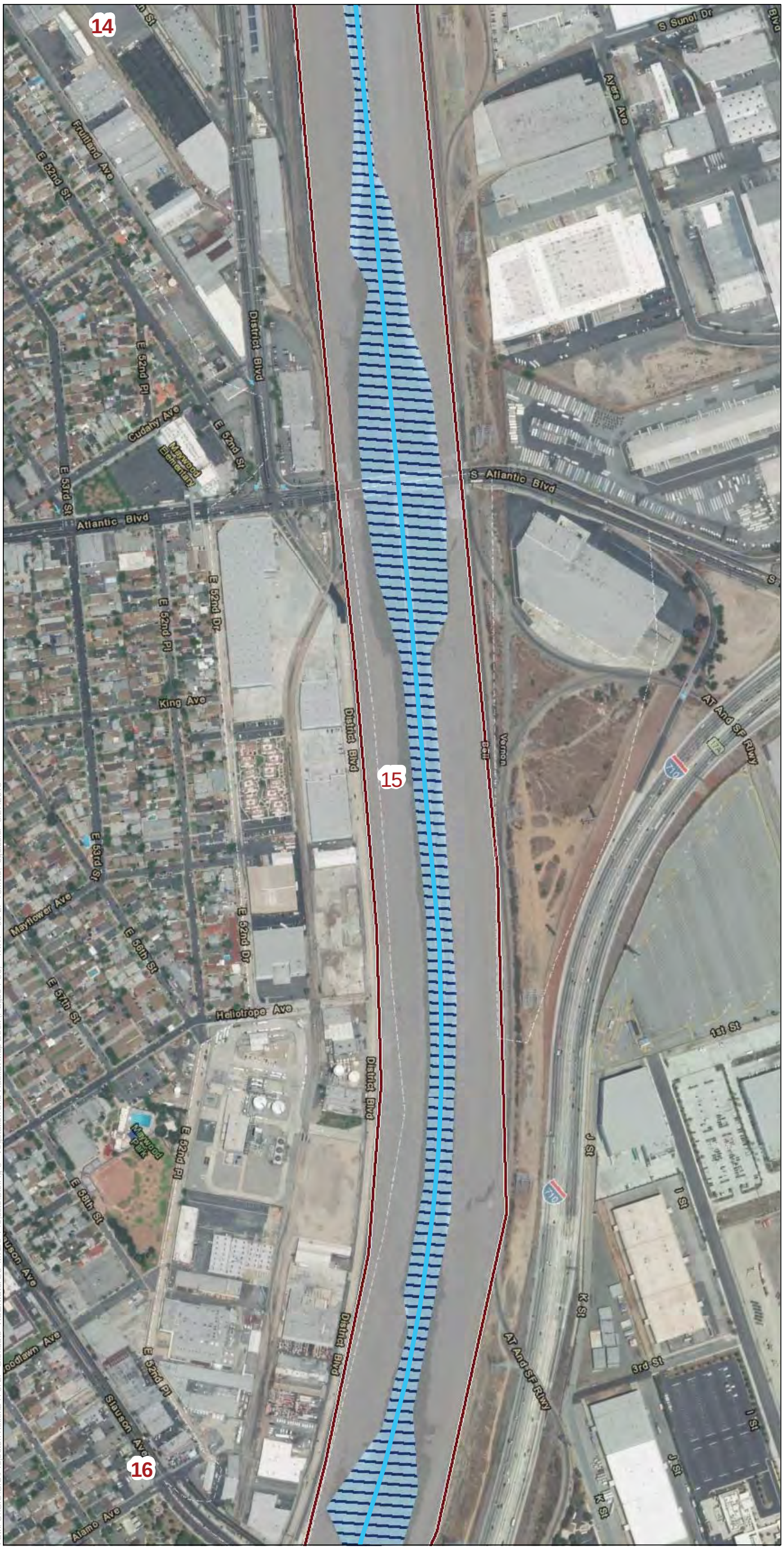
Vegetation and Habitat Map Book - Page 13





SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project
Figure 3
Vegetation and Habitat Map Book - Page 14



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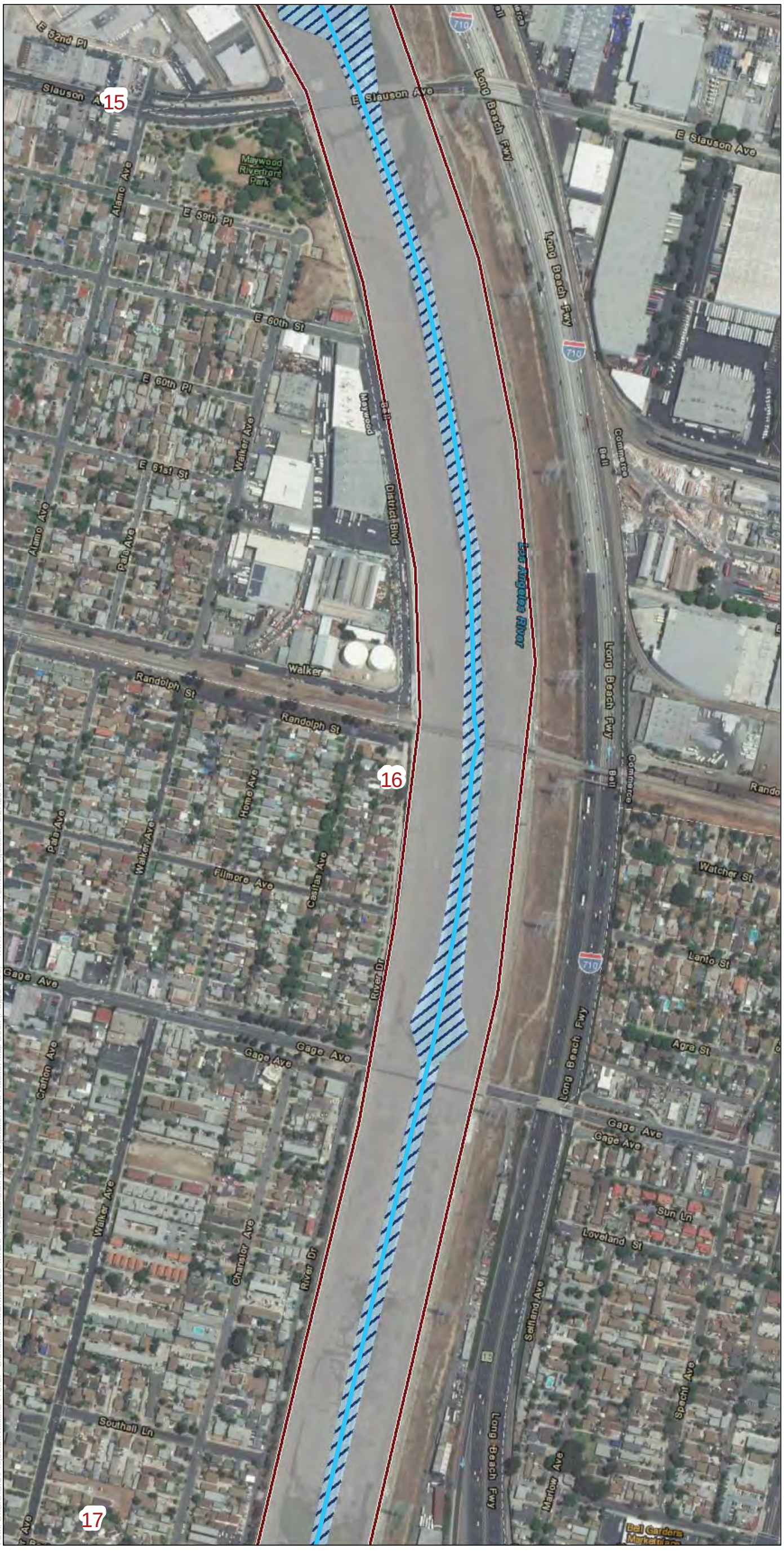
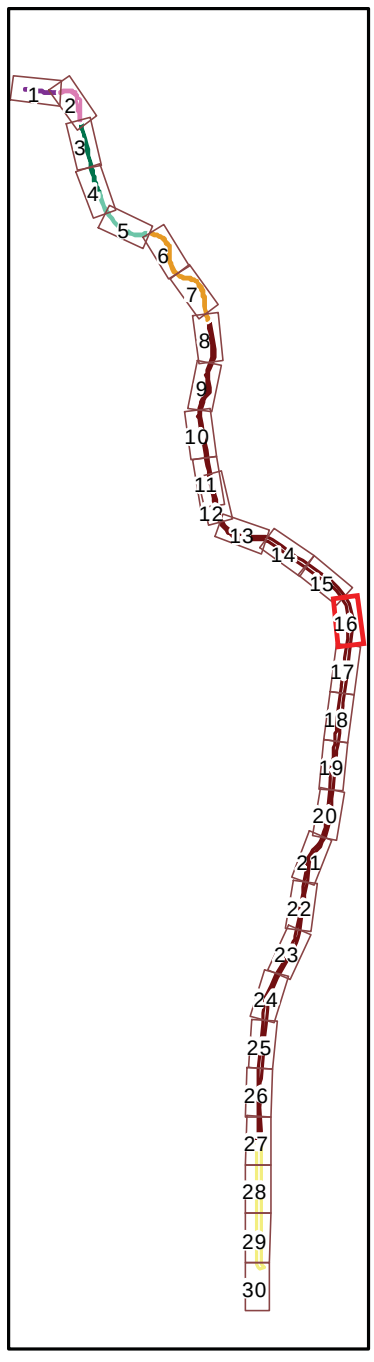
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 15





- Map Page

Study Area

Segment 6

Vegetation and Habitat

Concrete

Water-Sheet Flow

Low Flow Channel

0 420

N

Feet

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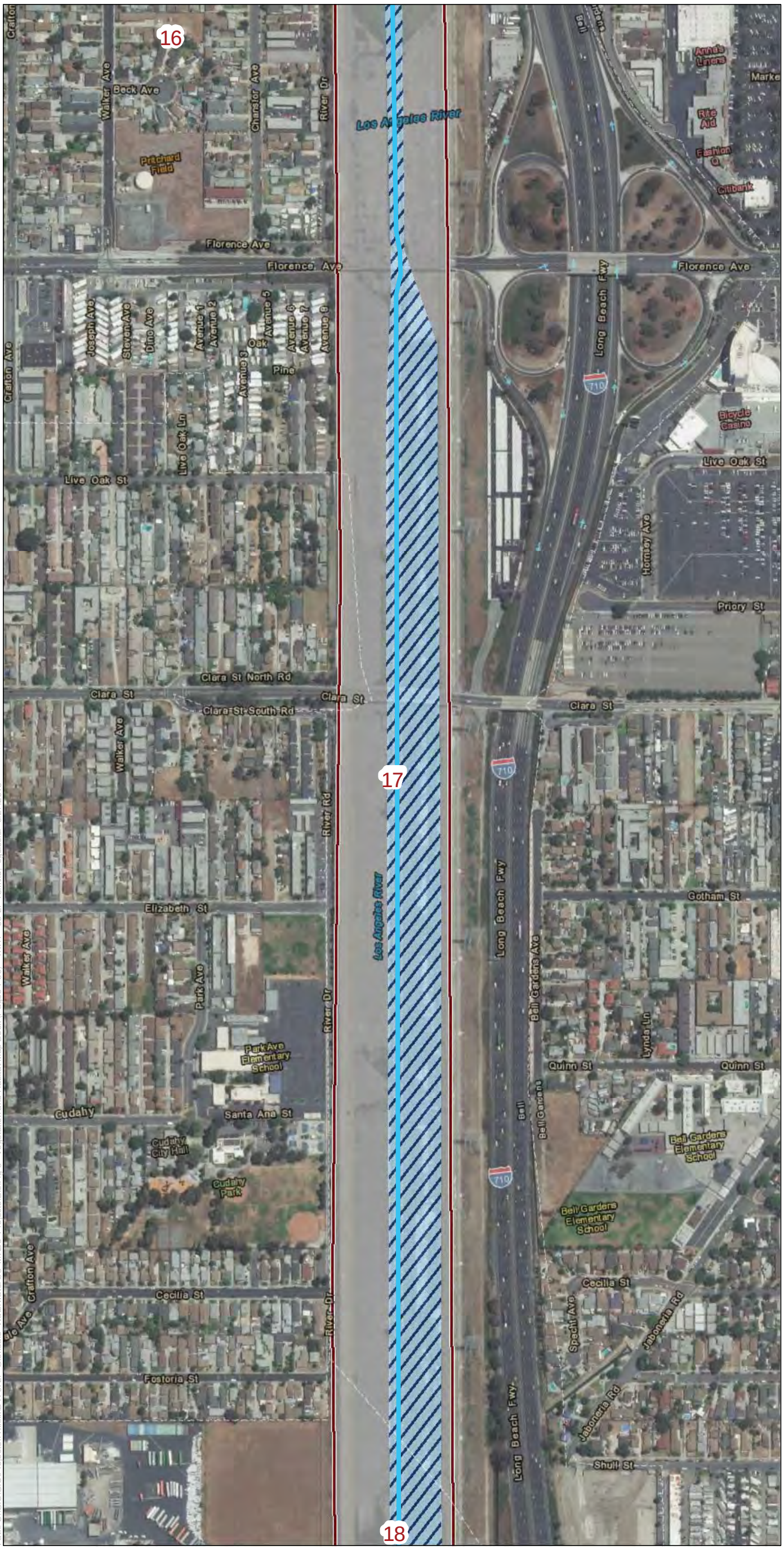
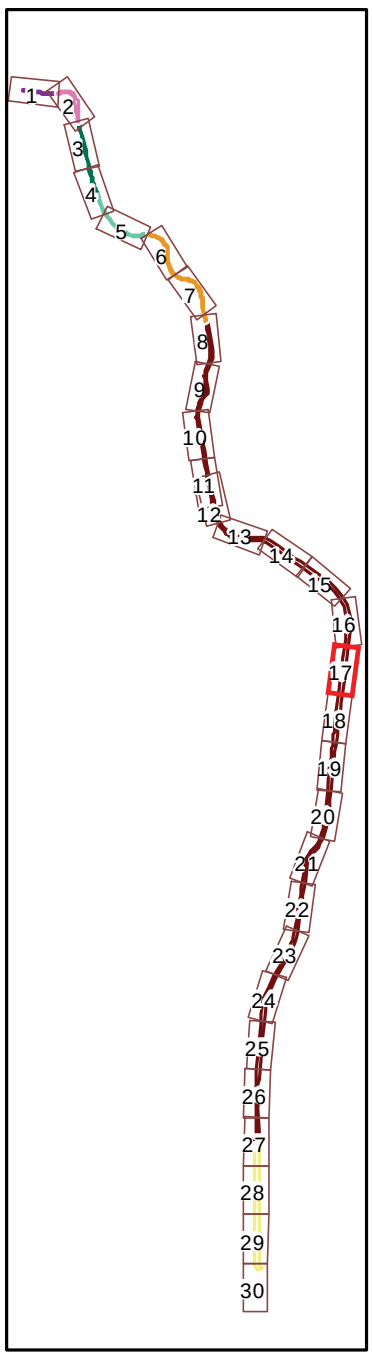
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 16





- Map Page

Study Area

Segment 6

Vegetation and Habitat

Concrete

Water-Sheet Flow

Low Flow Channel

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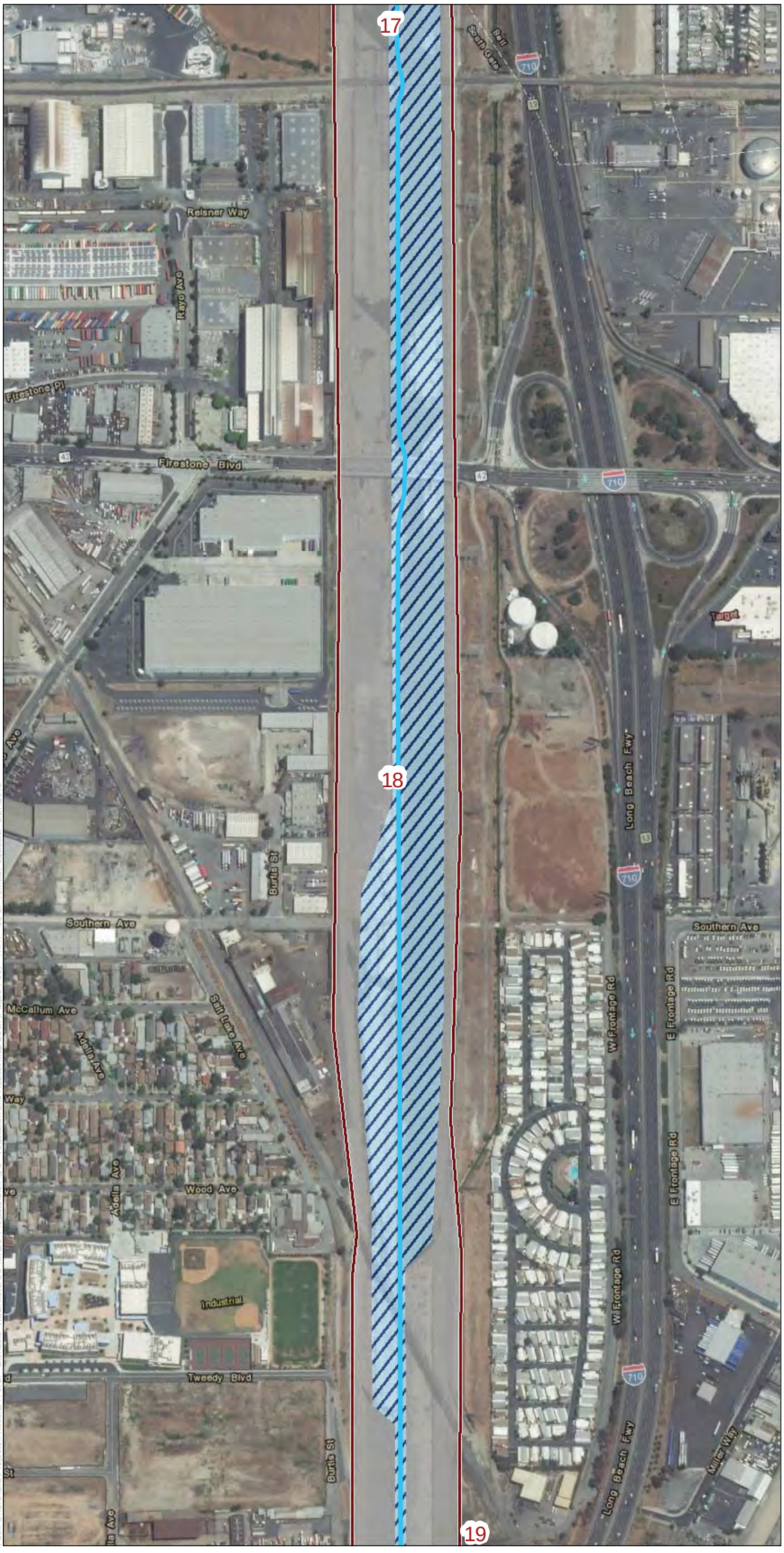
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 17



- Map Page

Study Area

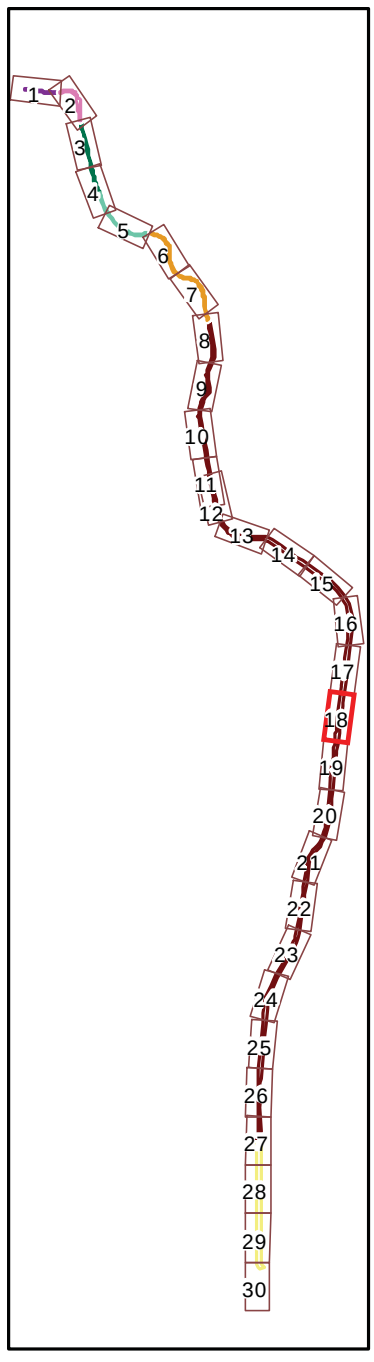
Segment 6

Vegetation and Habitat

Concrete

Water-Sheet Flow

Low Flow Channel



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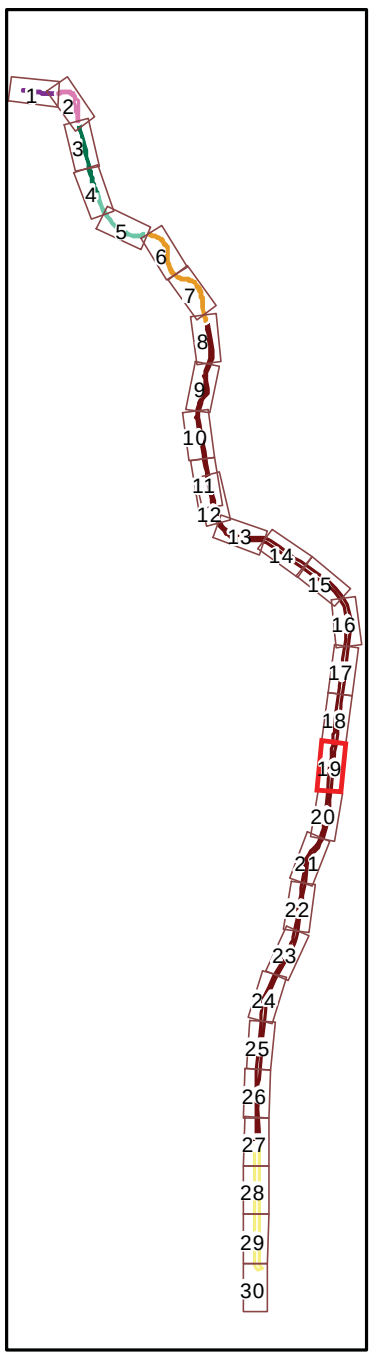
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 18



- Map Page

Study Area

Segment 6

Vegetation and Habitat

Concrete

Water-Sheet Flow

Low Flow Channel

0 420

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Feet

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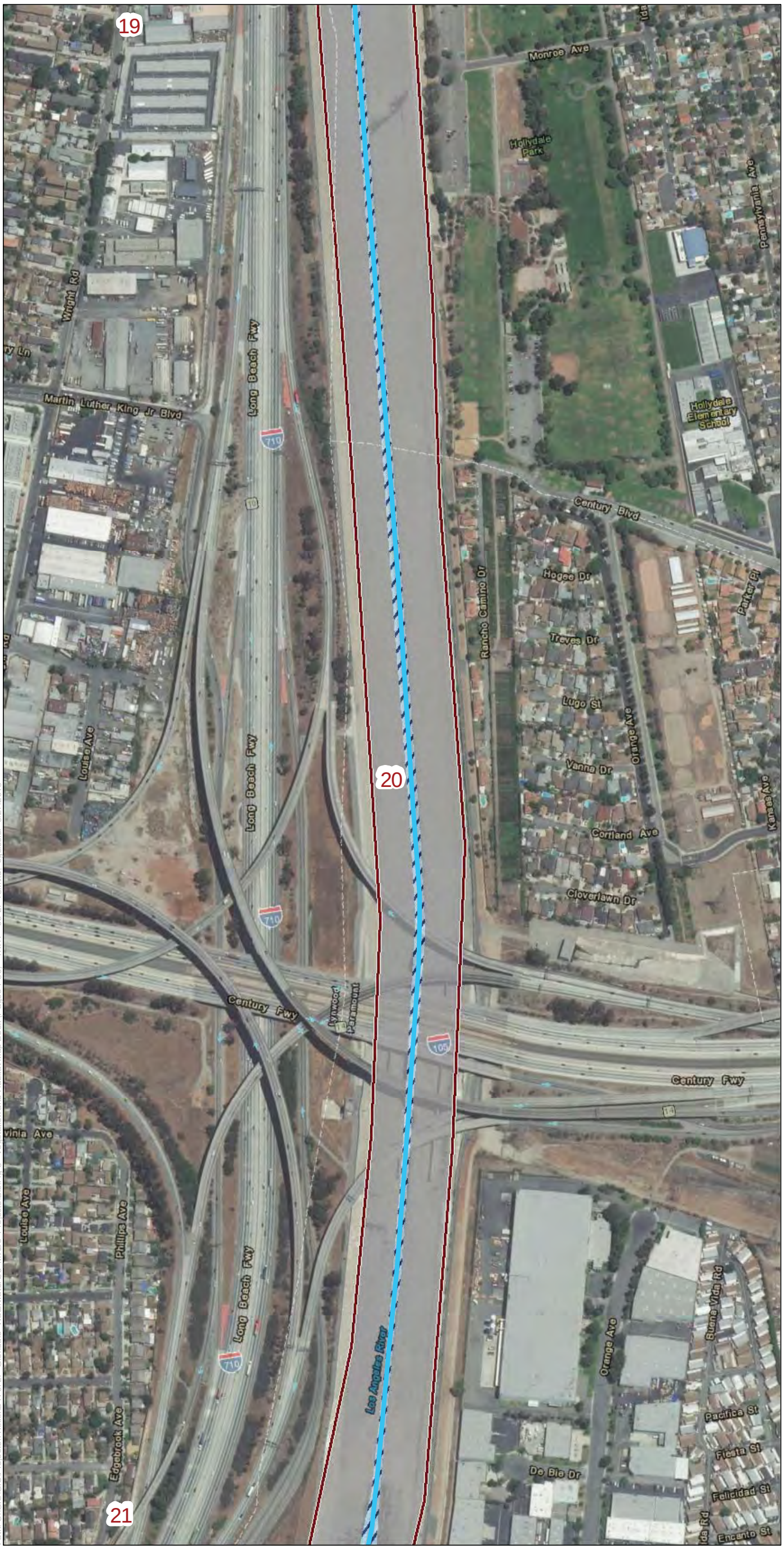
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 19



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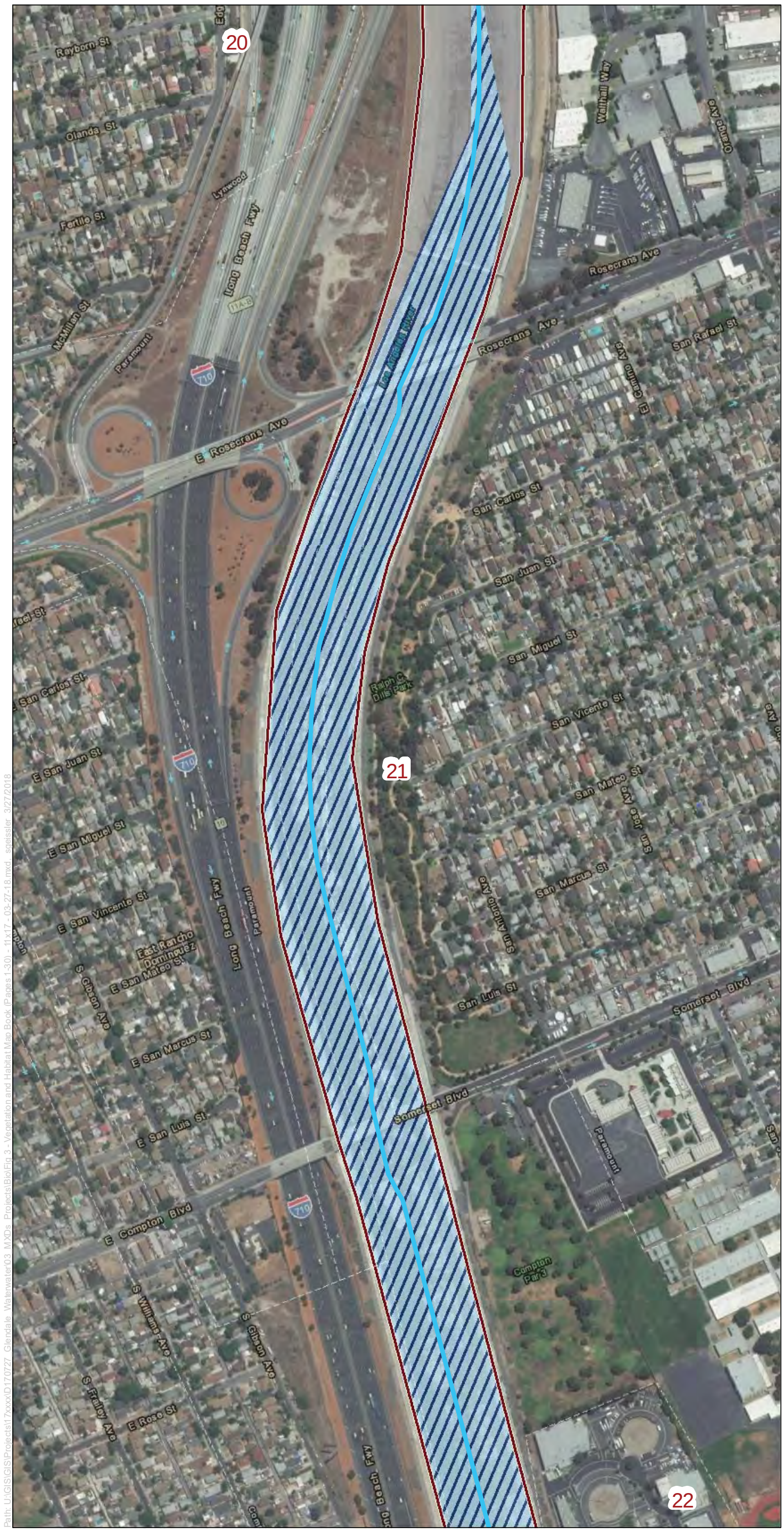
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project
Figure 3
Vegetation and Habitat Map Book - Page 20



- Map Page

Study Area

Segment 6

Vegetation and Habitat

Concrete

Water-Sheet Flow

Low Flow Channel

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SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 21

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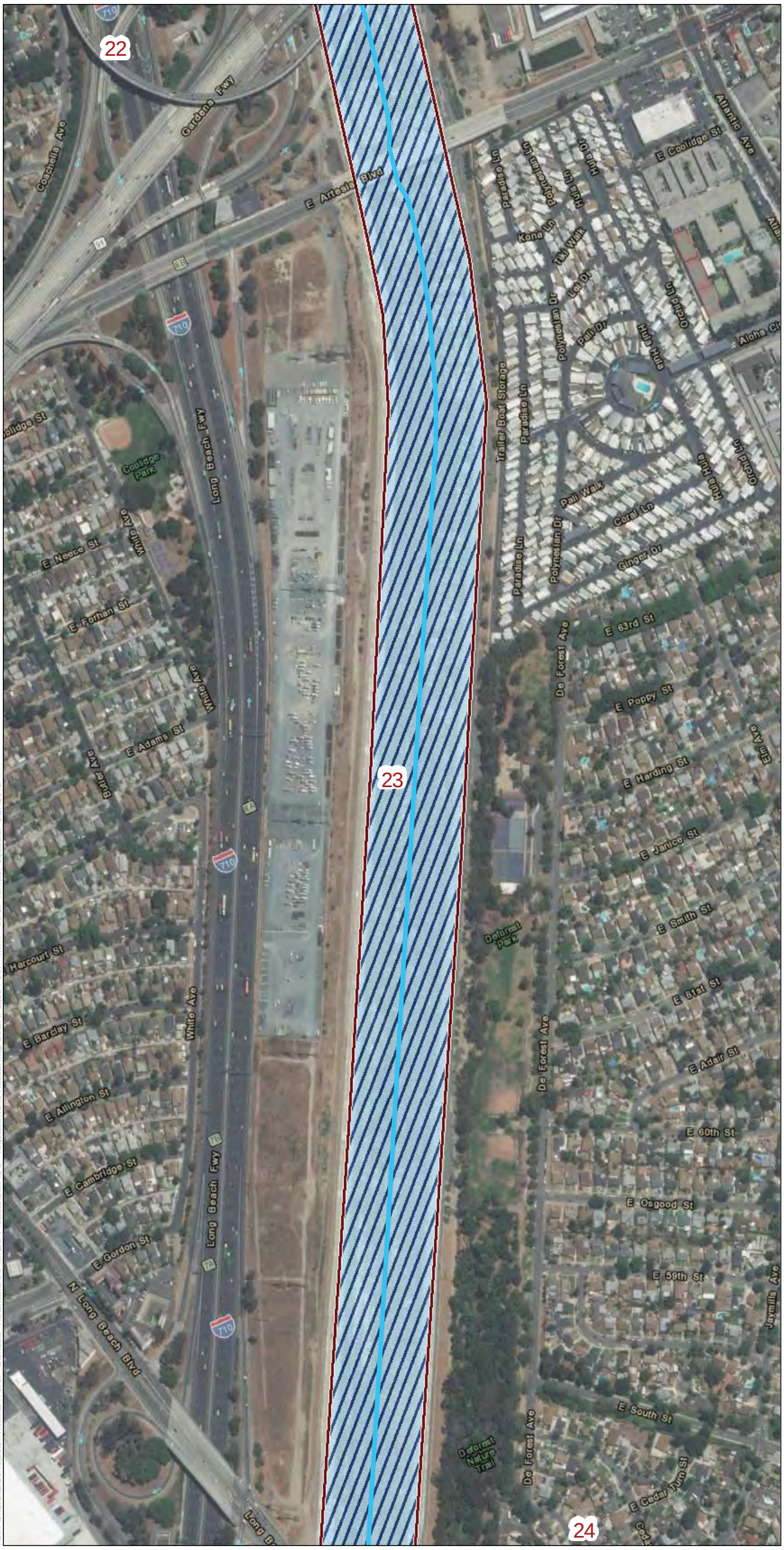
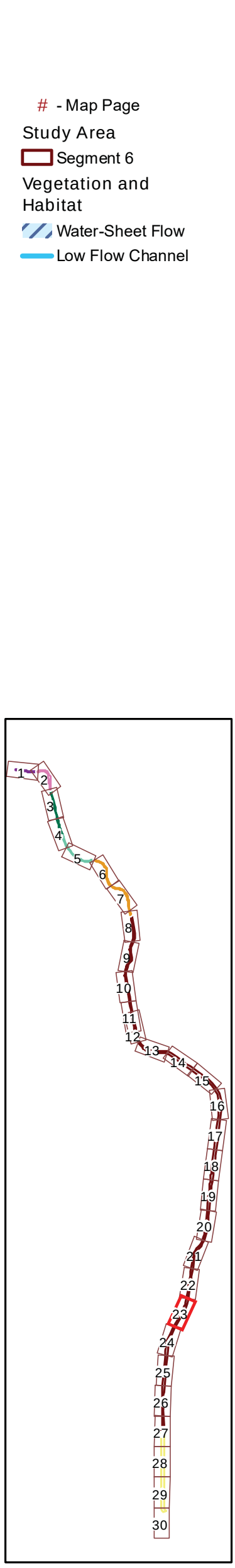
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 22





- Map Page

Study Area

Segment 6

Vegetation and Habitat

Water-Sheet Flow

Low Flow Channel

0 420

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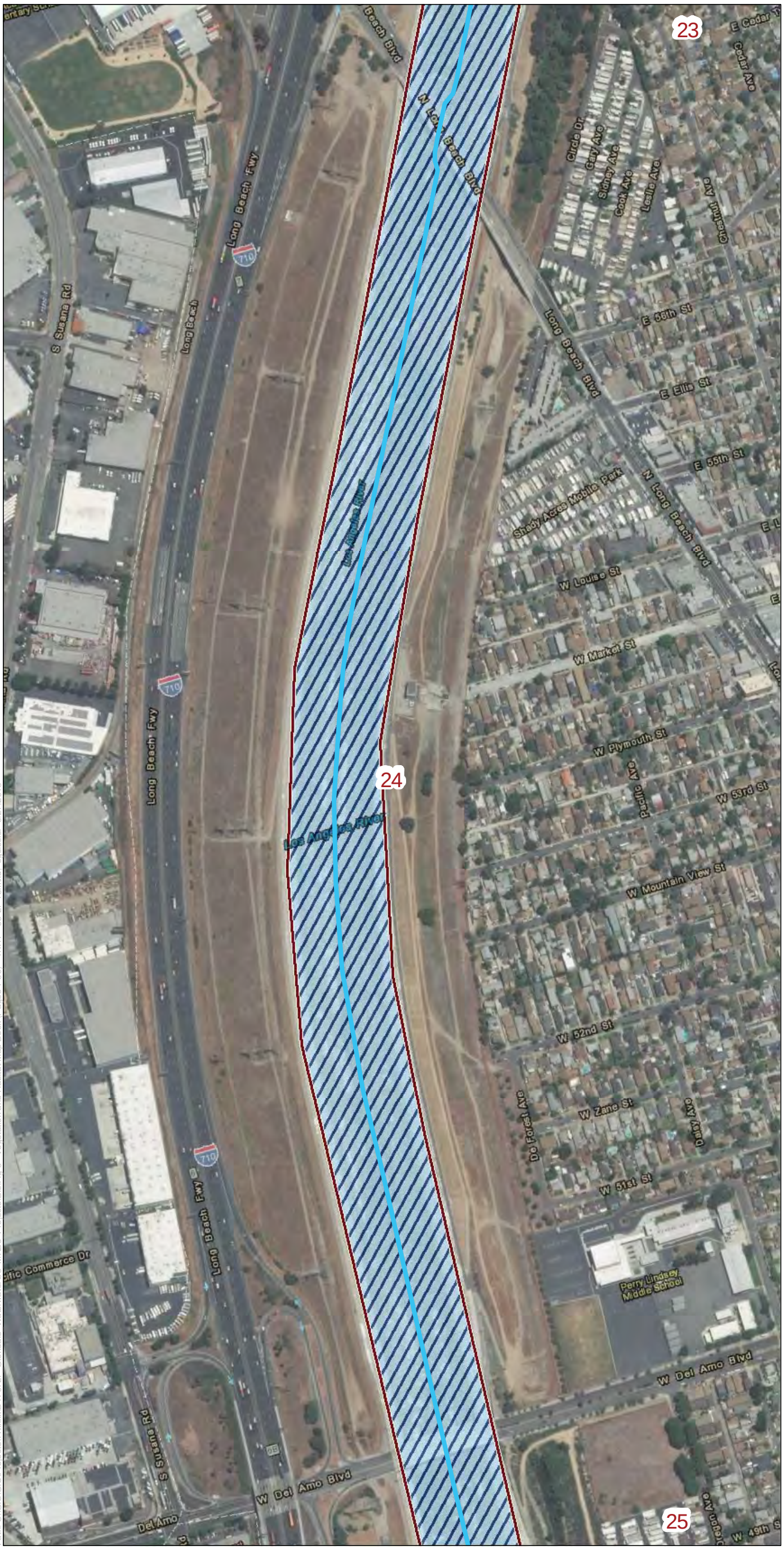
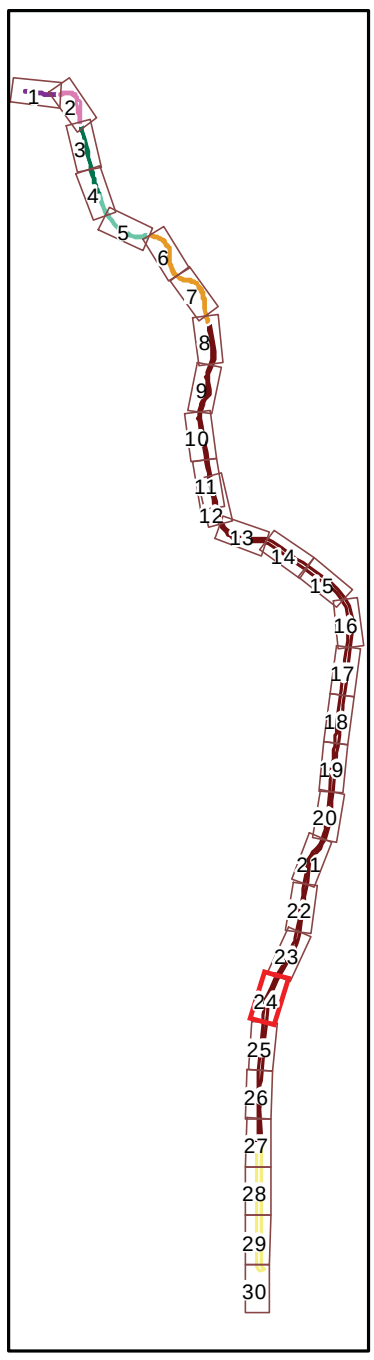
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 23





- Map Page

Study Area

Segment 6

Vegetation and Habitat

Water-Sheet Flow

Low Flow Channel

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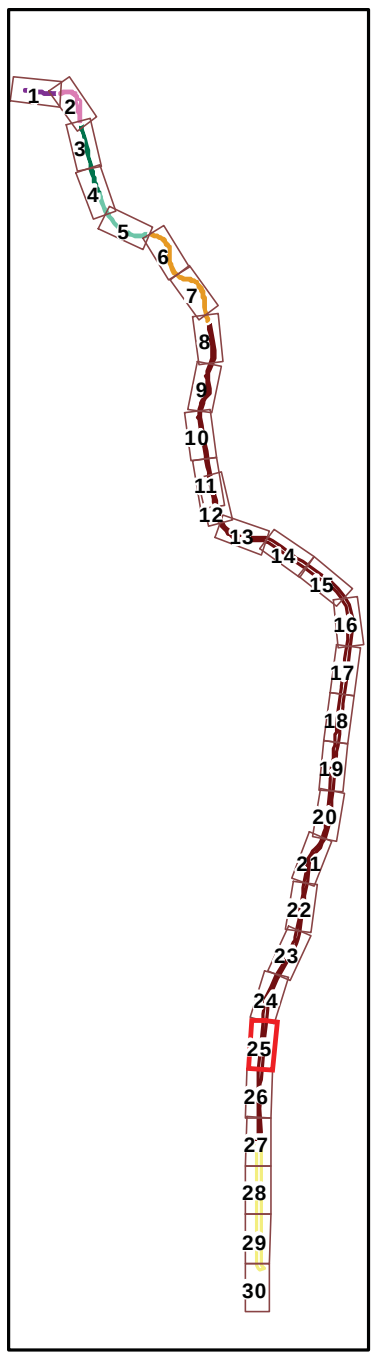
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 24



- Map Page

Study Area

Segment 6

Vegetation and Habitat

Water-Sheet Flow

Low Flow Channel

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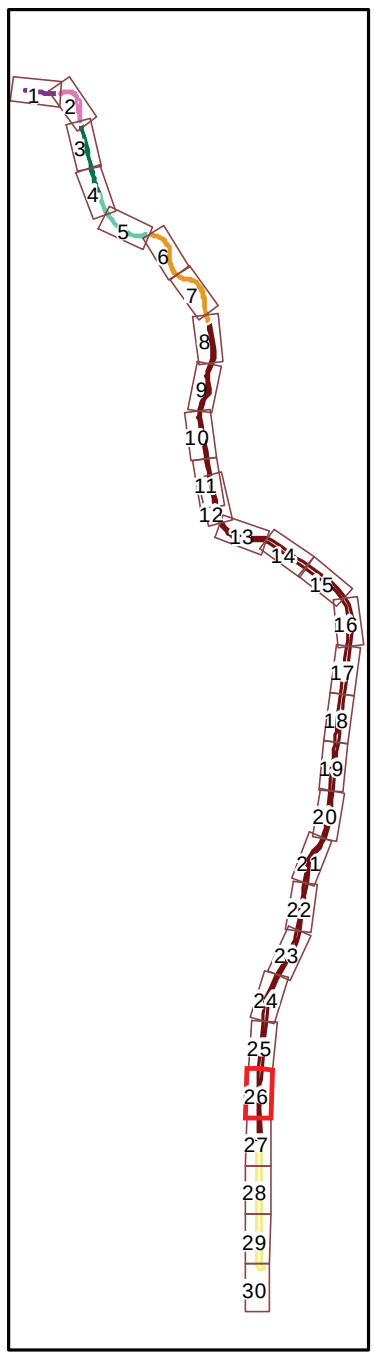
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 25



- Map Page

Study Area

Segment 6

Vegetation and Habitat

Water-Sheet Flow

Low Flow Channel

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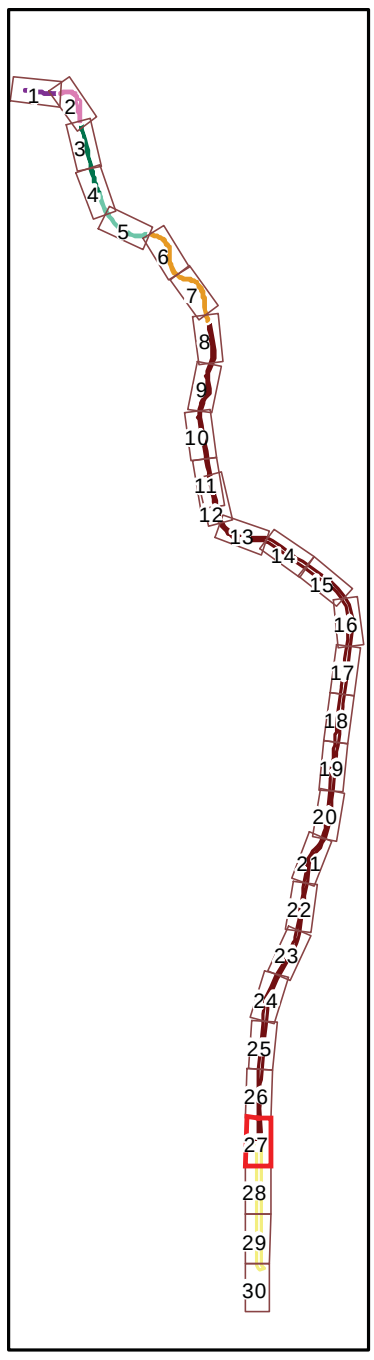
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 26



- Map Page

Study Area

- Segment 6
- Segment 7

Vegetation and Habitat

- Black Willow Thickets
- Sandbar
- Water
- Water-Sheet Flow
- Deep Water – Tidal Influenced
- Low Flow Channel

0 420

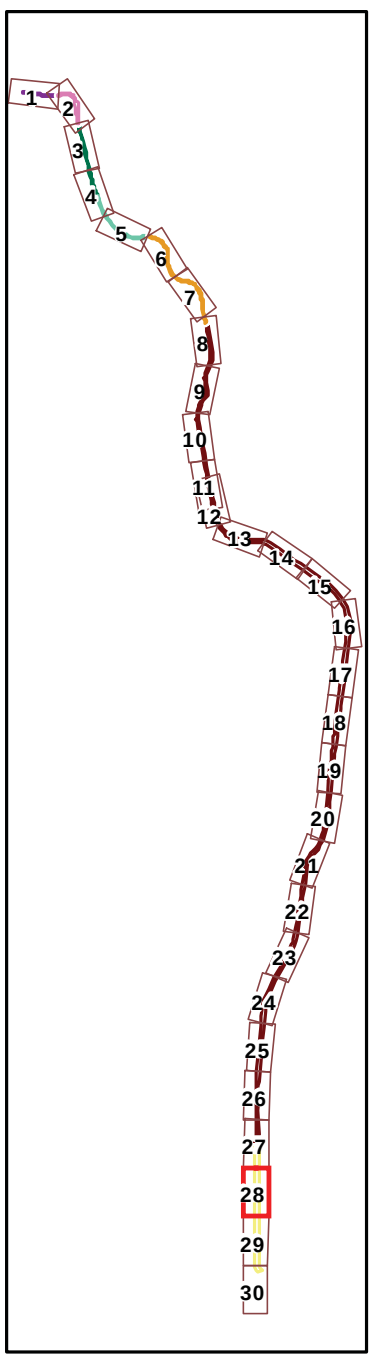
Feet

SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 27



- Map Page

Study Area

Segment 7

Vegetation and Habitat

Sandbar

Water

0 420

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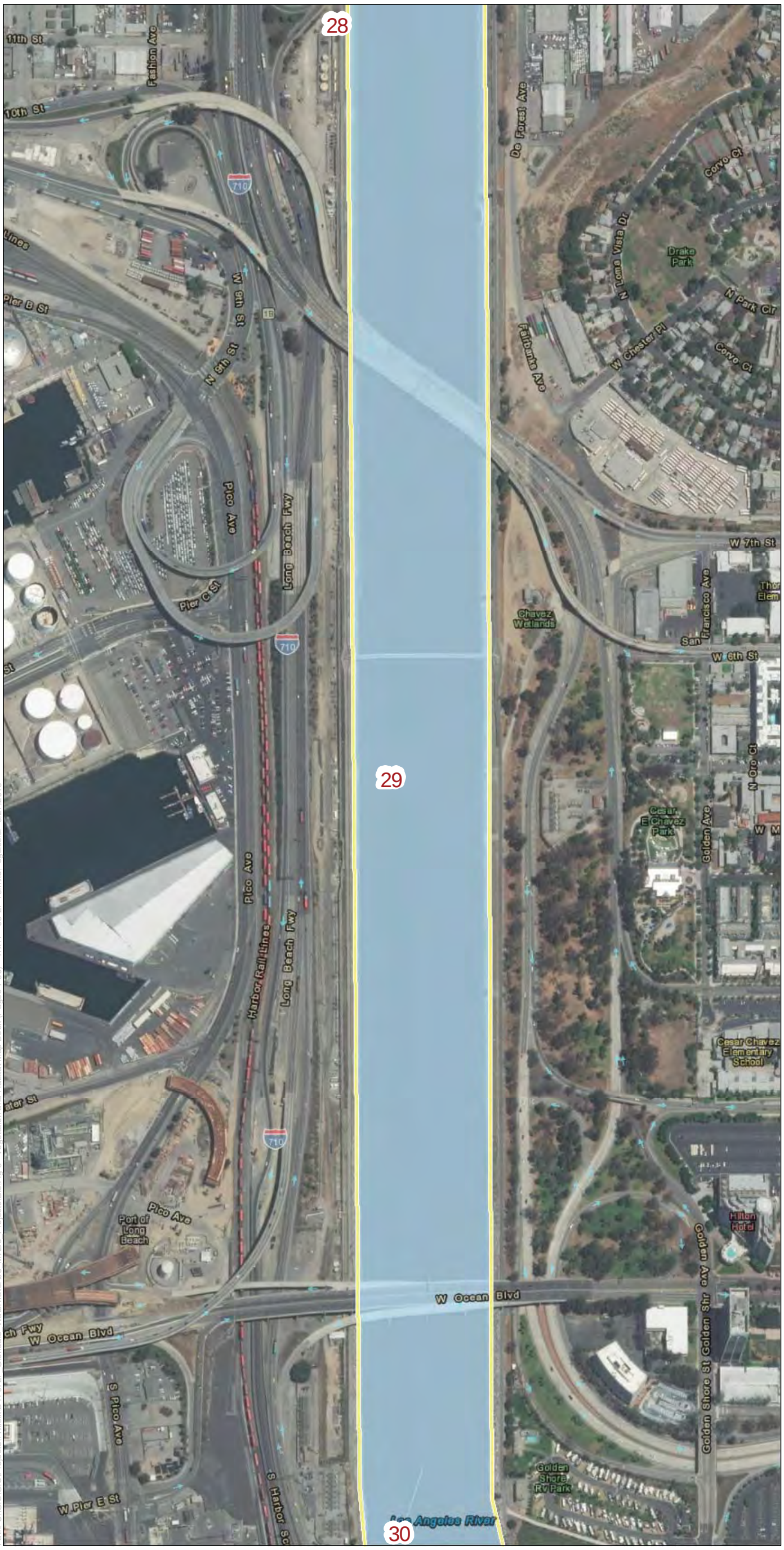
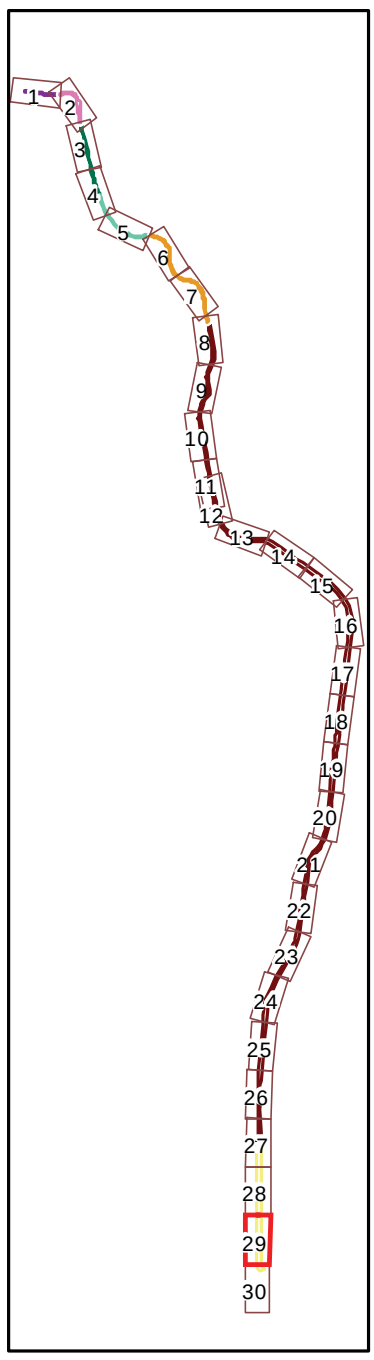
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 28





- Map Page

Study Area

Segment 7

Vegetation and Habitat

Water

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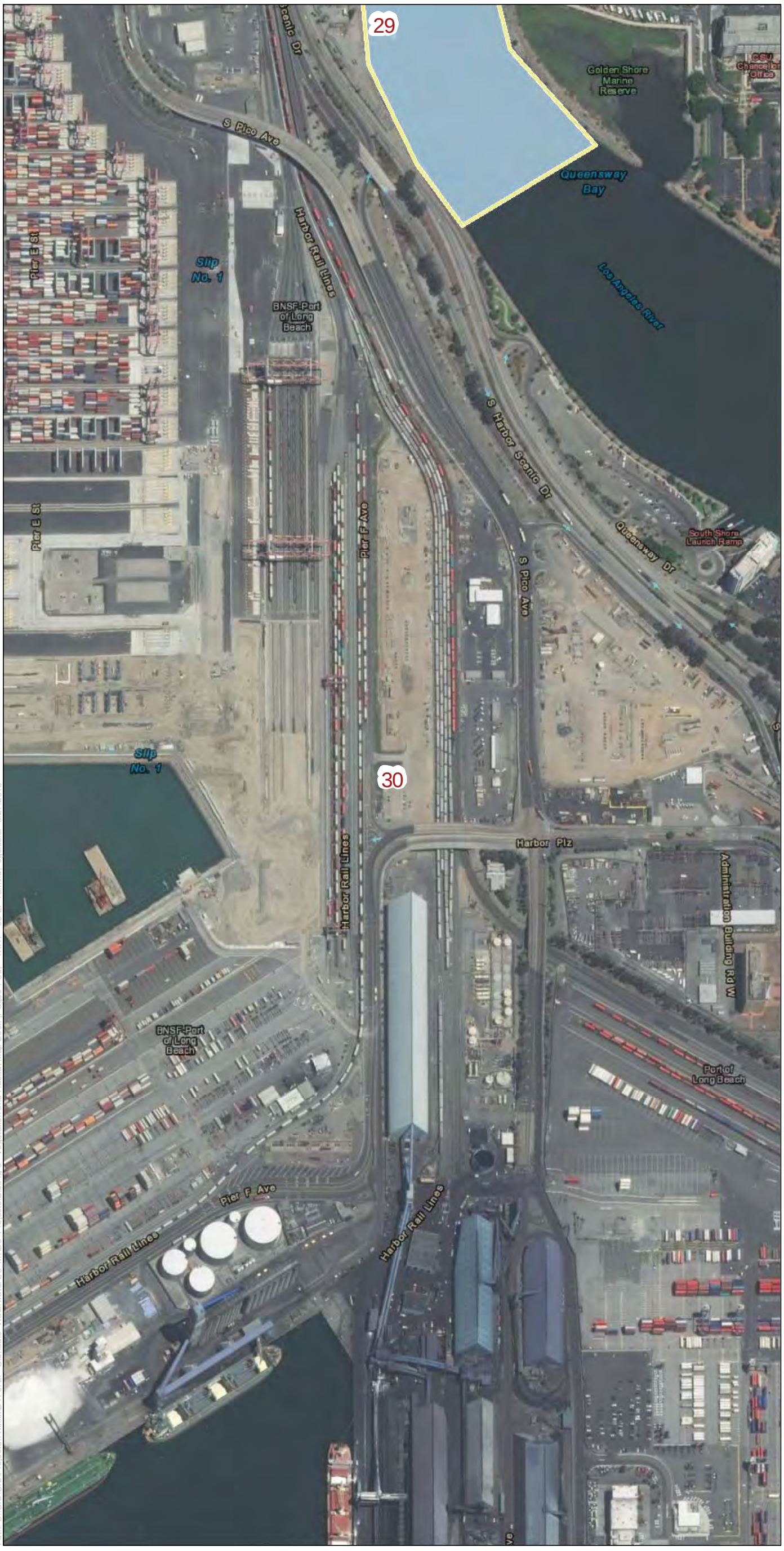
SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 29



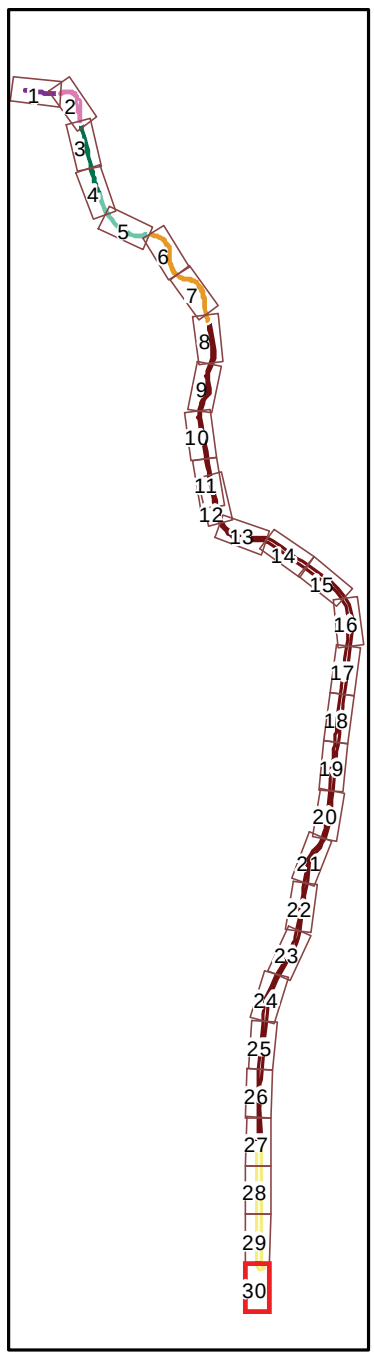
- Map Page

Study Area

Segment 7

Vegetation and Habitat

Water



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SOURCE: DigitalGlobe (2016-07-09), Aerial.

Glendale 2017 Wastewater Change Petition Project

Figure 3

Vegetation and Habitat Map Book - Page 30

TABLE 2
SURVEY AREA SEGMENTS

Segment #	Length (linear feet)	Area (acres)	Location	Substrate
Segment 3	9,298	37	Begins near the southern end of the Autry Museum of the American West and ends at Los Feliz Blvd. bridge	Soft bottom channel, rock and cobble substrate within trapezoidal concrete slopes
Segment 4	8,891	38	Between Los Feliz Blvd. bridge and State Highway 2 bridge	Soft bottom channel, rock and cobble substrate within trapezoidal concrete slopes
Segment 5	13,885	191	Between State Highway 2 and I-5	Soft bottom channel, rock and cobble substrate within trapezoidal concrete slopes
Segment 6	127,208	1,033	Between I-5 and the Willow Street bridge; the River generally follows I-5, and then turns south along I-710 in southeast downtown Los Angeles, ending in Long Beach	Concrete bottom channel, both box and trapezoidal sloped edges.
Segment 7			Between Willow Street Bridge and the Pacific Ocean	Soft-bottom channel, rock and silt substrate with boulder rip-rap reinforced sides.
Total	159,282	1,299	--	--

Methodology

Literature Review

A literature review was conducted to gather information on the biological resources known or likely to occur in the City of Glendale and the River's ecosystem. Literature pertinent to the River is abundant because biological resources within Segments 3-5 that are soft-bottom have been widely studied due to the potential for restoration and Segment 7 has been studied because this Segment is part of the Los Angeles River Estuary (Estuary). Much less information was available on Segment 6 (completely concrete lined) and the proposed pipeline alignments due to the lack of natural areas. The literature that was reviewed included the following:

- United States Army Corps of Engineers (USACE). 2013. *Los Angeles River Ecosystem Restoration Feasibility Study Draft – Appendix G Habitat Evaluation (CHAP);*
- Friends of the Los Angeles River (FoLAR). 2008. *State of the River 2 – The Fish Study*;
- Friends of the Los Angeles River (FoLAR). 2016. *State of the River 3 – The Long Beach Fish Study*;
- Cooper Ecological Monitoring, Inc. (Cooper). 2008. *Griffith Park Wildlife Management Plan Draft*;
- California Department of Fish and Wildlife (CDFW). 2017. California Natural Diversity Database (CNDDB) Geographic Information System (GIS) Spatial Data for Los Angeles River. Accessed December 13, 2017;
- United States Fish and Wildlife Service (USFWS). 2017a. Information for Planning and Conservation (IPac) Environmental Conservation Online System (ECOS). Accessed December 13, 2017;
- USFWS. 2017b. Endangered Species Act (ESA), Listed Species Report for Los Angeles County;

- FoLAR. 2007. *Images of America – Los Angeles River*.
- eBird online bird survey database. Hotspots and species data along the Los Angeles River. Accessed: December 20, 2017; and
- US Environmental Protection Agency (EPA). 2012. *Long Beach City Beaches and Los Angeles River Estuary Total Maximum Daily Loads for Indicator Bacteria*

Field Survey

The December 15 and 16, 2017 field survey included the proposed pipeline right-of-ways and surrounding 50-foot area, the three proposed pump station locations, and Segments 3-5 of the River, where vegetation occurs. Field survey in Segments 6 and 7 were conducted February 2018 although these areas are almost entirely concrete-lined and devoid of vegetation. The generally uniform condition of the Segment 6 made habitat assessment by desktop analysis possible to supplement the field survey. The proposed pipeline alignments were surveyed on December 15, 2017 and Segments 3-5 were surveyed on December 16. During the survey, the biologist characterized and mapped vegetation and habitats, surveyed for wildlife and plants, and assessed the quality of habitats within the proposed pipeline alignments and Segments 3-5 of the Study Area.

Vegetation and Habitat Mapping

The proposed pipeline alignments and pump stations will be sited largely in urbanized areas, but areas of natural vegetation were the focus of the vegetation and habitat mapping. Vegetation communities were characterized in the field following *A Manual of California Vegetation, 2nd Ed.* (Sawyer et al. 2009). The limited vegetation within Segments 6 and 7 of the River was mapped digitally by delineating the boundaries on aerial imagery using GIS software.

Vegetation communities, habitats and existing conditions in Segments 3-5 of the River were mapped by ESA in December 2016 (ESA 2017) and will be used as a baseline for this report. The December 2017 field survey described above was conducted to confirm that conditions within Segments 3-5 of the River were the same as observed in December 2016.

Habitat Assessment

The quality of habitat for native wildlife was determined based on the abundance, health, and vigor of native plant communities; abundance and diversity of invasive plant species; level of disturbance from urbanization, homeless encampments, trash, and debris; and important habitat features, such as the presence of sand bars unobstructed flowing water, native vegetation, evidence of bird nesting (i.e., predated nests), suitable perch sites for birds of prey, etc.

Environmental Setting

Proposed Pipeline and Pump Stations

The proposed pipelines and pump stations are within urbanized areas of the City. The proposed pipelines would be constructed within existing roadways except for approximately 900 feet of the Camino San Rafael Homes pipeline that would go through landscaping and park areas (described in detail below). Areas surrounding the roadways are entirely developed with residential, commercial, and industrial land uses. The pump stations are placed at road edges in heavily urbanized areas of the City.

Los Angeles River

The River was originally an alluvial river that ran freely across a flood plain with ephemeral flows that would rarely flow to the sea. The River is now nearly 90 percent channelized and supports perennial flows. The River is historically prone to flash floods, and tremendous flood damage to the region's industry and housing occurred in 1815, 1825, 1914, and twice more in the 1930s, which led to the channelization of the river that was completed in 1960 in an effort to limit damage to bridges and adjacent property during large flood events. All but 5.5 miles of the River has been channelized for flood control. The River was dry for up to nine months of the year until the 1950s after which industrial and residential discharges provided new sources for year-round flows. The Tillman Water Reclamation Plant (Tillman Plant) began operation in 1985 and today discharges up to 23 million gallons per day of treated wastewater into the River.

Segments 3-5 of the River are commonly referred to as the "Glendale Narrows," and support a diverse natural community despite the extensive alterations to native conditions from the engineering of the River Channel. Recreation is very common along the banks of the River, particularly the section adjacent to Griffith Park and Elysian Park where a bike path is present. A substantial amount of trash and foreign debris occurs in this section of the River due to the large homeless population. Invasive plant species occur in high densities throughout this section of the River, further degrading native habitat quality.

Segment 6 of the Study Area travels through downtown, south Los Angeles, and ends at the Willow Street bridge in Long Beach. This segment is entirely devoid of vegetation and completely surrounded by development,

Segment 7 of the Study Area consists of brackish water and is part of the Estuary. The Estuary receives almost all of its flow from a combination of freshwater from the River and saltwater from the San Pedro Bay. This segment is almost entirely inundated with water except for portions of rocky sandbars formed by silt and sediment accumulation on rip-rap that occurs south of Willow Street. Land use in this area is largely residential and commercial, except for the Golden Shore Marine Biological Reserve, which is located outside the Study Area along the eastern bank of the Estuary near the southern endpoint of Segment 7. The reserve was established as mitigation for impacts to salt-water lagoon from nearby development.

Vegetation Communities and Habitats

Proposed Pipelines

The proposed pipeline alignments are within existing roadways and are entirely paved except for an 800-foot section of the Camino San Rafael Homes Project pipeline between Chevy Oaks Drive and Calle Amable that would be constructed through irrigated landscaping (see **Photo 1** below), and an additional 100 feet of proposed pipeline between Calle Amable and Camino San Rafael that would be constructed through a local neighborhood park (see **Photo 2** below). The paved sections have residential landscaping and typical native and non-native urban street trees at the edges. The 800-foot section of proposed pipe would be constructed largely on a steep slope that is dominated by a dense mat of irrigated olive shrubs (*Olea europaea*) interspersed with the occasional Peruvian pepper tree (*Schinus molle*) and eucalyptus (*Eucalyptus globulus*). The topography flattens near Calle Amable where two western sycamore (*Platanus racemosa*) trees are located approximately 40 feet from Calle Amable. The 100-foot section of proposed pipe would be constructed through a park with a lawn surrounded by mature trees, including eight western sycamores, Mexican fan palm (*Washingtonia robusta*), Peruvian pepper tree, and eucalyptus trees, and landscaped shrub hedges near Camino San Rafael.

Pump Stations

Photo 1: Depicts the landscaping between Chevy Oaks Drive and Calle Amable where the Camino San Rafael Homes pipeline is proposed to be constructed.

Photo 2: Depicts the park between Calle Amable and Camino San Rafael where the Camino San Rafael Homes pipeline is proposed to be constructed.

The three pump stations are proposed along road edges, in areas that are heavily traveled and disturbed by urbanization. The location of each station is shown above in Figure 2.

- **Pump Station #1** occurs on the road edge at the bottom of a slope adjacent to apartment complexes on Chevy Oaks Drive (see **Photo 3** below). The area is dominated by landscaping plants such as fountain grass (*Pennisetum setaceum*), lavender (*Lavandula* sp.), bird of paradise (*Strelitzia reginae*), and many other non-native landscaping species. There are two mature coast live oak (*Quercus agrifolia*) trees in this proposed pump station location. A man-made drainage lined with stones directs surface water into a culvert that goes under Chevy Oaks Drive and eventually connects to the Pacific Ocean.

- **Pump Station #2** is proposed on the edge of Camino San Rafael, south of the intersection with Calle Del Sol, within city landscaping dominated by oleander (*Nerium oleander*), Mexican fan palms, and other landscaping shrubs (see **Photo 4** below).

- **Pump Station # 3** is proposed in an area that is largely bare ground on a slope between Chevy Chase Drive and Trammell Drive (see **Photo 5** below). A western sycamore occurs at the road edge where Chevy Chase Drive and Trammell Drive intersect.

Photo 3: Depicts the road edge where Pump Station #1 is proposed along Chevy Oaks Drive.

Photo 4: Depicts proposed location for Pump Station #2 within landscaping at the roads edge.

Photo 5: Depicts the proposed location for Pump Station #3 within the paved public right-of-way (left side of photo) at the intersection of Chevy Chase Drive and Trammell Drive.

Los Angeles River

Aquatic habitat was observed in Segments 3-7 of the River during the survey and desktop analysis, riparian vegetation was present in Segments 3, 4, and 5, and a sandbar habitat occurs in Segment 7. A description of the aquatic and sandbar habitats and riparian vegetation community within the Study Area is below. Photographs of Segments 3-5 of the River are presented in Appendix A.

Riparian Vegetation

Riparian vegetation includes areas of terrestrial vegetation that rely on a constant source of surface or ground water for survival. Roots of willow trees will grow as deep as the water table at which level lateral roots are spread. Willow trees adapt to seasonal drying with the dropping of leaves in late summer or fall. The only vegetation community found within Segments 3, 4, and 5 of the Survey Area is *Salix gooddingii* Woodland Alliance (black willow thickets [BWT]) (Sawyer et al. 2009), which is a common riparian vegetation community because of the soft-bottom and freshwater conditions within these segments. BWT is a riparian woodland community dominated by a tree canopy of black willow (*Salix gooddingii*), along with white alder (*Alnus rhombifolia*), Fremont's cottonwood (*Populus fremontii*), and other shrubby native willow species (*Salix* sp.).

Other lower density species that have been documented within this community include black elderberry (*Sambucus nigra*), California fan palm (*Washingtonia filifera*), coyote brush (*Baccharis pilularis*), and mulefat (*B. salicifolia*); however, only black willow was present throughout the BWT in the Study Area. In the canopy of the BWT in Segments 3, 4, and 5 the occasional western sycamore (*Platanus racemosa*) and a variety of ornamental and invasive trees also occur, such as Chinese tallow (*Triadica sebifera*), date palm (*Phoenix* spp.), and mulberry (*Morus* spp.)

This native riparian community has been greatly degraded and disturbed by homeless encampments, trash, invasive plant species, and periodic vegetation management activities required for channel flows, which was occurring at the time of the field survey. Native species were almost entirely absent from the understory of the BWT aside from the occasional mulefat and sandbar willow (*Salix exigua*) in the southern half of Section 5, and the occasional patch of cattails (*Typha latifolia*) that occurred at the edges of BWT in all segments of the Study Area. Based on the visual assessment during the survey, approximately 60-90 percent of relative vegetation cover is dominated by exotic species in areas where vegetation management had not occurred in the past year. However, the invasive understory was recently removed from the BWT in Segment 1 and portions of Segments 4 and 5 during invasive removal activities that were occurring during the field survey. In managed areas there remained only 10-15 percent invasive cover, 10-25 percent mature black willow trees, and 60-80 percent bare ground. Despite the dozens of exotic plant species known to occur in the River (USACE 2013), in the Study Area, approximately 85 percent of exotic plant cover is giant reed (*Arundo donax*), 5 percent is castor bean (*Ricinus communis*), 5 percent is Mexican fan palm, and the remaining 5 percent is a variety of other exotic species.

Aquatic Habitat

Aquatic habitat includes open water, areas of emergent vegetation and emergent boulders, and the interchange between water and terrestrial communities. Historically, the seasonal hydrology and permeable characteristic of the southwest region create a dynamic ecosystem with and variable aquatic habitat, where the river course shifts with a highly variable flood regime through expansive floodplains (FoLAR 2008 and USACE 2013). Flood risk management, water supply projects, and other development have nearly eliminated such systems in the region through channelization, dam building, and urbanization. Development resulted in faster flood flows in a narrow

channel, and the dynamic system has become one that is simplified by reduced flow options and magnified by higher flows over a smaller area. Ultimately the system has become a drainage channel designed to move bursts of high volumes of water out of the system quickly, rather than functioning as a dynamic and variable ecosystem. As a result, the River has lost much of its natural ecological value and its aquatic and semi-aquatic habitat as a result of development.

Aquatic habitat occurs in all segments of the Study Area the majority of which occurs as a narrow fast moving channel. In Segments 3, 4, 5, and 7 areas of ponded and slower moving water occur at the edges of the vegetation and bare substrate and boulders in unvegetated areas slow water to create variation and breaks in the flow. In concrete line Segments 2 and 6 a thin sheet of water occurs surrounding the fast moving, narrow channel. Segment 7 is a brackish aquatic habitat that receives some flow from the River and some flows from the Pacific Ocean that enter from the opposite direction.

Sandbar Habitat

Sandbar habitat includes terrestrial areas of rock substrate that is partially inundated with brackish water for parts of the year. The water depth changes frequently based on the tide and the amount of flows from the River, and portions of sandbar occur as terrestrial habitat where vegetation may establish. Segment 7 of the Study Area has approximately 40 acres of sandbar habitat between Willow Street and Pacific Coast Highway bridges. This habitat was not found in other segments of the River. The sandbar occurs largely at the edges of the soft-bottom river in the northern edge of the transition zone between the freshwater in the River and the saltwater in the ocean, and the acreage of habitat will vary greatly depending on the amount of flow in the River and the tide. The substrate in this area includes exposed rocky rip-rap and boulders where silt and sediment has collected to form rocky sandbars that are permanently moist and frequently inundated with water. When the water is low areas that are inundated at other parts of the year consist of bare boulder piles, and vegetation occurs in areas less frequently inundated with water, typically along the edges of the soft bottom of this Segment. A field survey was not conducted in this area, but a review of photographs available in Google Street View (Google 2016) and from the FoLAR website (FoLAR 2016), indicates the vegetation is dominated by herbaceous weedy species. One cluster of willows (likely black willow) occurs in the very northern portion of the segment.

Wildlife

Pipelines and Pump Stations

Wildlife in the proposed pipeline alignments and pump stations and surrounding areas is limited to species that thrive in urban areas, such as California ground squirrel (*Otospermophilus beechyi*), coyote (*Canis latrans*), and common songbirds and raptors (i.e. house finch [*Haemorhous mexicanus*], American crow [*Corvus brachyrhynchos*], and red-tailed hawk [*Buteo jamaicensis*]).

Los Angeles River

The Study Area hosts a diversity of wildlife species, although many are nonnative. According to the *Los Angeles River Ecosystem Restoration Study* (USACE 2013), there are 181 wildlife species that have the potential to occur within Segments 1-5 of the Study Area. The list was developed using numerous data sources and habitat suitability assessments, and is considered by local agencies and conservation groups to be the most accurate list of potentially occurring wildlife within Segments 1-5 of the River. The wildlife that have been documented (presented in **Appendix B**) includes 7 fish species (one of which is native; the western mosquitofish [*Gambusia affinis*]), 4 amphibian species, 7 reptile species, 139 bird species, and 24 mammal species.

Wildlife in Segment 6 is limited to common waterfowl, shorebirds, and other aquatic or semi-aquatic species able to forage for algae and micro-invertebrates that are found in abundance in treated wastewater and urban runoff that forms a thin sheet in these concrete-lined reaches. Birding hotspots reported to eBird occur in each segment of the Study Area due to the species diversity and abundance, and the southern 7 miles of the Study Area (Segment 7 and portions of Segment 6 from south of the 105 Freeway) is recognized by the Audubon Society as an Important Bird Area because of the amount of shorebird migration and winter foraging in the shallow waters of the concrete lined segment that has been documented (Cooper 2004).

Although the concrete-lined reaches of the Los Angeles River are primarily unvegetated, some organisms are associated with the warm, nutrient-rich waters, such as algae and aquatic invertebrates, which provide forage habitat for shorebirds. These "algal mats" are primarily found in patches within approximately 16 miles of the River (about 50 percent of the Study Area) downstream from the LAGWRP discharge location (in Segment 6 from Willow Street upstream to Rosecrans Avenue). The algal mats found growing on the concrete channel within the Study Area do not support any of the special status bird species, are not classified as a special status habitat by any wildlife agency, and can survive periodic drying. The flashy nature of the River results in periodic channel floor drying causing temporary desiccation.

The brackish waters of Segment 7 support a similar aquatic and semi-aquatic wildlife community as Segments 1-5, largely of shorebirds and waterfowl, but can also support ocean fish species not found in other segments, such as northern anchovy (*Engraulis mordax*). The recreational freshwater fish found in other segments may have a more difficult time surviving in the brackish water of this segment and are likely found in less abundance or they are absent from this segment. This area is most notable for its habitat for shorebirds and waterfowl because the rip-rap lined edges and the rocky substrate provide exceptional foraging opportunities for these birds. Foraging raptors are attracted to this segment due to the high density of waterfowl and shorebirds that are their prey. Survey records in the River south of Willow Street indicate that 212 species of birds have been recorded to eBird in Segment 7, however, the majority of these are native species.

Special-Status Species

Special-status species are defined as those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies as under threat from human-associated actions. Some of these species receive specific protections that are defined by federal or state endangered species legislation. Others have been designated as special-status on the basis of adopted policies of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Wildlife and plants can be designated as special-status species in several ways:

- **Federal Endangered Species Act (ESA):** Species listed or proposed for listing as "threatened" or "endangered", or as a "candidate" for possible future listing as threatened or endangered; "critical habitat" can be designated for listed species; USFWS currently oversees special-status listing for species in the Study Area;
- **California ESA**: Species listed or proposed for listing as "threatened" or "endangered", or are a "candidate" for possible future listing as threatened or endangered;
- **California Environmental Quality Act (CEQA) Guidelines, Section 15380**: Species that meet the definitions of "rare" or "endangered", as defined in Section 15380 of the CEQA Guidelines; and/or

- **California Department of Fish and Wildlife (CDFW)**: Species designated by CDFW as “species of special concern” and species on the watchlist for listing under the California ESA; and species identified as "fully protected" under the California Fish and Game Code; Sections 3511, 4700, and 5050.

Special-Status Plants

Special-status plants are not likely to occur in the Study Area due to the high level of habitat degradation that has occurred from urbanization and streambed alterations (i.e., cement-lined and accelerated flows), ground disturbance, extensive populations of exotic plant species that outcompete natives, homeless encampments, and trash. No special-status plants are anticipated to occur in the proposed pipeline alignments or pump stations due to a lack of native vegetation or habitats. No special status plant species were identified in the December 15 and 16, 2017 field survey of the proposed pipeline right-of-ways and the three proposed pump station locations.

CNDDB records that intersect with the River include four special-status plants: mesa horkelia (*Horkelia cuneata* var. *puberula*), Coulter’s goldfields (*Lasthenia glabrata* ssp. *coulteri*), prostrate vernal pool navarretia (*Navarretia prostrata*), and Greata’s aster (*Symphyotrichum greatae*) (CNDDB 2017). Mesa horkelia and Greata’s aster are both upland species and no suitable habitat for these species occurs in the Study Area. The CNDDB indicates one record of vernal pool navarretia collected in 1907 in Segment 6 when the River was a natural system; however, this species is considered to be extirpated due to development. One record of Coulter’s goldfields reported in 1973 was collected in an overflow channel outside of Segment 7 between Long Beach Boulevard and Del Mar Avenue in Long Beach. However, Segment 7 is now largely comprised of invasive species and is of low quality for this species. It is for these reasons that special-status plant species do not have the potential to occur in the Study Area and will not be discussed further.

Special-Status Wildlife

The potential for special-status wildlife species to occur in the Study Area was determined through the field survey, which noted observations of special-status species and the extent and quality of supporting habitat, as well as published geographic range maps, and recent or past occurrences within the Study Area as report to the CNDDB and the other resources that were reviewed. The proposed pipeline alignments and pump stations lack native vegetation and habitats necessary for special-status wildlife to occur, and therefore, the assessment of special-status species will be limited to an assessment of special-status wildlife within the River. A summary of the listing status for each of these species, as well as their likelihood of occurrence in Segments 3-7 of the River is presented in **Table 3**. The “Potential for Occurrence” as described in Table 3 is defined as follows:

- **Unlikely:** The Study Area and/or immediate vicinity does not support suitable habitat for a particular species.
- **Low Potential:** The Study Area and/or immediate vicinity only provide limited habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate project area.
- **Medium Potential:** The Study Area and/or immediate vicinity provide suitable habitat for a particular species.
- **High Potential:** The Study Area and/or immediate vicinity provide ideal habitat conditions for a particular species and/or known populations occur in the immediate area.
- **Present:** The species was observed on the site during a field survey conducted by ESA in December 2016.

TABLE 3
SPECIAL-STATUS WILDLIFE SPECIES DOCUMENTED WITHIN STUDY AREA

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Study Site
Invertebrates			
Crotch bumblebee (*Bombus crotchii*)	-/-	Overwinters along the Central and Southern California Coast, typically in large tree groves near the coast that provide shelter from the elements.	**Low:** One occurrence record for this species was recorded to the CNDDB in 1973 near the southern tip of Segment 7; however, the exact location is unknown. Although large trees occur in the BWT in the Study Area, the habitat is degraded by invasive plants, trash, and illegal encampments and is, therefore, of low quality for this species.
Fish			
Santa Ana sucker (*Catostomus santaanae*)	FT/SSC	South coast flowing waters. Prefers small to medium streams with higher gradients, clear water, and coarse substrates.	**Unlikely:** No occurrence records for this species occur in the Study Area, and the Study Area is outside the known range of this species. The species is believed to have been extirpated from the Study Area due to channelization and the damming of the River and its tributaries. In the Los Angeles River watershed, this species is confined to Big Tujunga Creek in the upper portions of the watershed between Hansen and Big Tujunga Dams, and to 2.2 miles of Haines Creek (a tributary of Big Tujunga Creek) (USFWS 2014)
Arroyo chub (*Gila orcuttii*)	-/SSC	South coast flowing streams. Adapted to hypoxic conditions and large temperature fluctuations.	**Unlikely:** No occurrence records for this species occur in the Study Area. Although the Study Area is within the native range of the species, Hansen and Tujunga dams block this species from entering the Los Angeles River.
Southern steelhead (*Oncorhynchus mykiss*)	FE/SE	An anadromous species, spends most of its adult life in the ocean, but spawns and rears in freshwater streams.	**Unlikely:** No occurrence records for southern steelhead occur in the Study Area. The non-anadromous form (rainbow trout – no status) is known to occur in the Los Angeles watershed above the Tujunga dam, but not in the Los Angeles River.
Santa Ana speckled dace (*Rhinichthys osculus* spp. *robustus)*	-/SSC	This species is found in a wide variety of aquatic habitats. Prefers clear, well oxygenated water, with movement due to a current or waves. Thrives in areas with deep cover or overhead protection from vegetation or woody debris. Predominantly occupy small streams of the second to third order where they feed and forage for aquatic insects.	**Low:** No occurrence records for this species occur in the Study Area. Santa Ana speckled dace is considered common within the Tujunga Wash (tributary to the Los Angeles River), but are less common below the Tujunga Dam. Surveys performed below the dam between 2002-2005 found several (in the 10s) speckled dace in Big Tujunga Creek below the dam, Tujunga Wash, and Haines Canyon. However, it is unlikely that the species occurs in the Study Area because Hansen dam cuts off the connectivity to the Los Angeles River, degradation of the habitat from channelization, pollutants, trash, and illegal encampments (CDFW 2010).
Reptiles			
two-striped garter snake (*Thamnophis hammondii*)	-/SSC	Marshes, meadows, sloughs, ponds, and slow-moving water courses.	**High:** Suitable habitat is found in the ponds, and in areas of slow-moving water and emergent vegetation along the edges of the BWT throughout Segments 3, 4, and 5. Segment 6 is not likely to support the species due to the lack of ponding and slow-moving water and the limited availability of prey, and because these segments are cement lined.

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Study Site
Birds			
Cooper's hawk (*Accipiter cooperii*)	-/WL	Habitat includes mature forest, open woodlands, wood edges, river groves. Typically nests in woodlands with tall trees and openings or edge habitat nearby. Increasingly found in cities where some tall trees exist.	**Present:** Cooper's hawk was observed during the field survey in Segments 4, and 5. Tall willows in the BWT provide suitable nesting and perching habitat for this species.
Sharp-shinned hawk (*Accipiter striatus*)	-/WL	Mixed or coniferous forests, open deciduous woodlands, thickets, edges. Usually nests in groves of coniferous trees in mixed woods, sometimes in dense deciduous trees. In winter found in any kind of forest or brushy area, but tends to avoid open country.	**High:** Sharp-shinned **hawk** has been recorded to eBird within all segments of the Study Area. This species is most commonly found in the Study Area during the winter, but is not likely to nest within the Study Area due to the low density of trees and degraded habitat.
Vaux's swift (*Chaetura vauxi*)	-/SSC	Open sky over forest, lakes, and rivers. Often feeds low over water. Nests and coniferous and mixed forest, mainly old-growth forest.	**High:** Vaux's swift has been recorded to eBird in each segment of the Study Area, but the species is uncommon in the area. The species is not likely to nest due to the lack of old-growth forest, and likely uses the Study Area for foraging and during migration.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT/SE	Woodlands, thickets, orchards, streamside groves. In the west, mostly nests in streamside trees, including cottonwood-willow groves in arid country.	**Unlikely:** Two occurrence records for western yellow-billed cuckoo were recorded to the CNDDB in 1921 and 1923 in the southern end of Segment 7 when the River supported a larger and denser riparian habitat but this species is presumed to be extirpated due to the loss of habitat from development. BWT in the Study Area is highly degraded by invasive plants, trash, and homeless camps, and therefore the habitat is not conducive for this species to occur.
White-tailed kite (*Elanus leucurus*)	-/FP	Open groves, river valleys, marshes, grasslands. Main requirements are trees for perching and nesting, and open ground with high populations of rodents.	**High:** White-tailed kite has been recorded to eBird within all segments of the Study Area. This species is most common in the winter but does occur in the summer and could nest in tall trees in the Study Area. This species tends to forage near its nesting sites and Griffith Park and Elysian Park are expected to provide high populations of rodents for foraging, and Segment 7 provides numerous waterfowl for foraging. Kites may nest in the tall trees in the survey area.
Southwestern willow flycatcher *(Empidonax traillii extimus)*	FE/SE	Prefers dense vegetation throughout all vegetation layers present in riparian areas. Prefers nesting over or in the immediate vicinity of standing water.	**Low:** One occurrence record for southwestern willow flycatcher was recorded to the CNDDB in 1940 near Griffith Park, but the location is not specific. The BWT on the Study Area is of low quality for this species due to the low density of vegetation within the River and the degradation of habitat from invasive plants, homeless camps, and trash. This species could use the BWT in the Study Area as a migratory stopover, but it would not use the site for any significant portion of its life.
Merlin (*Falco columbarius*)	-/WL	Prefers open conifer woodland, and in migration, uses foothills, marshes, and open country. Requires semi-open terrain with trees for nest sites and open areas for hunting.	**High**: Merlin has been recorded to eBird within all segments of the Study Area. The species winters in the Study Area but migrates north out of Southern California to breed.
American peregrine falcon (*Falco peregrinus anatum*)	BCC/FP	Mostly among mountains ranges, river valleys, and coastlines where songbirds, ducks, and shorebirds and other prey species are plentiful. Nests on cliff ledge and man-made structures such as bridges and skyscrapers.	**High:** American peregrine falcon has been recorded to eBird within all segments of the Study Area. The abundant shorebirds and waterfowl provide foraging opportunities for this species and the bridges and nearby structures provide nesting opportunities.

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Study Site
Yellow-breasted chat (*Icteria virens*)	-/SSC	Brushy tangles, briars, stream thickets. Breeds in very dense scrub (such as willow thickets) and briary tangles, often along streams and at the edges of swamps or ponds.	**High:** Yellow-breasted chat has been recorded to eBird within Segments 3-6 of the Study Area. BWT provides suitable nesting habitat.
Osprey (*Pandion haliaetus*)	-/WL	Found near water, either fresh or salt, where large numbers of fish are present. Nests in large tree near water.	**Present:** Osprey has been recorded to eBird within all segments of the Study Area, and the species was observed in Segment 5 during the field survey. The BWT on the site provides suitable nesting habitat for the species, but the species is most often recorded to eBird during the winter in the Study Area.
Bank swallow (*Riparia riparia*)	-/ST	Found near water; fields, marshes, streams, lakes. Nests in colonies in vertical banks of dirt or sand, usually along rivers or ponds, seldom away from water.	**High:** Bank swallow has been recorded to eBird as foraging within all segments of the Study Area. It is unlikely that the species nests in the Study Area due to the lack of dirt or sand banks preferred for nesting.
Yellow warbler (*Setophaga petechia*)	-/SSC	Restricted to streamside thickets in the west.	**Present:** According to eBird, Yellow warbler is a common summer resident within the BWT in the Study Area, and is expected to nest in high density in the survey area.
least Bell's vireo *(Vireo bellii pusillus)*	FE/SE	Prefers dense, low, shrubby vegetation, generally within early successional stages in riparian areas with a dominance of willows (*Salix* spp.)	**High:** Least Bell's vireo has been recorded to eBird in Segments 4, 5, and 6 of the Study Area. There are no current CNDDB records for the species in the Study Area, but there are 4 records from the late 1800s and early 1900s that are believed to be extirpated populations. The BWT in the Study Area provides suitable nesting habitat for the species despite the degradation because this species has been observed in areas where invasive plants are in high abundance during previous protocol surveys conducted by ESA in the region of the Study Area.
Mammals			
Western Mastiff bat (*Eumops perotis californicus*)	-/SSC	Open, semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, chaparral. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	**High (foraging):** One occurrence record for western mastiff bat occurs in the CNDDB in Segment 5 of the Study Area, and was recorded in 1990. Suitable foraging habitat is present within the BWT in the Study Area, but the Study Area lacks sufficient roosting areas for the species. The trees in the Study Area could provide low quality roosting habitat, because it is degraded by illegal encampments, invasive plants and management activities, and trash.
Hoary bat (*Lasiurus cinereus*)	WBWG	A solitary species that utilizes diverse forest habitats that contain a mixture of forest and small openings that provide edge habitat. Roosting sites include squirrel nests, woodpecker holes, and out in the open on the trunks of old trees. Roosts include dense vegetation above with unobstructed space below, allowing bats to drop to gain flight and no potential perches beneath.	**High (foraging):** One occurrence record for hoary bat occurs in the CNDDB in Segment 5 of the Study Area, and was recorded in 1942. Suitable foraging habitat is present within the BWT in the Study Area, but the Study Area lacks preferred roosting areas. The trees on the site could provide some roosting habitat, but it is degraded by illegal encampments, invasive plants and management activities, and trash.

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Study Site
Big free-tailed bat (*Nyctinomops macrotis*)	-/SSC	A migratory species that forms maternity colonies in rock crevices and caves that are typically used long term. Roost mainly in crevices and rocks in cliff situations, with occasional roosts occurring in buildings, caves, and tree cavities.	**High (foraging):** Two occurrence records for big free-tailed bat occur in the CNDDB in Segment 5, recorded in 1985, and in the southern end of Segment 6, recorded in 1983. The species likely uses the BWT and open water for foraging, but no rock crevices or caves occur in the Study Area for maternity colonies. The trees on the site could provide some roosting habitat, but it is degraded by illegal encampments, invasive plants and management activities, and trash.
American badger (*Taxidea taxus*)	-/ SSC	Most abundant in drier, open stages of most shrub, forest, and herbaceous habitats with friable soils. Requires open, uncultivated ground and sufficient burrowing rodent prey.	**Unlikely:** One occurrence record for American badger occurs in the CNDDB in Segments 3-5 of the Study Area, but the information is limited for the record and is not in a specified location. The species likely uses the BWT in the Study Area as a migratory corridor, but the Study Area lacks friable soils, sufficient burrowing rodent prey and uncultivated ground needed for this species to perform most life functions.

Definitions

1. Federal status: USFWS Listing, other non-CA specific listing
BC – Bird of Conservation Concern
FE = Listed as endangered under the federal Endangered Species Act (ESA)
FT = Listed as threatened under ESA

2. State status: CDFW Listing
SE = Listed as endangered under the California Endangered Species Act (CESA)
ST = Listed as threatened under the CESA
SSC = Species of Special Concern as identified by the CDFW
FP = Listed as fully protected under CDFG code
WL = Listed as a Watchlist species by CDFW

3. Other status:

WBWG = Listing by the Western Bat Working Group

Habitat Assessment

The habitats in the Study Area are generally of low quality and degraded by development, invasive species, homeless camps, and trash; native upland, riparian, and aquatic/semi-aquatic habitats in pristine form almost no longer exist within the Study Area. However, a diversity of wildlife is attracted to the River because it is one of the only sources of perennial water and riparian habitat in the vicinity, and the rarity of a perennial river and riparian habitat alone makes it a valuable resource despite the degradation that has occurred to the natural habitat. A summary of vegetation and habitat conditions for each segment in the Study Area and an assessment of the quality of those habitats are presented below in **Table 4**.

TABLE 4
DESCRIPTIONS OF HABITATS AND EXISTING CONDITIONS WITHIN THE STUDY AREA

Area	Existing Conditions
Proposed Pipelines and Pump Stations	No native habitats occur in the proposed pipeline alignments or pump stations, and vegetation largely consists of non-native landscaping species. The existing roadways are lined with landscaping vegetation and street trees that are subjected to high levels of disturbance and are of low quality for wildlife. Several western sycamore and coast live oaks are within the pipeline alignments and are protected from impacts by the City. However, wildlife species that would occur are only those that are habituated to urban areas.
Segment 3	**Riparian Habitat:** 15.7 acres of BWT occurs mostly along the western edge of the segment, with some small BWT areas on the eastern edge. BWT in Segment 3 is of low quality due to a high density of homeless camps, invasive plants, and trash. The BWT provides numerous perching and nesting opportunities for raptors and songbirds that forage and nest in riparian areas. BWT and the invasive understory provide nesting habitat opportunities for special-status birds such as yellow warbler, yellow-breasted chat, and least Bell's vireo. **Aquatic Habitat:** The BWT is surrounded by flowing water, largely on the eastern side of the River and slower flowing, shallow water and ponding water occurs sporadically on the western edge. The channelization of the River, homeless camps, and trash negatively impact the quality of the aquatic habitat. The flowing water in the segment provides habitat for fish, amphibians, waterfowl, shorebirds, and other aquatic and semi-aquatic species. Sandbars, shallow pools, and emergent vegetation at the edges of the BWT provided opportunities for waterfowl, shorebirds, and other species to forage and to nest, and for amphibians to breed. The variation in aquatic and semi-aquatic habitats in this area provides adequate, but not high quality habitat for diverse wildlife community, but lacks native fish.
Segment 4	**Riparian Habitat:** 14.9 acres of BWT that is similar in structure and composition to that found in Segment 3. However, invasive plants had been removed between Fletcher Drive and the southern endpoint, BWT in Segment 3 is of low quality due to a high density of homeless camps, invasive plants, and trash. The BWT provides numerous perching and nesting opportunities for raptors and songbirds that forage and nest in riparian areas. BWT and the invasive understory provide nesting habitat for special-status birds such as yellow warbler, yellow-breasted chat, and least Bell's vireo. **Aquatic Habitat:** The BWT is surrounded by flowing water. Water flow in this segment is similar to that found in Segment 3, with main flow occurring on the eastern side and a low, shallow flow on the western edge sporadically. The channelization of the River, homeless camps, and trash negatively impact the quality of the aquatic habitat. The flowing water in the segment provides habitat for fish, amphibians, waterfowl, shorebirds, and other aquatic and semi-aquatic species. Sandbars, shallow pools, and emergent vegetation at the edges of the BWT provided opportunities for waterfowl, shorebirds, and other species to forage and to nest, and for amphibians to breed. The variation in aquatic and semi-aquatic habitats in this area provides adequate, but not high quality habitat for diverse wildlife community, but lacks native fish.
Segment 5	**Riparian Habitat:** 38.1 acres of BWT that is similar in structure and composition to that found in Segments 3 and 4. However, the BWT in this segment is the widest in the Study Area. Invasive plants were recently removed in the northern half of the segment at the time of the field survey, and the understory was largely bare as a result. The southern half had a dense understory of invasive plants. BWT in Segment 5 is the highest quality in the Study Area due to the greater width and area of habitat that provides denser cover for riparian birds and larger land for terrestrial species. However, the BWT is still of low quality due to a high density of invasive plants, trash, and homeless camps. The BWT provides numerous perching and nesting opportunities for raptors and songbirds that forage and nest in riparian areas. BWT and the invasive understory provide nesting habitat for special-status birds such as yellow warbler, yellow-breasted chat, and least Bell's vireo. **Aquatic Habitat:** The BWT is surrounded by flowing water. Water flow in this segment varies from the east, west, and center of the BWT. The channelization of the River, homeless camps, and trash negatively impact the quality of the aquatic habitat. The flowing water in the segment provides habitat for fish, amphibians, waterfowl, shorebirds, and other aquatic and semi-aquatic species. Sandbars, shallow pools, and emergent vegetation at the edges of the BWT provided opportunities for waterfowl, shorebirds, and other species to forage and to nest, and for amphibians to breed. The variation in aquatic and semi-aquatic habitats in this area provides adequate, but not high quality habitat for diverse wildlife community, but lacks native fish.
Segment 6	**Aquatic Habitat:** The River channel is concrete in this segment and the water forms a thin layer surrounding a fast moving center channel. Low quality habitat for aquatic species occurs in Segment 6 due to the concrete bottom of the River and shallow stream that is not suitable for native fish species. However, this area is an important foraging area for shorebirds and waterfowl due to the availability of invertebrates in the water. No opportunity for nesting occurs for these birds in this segment.

Segment 7	**Sandbar Habitat:** 40.2 acres of rocky sandbar that largely supports ruderal, weedy vegetation occurs along the edges of this Segment, largely in the northern end. The change in tide and River flow makes the acres of land variable in this segment. The sandbar habitat supports an abundance and diversity of shorebirds and waterfowl that forage in the rocky substrate, and this area is an important bird area for that reason. However, the native vegetation has largely been eliminated in this segment, and native saltwater marshes and lagoons that once would have been in this area have been developed. The sandbar habitat is of low quality because it lacks the native vegetation typical of a brackish marsh, is covered in invasive plants, and the natural hydrology of the river has been altered by channelization. Nonetheless this segment is still instrumental for foraging shorebirds and waterfowl that have limited other native areas to use. **Aquatic Habitat:** Brackish water occurs between the sandbars. The channelization of the River and trash negatively impact the quality of the aquatic habitat. The flowing water in the segment provides habitat for brackish fish such as carp and anchovy, waterfowl, shorebirds, and other aquatic and semi-aquatic species. However, native fish species are largely absent from this segment.

Impact Analysis

The impacts from the proposed project include those that would occur from construction of the pipelines and pump stations, which will be limited due to the urban setting and lack of native vegetation or habitats within the construction footprints, and impacts from operation that includes the reduction of water discharged into the River. The proposed project would gradually reduce yearly wastewater discharge into the River by 3,500 AFY over a 10-year period, a 35 percent annual reduction in water discharged from LAGWRP. This corresponds to a reduction from an annual average of 9 to 6 mgd of flow of 14.4 cubic-feet per second (cfs) to 9.6 cfs. The amount of water in the River is variable by year and by season, and in times of low natural flow (generally April to November), the River's main water source is primarily from discharged wastewater. The main source of discharged water to the River is from the Tillman Plant in the Sepulveda Basin, approximately 9 miles upstream from the Study Area. The Tillman Plant discharges a minimum of 22,400 AF per year, and LAGWRP currently discharges 10,500 AF per year. The proposed reduction of 3,500 AFY is 10 percent of the total minimum combined wastewater that is discharged from the Tillman Plant and LAGWRP (see Table 5 in Appendix E). Local surface runoff also contributes to the flow during the low natural flow season, as does water from Burbank Water Reclamation Plan (BWRP) located upstream of the Study Area approximately 1 mile, and Verdugo Wash that flows into the Study Area at the Highway 134 Bridge. Other notable sources of water into the River are at the Arroyo Seco Channel at the north end of Segment 6, the Rio Hondo Channel at the southern end of Segment 6, and the Tujunga Wash approximately 3 miles upstream from the Study Area. The flows contributed by urban runoff and treatment plant discharges are not natural flows.

The proposed project flow reduction would be drowned out during the winter due to much higher flows from the watershed. Using the Hydraulic Modeling worst case condition of August 2008, the proposed project would reduce flows reaching the Pacific Ocean by 4 percent. Effects on Segments 6 and 7 would be less than for Segments 2-5 because of the "diluting" effect of additional flow gains downstream of LAGWRP.

The proposed project would not result in areas of algal mat drying out. The Hydraulic Modeling Report predicts that flows would continue to exceed the capacity of the low flow channel and spill out onto the wider concrete bottom of the flood control channel, maintaining shallow wetted conditions that support algal growth. The modeled average change in water level over Segment 6 is 0.25 inches for the proposed project conditions, and 0.35 inches for cumulative conditions.

There would be change in wetting of the algal mats provided if flows were to fall below 80 cfs. The Hydraulic Modeling predicts that flows would never fall below 80 cfs in the either proposed project or cumulative conditions scenario. Consequently, all flows should continue to spill out of the low flow channel and wet the areas where algae currently grow. Therefore, the modeled flow reductions are expected to result in a less than significant impact on algal growth.

The proposed project reduction represents 4 percent of the worst-case August 2008 flow, and the cumulative flow reduction is 11 percent of flow at the River entry to the estuary. This represents a flow reduction for the driest month of the driest year. Thus, in all other months and years, the proposed project effects would be smaller than modeled. Therefore, the proposed project does not appear likely to have a detrimental effect on the inputs of freshwater to the estuary.

Below is an analysis of potential impacts from construction and implementation of the proposed project to trees protected by local ordinance, riparian vegetation, aquatic and semi-aquatic habitat, and special-status wildlife species that may be present within these habitats. Also included is an analysis of cumulative impacts from other

proposed projects in the Study Area that may have a significant effect when considered in combination with potential impacts of the proposed project. The impact analysis for the project will be completed by answering the questions in the California Environmental Quality Act (CEQA) Biological Resources Appendix G Thresholds.

Will the proposed project:

a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [sic; as of January 1, 2013, this agency is the California Department of Fish & Wildlife] or U.S. Fish and Wildlife Service.**

Construction

The proposed pipelines and pump stations will be located in areas that are urbanized and lack native vegetation or habitats, and no special-status species are anticipated to occur there. Therefore, no impacts will occur to candidate, sensitive, or special-status species during construction of the three pipelines and three pump stations.

Nesting Birds

The proposed project has the potential to remove landscaping shrubs and encroach or remove native trees that could provide nesting sites for migratory birds during the construction of the Camino San Rafael Homes pipeline and of the three proposed pump stations. Birds, and their nesting sites, eggs, and young are protected from "take" by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code Section 3500. Implementation of **Mitigation Measure Bio-1** below that includes preconstruction surveys for nesting birds and avoidance of active nests, would ensure impacts to nesting birds are avoided.

> **Mitigation Measure Bio-1**: Prior to removal, trimming, or disturbance of vegetation that could be used as nesting habitat for birds during nesting season (typically February through August), a qualified biologist will conduct a preconstruction survey for nesting birds. If active nests are identified, the biologist will apply a no-work buffer around the nest at an appropriate distance that would insure no incidental take of the nest from the project. Typical buffer distances are 300 feet for songbirds and 500 feet for raptors, but the distance in the field will be determined by the biologist and will be based on the ambient conditions, type of work proposed and distance from the nest, and the species of bird that is nesting. The buffer may be considerably less than the typical 300 or 500 feet, at the discretion of the project biologist. The no-work buffer will remain in place until the biologist has determined the young have fledged and are no longer dependent on the nest site.

Operation

Operation of the project includes a gradual reduction of 3,500 AFY of wastewater discharged by LAGWRP into the River over a 10-year period. A total of 15 special-status wildlife species are known to occur or have a high potential to occur in Segments 3-7 of the River, including one reptile (two-striped garter snake), 11 bird species (Cooper's hawk, sharp-shinned hawk, Vaux's swift, white-tailed kite, American peregrine falcon, merlin, yellow-breasted chat, osprey, bank swallow, yellow warbler, and least Bell's vireo), and three bat species (western mastiff bat, hoary bat, and big free-tailed bat). These species, if present, would depend on the BWT (two-striped garter snake also relies on aquatic habitat) in the River for habitat.

During times of naturally low flow in the River (April to November) the BWT relies on upstream discharges of wastewater. The project proposes to discontinue the discharge of 3,500 AF of wastewater that is currently

discharged from LAGWRP annually. However, the reduction in volume of discharge from the LAGWRP is 10 percent of wastewater that is discharged into the River (see Table 5 in Appendix E). Additional water into the River comes from surface runoff, the BWRP, and from the Verdugo Wash. Other notable sources of water into the River that supports the BWT in the Study Area include the Tujunga Wash approximately 3 miles upstream from the Study Area. The proposed project would reduce the discharge volume at LAGWRP at all times of year. The reduction would result in a reduction in water depth of less than one inch throughout the Study Area segments. Flows from other sources would continue to provide water sufficient to span the channel bottom from edge to edge. As a result, none of the riparian habitat that has emerged in the channel would be stranded as a result of the reduced flow and impacts would be unmeasurable. Water would continue to support the root zones beneath the channel. Similarly, the reduced flow would not reduce aquatic habitat acreage since the flow would continue to cover the channel bottom. For these reasons, the reduction of flow will not result in any measurable reduction of BWT habitat in the Study Area.

Considering there would be no measurable reduction of BWT from the reduced discharge from LAGWRP and no BWT will be removed during the project, the resident and migratory wildlife community that depends on the habitat and water in the River for foraging, breeding and refuge will be unaffected by the proposed project. Even though the River has been channelized and greatly affected by urbanization, the riparian habitat in the river is dynamic, and the variability in flows that occur from rainfall and other sources of water in the River will be unaffected by the proposed project. Moreover, the reduced discharge would not cause a population of special-status species to drop below self-sustaining levels, since none of the wildlife that uses the River is dependent solely on the water that is discharged from LAGWRP. Therefore, impacts to special-status wildlife would be less than significant.

Cumulative Effects

The proposed project would contribute to reduced flow in the River. In addition to the proposed project, BWRP, located adjacent to the Study Area, has proposed additional recycled water efforts that will divert wastewater discharges from the River. A portion of BWRP's wastewater flows will be diverted to support no-potable water demands within the City of Burbank and portion of the City of Los Angeles, thereby reducing the quantity of potable water supplies need to serve these uses.

Ultimately, if additional reduction of flows occurs within the River, this would have a corresponding effect on the acreage of BWT habitats within the River. Aquatic habitats would also diminish within the River as less water is discharged from existing sources. However, these changes could reflect a more natural condition of the River, as the flows contributed by urban runoff and treatment plant discharges are not natural flows. In fact, the historic condition of the River in the dry season in this location was likely entirely upwelling groundwater. The historic dry season flows likely infiltrated into the ground prior to reaching the Pacific Ocean.

The reduction in perennial flow in the Los Angeles River would resemble a more natural condition of the River compared with historic conditions. Although the proposed project would contribute to a reduced flow in the river channel, the project's contribution would be less than 10 percent of the existing flows and would not be cumulatively considerable. Least Bell's vireo is known to occur in the River, but in habitat that is supported upstream from LAGWRP. Therefore, any reduction in wastewater discharge by the proposed project would not have an effect on habitat occupied by least Bell's vireo in the River upstream from LAGWRP.

Lastly, as discussed previously above, the modeled average change in water level over Segment 6 is 0.25 inches for the proposed project conditions, and 0.35 inches for cumulative conditions. Consequently, all flows should continue to spill out of the low flow channel and wet the areas where algae currently grow. The modeled flow

reductions are expected to result in a less than significant impact on algal growth. The proposed project reduction represents 4 percent of the worst-case August 2008 flow, and the cumulative flow reduction is 10 percent of flow at the River entry to the estuary. The proposed project and cumulative wastewater reductions would appear to not have a detrimental effect on the inputs of freshwater to the estuary.

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

BWT and aquatic habitats are known to occur in Segments 3-7 of the River. As discussed above, there would be no measurable reduction of BWT from the reduced discharge from LAGWRP and no BWT will be removed during the project. Therefore, no impacts to riparian habitat will occur from the project.

Aquatic Habitat

Aquatic habitat occurs in all segments of the Study Area, varying between fast moving in narrow areas, thin sheet-flow over concrete, slower turbulent water over boulders, slow-moving water along the edge of BWT, and areas of ponding water. The reduction in volume of discharged water by the proposed project would be 3,500 AF from the River each year, a 10 percent decrease of wastewater that is discharged into the River when considering the current combined discharge from the Tillman Plant and LAGWRP. Additional water into the River comes from surface runoff, BWRP, and the Verdugo Wash. Additional sources of water into the River are from the Arroyo Seco Channel at the north end of Segment 6, the Rio Hondo Channel at the southern end of Segment 6, and the Tujunga Wash. The BWT in the Study Area helps to slow the velocity of water and creates pools that can be used by certain fish and aquatic species, as well as birds. The reduced discharge would reduce the depth of flow within the river channel, but would not significantly reduce or eliminate areas of slow-moving water or pools around the margins of areas with BWT. The current typical maximum depth of water in the Study Areas is 6.5 feet. The flow reduction could lower the depth of water by less than one inch, but not to a point that would affect fish migration or movement by any of the native aquatic species within the River. In Segment 6 of the Study Area, the flow reduction would not reduce the overall water depth enough to eliminate the availability of foraging habitat for fish, amphibians, shorebirds or any other wildlife that may use the River for foraging or breeding. The proposed project's reduction of freshwater into the Estuary from the River would not significantly alter the brackish water interface at the mouth of the river. The estuary would continue to be fed by freshwater emptying into the unconfined Los Angeles harbor. For these reasons, the reduction in flow from LAGWRP would not significantly reduce aquatic habitat values in the Study Area.

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

The River, including all of the aquatic habitat in the Study Area, is a Traditional Navigable Water (TNW) and under the jurisdiction of the Army Corps of Engineers. For the reasons described above in the Impact Analysis of Aquatic Habitat, the reduction in flow from LAGWRP would not significantly reduce aquatic habitat values in the Study Area. Therefore, the project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.

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

The River functions as a wildlife migratory corridor for urban wildlife such as rodents and raccoons. However, no direct impacts to the River would occur from the proposed project, and, according to analysis presented above, indirect impacts to riparian and aquatic habitats will be less than significant. Therefore, the project would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites within the River.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The City of Glendale Indigenous Tree Program protects six native trees, including western sycamore and coast live oak. Approximately ten western sycamore trees occur within the proposed San Rafael Homes pipeline alignment, and two coast live oak trees occur at proposed pump station #1. Due to the proximity to the proposed project features, the roots of these trees may be encroached, or the tree may require removal or relocation depending on the placement of the proposed San Rafael Homes pipeline and pump station #1. Encroachment, removal, or relocation of western sycamore or coast live oak requires a permit from the city. Implementation of **Mitigation Measure Bio-2** below, which includes applying for an Indigenous Tree permit from the City of Glendale, will reduce the potential impacts to native trees protected by the City's Indigenous Tree Program to a less than significant level.

> **Mitigation Measure Bio-2**: An Indigenous Tree Program permit will be obtained from the City of Glendale prior to removal, encroachment, or substantial trimming (topping or pruning more than one-quarter of total live foliage) of native trees protected by the City of Glendale's Indigenous Tree Program, including western sycamore (*Platanus racemosa*) and coast live oak (*Quercus agrifolia*). For every tree removed by the project, two replacement trees at a minimum 15-gallon size will be planted.

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

The proposed project is not within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan, and, therefore, no impacts will occur as a result of the proposed project.

Literature Cited

Cooper, D.S. 2004. Important Bird Areas of California. Audubon California. 286 pp. Available (online) at: http://iba.audubon.org/iba/stateIndex.do?state=US-CA . Retrieved January 23, 2018.

Cooper Ecological Monitoring, Inc. (Cooper). 2008. Griffith Park Wildlife Management Plan Draft.

California Department of Fish and Wildlife (CDFW). 2010. Santa Ana Speckled Dace *Rhinichthys osculus* ssp. Accessed online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=104372&inline

CDFW. 2013. Arroyo Chub Gila orcutti (Eigenmann and Eigenmann). Accessed online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=104270&inline

CDFW. 2017. California Natural Diversity Database (CNDDB) Geographic Information System (GIS) Spatial Data for Los Angeles River. Accessed December 13, 2017.

County of Los Angeles. 2013. Integrated Regional Water Management Plan.

City of Los Angeles Department of Water and Power. 2015. *Stormwater Capture Master Plan,* prepared by Geosyntec. August 2015

eBird online bird survey database. Hotspots and species data along the Los Angeles River. Accessed: December 13, 2016.

ESA. 2018. Effects of LA – Glendale WRP Discharge Reductions on the Los Angeles River: Hydraulic Modeling Report.

Friends of the Los Angeles River (FoLAR). 2007. Images of America – Los Angeles River.

FoLAR. 2008. State of the River 2 – The Fish Study. September 2008.

FoLAR. 2016. State of the River 3 – The Long Beach Fish Study. June 2016.

Sawyer, John O., T. Keeler-Wolf, and Evens, Julie. 2009. A Manual of California Vegetation. Second edition. Sacramento: California Native Plant Society.

Sibley, David Allen. 2000. The Sibley Guide to Birds.

United States Army Corps of Engineers. 2013. Los Angeles River Ecosystem Restoration Feasibility Study Draft.

United Stated Environmental Protection Agency (EPA). 2012. Long Beach City Beaches and Los Angeles River Estuary Total Maximum Daily Loads for Indicator Bacteria

United States Fish and Wildlife Service (USFWS). 2014. Draft Recovery Plan for the Santa Ana sucker. USFWS, Pacific Southwest Region, Sacramento, California.

USFWS. 2017a. Information for Planning and Conservation (IPac) Environmental Conservation Online System (ECOS). Accessed December 13, 2017.

USFWS. 2017b. Endangered Species Act (ESA), Listed Species Report for Los Angeles County.

Appendix A

Photolog

Photo 1: Depicts the outflow from the Burbank Western Channel into the Los Angeles River at the north western edge of the Study Area. Photo was taken from the bike path at the western end of Segment 1 facing northwest.

Photo 2: Depicts BWT in the eastern end of Segment 1 where recent invasive plant removal resulted in large areas of bare ground. Photo was taken from the bike path facing northwest.

Photo 3: Depicts waterfowl, shorebirds, and cormorants using a variety of aquatic habitat and sandbar at the eastern edge of BWT in Segment 1. Photo was taken from the bike path facing north.

Photo 4: Depicts a thin sheet of flow over the wide, concrete bottom of Segment 2 where the Verdugo Wash enters the Los Angeles River. Photo was taken from the bike path at the southern end of Segment 2 facing north.

Photo 5: Depicts black-necked stilts foraging at the western end of Segment 2. Photo was taken from the bike path facing northeast.

Photo 6: Depicts BWT in the northern portion of Segment 3 with a dense understory of giant reed. Photo was taken from the bike path facing northeast.

Photo 7: Depicts the BWT at the southern end of Segment 3. Photo was taken from Los Feliz Boulevard facing north.

Photo 8: Depicts homeless camp in the middle of the BWT in the central portion of Segment 3. The ground is bare and soils compacted, and trash is abundant. Photo taken from the bike path facing east.

Photo 9: Depicts typical invasive plant cover (giant reed and Mexican fan palm) found in unmanaged areas of the BWT. Photo was taken from the bike path in the center of Segment 3, facing east.

Photo 10: Depicts illegal dumping and burned trash at the access point to the bike path at Los Feliz Boulevard in Segment 3, and exemplifies the types and quantity of materials that blow and are dumped into the River in the Study Area. Photo was taken from the bike path facing southwest.

Photo 11: Depicts the BWT in the northern portion of Segment 4. Photo was taken facing north from a pedestrian bridge over the River.

Photo 12: Depicts BWT in the central portion of Segment 4. Photo taken from the bike path facing northeast.

Photo 13: Depicts the BWT in the southern edge of Segment 4 where invasive plants have recently been removed, exposing bare ground and trash. Photo was taken from the bike path facing southeast.

Photo 14: Depicts the BWT in the northern half of Segment 5 where recent invasive plant management has left the understory largely bare. Photo was taken from the bike path facing east.

Photo 15: Depicts the transition zone between BWT with recent invasive removal on the left, and BWT that has not been managed in several years. Photo was taken from the bike path in the central portion of Segment 5, facing southeast.

Photo 16: Depicts build-up of trash in matted-giant reed in the BWT in the southern half of Segment 5. Photo was taken from the bike path facing east.

Photo 17: Depicts wildlife utilizing variable aquatic habitats along the edge of the BWT in the southern end of Segment 5.

Photo 18: Depicts the BWT in the southern-central portion of Segment 5. Photo was taken from the bike path facing northeast.

Photo 19: Depicts the denser and wider BWT in the southern end of Segment 5, and a homeless camp on the slope of the riverbed. Photo was taken from the bike path facing northeast.

Photo 20: Depicts the transition at the southern end of Segment 5 to concrete bottom of Segment 6, where the River forma a thin sheet of water at the edges of a deeper, fast moving center channel. Photo was taken from the bike path facing southeast.

Appendix C1
Cultural Resources Assessment

Confidential Cultural Resources Report
available upon request from authorized reviewers

ESA

Appendix C2
Paleontological Resources Assessment

Confidential Paleontological Resources Report available upon request from authorized reviewers

ESA

Appendix D
Greenhouse Gas Emissions Modeling Data

ESA

Glendale Wastewater Project (Pasadena)

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2019
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	1115.33	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Installation of Pipeline

Construction Phase - Project Specific Information

Off-road Equipment - Project Specific Information

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tblTripsAndVMT	WorkerTripNumber	3.00	40.00
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tblTripsAndVMT	WorkerTripNumber	8.00	40.00
tblTripsAndVMT	WorkerTripNumber	3.00	40.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	3.00	20.00
tblTripsAndVMT	WorkerTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	8.00	20.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.4494	3.7137	3.4176	6.2400e-003	0.1009	0.2183	0.3192	0.0231	0.2107	0.2339	0.0000	555.9793	555.9793	0.0889	0.0000	558.2019
2019	0.1787	1.6989	1.4614	3.0200e-003	0.0489	0.0829	0.1317	0.0120	0.0792	0.0912	0.0000	271.7757	271.7757	0.0463	0.0000	272.9340
Maximum	**0.4494**	**3.7137**	**3.4176**	**6.2400e-003**	**0.1009**	**0.2183**	**0.3192**	**0.0231**	**0.2107**	**0.2339**	**0.0000**	**555.9793**	**555.9793**	**0.0889**	**0.0000**	**558.2019**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1 Mobilization	Site Preparation	1/1/2018	1/2/2018	5	2	11
2	Phase 1 Pavement Cutting	Demolition	1/3/2018	1/12/2018	5	8	12
3	Phase 1 Excavation, Pipe Laying, Backfill	Building Construction	1/13/2018	7/25/2018	5	138	13
4	Phase 1 Paving	Paving	7/26/2018	8/8/2018	5	10	14
5	Phase 1 De-mobilization	Site Preparation	8/9/2018	8/12/2018	5	2	15
6	Phase 2 Mobilization	Site Preparation	8/13/2018	8/14/2018	5	2	16
7	Phase 2 Pavement Cutting	Demolition	8/15/2018	8/24/2018	5	8	17
8	Phase 2 Excavation, Pipe Laying, Backfill	Building Construction	8/25/2018	1/27/2019	5	110	18
9	Phase 2 Paving	Paving	1/28/2019	2/8/2019	5	10	19
10	Phase 2 Pump Station	Building Construction	2/9/2019	3/22/2019	5	30	20
11	Phase 2 De-mobilization	Site Preparation	3/23/2019	3/26/2019	5	2	21
12	Phase 3 Mobilization	Site Preparation	3/27/2019	3/28/2019	5	2	22
13	Phase 3 Pavement Cutting	Demolition	3/29/2019	4/4/2019	5	5	23
14	Phase 3 Excavation, Pipe Laying, Backfill	Building Construction	4/5/2019	6/21/2019	5	56	24
15	Phase 3 Paving	Paving	6/22/2019	6/28/2019	5	5	25
16	Phase 3 Pump Station	Building Construction	6/29/2019	9/20/2019	5	60	26
17	Phase 3 De-mobilization	Site Preparation	9/21/2019	9/24/2019	5	2	27

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1 Mobilization					
Phase 1 Mobilization					
Phase 1 Pavement Cutting	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 1 Excavation, Pipe Laying, Backfill	Air Compressors	2	8.00	78	0.48
Phase 1 Excavation, Pipe Laying, Backfill	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1 Excavation, Pipe Laying, Backfill	Excavators	2	8.00	158	0.38
Phase 1 Excavation, Pipe Laying, Backfill	Forklifts	1	8.00	89	0.20
Phase 1 Excavation, Pipe Laying, Backfill	Generator Sets	2	8.00	84	0.74
Phase 1 Excavation, Pipe Laying, Backfill	Welders	1	8.00	46	0.45
Phase 1 Paving	Crushing/Proc. Equipment	1	8.00	85	0.78
Phase 1 Paving	Paving Equipment	1	8.00	132	0.36
Phase 1 Paving	Rollers	1	8.00	80	0.38
Phase 1 De-mobilization	Sweepers/Scrubbers	1	8.00	64	0.46
Phase 2 Mobilization					
Phase 2 Mobilization					
Phase 2 Pavement Cutting	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 2 Excavation, Pipe Laying, Backfill	Air Compressors	2	8.00	78	0.48
Phase 2 Excavation, Pipe Laying, Backfill	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2 Excavation, Pipe Laying, Backfill	Excavators	2	8.00	158	0.38
Phase 2 Excavation, Pipe Laying, Backfill	Forklifts	1	8.00	89	0.20
Phase 2 Excavation, Pipe Laying, Backfill	Generator Sets	2	8.00	84	0.74
Phase 2 Excavation, Pipe Laying, Backfill	Welders	1	8.00	46	0.45
Phase 2 Paving	Crushing/Proc. Equipment	1	8.00	85	0.78
Phase 2 Paving	Paving Equipment	1	8.00	132	0.36
Phase 2 Paving	Rollers	1	8.00	80	0.38
Phase 2 Pump Station	Excavators	1	8.00	158	0.38
Phase 2 Pump Station	Cranes	1	8.00	231	0.29
Phase 2 De-mobilization	Sweepers/Scrubbers	1	8.00	64	0.46

Phase 3 Mobilization					
Phase 3 Mobilization					
Phase 3 Pavement Cutting	Concrete/Industrial Saws	1	8.00	81	0.73
Phase 3 Excavation, Pipe Laying, Backfill	Air Compressors	2	8.00	78	0.48
Phase 3 Excavation, Pipe Laying, Backfill	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 3 Excavation, Pipe Laying, Backfill	Excavators	2	8.00	158	0.38
Phase 3 Excavation, Pipe Laying, Backfill	Forklifts	1	8.00	89	0.20
Phase 3 Excavation, Pipe Laying, Backfill	Generator Sets	2	8.00	84	0.74
Phase 3 Excavation, Pipe Laying, Backfill	Welders	1	8.00	46	0.45
Phase 3 Paving	Crushing/Proc. Equipment	1	8.00	85	0.78
Phase 3 Paving	Paving Equipment	1	8.00	132	0.36
Phase 3 Paving	Rollers	1	8.00	80	0.38
Phase 3 Pump Station	Excavators	1	8.00	158	0.38
Phase 3 Pump Station	Cranes	1	8.00	231	0.29
Phase 3 De-mobilization	Sweepers/Scrubbers	1	8.00	64	0.46

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1 Mobilization	0	40.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Pavement Cutting	1	40.00	10.00	74.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Excavation, Pipe Laying, Backfill	10	40.00	10.00	550.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Paving	3	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 De-mobilization	1	40.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Mobilization	0	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Pavement Cutting	1	20.00	10.00	81.48	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Excavation, Pipe Laying, Backfill	10	20.00	10.00	710.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Phase 2 Paving	3	20.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Pump Station	2	20.00	10.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 De-mobilization	1	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Mobilization	0	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Pavement Cutting	1	20.00	10.00	40.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Excavation, Pipe Laying, Backfill	10	20.00	10.00	810.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Paving	3	20.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Pump Station	2	20.00	10.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 De-mobilization	1	20.00	10.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.2 Phase 1 Mobilization - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	8.1000e-004	1.6000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1940	0.1940	1.0000e-005	0.0000	0.1943
Vendor	4.0000e-005	1.2400e-003	3.2000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2485	0.2485	2.0000e-005	0.0000	0.2489
Worker	2.1000e-004	1.7000e-004	1.8700e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4214	0.4214	1.0000e-005	0.0000	0.4218
Total	**2.7000e-004**	**2.2200e-003**	**2.3500e-003**	**0.0000**	**5.4000e-004**	**1.0000e-005**	**5.6000e-004**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**0.8639**	**0.8639**	**4.0000e-005**	**0.0000**	**0.8650**

3.3 Phase 1 Pavement Cutting - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0161	0.0000	0.0161	2.4400e-003	0.0000	2.4400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0800e-003	0.0157	0.0149	3.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	2.1506	2.1506	1.7000e-004	0.0000	2.1548
Total	**2.0800e-003**	**0.0157**	**0.0149**	**3.0000e-005**	**0.0161**	**1.0700e-003**	**0.0172**	**2.4400e-003**	**1.0700e-003**	**3.5100e-003**	**0.0000**	**2.1506**	**2.1506**	**1.7000e-004**	**0.0000**	**2.1548**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4000e-004	0.0120	2.3300e-003	3.0000e-005	6.4000e-004	5.0000e-005	6.8000e-004	1.7000e-004	4.0000e-005	2.2000e-004	0.0000	2.8709	2.8709	2.1000e-004	0.0000	2.8761
Vendor	1.8000e-004	4.9600e-003	1.3000e-003	1.0000e-005	2.5000e-004	4.0000e-005	2.9000e-004	7.0000e-005	3.0000e-005	1.1000e-004	0.0000	0.9940	0.9940	7.0000e-005	0.0000	0.9958
Worker	8.5000e-004	7.0000e-004	7.4800e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.6856	1.6856	6.0000e-005	0.0000	1.6870
Total	**1.3700e-003**	**0.0177**	**0.0111**	**6.0000e-005**	**2.6500e-003**	**1.0000e-004**	**2.7400e-003**	**7.1000e-004**	**8.0000e-005**	**8.1000e-004**	**0.0000**	**5.5504**	**5.5504**	**3.4000e-004**	**0.0000**	**5.5589**

3.4 Phase 1 Excavation, Pipe Laying, Backfill - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1000e-004	0.0000	3.1000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2441	1.9515	1.8446	2.8800e-003		0.1268	0.1268		0.1224	0.1224	0.0000	251.7968	251.7968	0.0480	0.0000	252.9973
Total	**0.2441**	**1.9515**	**1.8446**	**2.8800e-003**	**3.1000e-004**	**0.1268**	**0.1271**	**5.0000e-005**	**0.1224**	**0.1224**	**0.0000**	**251.7968**	**251.7968**	**0.0480**	**0.0000**	**252.9973**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5300e-003	0.0894	0.0173	2.2000e-004	4.7300e-003	3.4000e-004	5.0600e-003	1.3000e-003	3.2000e-004	1.6200e-003	0.0000	21.3374	21.3374	1.5700e-003	0.0000	21.3766
Vendor	3.0200e-003	0.0856	0.0224	1.8000e-004	4.3500e-003	6.2000e-004	4.9700e-003	1.2500e-003	5.9000e-004	1.8400e-003	0.0000	17.1459	17.1459	1.2400e-003	0.0000	17.1768
Worker	0.0146	0.0120	0.1290	3.2000e-004	0.0303	2.5000e-004	0.0305	8.0400e-003	2.3000e-004	8.2700e-003	0.0000	29.0763	29.0763	1.0000e-003	0.0000	29.1012
Total	**0.0202**	**0.1870**	**0.1688**	**7.2000e-004**	**0.0394**	**1.2100e-003**	**0.0406**	**0.0106**	**1.1400e-003**	**0.0117**	**0.0000**	**67.5596**	**67.5596**	**3.8100e-003**	**0.0000**	**67.6546**

3.5 Phase 1 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8700e-003	0.0485	0.0444	7.0000e-005		3.1700e-003	3.1700e-003		3.0500e-003	3.0500e-003	0.0000	6.0711	6.0711	1.2300e-003	0.0000	6.1018
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.8700e-003**	**0.0485**	**0.0444**	**7.0000e-005**		**3.1700e-003**	**3.1700e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**6.0711**	**6.0711**	**1.2300e-003**	**0.0000**	**6.1018**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2000e-004	6.2000e-003	1.6200e-003	1.0000e-005	3.2000e-004	4.0000e-005	3.6000e-004	9.0000e-005	4.0000e-005	1.3000e-004	0.0000	1.2425	1.2425	9.0000e-005	0.0000	1.2447
Worker	1.0600e-003	8.7000e-004	9.3500e-003	2.0000e-005	2.1900e-003	2.0000e-005	2.2100e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.1070	2.1070	7.0000e-005	0.0000	2.1088
Total	**1.2800e-003**	**7.0700e-003**	**0.0110**	**3.0000e-005**	**2.5100e-003**	**6.0000e-005**	**2.5700e-003**	**6.7000e-004**	**6.0000e-005**	**7.3000e-004**	**0.0000**	**3.3494**	**3.3494**	**1.6000e-004**	**0.0000**	**3.3535**

3.6 Phase 1 De-mobilization - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.1000e-004	2.6700e-003	2.0200e-003	0.0000		2.2000e-004	2.2000e-004		2.0000e-004	2.0000e-004	0.0000	0.2320	0.2320	7.0000e-005	0.0000	0.2338
Total	**3.1000e-004**	**2.6700e-003**	**2.0200e-003**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**0.2320**	**0.2320**	**7.0000e-005**	**0.0000**	**0.2338**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	8.1000e-004	1.6000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1940	0.1940	1.0000e-005	0.0000	0.1943
Vendor	4.0000e-005	1.2400e-003	3.2000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2485	0.2485	2.0000e-005	0.0000	0.2489
Worker	2.1000e-004	1.7000e-004	1.8700e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4214	0.4214	1.0000e-005	0.0000	0.4218
Total	**2.7000e-004**	**2.2200e-003**	**2.3500e-003**	**0.0000**	**5.4000e-004**	**1.0000e-005**	**5.6000e-004**	**1.5000e-004**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**0.8639**	**0.8639**	**4.0000e-005**	**0.0000**	**0.8650**

3.7 Phase 2 Mobilization - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	8.1000e-004	1.6000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1940	0.1940	1.0000e-005	0.0000	0.1943
Vendor	4.0000e-005	1.2400e-003	3.2000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2485	0.2485	2.0000e-005	0.0000	0.2489
Worker	1.1000e-004	9.0000e-005	9.4000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2107	0.2107	1.0000e-005	0.0000	0.2109
Total	**1.7000e-004**	**2.1400e-003**	**1.4200e-003**	**0.0000**	**3.2000e-004**	**1.0000e-005**	**3.4000e-004**	**9.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**0.6532**	**0.6532**	**4.0000e-005**	**0.0000**	**0.6542**

3.8 Phase 2 Pavement Cutting - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0177	0.0000	0.0177	2.6700e-003	0.0000	2.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0800e-003	0.0157	0.0149	3.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	2.1506	2.1506	1.7000e-004	0.0000	2.1548
Total	**2.0800e-003**	**0.0157**	**0.0149**	**3.0000e-005**	**0.0177**	**1.0700e-003**	**0.0187**	**2.6700e-003**	**1.0700e-003**	**3.7400e-003**	**0.0000**	**2.1506**	**2.1506**	**1.7000e-004**	**0.0000**	**2.1548**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.8000e-004	0.0133	2.5800e-003	3.0000e-005	7.0000e-004	5.0000e-005	7.5000e-004	1.9000e-004	5.0000e-005	2.4000e-004	0.0000	3.1812	3.1812	2.3000e-004	0.0000	3.1871
Vendor	1.8000e-004	4.9600e-003	1.3000e-003	1.0000e-005	2.5000e-004	4.0000e-005	2.9000e-004	7.0000e-005	3.0000e-005	1.1000e-004	0.0000	0.9940	0.9940	7.0000e-005	0.0000	0.9958
Worker	4.2000e-004	3.5000e-004	3.7400e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.8428	0.8428	3.0000e-005	0.0000	0.8435
Total	**9.8000e-004**	**0.0186**	**7.6200e-003**	**5.0000e-005**	**1.8300e-003**	**1.0000e-004**	**1.9200e-003**	**4.9000e-004**	**9.0000e-005**	**5.9000e-004**	**0.0000**	**5.0180**	**5.0180**	**3.3000e-004**	**0.0000**	**5.0263**

3.9 Phase 2 Excavation, Pipe Laying, Backfill - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0000e-004	0.0000	4.0000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1610	1.2869	1.2164	1.9000e-003		0.0836	0.0836		0.0807	0.0807	0.0000	166.0399	166.0399	0.0317	0.0000	166.8315
Total	**0.1610**	**1.2869**	**1.2164**	**1.9000e-003**	**4.0000e-004**	**0.0836**	**0.0840**	**6.0000e-005**	**0.0807**	**0.0808**	**0.0000**	**166.0399**	**166.0399**	**0.0317**	**0.0000**	**166.8315**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7000e-003	0.0955	0.0185	2.3000e-004	5.8400e-003	3.6000e-004	6.2000e-003	1.5800e-003	3.4000e-004	1.9200e-003	0.0000	22.7869	22.7869	1.6800e-003	0.0000	22.8288
Vendor	1.9900e-003	0.0565	0.0148	1.2000e-004	2.8700e-003	4.1000e-004	3.2700e-003	8.3000e-004	3.9000e-004	1.2200e-003	0.0000	11.3064	11.3064	8.1000e-004	0.0000	11.3267
Worker	4.8200e-003	3.9600e-003	0.0426	1.1000e-004	9.9800e-003	8.0000e-005	0.0101	2.6500e-003	8.0000e-005	2.7300e-003	0.0000	9.5868	9.5868	3.3000e-004	0.0000	9.5950
Total	**9.5100e-003**	**0.1559**	**0.0758**	**4.6000e-004**	**0.0187**	**8.5000e-004**	**0.0195**	**5.0600e-003**	**8.1000e-004**	**5.8700e-003**	**0.0000**	**43.6800**	**43.6800**	**2.8200e-003**	**0.0000**	**43.7505**

3.9 Phase 2 Excavation, Pipe Laying, Backfill - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0000e-004	0.0000	4.0000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0297	0.2426	0.2517	4.0000e-004		0.0150	0.0150		0.0145	0.0145	0.0000	34.4104	34.4104	6.4000e-003	0.0000	34.5704
Total	**0.0297**	**0.2426**	**0.2517**	**4.0000e-004**	**4.0000e-004**	**0.0150**	**0.0154**	**6.0000e-005**	**0.0145**	**0.0145**	**0.0000**	**34.4104**	**34.4104**	**6.4000e-003**	**0.0000**	**34.5704**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.3000e-004	0.0189	3.7700e-003	5.0000e-005	4.8500e-003	7.0000e-005	4.9200e-003	1.2200e-003	7.0000e-005	1.2900e-003	0.0000	4.6999	4.6999	3.5000e-004	0.0000	4.7085
Vendor	3.8000e-004	0.0111	2.8400e-003	2.0000e-005	6.0000e-004	7.0000e-005	6.7000e-004	1.7000e-004	7.0000e-005	2.4000e-004	0.0000	2.3391	2.3391	1.6000e-004	0.0000	2.3432
Worker	9.1000e-004	7.3000e-004	7.9300e-003	2.0000e-005	2.0800e-003	2.0000e-005	2.1000e-003	5.5000e-004	2.0000e-005	5.7000e-004	0.0000	1.9385	1.9385	6.0000e-005	0.0000	1.9400
Total	**1.8200e-003**	**0.0307**	**0.0145**	**9.0000e-005**	**7.5300e-003**	**1.6000e-004**	**7.6900e-003**	**1.9400e-003**	**1.6000e-004**	**2.1000e-003**	**0.0000**	**8.9775**	**8.9775**	**5.7000e-004**	**0.0000**	**8.9917**

3.10 Phase 2 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.2300e-003	0.0432	0.0440	7.0000e-005		2.7100e-003	2.7100e-003		2.6000e-003	2.6000e-003	0.0000	6.0216	6.0216	1.2000e-003	0.0000	6.0515
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.2300e-003**	**0.0432**	**0.0440**	**7.0000e-005**		**2.7100e-003**	**2.7100e-003**		**2.6000e-003**	**2.6000e-003**	**0.0000**	**6.0216**	**6.0216**	**1.2000e-003**	**0.0000**	**6.0515**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-004	5.8500e-003	1.4900e-003	1.0000e-005	3.2000e-004	4.0000e-005	3.5000e-004	9.0000e-005	4.0000e-005	1.3000e-004	0.0000	1.2311	1.2311	9.0000e-005	0.0000	1.2333
Worker	4.8000e-004	3.8000e-004	4.1800e-003	1.0000e-005	1.1000e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.0203	1.0203	3.0000e-005	0.0000	1.0211
Total	**6.8000e-004**	**6.2300e-003**	**5.6700e-003**	**2.0000e-005**	**1.4200e-003**	**5.0000e-005**	**1.4600e-003**	**3.8000e-004**	**5.0000e-005**	**4.3000e-004**	**0.0000**	**2.2514**	**2.2514**	**1.2000e-004**	**0.0000**	**2.2543**

3.11 Phase 2 Pump Station - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0115	0.1303	0.0833	1.6000e-004		5.7600e-003	5.7600e-003		5.3000e-003	5.3000e-003	0.0000	14.7282	14.7282	4.6600e-003	0.0000	14.8447
Total	**0.0115**	**0.1303**	**0.0833**	**1.6000e-004**		**5.7600e-003**	**5.7600e-003**		**5.3000e-003**	**5.3000e-003**	**0.0000**	**14.7282**	**14.7282**	**4.6600e-003**	**0.0000**	**14.8447**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.5000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0383	0.0383	0.0000	0.0000	0.0384
Vendor	6.0000e-004	0.0176	4.4800e-003	4.0000e-005	9.5000e-004	1.1000e-004	1.0600e-003	2.7000e-004	1.1000e-004	3.8000e-004	0.0000	3.6934	3.6934	2.6000e-004	0.0000	3.6998
Worker	1.4400e-003	1.1500e-003	0.0125	3.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	3.0608	3.0608	1.0000e-004	0.0000	3.0632
Total	**2.0400e-003**	**0.0189**	**0.0170**	**7.0000e-005**	**4.2500e-003**	**1.4000e-004**	**4.3900e-003**	**1.1400e-003**	**1.3000e-004**	**1.2800e-003**	**0.0000**	**6.7924**	**6.7924**	**3.6000e-004**	**0.0000**	**6.8014**

3.12 Phase 2 De-mobilization - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9000e-004	2.4800e-003	2.0000e-003	0.0000		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.2283	0.2283	7.0000e-005	0.0000	0.2301
Total	**2.9000e-004**	**2.4800e-003**	**2.0000e-003**	**0.0000**		**2.0000e-004**	**2.0000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.2283**	**0.2283**	**7.0000e-005**	**0.0000**	**0.2301**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	7.7000e-004	1.5000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1916	0.1916	1.0000e-005	0.0000	0.1920
Vendor	4.0000e-005	1.1700e-003	3.0000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2462	0.2462	2.0000e-005	0.0000	0.2467
Worker	1.0000e-004	8.0000e-005	8.4000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2041	0.2041	1.0000e-005	0.0000	0.2042
Total	**1.6000e-004**	**2.0200e-003**	**1.2900e-003**	**0.0000**	**3.2000e-004**	**1.0000e-005**	**3.4000e-004**	**9.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**0.6419**	**0.6419**	**4.0000e-005**	**0.0000**	**0.6428**

3.13 Phase 3 Mobilization - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	7.7000e-004	1.5000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1916	0.1916	1.0000e-005	0.0000	0.1920
Vendor	4.0000e-005	1.1700e-003	3.0000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2462	0.2462	2.0000e-005	0.0000	0.2467
Worker	1.0000e-004	8.0000e-005	8.4000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2041	0.2041	1.0000e-005	0.0000	0.2042
Total	**1.6000e-004**	**2.0200e-003**	**1.2900e-003**	**0.0000**	**3.2000e-004**	**1.0000e-005**	**3.4000e-004**	**9.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**0.6419**	**0.6419**	**4.0000e-005**	**0.0000**	**0.6428**

3.14 Phase 3 Pavement Cutting - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.7300e-003	0.0000	8.7300e-003	1.3200e-003	0.0000	1.3200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1500e-003	8.9700e-003	9.2600e-003	2.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	1.3441	1.3441	9.0000e-005	0.0000	1.3465
Total	**1.1500e-003**	**8.9700e-003**	**9.2600e-003**	**2.0000e-005**	**8.7300e-003**	**5.7000e-004**	**9.3000e-003**	**1.3200e-003**	**5.7000e-004**	**1.8900e-003**	**0.0000**	**1.3441**	**1.3441**	**9.0000e-005**	**0.0000**	**1.3465**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	6.1500e-003	1.2300e-003	2.0000e-005	3.4000e-004	2.0000e-005	3.7000e-004	9.0000e-005	2.0000e-005	1.2000e-004	0.0000	1.5329	1.5329	1.1000e-004	0.0000	1.5358
Vendor	1.0000e-004	2.9300e-003	7.5000e-004	1.0000e-005	1.6000e-004	2.0000e-005	1.8000e-004	5.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.6156	0.6156	4.0000e-005	0.0000	0.6166
Worker	2.4000e-004	1.9000e-004	2.0900e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5101	0.5101	2.0000e-005	0.0000	0.5105
Total	**5.1000e-004**	**9.2700e-003**	**4.0700e-003**	**4.0000e-005**	**1.0500e-003**	**4.0000e-005**	**1.1000e-003**	**2.9000e-004**	**4.0000e-005**	**3.3000e-004**	**0.0000**	**2.6586**	**2.6586**	**1.7000e-004**	**0.0000**	**2.6629**

3.15 Phase 3 Excavation, Pipe Laying, Backfill - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.6000e-004	0.0000	4.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0877	0.7152	0.7417	1.1700e-003		0.0441	0.0441		0.0426	0.0426	0.0000	101.4200	101.4200	0.0189	0.0000	101.8918
Total	**0.0877**	**0.7152**	**0.7417**	**1.1700e-003**	**4.6000e-004**	**0.0441**	**0.0446**	**7.0000e-005**	**0.0426**	**0.0427**	**0.0000**	**101.4200**	**101.4200**	**0.0189**	**0.0000**	**101.8918**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.5300e-003	0.1246	0.0249	3.2000e-004	6.9600e-003	4.5000e-004	7.4100e-003	1.9100e-003	4.3000e-004	2.3500e-003	0.0000	31.0421	31.0421	2.2800e-003	0.0000	31.0992
Vendor	1.1100e-003	0.0328	8.3600e-003	7.0000e-005	1.7600e-003	2.1000e-004	1.9800e-003	5.1000e-004	2.1000e-004	7.1000e-004	0.0000	6.8943	6.8943	4.8000e-004	0.0000	6.9064
Worker	2.7000e-003	2.1500e-003	0.0234	6.0000e-005	6.1400e-003	5.0000e-005	6.1900e-003	1.6300e-003	5.0000e-005	1.6800e-003	0.0000	5.7134	5.7134	1.8000e-004	0.0000	5.7179
Total	**7.3400e-003**	**0.1595**	**0.0567**	**4.5000e-004**	**0.0149**	**7.1000e-004**	**0.0156**	**4.0500e-003**	**6.9000e-004**	**4.7400e-003**	**0.0000**	**43.6498**	**43.6498**	**2.9400e-003**	**0.0000**	**43.7234**

3.16 Phase 3 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6200e-003	0.0216	0.0220	3.0000e-005		1.3500e-003	1.3500e-003		1.3000e-003	1.3000e-003	0.0000	3.0108	3.0108	6.0000e-004	0.0000	3.0257
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6200e-003**	**0.0216**	**0.0220**	**3.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**3.0108**	**3.0108**	**6.0000e-004**	**0.0000**	**3.0257**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	2.9300e-003	7.5000e-004	1.0000e-005	1.6000e-004	2.0000e-005	1.8000e-004	5.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.6156	0.6156	4.0000e-005	0.0000	0.6166
Worker	2.4000e-004	1.9000e-004	2.0900e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.5101	0.5101	2.0000e-005	0.0000	0.5105
Total	**3.4000e-004**	**3.1200e-003**	**2.8400e-003**	**2.0000e-005**	**7.1000e-004**	**2.0000e-005**	**7.3000e-004**	**2.0000e-004**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**1.1257**	**1.1257**	**6.0000e-005**	**0.0000**	**1.1272**

3.17 Phase 3 Pump Station - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0229	0.2607	0.1667	3.3000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	29.4564	29.4564	9.3200e-003	0.0000	29.6894
Total	**0.0229**	**0.2607**	**0.1667**	**3.3000e-004**		**0.0115**	**0.0115**		**0.0106**	**0.0106**	**0.0000**	**29.4564**	**29.4564**	**9.3200e-003**	**0.0000**	**29.6894**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.5000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0383	0.0383	0.0000	0.0000	0.0384
Vendor	1.1900e-003	0.0351	8.9600e-003	8.0000e-005	1.8900e-003	2.3000e-004	2.1200e-003	5.5000e-004	2.2000e-004	7.7000e-004	0.0000	7.3867	7.3867	5.2000e-004	0.0000	7.3997
Worker	2.8900e-003	2.3000e-003	0.0251	7.0000e-005	6.5800e-003	5.0000e-005	6.6400e-003	1.7500e-003	5.0000e-005	1.8000e-003	0.0000	6.1215	6.1215	1.9000e-004	0.0000	6.1263
Total	**4.0800e-003**	**0.0376**	**0.0341**	**1.5000e-004**	**8.4800e-003**	**2.8000e-004**	**8.7700e-003**	**2.3000e-003**	**2.7000e-004**	**2.5700e-003**	**0.0000**	**13.5465**	**13.5465**	**7.1000e-004**	**0.0000**	**13.5644**

3.18 Phase 3 De-mobilization - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9000e-004	2.4800e-003	2.0000e-003	0.0000		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.2283	0.2283	7.0000e-005	0.0000	0.2301
Total	**2.9000e-004**	**2.4800e-003**	**2.0000e-003**	**0.0000**		**2.0000e-004**	**2.0000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.2283**	**0.2283**	**7.0000e-005**	**0.0000**	**0.2301**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	7.7000e-004	1.5000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1916	0.1916	1.0000e-005	0.0000	0.1920
Vendor	4.0000e-005	1.1700e-003	3.0000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2462	0.2462	2.0000e-005	0.0000	0.2467
Worker	1.0000e-004	8.0000e-005	8.4000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2041	0.2041	1.0000e-005	0.0000	0.2042
Total	**1.6000e-004**	**2.0200e-003**	**1.2900e-003**	**0.0000**	**3.2000e-004**	**1.0000e-005**	**3.4000e-004**	**9.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**0.6419**	**0.6419**	**4.0000e-005**	**0.0000**	**0.6428**

Appendix E
Hydraulic Modeling Report

ESA

EFFECTS OF LOS ANGELES – GLENDALE WATER RECLAMATION PLANT DISCHARGE REDUCTIONS ON THE LOS ANGELES RIVER

Hydraulic Modeling Report

Prepared for
City of Glendale

May 2018

EFFECTS OF LOS ANGELES – GLENDALE WATER RECLAMATION PLANT DISCHARGE REDUCTIONS ON THE LOS ANGELES RIVER

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May 2018

550 Kearny Street
Suite 800
San Francisco, CA 94108
415.262.2338
www.esassoc.com

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TABLE OF CONTENTS

Page

List Of Tables

List of Figures

SECTION 1
Introduction

1.1 Purpose of Study

The City of Glendale Department of Water and Power (Glendale) currently provides tertiary treatment of sanitary wastewater at the Los Angeles-Glendale Water Reclamation Plant (LAG WRP). Treated water is either recycled and reused by Glendale and its customers, or discharged into the LA River (LA River) near Colorado Street. The volume of treated wastewater discharged to the LA River by LAG WRP fluctuates seasonally between 12 and 7 million gallons per day (MGD) or 18 and 11 cubic feet per second (cfs), primarily because of changes in the volume of wastewater discharged by customers and in the rate of dry weather runoff.

As described in Glendale's Wastewater Change Petition WW0097, Glendale proposes to increase its use of recycled water, which will reduce annual average wastewater discharged to the LA River from 10,500 to 7,000 acre-feet (AF) (Project). This corresponds to a reduction from an annual average of 9 to 6 MGD or 14.4 cfs to 9.6 cfs. Assuming baseline flow conditions equal to the driest/lowest flow conditions in the LA River over the last 10 years (2008), the Project will reduce flows from 8.08 to 2.85 MGD in August, which is the month in which the lowest flows occur in the LA River every year – e.g., the worst case scenario or 12.5 to 4.4 cfs, an 8.1 cfs reduction. For context, average August flows in the LA River downstream of the LAGWRP, above the confluence with Arroyo Seco, were 92.9 cfs between 2005 and 2015.

The purpose of this report is to assess the effects of the Project on flows in the LA River with respect to in-channel biological habitat and recreational uses.

This report includes a detailed analysis of background flows in the LA River as they change downstream and analyzes the cumulative effects of the Project and other projects that involve proposed reductions in treated waste water discharge to the LA River, with related impacts. It builds on a study of the effects of reducing flows associated with the City of Burbank's Wastewater Change Petition WW0091 and Change Petition WW0019 (Burbank project) (ESA 2017a). The 2017 study evaluated the Project as a cumulative effect of the proposed Burbank project. This report concludes that the combined cumulative impact associated with the Project's incremental effect and the effects of other projects on LA River flows, including the Burbank project, is not significant.

1.2 Study Area

The study area for this report includes two segments of the LA River – Study Area Segment A and Study Area Segment B, as shown in Figure 1.

Study Area Segment A is a 5.4 mile section of the LA River channel that extends along the LA River from the point of discharge at the LAG WRP at Colorado Street downstream to the Arroyo Seco confluence near Highway 110 (Figure 1). Segment A is mostly composed of reaches that have concrete banks and an earthen "soft" bottom with in-channel vegetation, separated by short sections that are fully hardened (see Figure 2). Parts of these reaches support riparian and aquatic habitat, and recreation including kayaking and canoeing. Of the 5.4 miles of channel in the Study Area, approximately 4.8 miles is soft bottomed, with 0.6 miles of fully hardened channel around bridges and hydraulic structures.

Study Area Segment B is a 12-mile section of the LA River that extends from the Rio Hondo to the estuary (Figure 1). This section of the LA River is completely concrete lined channel with no soft bottom or habitat until the estuary at the mouth of the Pacific Ocean, at which point tidal flows (unaffected by the Project) control low flow conditions. A typical section is shown in Figure 3.

To orient readers with other studies of the LA River, Study Area Segment A is a subset of the "Alternatives with Restoration Benefits and Opportunities for Restoration (ARBOR) area" that was evaluated by the USACE LA River Ecosystem Restoration Feasibility Study (LAREF Study) (USACE 2013). Study Area Segment A covers reaches 4-6 of the ARBOR study area. ARBOR reaches 1-3 are upstream of the LAG WRP discharge point and thus unaffected by the Project. A typical view of the LA River in Segment A is shown in Figure 2. Study Area Segment B was not included in the USACE LAREF Study because that project ended where the LA River transitioned from having a soft bottom to being fully concrete lined.

The section of the LA River below Segment A and above Segment B was not considered in this report because that available hydraulic model has a simplified channel geometry that doesn't include the low flow channel (i.e. the model was designed to evaluate flood flows rather than the low flows that this study is focused on). However, the results for Segment B (where the hydraulic model does include the low flow model) are transferable to the area between Segment A and Segment B since the trapezoidal channel geometry and flows are similar.

Figure 1. Study Area. The Study Area includes two segments – Segment A and Segment B.

Figure 2. View of the LA River downstream of the LAG WRP discharge point (Segment A)

Figure 3. Algal mats fed by overflow from the low flow channel (Segment B)

1.3 Summary of Modeling Approach

1.3.1 Study Area Segment A

The analysis for Study Area Segment A used a one-dimensional hydraulic model of the LA River between the LAG WRP discharge point and the confluence with Arroyo Seco to assess the effects of reduced flow from LAG WRP on the: (1) velocity, (2) depth of flow and (3) wetted channel area within the LA River. These three parameters were chosen since they influence aquatic habitat (e.g. fish passage, spawning and rearing conditions, production of benthic macroinvertebrates), riparian habitat (e.g. depth from the root zone to the summer water level) and recreation (e.g. depth and area of water for kayaking). Hydraulic models calculate the estimated flow depth, velocity and wetted channel area in response to the channel dimensions and slope, applied discharge, boundary conditions, and channel roughness (a function of the channel materials and vegetation). By running a range of existing and proposed project discharges from LAG WRP and combining them with background flows in the LA River, the degree to which potential project flow changes are likely to affect water depths, velocities and wetted channel areas in the LA River can be estimated.

This study employed a HEC RAS hydraulic model developed by the Los Angeles District USACE that simulates the LA River between Barham Boulevard and First Street (Study Area A). The model was developed for a Flood Plain Management Services (FPMS) Special Study of the LA River, and is referred to as the 2016 LA River FPMS 1D/2D hydraulic model (USACE, 2016). This model is believed to be the most up to date and accurate model of the LA River, and specifically paid attention to representing the existing vegetated conditions in the soft-bottomed channel reaches, which are an important focus of the present study. The model represents the main channel in one dimension, and the floodplain in two dimensions. Because the focus of this study is low flows that remain in-channel, only the one dimensional part of the model was employed. The model was provided by the Los Angeles District USACE staff in electronic format on 12/30/2016.

Historic and proposed discharges from LAG WRP and the LA River were analyzed to develop the Project flows and background flows.

1.3.2 Study Area Segment B

For Segment B ESA obtained a separate USACE HEC RAS model for the Lower LA River, from the Rio Hondo confluence to the estuary. This segment does not contain soft bottomed channel, and the potential environmental issues were different than in Segment A, resulting in a slightly different modeling approach. In Segment B the concrete channel was modeled to assess whether flows were contained within the small low flow channel, or whether they overflowed out onto the wider bottom of the main channel. Overflows that inundate large areas of the wider bottom have been associated with algal mat growth (see Figure 3). Because the overflows that support algal mats can be influenced by diurnal fluctuations in flow that are a result of wastewater treatment plant operation, for Segment B flows were modeled to include these diurnal fluctuations.

SECTION 2
Methods

2.1 Characterize Project and Background Flows

2.1.1 Project Flows

Existing and proposed flows from LAG WRP were taken from the Glendale Wastewater Change Petition WW0097.

As shown in Table 1 and Figure 4, the Project will reduce flows in August from 8.08 to 2.85 MGD (12.5 to 4.4 cfs, or an 8.1 cfs reduction), on average. (Note that although the flow reduction is greater in July, background flows in the LA River are lower in August, resulting in greater potential project effects.)

TABLE 1
PROPOSED DISCHARGE REDUCTIONS PER THE GLENDALE WASTEWATER CHANGE PETITION (WW0097)

Summary of Changes to Monthly Average Rate and Annual Average Amount of Wastewater Discharged													
	---------- million gallons per day (mgd) ----------												acre-feet
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Present:	11.89	10.19	10.24	8.79	8.04	7.37	7.12	8.08	9.03	9.49	9.88	11.20	10,500
Proposed:	10.98	8.97	8.78	5.91	4.07	2.44	1.27	2.85	4.70	6.49	7.87	10.15	7,000
Change:	0.91	1.22	1.46	2.88	3.97	4.93	5.85	5.23	4.33	3.00	2.01	1.05	3,500

Figure 4. Existing and proposed discharge from LAG WRP to the LA River

2.1.2 Cumulative Flow Reductions in LA River

2.1.2.1 Assessment of Cumulative Impacts

The Project is one of several activities that may reduce flows to the LA River, justifying a cumulative analysis approach.

ESA conducted a review of publically-available reports and information on activities that have the potential to impact River flows. (See Exhibit A attached hereto). With the exception of the three pending wastewater change petitions (Burbank's two Petitions and the Sanitation Districts of Los Angeles County's Wastewater Change Petition (WW0098)) and an authorized diversion of 106 AFY of water from the River for irrigation purposes, none of the actions identified in Exhibit A are "past, present, [or] probable future projects producing related or cumulative impacts" within the meaning of CEQA Guidelines, section 15130(b)(1)(A), and therefore are not required to be included in the cumulative impacts analysis for the proposed Project. For those projects for which an Environmental Impact Report has been prepared, the environmental analysis did not include project level details or quantitative data that would allow meaningful analysis of the Project's potential to reduce flows in the Study Area of the LA River, or the action(s) is expected to have a positive impact on the LA River. (See Exhibit A.)

The three pending wastewater change petitions (see Water Code § 1211) include: (1) and (2): Burbank Wastewater Change Petition WW0091 and Change Petition WW0019 (described below); and (3) The Sanitation Districts of Los Angeles County's wastewater change petition (WW0098), which was noticed on June 19, 2017. This petition proposes a reduction at the Whittier Narrows Water Reclamation Plant of only 0.1 cfs in August, and because this wastewater enters the LA River in the concrete section at the Rio Hondo confluence downstream of Segment A of the Study area, it was not considered in the cumulative impacts analysis for the proposed Project. In addition, a reduction of 0.1 cfs will have no material impact on Segment B of the Study Area, which begins several miles below the Rio Hondo confluence.

On October 24, 2013 the State Water Resources Control Board authorized the diversion and use of water from the Los Angeles River by the City of Los Angeles. Under this permit, a maximum amount of 106 AFY can be diverted to irrigate 42.6 acres of land in the Los Angeles State Historic Park. Authorized use of water will be completed by December 31, 2029. This proposed 0.15 cfs diversion was not included in the Hydraulic Modeling Report because the water will be diverted downstream of the Arroyo Seco confluence, and therefore will not impact Segment A of the Study Area, which ends at Arroyo Seco. In addition, a reduction of 0.15 cfs will have no material impact on Segment B of the Study Area, which begins several miles below the Los Angeles State Historic Park.

As a result of this review, only the Burbank project proposed flow reduction was assessed, together with the proposed Project, in this cumulative flow analysis. Three sources of flow were considered in this assessment: flows from LAG WRP (including existing and proposed Project flows), flows from Burbank WRP (existing and proposed by the Burbank project) and flows in the LA River that are independent of the Project and Burbank project flows.

2.1.2.2 Burbank Project

Existing and proposed flows from Burbank project were taken from the Burbank Wastewater Change Petition WW0091 and Change Petition WW0019.

TABLE 2
PROPOSED DISCHARGE REDUCTIONS PER THE BURBANK PETITIONS
(WW0019 AND WW0091)

Summary of Changes to Monthly Average Rate and Annual Average Amount of Wastewater Discharged													
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Annual
	---------- (million gallons per day) ----------												(acre-feet)
Present:	4.66	4.45	4.68	5.19	5.17	5.58	6.35	5.32	5.51	3.87	2.91	3.77	5,376
Proposed:	1.69	1.79	2.63	3.68	3.94	3.96	4.62	4.42	4.36	3.82	2.23	3.22	3,766
Change:	2.97	2.66	2.05	1.51	1.23	1.62	1.73	0.90	1.15	0.05	0.68	0.55	1,610

As shown in Table 2, flows from Burbank in August (the month where flows in the LA River are lowest and therefore most sensitive to reductions) will be reduced from 4.45 to 1.79 MGD (6.9 cfs to 2.8 cfs, or a 4.1 cfs reduction), on average.

2.1.3 LA River Flows (Background Flows)

This report accounts for inflows to the LA River that occur downstream of Sepulveda Basin. Inflows to Study Area Segment A were characterized using eleven years of data from the Los Angeles County Department of Public Works Annual Hydrologic Reports, from Water Years 2005-06 to 2015-16. A Water Year extends from October 1st to September 30th, and Water Year 2015-16 is the most recent year for which data for all gages were available. These reports provide data from gages on the LA River at Tujunga Avenue and above the Arroyo Seco confluence, as well as inputs from Verdugo Wash and Burbank Western Channel. Analyzing a single year (e.g. WY 2007-08, as shown in Figure 5) shows that most flows occur between December and April, with low flows during the summer and early fall. During winter and spring, flows in the LA River are so high that reductions associated with the Project flow are negligible in comparison (0.1 – 4% of flow in the LA River for 2007-8, which was the year of lowest flow within the eleven-year record reviewed.) For the eleven years analyzed, August was the month with lowest flows, and is therefore the time when any Project effect is most likely to be detectable.

The data were further subdivided as follows (Figure 6):

- Dividing the contribution from LAG WRP into: (a) discharges that would not be affected by the Glendale Project (August flow minus Project August flow reduction (per Table 1)), and (b) discharges that would be eliminated by the Glendale Project (per Table 1).

- Dividing the contribution from Burbank WRP into: (a) discharges that would not be affected by the Burbank project (August flow in Burbank Western Channel minus Burbank project August flow reduction (per Table 2)), and (b) discharges that would be eliminated by the Burbank project (per Table 2).

- Calculating other flow sources that are not gaged directly (upwelling groundwater and dry weather runoff, shown as the purple band in Figure 6) by taking the flow in the LA River above the Arroyo Seco confluence and deducting flow in the LA River at Tujunga Avenue, plus flow at Burbank Western Channel, plus flow at Verdugo Wash, plus discharge from LAG WRP. This can be represented in the following equation:

Other flows = LA River @ Arroyo Seco – (LA River @ Tujunga Ave + Burbank Channel + Verdugo Wash + LAG WRP discharge)

August of Water Year 2007-08 was selected as the assumed baseline flow as it has the lowest total flow in the LA River within the eleven-year period for which data is available, and therefore is the most sensitive to flow reductions – e.g., the worst case analysis (August 2008 Condition). Thus, the analysis intentionally errs towards showing greater-than-average Project impacts. We evaluated hydrologic conditions in the LA River in the lowest flow month, of the lowest flow year, in an eleven-year period which was one of the driest decades on record.

During months or years with higher background flows in the LA River, the effects of the Project, together with the reduced flows attributable to the Project, would be proportionately less than reported here.

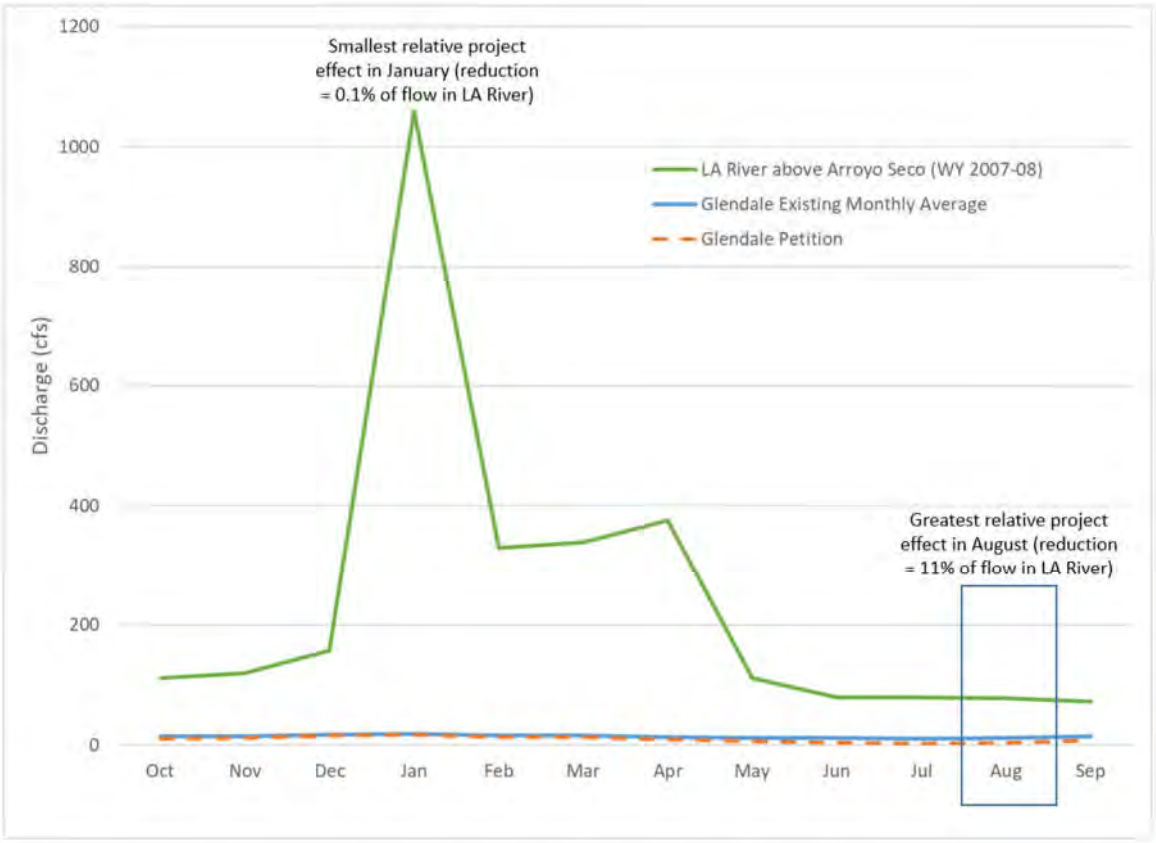

Figure 5. Average monthly flow in the LA River relative to existing and proposed LAG WRP discharges

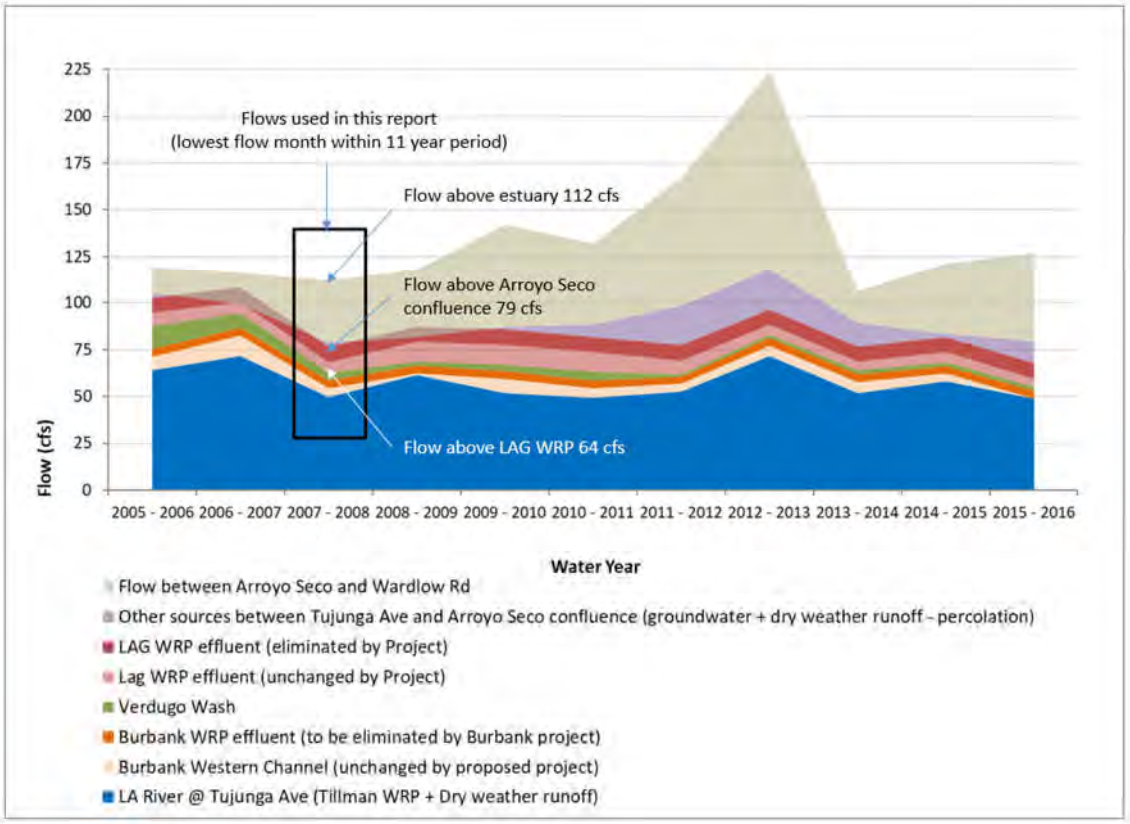

Figure 6. Sources of water in the LA River during August, Water Years 2005-2016

2.1.4 Flow Scenarios Assessed – Segment A and B

Three flow scenarios were evaluated:

1. Existing conditions (Worst Case Condition): August 2008 Condition with existing August discharge levels from LAG and Burbank WRPs as described in their respective wastewater and change petitions (Tables 1 and 2)
2. Project effects: August 2008 Condition with discharge from LAG WRP reduced from 12.5 to 4.4 cfs (Table 1) (Project)
3. Cumulative effects: August 2008 Condition with discharge from LAG WRP reduced from 12.5 to 4.4 cfs per Table 1 (Project) and Burbank WRP reduced from 6.9 to 2.8 cfs per Table 2 (Burbank project)

The flows in the August 2008 Condition are shown in Table 3 and schematically as they were applied to individual reaches of the hydraulic model in Figure 7. Note that although flows are calculated and shown between the LA River at Tujunga Avenue (upstream of the point where the Burbank WRP flows join the LA River) to the Arroyo Seco confluence, only the area from the LAG WRP to the Arroyo Seco confluence was modeled. Note that "other sources" refer to groundwater upwelling and dry weather flows that enter the river between Tujunga Avenue and Arroyo Seco without being measured directly. These were calculated by deducting the flow at the

downstream limit of Study Area Segment A from flow at the upstream limit, minus all measured inflows in between. Since the precise location of these inflows is not known, the total flow from other sources (2.1 cfs in August 2008) was applied to each reach proportionately to its length, starting in Reach 2. This is consistent both with the gradual accumulation of dry season runoff from storm drains along the LA River and the observation that groundwater upwelling to the LA River is focused in the Glendale Narrows (ARBOR Reaches 2-6).

TABLE 3
FLOWS USED IN THE HYDRAULIC MODEL
(SEGMENT A SHOWN IN GREEN, SEGMENT B SHOWN IN GREY)

August flow WY2007-2008	Existing Conditions flow (cfs)	With Project flow (Existing minus 8.1 cfs Project) (cfs)	Cumulative Effects flow (Existing minus 8.1 cfs Project and 4.1 cfs Burbank project) (cfs)
LA River @ Tujunga Ave	49.7	49.7	49.7
LA River above Burbank Western Channel confluence (assumed same as LA River @ Tujunga Ave)	49.7	49.7	49.7
→ Burbank Western Channel inflow	*→8.8*	*→8.8*	*→4.7*
LA River Reach 2	58.7	58.7	54.6
LA River Reach 3 above Verdugo Wash confluence	58.8	58.8	54.7
LA River Reach 3 below Verdugo Wash confluence	63.2	63.2	59.1
LA River Reach 4 above LAG WRP discharge point	63.6	63.6	59.5
→ LAG WRP inflow	*→12.5*	*→4.4*	*→4.4*
LA River Reach 4 below LAG WRP discharge point	77.3	69.2	65.1
LA River Reach 5	77.6	69.5	65.4
LA River Reach 6	78.7	70.6	66.5
→ Other sources between Tujunga Ave & Arroyo Seco (added proportionately to each reach based on length)	*→2.1*	*→2.1*	*→2.1*
LA River @ Wardlow Road	112.0	103.9	99.8

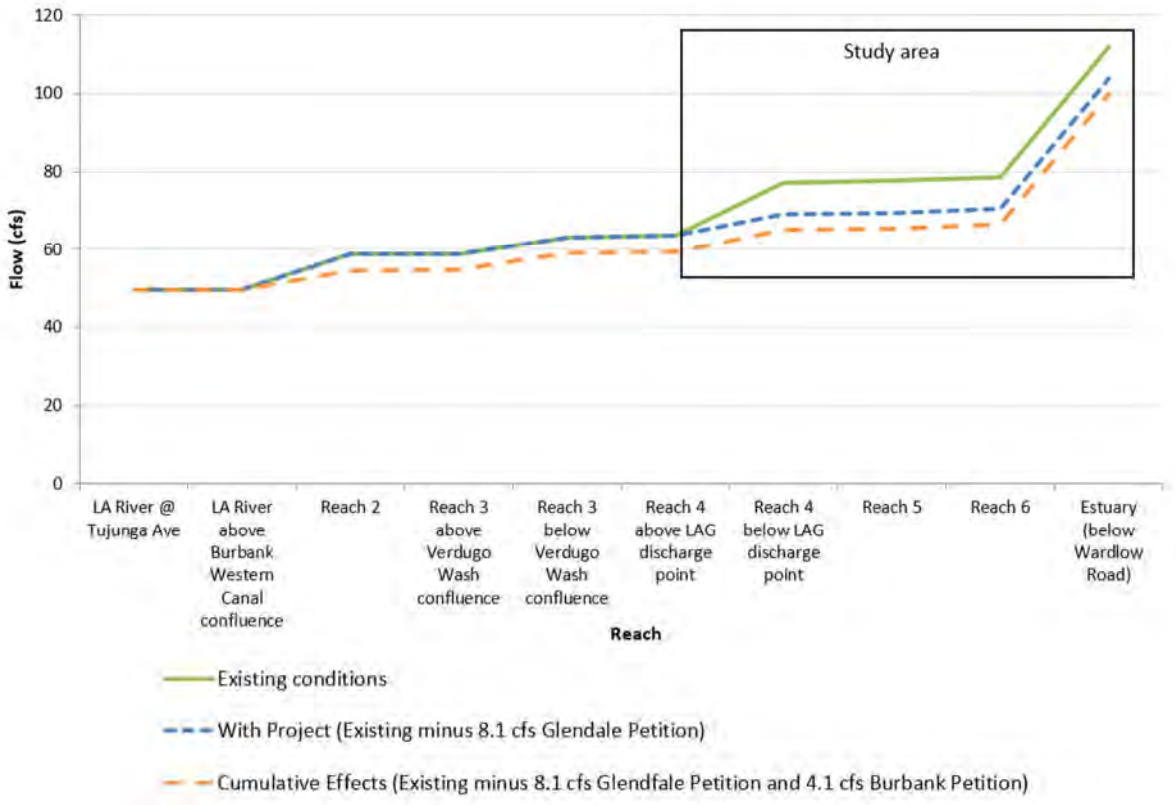

Figure 7. Schematic of flow for each reach in the Study Area under Existing, With-Project and Cumulative Effects scenarios

In Segment A, the flows from Table 3 were applied to the hydraulic model as a steady condition (i.e. using a single average flow value for each reach) to provide an average water depth, velocity and inundation for the flow assessed.

In Segment B, because the issue of potential concern is water spilling out of the low flow channel onto algal mats, the analysis used 15-minute interval flow data for the LA River at Sepulveda Basin for the entire month of August 2008 as the upstream flow boundary, and then added the measured flow accumulation between Sepulveda Basin and the flow gage on the Lower LA River at Wardlow Road (which accounts for the existing discharges from Glendale and Burbank). Using the 15-minute interval data rather than the monthly average data incorporated the effects of effluent cycling in the WRPs (in response to hourly fluctuations in the level of waste water received from treatment, as well as operation and maintenance of the treatment facility). These cycles are potentially a more accurate way to assess algal habitat since they capture daily wetting of the flood control channel floor at times of higher flow. Project conditions were represented by deducting the Glendale Waste Change petition value for August from the Existing condition, while Cumulative conditions were represented by deducting the Burbank Waste Change petition value for August from Project conditions. Flows were as shown in Table 4:

TABLE 4
FLOWS USED TO ASSESS ALGAL WETTING IN CONCRETE CHANNEL REACHES

Location	Existing conditions	Project Conditions	Cumulative Conditions
LA River @ Sepulveda Basin	60.2 - 92.6 cfs (varies with stormwater inputs)	Same as existing conditions	Same as existing conditions
Lower LA River concrete reaches (study reach)	LA River @ Sepulveda Basin + 36.1 cfs[1] (range = 96 – 129 cfs)	Existing condition minus 8.1 cfs[2] (range = 88 – 121)	Existing condition minus 8.1 cfs[2] minus 4.1 cfs[3] (range = 84 – 117 cfs)

1. 36.1 cfs is the average gain in flow between Sepulveda Basin and the LA River at Wardlow Road gage during August 2008.
2. 8.1 cfs = Average August reduction in flow at Glendale WRP per the Waste Change Petition
3. 4.1 cfs = Average August reduction in flow at Burbank WRP per the Waste Change Petition

The 15-minute interval time series of flow data from Sepulveda Basin for the month of August 2008 was used to generate a Project and Cumulative conditions time series (see Figure 8). All three time series were applied to the Lower LA River HEC RAS hydraulic model as the upstream boundary condition, with a normal depth boundary condition at the downstream end of the concrete channel.

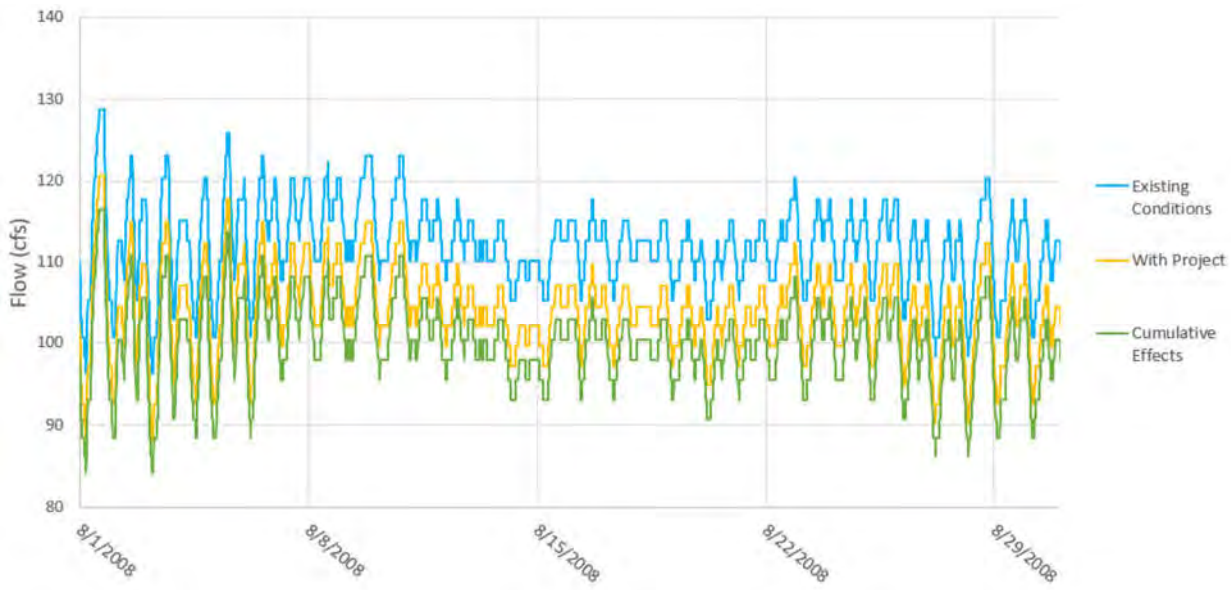

Figure 8. Flow series for the lower LA River during August 2008

2.2 Hydraulic Model Setup

2.2.1 `Model Approach

Because conditions and potential environmental concerns are different between Segment A and B, and they are covered in two different hydraulic models, different modeling approaches were taken. In Segment A which has reaches of natural soft bottomed bed, aquatic and riparian habitat, and recreational uses, analysis focused on how the reduced flows would affect the depth, velocity and area of wetted channel. In Segment B the channel is completely concrete, and the only vegetation is algal mats that form when the low flow channel overflows and covers the main concrete bottom of the flood control channel. The analysis in Segment B focused on the frequency with which flows in summer cover the entire concrete flood channel.

2.2.2 Model Topography – Segment A

The existing conditions geometry for the channel is based on as-built construction plans for concrete reaches and bridges, and a 2008 survey (understood to be the most recent survey) for soft-bottomed and vegetated reaches. A total of 251 channel cross sections cover the three ARBOR reaches that are included in Study Area Segment A.

2.2.3 Model Topography – Segment B

Study Area Segment B is composed 411 cross sections spanning concrete reaches and bridges. The channel geometry was developed based on as-built construction plans for concrete sections.

2.2.4 Model Roughness and Hydraulic Parameters – Segment A and B

Model results are sensitive to the applied hydraulic roughness, which encompasses the friction effect of the banks, bed sediment and topography, and the effects of vegetation growing in the bed. For consistency with the USACE 2016 report, ESA used the same existing conditions roughness coefficients in the model setup as received from the LA District USACE:

- 0.014 concrete channel reaches
- 0.035 clean, straight soft-bottomed reaches
- 0.06 soft-bottomed reaches with light brush and trees
- 0.11 soft-bottomed reaches with heavy stands of trees

In Segment A roughness was varied by the USACE across and between individual cross sections based on visual observation of channel and vegetation conditions (USACE, 2016). In Segment B all reaches are completely concrete, so a value of 0.014 was used. ESA also used the same hydraulic parameters for bridge approaches and ineffective flow areas as provided in the existing conditions HEC RAS model.

2.2.5 Model Output – Segment A

For each of the 251 cross sections within the Segment A the maximum flow depth (flow elevation minus channel invert elevation) and the channel velocity were exported under each flow scenario. Cross section results were averaged to the reach scale. The water surface (representing the wetted channel area) for each flow scenario was plotted in RASmapper and exported to GIS, where the reach breaks were used to measure the area of water surface and wetted channel within each reach. To identify how much of the difference in wetted channel area occurred on natural bed versus concrete bed or channel walls, the difference in wetted area was measured at each cross section in HEC RAS and assigned to either natural materials or concrete. The area of channel between each cross section was calculated, and the resulting proportion of natural versus concrete channel assigned to the overall change in wetted area from GIS.

2.2.6 Model Output – Segment B

Because Segment B is a concrete reach with no riparian habitat or recreational uses, a different approach was used compared with Segment A. In Segment B five cross sections were selected that have visible algal mats in Google Earth, and that are distributed along the Segment. At each cross section the range of water surface elevations associated with diurnal fluctuations in flow were analyzed under existing, project and cumulative conditions, and used to calculate whether the low flow channel would have contained the flow or caused it to inundate the algal mats.

SECTION 3
Results

3.1 Study Area Segment A

3.1.1 Organization of Results

For consistency with the USACE LAREF Study, the model was divided into the three reaches of the ARBOR project area that are downstream of the LAG WRP discharge point. These reaches are labelled 4-6 from upstream to downstream, as shown in Figure 9. For each reach the average water depth in the center of the channel, average velocity and total channel wetted area were calculated for each flow scenario. A representative cross section was selected to illustrate the results graphically.

3.1.2 Changes to Flow in the LA River

The change in flow at each reach within the Study Area (Segments A and B) is shown as a percentage of existing conditions in Table 5.

TABLE 5
CHANGE IN FLOW ALONG LA RIVER AND AT KEY INPUTS UNDER WITH-PROJECT AND CUMULATIVE EFFECTS (CHANGES IN BLUE ARE CHANGES IN INFLOWS, CHANGES IN BLACK ARE CHANGES IN THE LA RIVER)

August flow WY2007-2008	With-Project % change in flows	Cumulative % change in flows (Project + Burbank project)
LA River @ Tujunga Ave	0%	0%
→ Burbank Western Channel inflow (cumulative effect)	*0%*	*-47%*
LA River Reach 4 above LAG WRP discharge point	0%	-6%
→ LAG WRP discharge inflow	*0%*	*-65%*
LA River Reach 4 below LAG WRP discharge point	-10%	-16%
LA River Reach 5	-10%	-16%
LA River Reach 6	-10%	-16%
Other sources Tujunga Ave to Arroyo Seco	0%	0%
LA River @ Wardlow Road	-4%	-11%

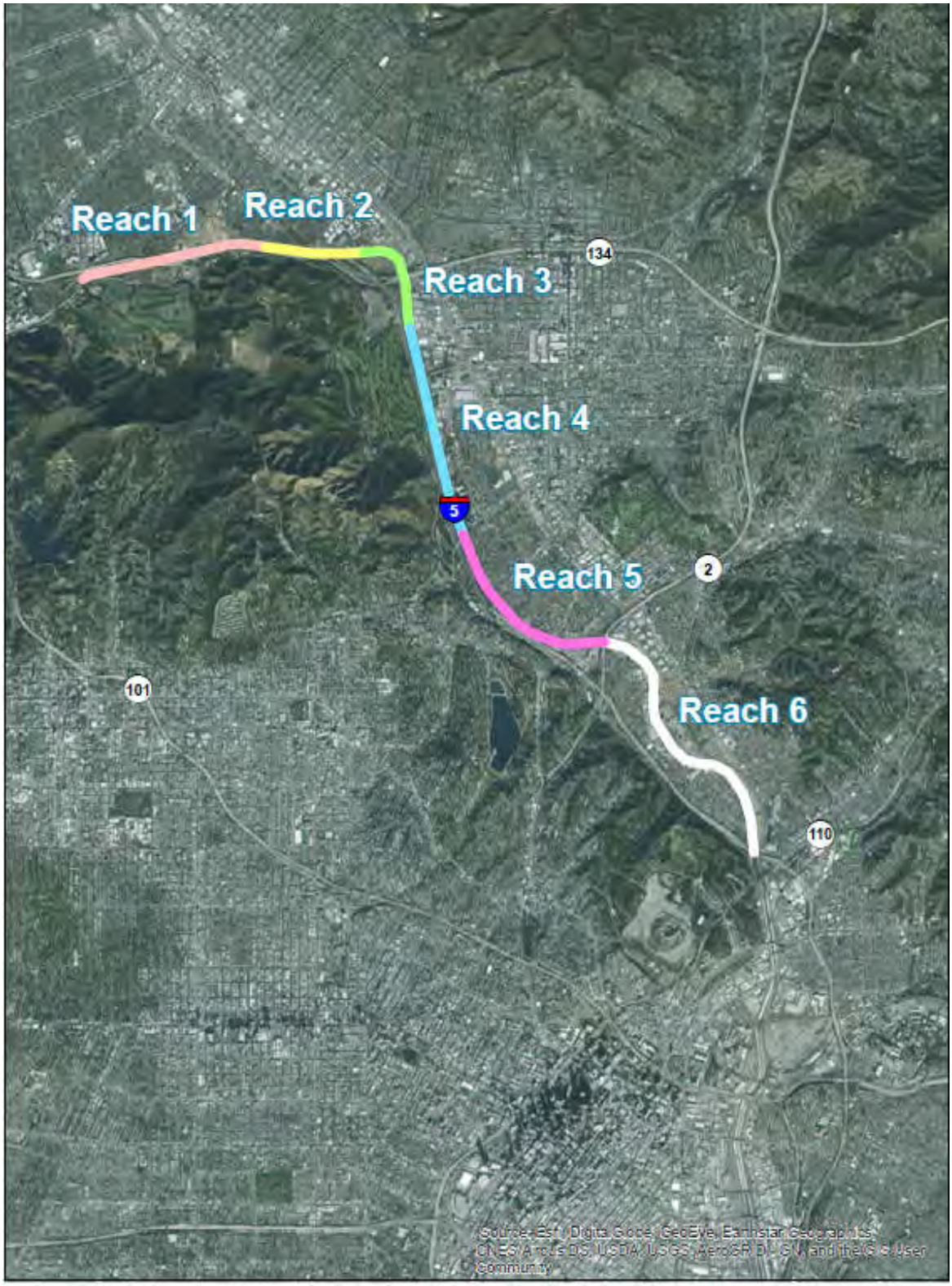

Figure 9. ARBOR reach locations referred to in report (Segment A)

As shown in Tables 3 and 5, the proposed flow reduction from the Project is a very small proportion of the total August flow in the LA River in Segment A. Although the Project flow reduction of 8.1 cfs represents a 65% reduction in discharges from the LAG WRP during the August 2008 Condition, it constitutes only a 10% reduction in flows in the LA River. During higher flow months of the year than August these values would be much smaller, and during years when flows were higher than 2007-08, these percentages would be slightly smaller. For example, using the average August flow for the eleven-year period analyzed above, the Project would reduce flows at the Arroyo Seco confluence (downstream of the LAF WRP) by 9%. Using the August with the highest flows during the eleven-year period, the corresponding reduction would be 7% at the Arroyo Seco confluence.

The cumulative effect of both the Project and the Burbank project is a reduction in flows within the LA River of 16% between the LAG WRP discharge point and the confluence with Arroyo Seco. Using the average August flows rather than August 2008 Condition, the cumulative effect is a 13% reduction above the Arroyo Seco confluence, while using the highest August flows the cumulative reduction is 10% above Arroyo Seco.

3.1.3 Relative Contributions of the Project and Burbank Project to Changes in Flow

A potential basis for determining the relative contributions of the proposed Project and the flow reductions proposed by the Burbank Petition to hydrologic changes in the LA River between Burbank Western Channel and Arroyo Seco is as follows:

- Between the LAG WRP discharge point and the confluence with Arroyo Seco (21,174 linear feet of channel), approximately two thirds of the changes are due to the proposed Project flow reductions and one third is due to the flow reductions proposed by the Burbank Petition (based on the fact that the proposed Project reduction is 4.1 cfs and the Glendale Petition reduction is 8.1 cfs).

3.1.4 Changes to Velocity, Depth and Wetted Channel Area

The hydraulic model results for the Project show that under the August 2008 Conditions: (1) the average velocity within Study Area Segment A would be slightly reduced, from 1.48 to 1.43 feet/sec (-2% change), and (2) the average depth in the deepest part of the channel would be slightly reduced from 9.9 to 9.6 inches (0.4 inches, or -0.3%), as shown in Figure 10 and Table 5.

Under August 2008 Conditions, the hydraulic model results for the Project and Burbank project (cumulative effects) are: (1) the average velocity within Study Area Segment A would be reduced from 1.48 feet/sec to 1.38 feet/sec (-6.8%), and (2) the average depth would be reduced from 9.9 to 9.3 inches (0.6 inches, or 0.5%).

The Project would slightly reduce the total wetted area of channel from 81.0 to 79.5 acres (-1.5 acres, 1.9% of existing condition) during the August 2008 Condition, as shown in Figure 9 and Table 6. This represents an average 14-inch-wide strip along both edges of the channel throughout the study reach. 26% of the reduction in wetted area occurs on concrete banks or bed and 74% on soft channel materials, so the reduction in wetted soft channel is 1.1 acres.

Under cumulative effects, an additional 1.0 acres of channel would not be wetted during the August 2008 Condition, for a cumulative loss of 2.5 acres, or 3.2% of the total wetted channel area, as shown in Figure 11 and Table 7. This could be represented by a strip 23 inches wide on both sides of the channel through the study reach. With a 26:74 ratio of concrete to earth, there will be a temporary (during the lowest flow months of the year) dewetting of 1.8 acres of soft bottomed channel compared with the existing conditions.

The modeled Project effects and cumulative project effects are very minor, and fall well within the range of data collection and hydraulic model uncertainty and error. The Project hydrologic effects would likely be almost undetectable in the field, and the cumulative effects barely detectable.

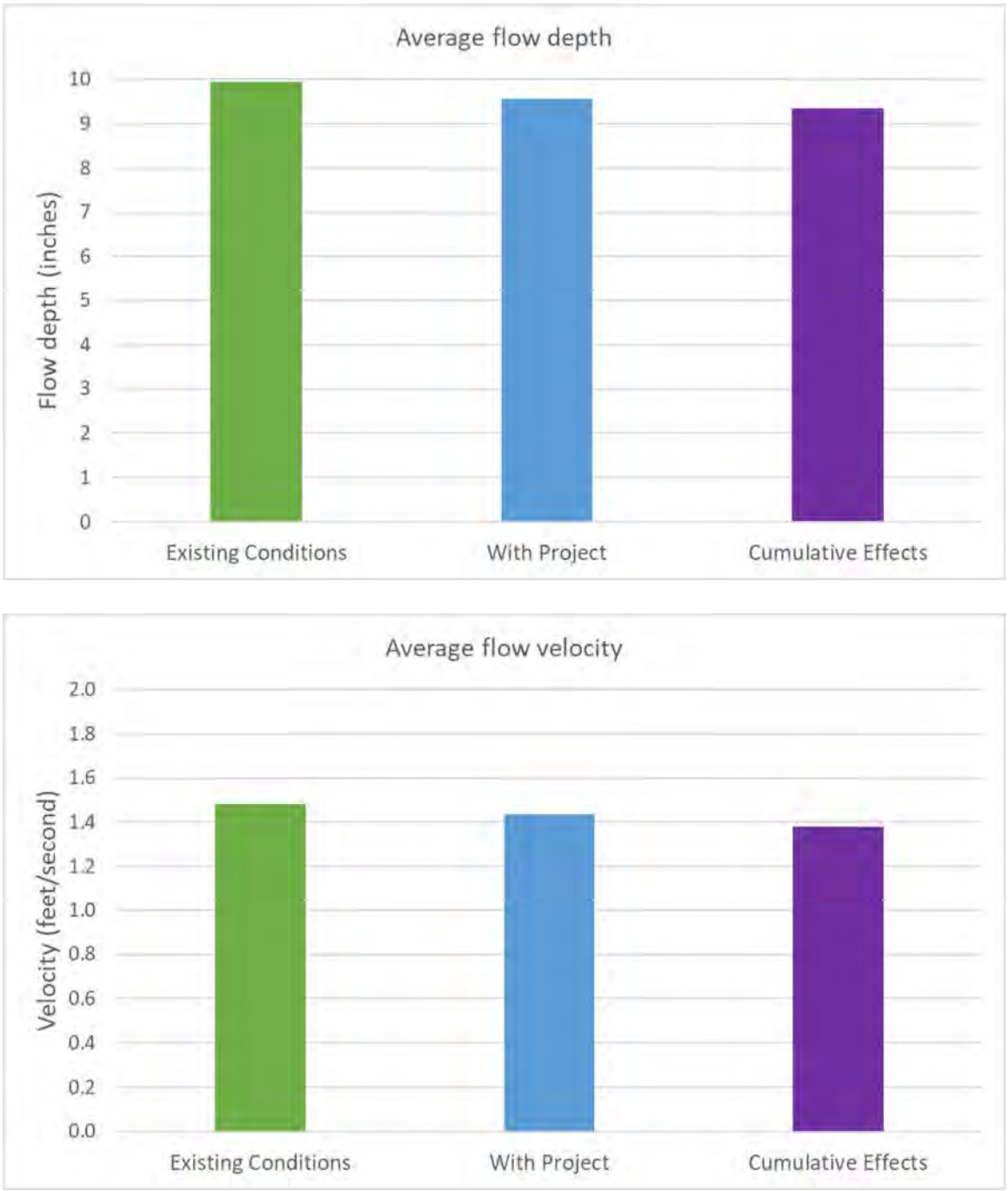

Figure 10. Average flow depth and velocity under Project and Cumulative effects (Segment A)

TABLE 6
SUMMARY OF VELOCITY AND DEPTH CHANGES UNDER DIFFERENT FLOWS FROM PROJECT AND CUMULATIVE EFFECTS (SEGMENT A)

	Scenario	Reach flow (cfs)	Flow from LAG WRP (cfs)	Flow from Burbank WRP (cfs)	Flow depth (inches)	Change in flow depth (inches)	Flow velocity (ft/sec)	Change in flow velocity (ft/sec)
Reach 4 Downstream of LAG WRP	Existing Conditions	76.4	12.5	8.8	7.77	0.00	1.55	0.00
	With Project (Existing minus 8.1 cfs LAG reduction)	69.2	4.4	8.8	7.47	-0.30	1.50	-0.05
	Cumulative effects (Existing minus 8.1 cfs LAG and 4.1 cfs Burbank)	65.1	4.4	4.7	7.26	-0.50	1.43	-0.12
Reach 5	Existing Conditions	76.9	12.5	8.8	7.47	0.00	1.59	0.00
	With Project	72.8	4.4	8.8	7.18	-0.29	1.54	-0.05
	Cumulative effects	64.7	4.4	4.7	7.00	-0.47	1.47	-0.11
Reach 6	Existing Conditions	78.5	12.5	8.8	14.93	0.00	1.29	0.00
	With Project	74.4	4.4	8.8	14.38	-0.55	1.24	-0.05
	Cumulative effects	66.3	4.4	4.7	14.07	-0.86	1.21	-0.07
Average (All Reaches)	Existing Conditions	76.5 - 78.5	12.5	8.8	9.94	0.00	1.48	0.00
	With Project	69.2 - 70.6	4.4	8.8	9.57	-0.38	1.43	-0.05
	Cumulative Effects	64.3 - 6.4	4.4	4.7	9.34	-0.60	1.38	-0.10

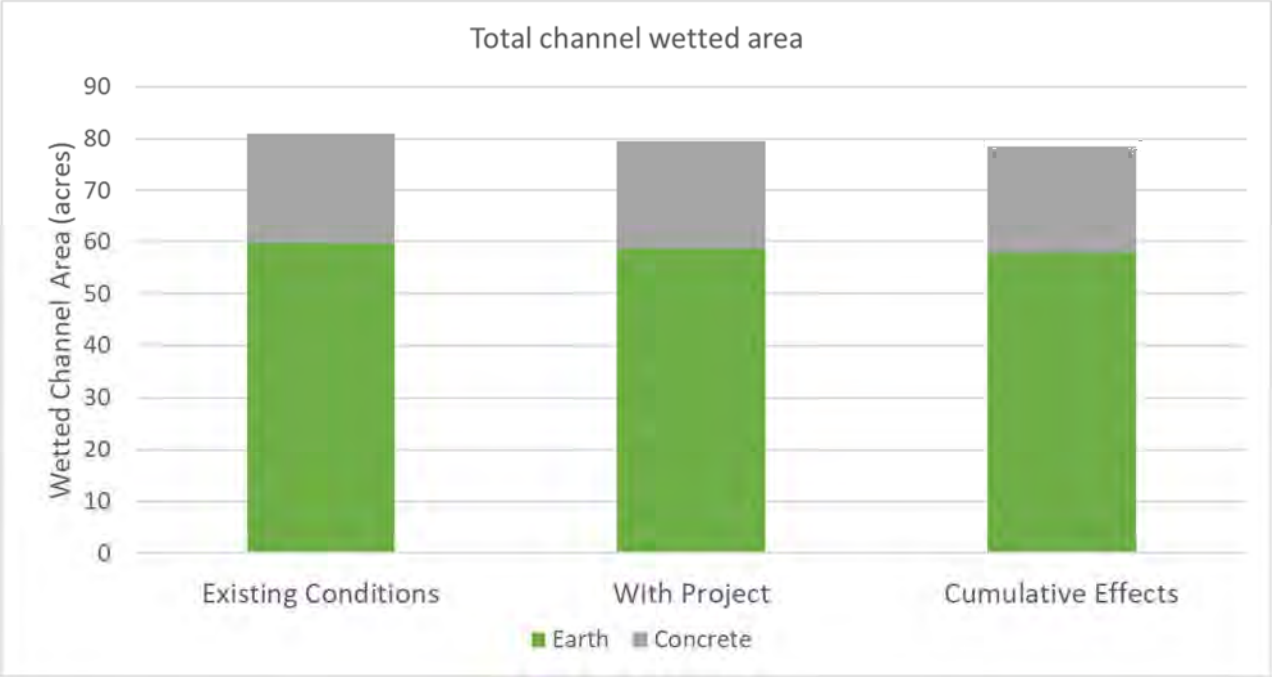

Figure 11. Total wetted channel and bank area under Project and Cumulative Effects (Segment A)

TABLE 7
SUMMARY OF WETTED CHANNEL AREA DRY WEATHER CHANGES UNDER PROJECT AND CUMULATIVE EFFECTS (SEGMENT A). NOTE WETTED AREA INCLUDES BOTH CONCRETE AND EARTH CHANNEL AND BANKS

	Scenario	Reach flow (cfs)	Flow from LAG WRP (cfs)	Flow from Burbank WRP (cfs)	Wetted channel area (acres)	Change in wetted area (acres)	% change
Reach 4 (downstream of LAG discharge point)	Existing Conditions	76.5	12.5	8.8	18.8	0	0.0%
	With Project	69.2	12.5	4.7	18.6	-0.2	-1.1%
	Cumulative Effects	64.3	4.4	4.7	18.4	-0.4	-2.2%
Reach 5	Existing Conditions	76.9	12.5	8.8	31.1	0	0.0%
	With Project	69.5	12.5	4.7	30.6	-0.5	-1.6%
	Cumulative Effects	64.8	4.4	4.7	30.2	-0.9	-3.0%
Reach 6	Existing Conditions	78.5	12.5	8.8	31.1	0.0	0.0%
	With Project	70.6	12.5	4.7	30.3	-0.8	-2.6%
	Cumulative Effects	66.4	4.4	4.7	29.9	-1.2	-4.0%
Total	Existing Conditions	76.5 - 78.5	12.5	8.8	81.0	0.0	0.0%
	With Project	69.2 - 70.6	12.5	4.7	79.5	-1.5	-1.9%
	Cumulative Effects	64.3 - 6.4	4.4	4.7	78.5	-2.5	-3.2%

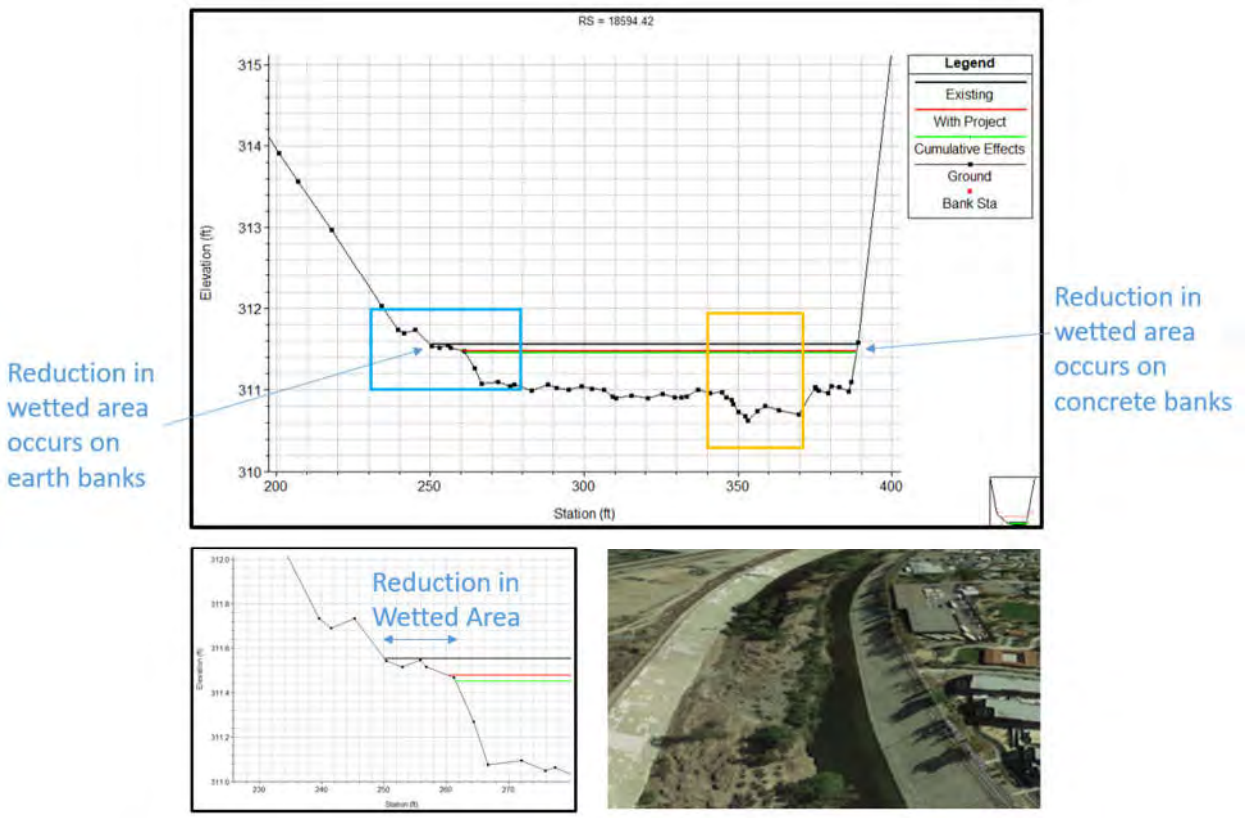

Figure 12. Modeled water surface elevations for ARBOR reach 6 under existing, with-project and cumulative effects conditions, for August 2008 Condition

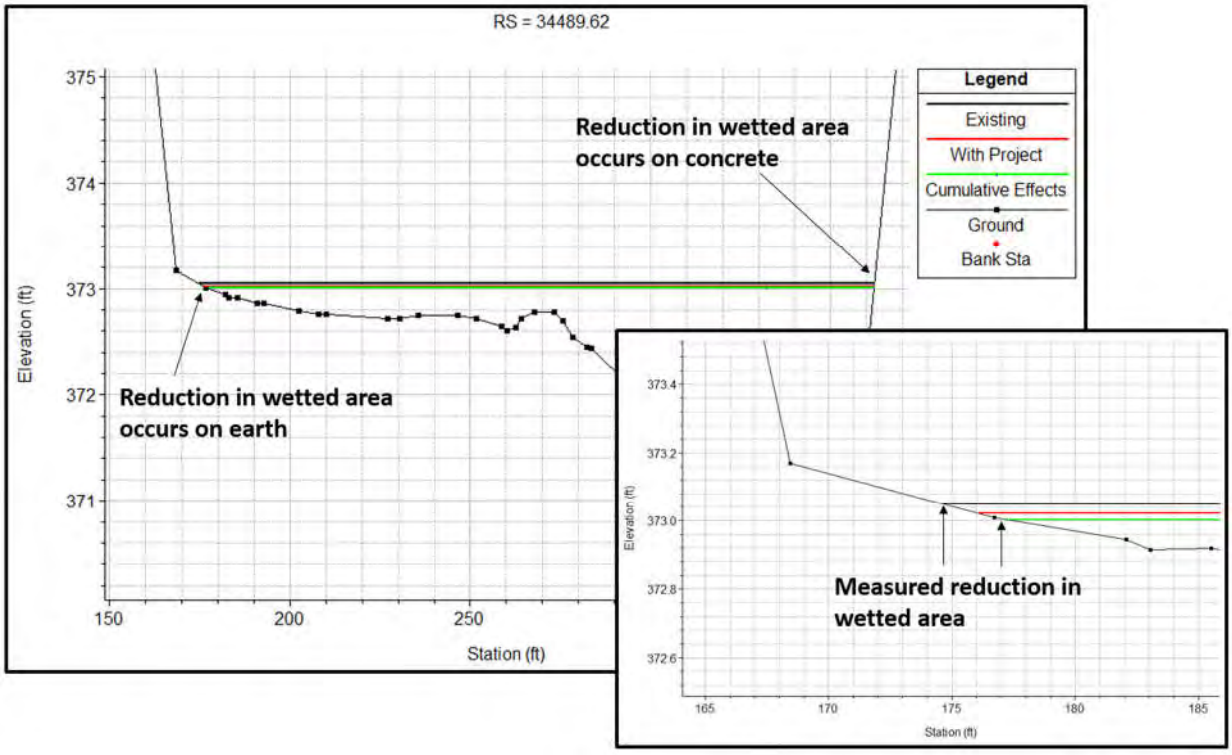

Figure 13. Example cross section used to estimate change in wetted area

3.1.5 Potential Impacts to Recreation

A 2.5-mile reach within Study Area Segment A, the Elysian Valley River Recreation Area, is permitted for kayaking and canoeing. This reach extends from Fletcher Drive (near the 2 Freeway) downstream to Steelhead Park (near the Arroyo Seco confluence) and closely corresponds to the ARBOR reach 6. Kayaking could potentially be impacted if river depths were to fall below values needed for typical watercraft to float clear of the channel bed. Published minimum draft criteria for kayaks and canoes could not be found in the literature, but based on a review of manufacturers specifications some parameters were developed. Kayaks and canoes typically have a total depth of around 14-16 inches, with a draft of 7-8 inches. As a rough guide, any flow deeper than 1 foot is likely to be suitable for the type of craft used on the LA River. Note that the cross sections for the hydraulic model are spaced approximately 100-200 feet apart, so there may be short sections of channel that are shallower than the values reported here.

3.1.5.1 Effects of Project Reductions

In ARBOR reach 6, average flow depth in the center of the channel is 14.9 inches under the August 2008 Condition, and is predicted to fall to 14.4 inches under the with-Project condition, a decline of 0.6 inches or -0.3% (values rounded to nearest tenth of inch). The reduction in wetted channel area within reach 6 is 0.8 acres (2.6% of the existing wetted area) of which 27% is concrete channel. Because the Project would not reduce flows below 1.0 feet, even under the

worst-case condition, the Project is not likely to have a noticeable effect on recreation within Reach 6, or elsewhere.

3.1.5.2 Cumulative Effects of Project Plus Burbank Project Reductions

Under the cumulative effects scenario average flow depth in the center of the channel is predicted to fall from 14.9 inches to 14.1 inches a decline of 0.9 inches or -0.5%. The reduction in wetted channel area within reach 6 is 1.2 acres (4.0% of the existing wetted area) of which 27% is concrete channel. Given that the reduction in flow resulting from the Project and Burbank project, under the worst-case condition, will not reduce flows below 1.0 feet, the cumulative effects on recreation are not likely to be significant, and are likely to be barely noticeable within Reach 6, or elsewhere.

SECTION 4
Study Area Segment B

Five cross sections that currently show evidence of algal mats were selected from the HEC RAS model between Highway 91 and the end of the concrete channel at Willow Street. The locations are shown in Figure 14. Note that upstream of Highway 91 the HEC RAS model simplifies the channel geometry by not representing the low flow channel: as a result, cross sections upstream of this location were not analyzed, but because the channel geometry is very uniform upstream and downstream of Highway 91 the results are likely to be very similar. For each of the cross sections, the range of water depths resulting from the varying flows over August were calculated and used to develop a depth exceedance curve (a plot of percent time within August 2008 that a given water depth was exceeded in a cross section of the LA River). An example cross section and HEC RAS output is shown in Figure 15.

Figure 14. Location of Lower LA River HEC RAS model domain and cross sections analyzed for channel wetness in Segment B

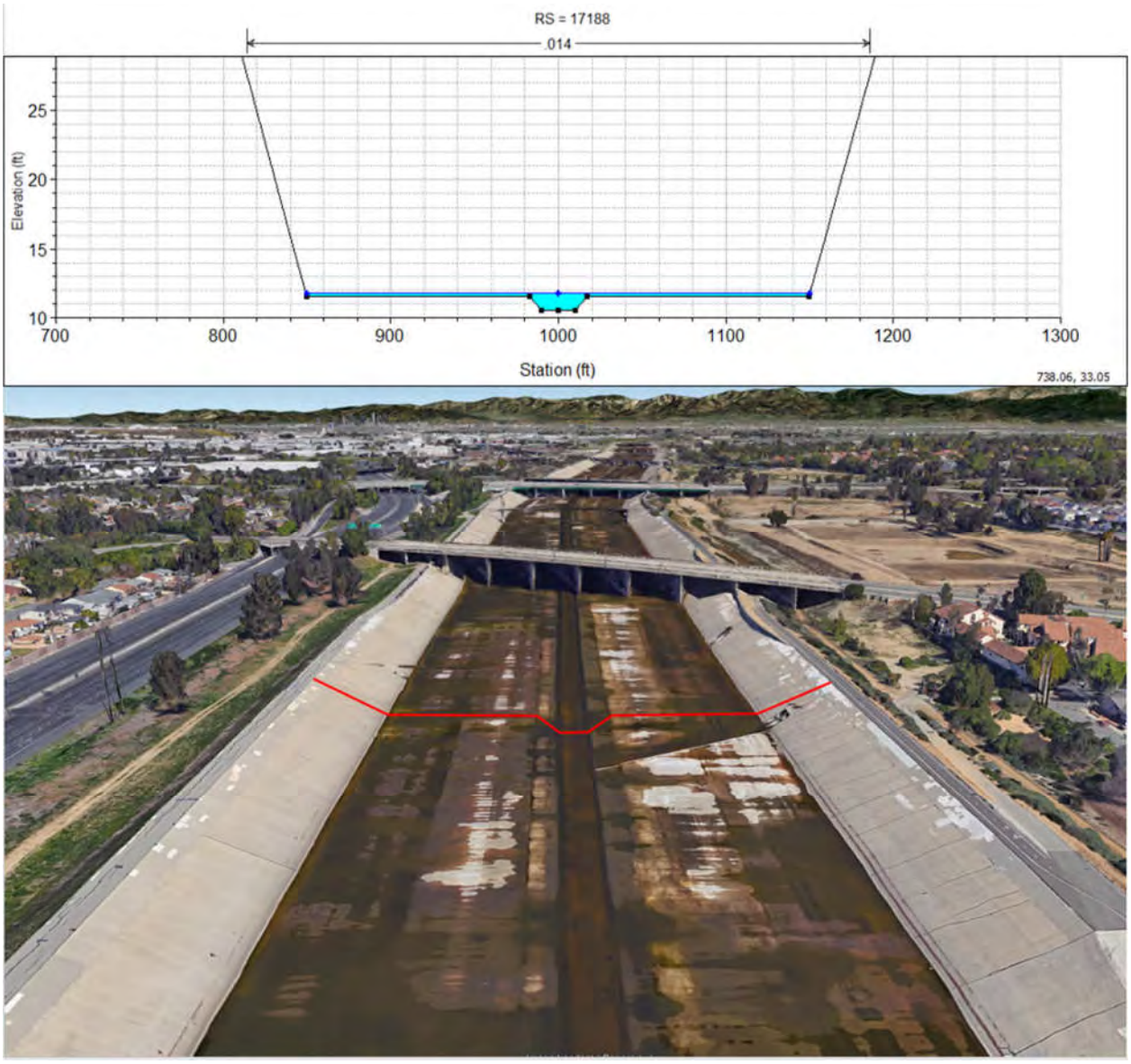

Figure 15. Example of Lower LA River cross sections showing location (lower image) and HEC RAS cross section and water level output (upper image)

The resulting plots (Figures 16-20) show with depth exceedance curves for the five cross sections. The red dashed lines indicate the water depth at which flow would spill out of the low flow channel onto the channel floor. In all five cross sections, and under all three flow scenarios, flows were too large to be contained within the low flow channel, and consequently spilled over the floor of the flood control channel at all times (i.e. the project or cumulative effect never caused the concrete floor to dry out). The change in water depth across the channel was around 0.25 inches between existing and project flows, and 0.35 inches between existing and cumulative flows.

To further check for potential impacts, ESA identified the range of flows that would cause the low flow channel to overflow in all the cross sections of the model that had a low flow channel,

not just the five cross sections analyzed in detail above. This ranged from 55 – 80 cfs: i.e. provided flows do not fall below 80 cfs there should be no change in wetting of the algal mats. As shown in Table 7, flows never fall below 80 cfs in the Project or Cumulative conditions scenario, hence all flows should continue to spill out of the low flow channel and wet the areas where algae currently grow.

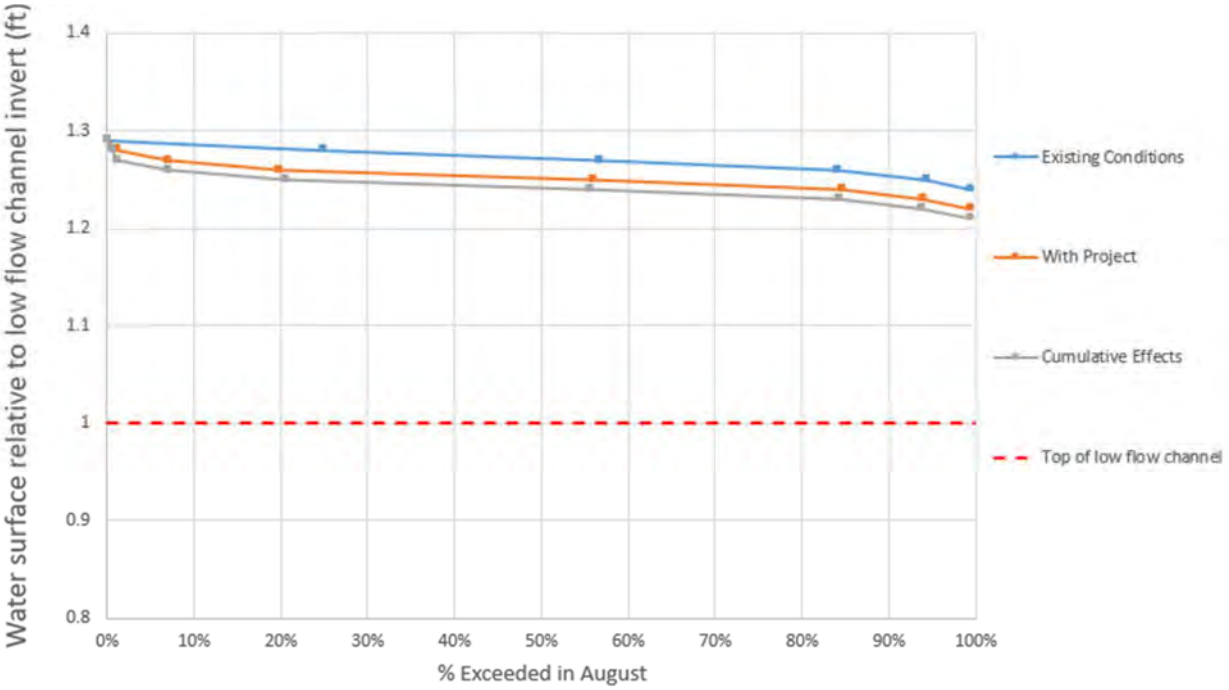

Figure 16. Flow exceedance curve for Cross Section 16670

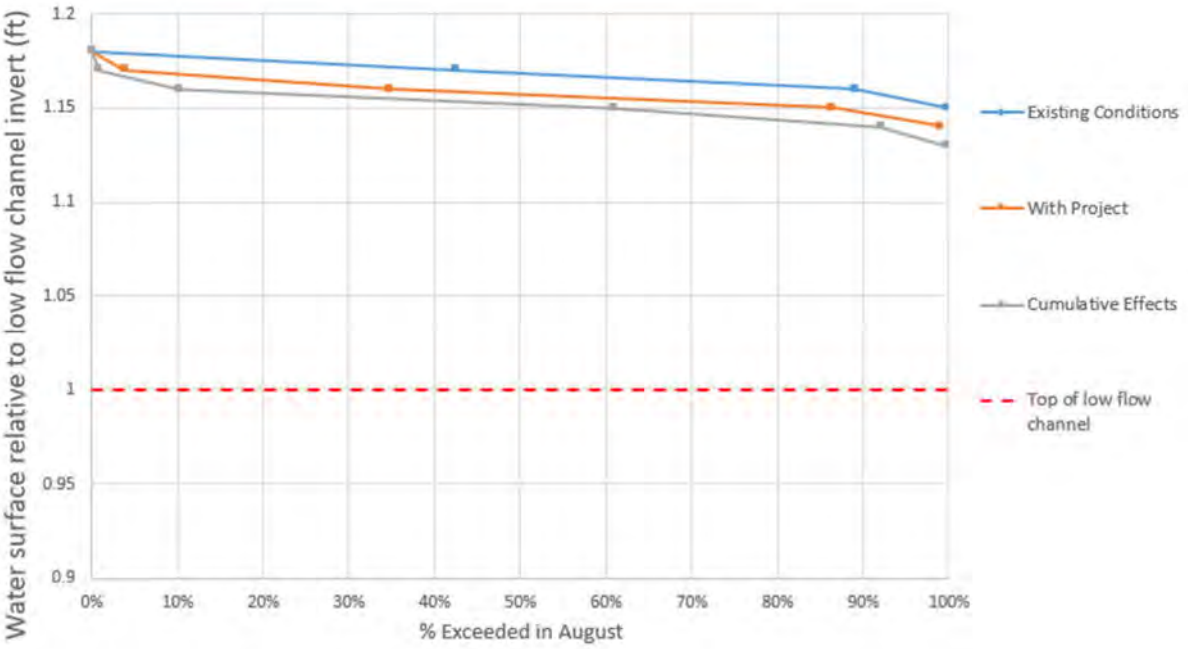

Figure 17. Flow exceedance curve for Cross Section 21000

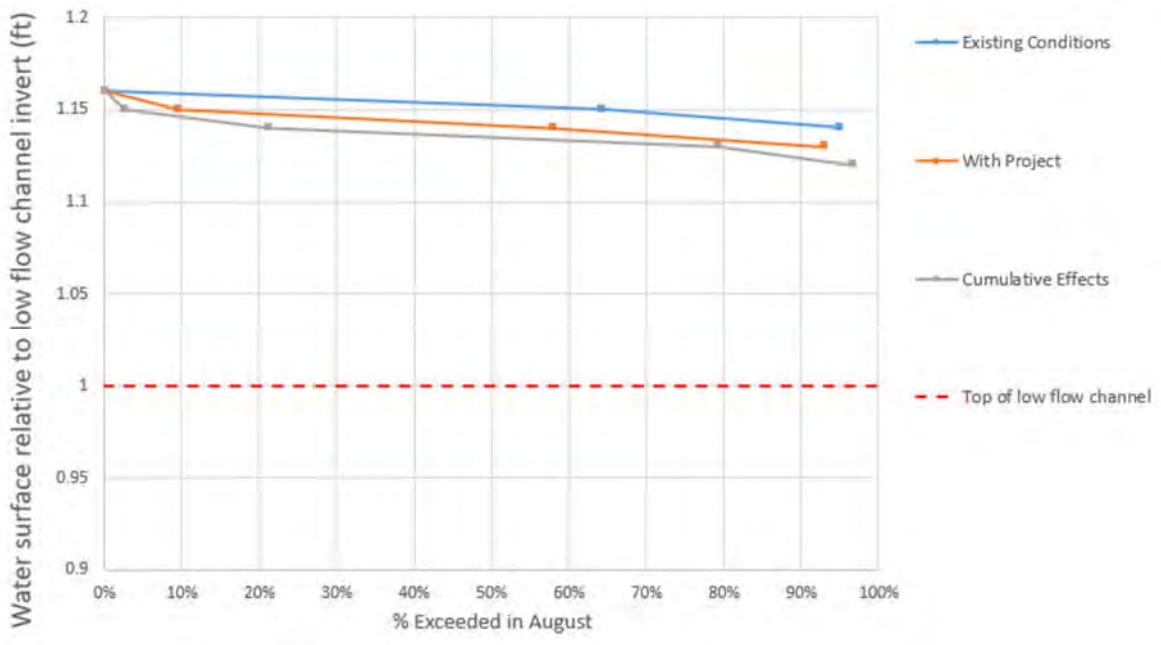

Figure 18. Flow exceedance curve for Cross Section 27040

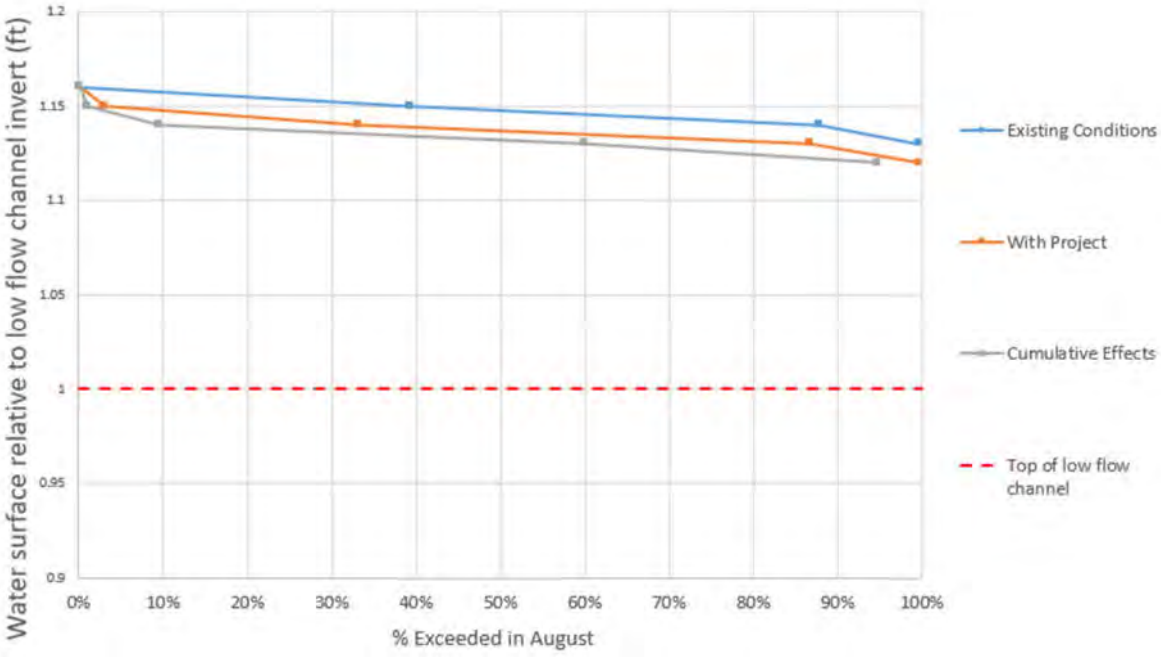

Figure 19. Flow exceedance curve for Cross Section 32900

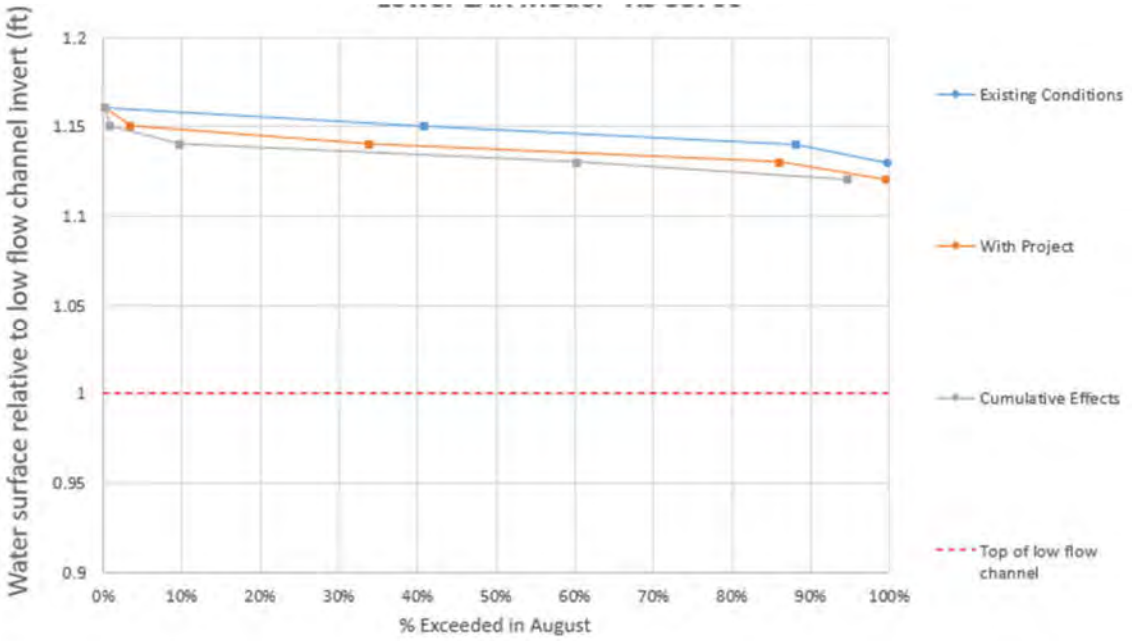

Figure 20. Flow exceedance curve for Cross Section 38700

4.1 Effects on Estuary

To assess the effects of the Project on flows of fresh water to the estuary, ESA calculated the percentage of flow reduction in the LA River at the most downstream gage (Wardlow Road). The Project reduction represents 4% of August 2008 flow, and the Cumulative flow reduction is 11% of flow at Wardlow Road. This represents the flow reduction in the driest month of the driest year within the eleven years for which flow data at all relevant gages were available. Thus, in all other months and years, the Project effects would be smaller than calculated above.

SECTION 5
Summary and Conclusions

5.1 Segment A

During winter and spring, the Project flow reduction from Glendale WRP would be "drowned out" by flows in the LA River, with Project flows constituting 0.1 – 4% of flow in the LA River between the LAG WRP and the Arroyo Seco confluence. The Project flows constitute a 10% reduction in flows in the LA River during the August 2008 Condition. The August 2008 Condition represents the lowest flow in the LA River during the most recent eleven-year period for which data is available, and using this as a baseline shows the Project impacts overlain at a time of higher than average sensitivity – a very conservative analysis.

The Project flow reduction translates to an average reduction in flow depth between the LAG WRP discharge point and the confluence with the Arroyo Seco of four tenths of an inch, and a reduction in flow velocity of 2%. The shrinkage in wetted channel area is 1.5 acres over a 5.4-mile reach (1.9% of the existing wetted channel area (81 acres) under the August 2008 Condition, equivalent to a 7-inch wide strip on either side of the channel). 26% of the shrinkage in wetted area occurs on concrete lined bank or bed areas, and 74% on soft bottomed channel.

The modeled reductions in flow depth and velocity are considered to be well within the range of error and uncertainty for hydrologic data collection and modeling, and would likely be close to undetectable in the field. Reviewing the flow conditions relative to the needs of recreational users and riparian and aquatic species, changes are considered to be unlikely to have an impact.

The cumulative effects of the Project and the Burbank project flow reductions are larger, but still very small and barely detectable. Cumulatively, under the worst case flow scenario, the projects would reduce water depths in Study Area Segment A by half an inch, on average, and the maximum change would be less than an inch. These flow reductions will result in a less than significant impact on aquatic species, riparian habitat and recreational uses of the LA River within Segment A.

5.2 Segment B

As with Segment A, the Project flow reduction would be drowned out during the winter due to much higher flows from the watershed. During the August 2008 worst case condition, the Project would reduce flows in Segment B by 4%. Effects at Segment B are less than in Segment A because of the "diluting" effect of additional flow gains downstream.

The Project would not result in areas of algal mat drying out: for the conditions modeled, flows continued to exceed the capacity of the low flow channel and spill out onto the wider concrete bottom of the flood control channel, maintaining shallow wetted conditions that support algal growth (Figure 20). The average change in water level over the Segment B is 0.25 inches for Project conditions, and 0.35 inches for cumulative conditions.

The modeled flow reductions are expected to result in a less than significant impact on algal growth within Segment B.

5.3 Estuary

The Project reduction represents 4% of August 2008 flow, and the Cumulative flow reduction is 11% of flow at Wardlow Road, during August of the driest year analyzed. The Project does not appear likely to have a detrimental effect on the inputs of freshwater to the estuary.

SECTION 6
References

County of Los Angeles Department of Public Works, Hydrologic Report for the years 2005-06 to 2015-2016.

ESA 2017a LA River Reduced Discharge Study: Hydraulic Modeling Report II

ESA 2017b City of Glendale Wastewater Change Petition WW0097 Project Biological Resources Assessment of the LA River.

USACE 2013. LA River Ecosystem Restoration Feasibility Study: Appendix F5 – Hydrology and Hydraulics.

USACE 2016. Hydraulics Report. Floodplain Analysis: Barham Boulevard to First Street, Floodplain Management Services Special Study.

SECTION 7
List of Preparers

This report was prepared by the following ESA staff:

Andy Collison, Ph.D, Director

Tiffany Cheng, PE, Senior Associate

ESA

2121 Alton Parkway
Suite 100
Irvine, CA 92606
949.753.7001 phone
949.753.7002 fax

www.esassoc.com

memorandum

date May 11, 2018

to Glendale Water and Power

cc

from ESA

subject Exhibit A to Hydraulic Modeling Report for Glendale Water and Power Wastewater Change Petition and Recycled Water Distribution Project

ESA conducted a review of all publically-available reports and information on activities that have the potential to impact Los Angeles River flows to determine if they had to be included in the City of Glendale's (Glendale) Hydraulic Modeling Report.[1] Descriptions of each project are set forth below. The projects are divided into projects that were included in Glendale's Hydraulic Modeling Report and projects or activities that were not considered because they are not "past, present, [or] probable future projects producing related or cumulative impacts" within the meaning of CEQA Guidelines, section 15130(b)(1)(A), and therefore are not required to be included in the cumulative impacts analysis for the proposed Project.

A. Projects Included in Glendale's Hydraulic Modeling Report.

1. Burbank Wastewater Change Petition WW0091 and Change Petition WW0019 (Burbank Petitions)

Description: The City of Burbank (Burbank) discharges tertiary-treated wastewater from its Burbank Water Reclamation Plant ("BWRP") to the Burbank Western Channel ("Channel"), which is located approximately 4.7 miles upstream from the Los Angeles-Glendale Water Reclamation Plant (LAG WRP), of which 2.5 miles are within the LA River and the remaining 2.2 miles are within the Burbank Western Channel. During Financial Year 2015/16 5,376 acre-feet (AF) of tertiary treated effluent was discharged by BWRP (7.4 cfs). As a result of increased demand for recycled water within the Upper Los Angeles River Area, the City is proposing to gradually increase its use of recycled water, thereby reducing its discharge of treated wastewater into the channel over the next ten years from 5,376 AFY (7.4 cfs) to approximately 3,766 AF (5.2 cfs).

[1] In preparation of the analysis in this section, ESA consulted the State Clearinghouse for all proposed projects subject to CEQA with the potential to reduce flows to the LA River. Additionally, ESA also reviewed the SWRCB website to gather information regarding all known pending and completed wastewater change petitions that could contribute to cumulative effects in conjunction with the proposed project.

Environmental Review: The Negative Declaration for the Burbank Petitions was approved by Burbank on September 12, 2017 (Burbank ND).

Cumulative Impacts: The cumulative impacts of the Burbank Petitions are evaluated in the Glendale Hydraulic Modeling Report because this project proposes to reduce dry year wastewater discharges to the River. These proposed reductions in discharges were modeled in the Burbank ND and are the subject of the Petitions filed by Burbank. For the purposes of evaluating the cumulative impacts of the Burbank Project, Glendale's Hydraulic Modeling Report provided an assessment of project effects as well as cumulative effects from the Burbank Petitions under a worst-case conservative scenario. (See Glendale's Hydraulic Modeling Report.) The analysis found that cumulative impacts to recreational uses and biological resources from both the Glendale and the Burbank Petitions were less than significant.

B. Projects or Activities that Were Not Included in Glendale's Hydraulic Modeling Report

1. <u>One Water LA 2040 (In progress)</u>

Description: The City of Los Angeles is preparing the One Water LA Plan, an integrated framework approach for water supply, wastewater treatment, and stormwater management that will expand the IRP (project # 12 below) horizon to 2040 (from 2020).[2] The plan identifies opportunities to manage water in a more efficient and sustainable manner. The One Water LA Plan is still being prepared and is expected to be published in 2018. No quantitative data on dry season flow reductions to the Los Angeles River as a result of implementation of the One Water LA Plan could be found.

Environmental Review: To date, no CEQA analysis has been undertaken for the One Water LA Plan. A programmatic level EIR is anticipated in 2018.

Cumulative Impacts: Proposals that have not crystallized to the point that it would be reasonable and practical to evaluate its cumulative impacts need not be treated as a probable future project and therefore this plan was not included in the Hydraulic Modeling Report.

2. <u>Lower Los Angeles River Revitalization Plan (In progress)</u>

Description: In 2015, Governor Jerry Brown signed Assembly Bill 530 (Rendon), authorizing the creation of a local "Working Group" to develop a Lower LA River Revitalization Plan (LLARRP) from Vernon to Long Beach.[3] This plan will be part of an update to LA County's Master Plan. The purpose of the LLARRP Working Group is to provide input and direction to formulate a plan to revitalize the Lower LA River and to identify strategies for addressing community concerns. In the Draft Final LLARRP, the Working Group and community have identified 200 locations for revitalization (features along the 19-mile lower LA River[4]). Seven preliminary projects have been identified: (1) Atlantic Boulevard and Upper Segment Multi-Use Easement; (2) Cudahy River Park; (3) Rio Hondo Confluence; (4) Middle Segment Crossover and Multi-Use

[2] https://www.lacitysan.org/san/faces/home/portal/s-lsh-es/s-lsh-es-owla?_afrLoop=12283031563750846&_afrWindowMode=0&_afrWindowId=null#!%40%40%3F_afrWindowId%3Dnull%26_afrLoop%3D12283031563750846%26_afrWindowMode%3D0%26_adf.ctrl-state%3Dynmvxmf6q_58

[3] http://lowerlariver.org

[4] http://lowerlariver.org/the-plan/

Easement; (5) Compton Creek Confluence; (6) Wrigley Heights River Park; and (7) Willow Street Improvements. Currently the working group is brainstorming about projects that will serve as recreational amenities along the Lower LA River, such as the new walking and bike trails, street improvements and parks.

On October 18, 2016 the County of Los Angeles Board of Supervisors passed a motion for Public Works to update the LA River Master Plan by incorporating the LLARRP, as well as other existing planning efforts. A draft Plan is anticipated for December 2019, with the final Plan expected by June 2020.

Environmental Review: No CEQA documents could be found. No quantitative data could be found on how revitalization efforts in the Lower LA River might affect summer dry season flows. Most of the planned projects involve improvements along the River, not within the River channel.

Cumulative Impacts: Proposals that have not crystallized to the point that it would be reasonable and practical to evaluate its cumulative impacts need not be treated as a probable future project and therefore this was not included in the Hydraulic Modeling Report. In addition, it is unlikely that the LLARRP will result in "related impacts" as the proposed revitalization improvements along the Lower LA River do not propose to remove flows from the River (as the proposed Project does).

3. 2017 Sanitation Districts of Los Angeles County's Wastewater Change Petition (WW00098)

Description: The Sanitation Districts of Los Angeles County's Wastewater Change Petition proposes a reduction at the Whittier Narrows Water Reclamation Plant (WNWRP) of 0.1 cfs in August. The WNWRP discharges wastewater into the Rio Hondo, a tributary to the LA River.

Environmental Review: No CEQA documents could be found. However, one of the attachments to the Petition states: "Chambers Group does not anticipate that a daily reduction of approximately 1.1 percent would have any discernible impacts to biological resources downstream of the WNWRP discharge locations. The remaining daily average discharge of 5.985 MGD is believed to be a sufficient amount of water to maintain regular ephemeral flow and to support the riparian community ecosystem at or above its current habitat quality levels."

Cumulative Impacts: Because wastewater from the WNWRP enters the LA River in the concrete section at the Rio Hondo confluence downstream of Segment A of Glendale's Study Area, it was not considered in the cumulative impacts analysis for the proposed Project. In addition, a reduction of 0.1 cfs will have no material impact on Segment B of the Study Area, which begins several miles below the Rio Hondo confluence.

4. The 2015 Army Corps of Engineers (ACOE) Los Angeles River Ecosystem Restoration Feasibility Study (LAREFS)

Description: The LAREFS assesses the potential to restore 11 miles of the Los Angeles River from Griffith Park to downtown LA while maintaining existing levels of flood risk management.[5] The study evaluated numerous alternatives. The approved plan for restoration in part of the Glendale Study Area is Alternative

[5] http://www.spl.usace.army.mil/Missions/Civil-Works/Projects-Studies/Los-Angeles-River-Ecosystem-Restoration/

20, the locally preferred plan, which includes compatible recreation features. The recommended plan includes creating new habitat through the following measures and features: riparian habitat corridor restoration throughout the 11 miles; restoration of the Arroyo Seco confluence; restoration of the Verdugo Wash confluence; restoration of riparian habitat; removal of channel concrete and riverbed restoration for 0.75 miles; restoration of freshwater marsh in the Los Angeles State Historic Park; restoration of riparian habitat and reconnection to the historic floodplain in Taylor Yard; river widening in 2 reaches; restoration of 13 minor tributaries through stream daylighting; establishment of side channels; and removal of invasive vegetation throughout the project area. Restoration measures include creation and re-establishment of riparian and freshwater marsh habitat to support increased populations of wildlife and enhance habitat connectivity within the study area. The hydrologic assessment of the LAREFS focused on the effects of high flows (flood risk) rather than on water availability at low flows.

Environmental Review: The final EIS/EIR was prepared in September 2015 and certified in June 2016. An addendum to the IFR EIS/EIR has been prepared to support the acquisition of the Taylor Yard G2 Parcel, included in Reach 6 of the Project.[6] No data were found that quantified the effects of the project on available dry weather flow in the Los Angeles River. Instead, the "Hydraulics and Hydrology" (Appendix E) analyzed whether the proposed alternatives would impact the flood control functions of the Los Angeles River Channel. The EIR found that: "Cumulative impacts to hydrology, floodplains, and water quality are expected to be beneficial under both the No Action Alternative and the restoration Alternatives."[7] In addition, the ACOE found: "The restoration measures in the action alternatives would contribute to beneficial cumulative impacts to biological resources. These impacts would increase the amount of fish and wildlife habitat; provide greater ecological/biological benefits; aid in linking isolated habitats; help increase the amount of open space; help expand species diversity; and reduce the amount of impermeable surface area in the study area."[8]

Cumulative Impacts: The LAREFS was not included in the Hydraulic Modeling Report because (1) the LARRMP did not quantify the impacts of the proposed measures on dry weather River flows; and (2) the LARRMP will not result in "related impacts" as the proposed restoration actions do not propose to remove flows from the River (as the proposed Project does). Rather, the LAREFS will improve the types of vegetation in and around the River and widen channels to slow peak velocity flows (wet weather flood flows) to improve habitat and the health of biological resources.

5. 2015 City of Los Angeles Enhanced Watershed Management Plan (EWMP)

Description: The City of Los Angeles' EWMP focuses on enhancing water quality and meeting Total Maximum Daily Load (TMDL) targets throughout various watersheds. In 2015, the City of Los Angeles prepared a plan for the Upper Los Angeles Watershed.[9] The area included in the ULAR EWMP is approximately 479 square miles. The plan focuses on minimizing pollutants while maximizing retention of stormwater via low impact development, treatment wetlands, green streets, and retaining stormwater onsite to prevent runoff.

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[6] See Los Angeles City Council File 13-1641.
[7] LAREFS, EIS/R, p. 5-176.
[8] LAREFS, EIS/R, p. 5-176.
[9] http://www.lastormwater.org/green-la/enhanced-watershed-management-plans/

Environmental Review and Cumulative Impact Analysis: The final Programmatic EIR for the EWMP was prepared in April 2015 and an addendum was filed in June 2015.[10] As stated in the Programmatic EIR: "As individual projects identified in the EWMPs are fully developed, the implementing agency (i.e., the Permittee responsible for implementing the project) will conduct CEQA analysis for individual projects as appropriate or may determine that no additional CEQA analysis is required or that a project is exempt from CEQA." Accordingly, no project level CEQA analysis is available for any of the projects described in the EWMP.

Cumulative Impacts: Though many of the measures proposed in the EWMP could reduce stormwater runoff by increasing infiltration, the plan does not provide a project level review of specific projects or a quantitative assessment of the consequences for dry season runoff to the Los Angeles River. Accordingly, the EWMP was not included in the Hydraulic Modeling Report.

6. 2015 LADWP Stormwater Capture Master Plan (SWCMP)

Description: The City of Los Angeles' SWCMP is a high-level plan to increase the capture of stormwater that currently runs off via the Los Angeles River and other waterways, using a mixture of centralized and decentralized facilities.[11] The SWCMP is an outline for policymakers that will explain LADWP's strategies for the next 20 years to implement stormwater and watershed management programs, projects, and policies in the City of Los Angeles. Projects and programs recommended in the SCMP require approval by the LADWP Board of Commissioners on a case–by–case basis. The SWCMP will serve as a guiding document for policymakers to consider when making decisions about programs and policies that impact L.A.'s water resources. Since the majority of Los Angeles' stormwater runoff occurs during the winter, most of the flow reduction effects would be experienced during the winter. However, facilities would capture some dry weather runoff as well, e.g. by increasing infiltration of stormwater. Nonetheless, the SWCMP does not quantify or study summer flow reductions as a result of this plan. Instead, the SWCMP explains that via this plan they could reduce peak flows in the Los Angeles River during wet weather events.[12]

Environmental Review: No CEQA documents could be found. The SWCMP states that specific stormwater programs will be studied as they are further developed.

Cumulative Impacts: The SWCMP was not included in the Hydraulic Modeling Report because the SWCMP is a high level planning document that did not quantify the impacts of the proposed measures on dry weather River flows.

7. 2013 Los Angeles River Diversion, State Historic Park

Description: The State Water Resources Control Board authorized the diversion and use of water from the Los Angeles River by the City of Los Angeles on October 24, 2013. A maximum amount of 106 AFY can be

[10] http://www.lastormwater.org/green-la/enhanced-watershed-management-plans/

[11] https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-w-stormwatercapturemp?_afrLoop=288541137126279&_afrWindowMode=0&_afrWindowId=null#%40%3F_afrWindowId%3Dnull%26_afrLoop%3D288541137126279%26_afrWindowMode%3D0%26_adf.ctrl-state%3Dfc4ex51o6_4

[12] SWCMP, p. 77.

diverted to irrigate 42.6 acres of land in the Los Angeles State Historic Park through the use of an inflatable dam. Authorized use of water will be completed by December 31, 2029.[13]

Cumulative Impacts: The proposed 0.15 cfs diversion was not included in the Hydraulic Modeling Report because the water will be diverted downstream of the Arroyo Seco confluence, and therefore will not impact Segment A of the Study Area, which ends at Arroyo Seco. In addition, a reduction of 0.15 cfs will have no material impact on Segment B of the Study Area, which begins several miles below the Los Angeles State Historic Park.

8. 2012 City of Los Angeles Recycled Water Master Planning Documents (2012 RWMP)

Description: These high level planning documents outline a series of upgrades to the City of Los Angeles' major WRPs (TWRP (Tillman), LAGWRP, Terminal Island and Hyperion) to increase capacity to recycle and store water, as well as projects to use the recycled water for non-potable purposes or direct it to groundwater storage.[14] The RWMP documents include: (1) Groundwater Replenishment Master Planning Report; (2) Groundwater Replenishment Treatment Pilot Study; (3) Non-Potable Reuse Master Planning Report, (4) Terminal Island Water Reclamation Plant Barrier Supplement, (5) Non-Potable Reuse Concepts Report, and (6) Long-Term Concepts Report. The documents are intended to guide recycled water planning through 2035, to support the goal of increasing recycled water use citywide to 59,000 AFY by 2035. The Plan explains that the City of Los Angeles has existing recycled water infrastructure to serve approximately 8,000 AFY of nonpotable water, and is currently planning, designing, or constructing expansions of recycled water infrastructure that will deliver an additional 11,350 AFY. Most of the City of Los Angeles' future recycled water supply will be produced from wastewater treated at the City's Terminal Island Plant near the City of Long Beach. The RWMP provides that TWRP, which has a capacity to produce up to 80 million gallons per day (mgd) of tertiary recycled water,[15] will continue to discharge at least 27 mgd to the Los Angeles River (nearly 42 cfs), while meeting existing and future recycled water needs in the City of Los Angeles.[16] In other words, even if 41 mgd of recycled water from TWRP was used to serve nonpotable uses and recharge local groundwater basins by 2035, 27 mgd would continue to flow to the River to sustain habitat.

Environmental Review: No CEQA documents were found for the 2012 RWMP itself and no Wastewater Change Petition has been filed by the City of Los Angeles to reduce wastewater flows from any of its treatment plants to the LA River. Further, the 2012 RWMP does not quantify reductions in summer flows to the Los Angeles River but commits to continuing to discharge 27 mgd from TWRP to sustain River habitat.

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[13] State Water Resources Control Board. Right to Divert and Use Water, Permit 21342 (2013).

[14] https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-w-rcycl-wtr-prjct;jsessionid=NSyjZZ8dvp5QQDfTpLV6WCt32vBTHflBrFPQcLtrLwhCr4Hp1rtF!91202021?_afrLoop=38291653305451&_adf.ctrl-state=kqj9apzad_29&_afrWindowMode=0&_afrWindowId=null#%40%3F_afrWindowId%3Dnull%26_afrLoop%3D38291653305451%26_afrWindowMode%3D0%26_adf.ctrl-state%3Dx19y5beej_4

[15] The Groundwater Replenishment Master Planning Report provides that TWRP "is designed to treat 80 million gallons per day (mgd), however, at this time, flows to the plant are lower. The RWMP planning team assumed 70 mgd of tertiary effluent would be available for all uses."

[16] Groundwater Replenishment Master Planning Report, p. ES-11.

Cumulative Impacts: The 2012 RWMP was not included in the Hydraulic Modeling Report because the RWMP is a high level planning document that did not quantify the impacts of the use of additional recycled water on dry weather River flows. While the Hydraulic Modeling Report accounted for a portion of flows from TWRP (Tillman), the City of Los Angeles has committed to continuing to discharge at least 27 mgd of wastewater from TWRP and therefore it was reasonable to rely on this continued flow. Any future reduction in wastewater flows from the City's Terminal Island or Hyperion Plants to the LA River would have no impact on Segment A of Glendale's Study Area for the proposed Project and therefore would not impact Glendale's flow analysis (see Hydraulic Modeling Report) because the Terminal Island and Hyperion Plants are downstream of Segment A. In addition, the City's Terminal Island and Hyperion Plants discharge directly to the Pacific Ocean and therefore any change in discharge would not impact Segment B of the Study Area or the estuary.

The City of Los Angeles has various recycled water projects in various stages of planning, design, or construction. These projects include:

8.a. 2017 Pershing Drive Recycled Water Pipeline

LADWP partnered with the Los Angeles World Airports (LAWA) and the Los Angeles Department of Public Works, Bureau of Sanitation (LASAN) to provide recycled water to LAX. LASAN will construct an advanced water treatment plant at Hyperion to produce up to 1.5 million gallons per day with reverse osmosis and advanced oxidation process treatment. LADWP will construct a recycled water pipeline between Hyperion and LAX, and in turn, LAWA will construct pipeline within the airport to complete the connection.

No CEQA documents are currently available and therefore this project was not included in the Glendale Hydraulic Flow Analysis. In addition, any change in discharge of wastewater from the Hyperion Plant will not impact the Glendale Study Area as described above.

8.b. 2016 Machado Lake Pipeline Project

The Machado Lake Pipeline Project is a water infrastructure investment that will bring recycled water to the local parks, oil refineries, and golf courses in the Harbor area for uses such as landscape irrigation and industrial processes. The project will install approximately 3,400 feet of pipeline to bring recycled water from the Terminal Island Water Reclamation Plant.

The project, a joint-agency effort between the LADWP, the City of Los Angeles Department of Public Works, Bureau of Sanitation (BOS), and the City of Los Angeles Department of Public Works, Bureau of Engineering (BOE), will supply up to 4.2 billion gallons per year of recycled water, via "purple pipeline," to customers including Harbor Regional Park, Machado Lake, and the Dominguez Gap Barrier.

No CEQA documents are currently available and therefore this project was not included in the Glendale Hydraulic Flow Analysis. In addition, any change in discharge of wastewater from the Terminal Island Water Reclamation Plant will not impact the Glendale Study Area as described above.

8.c. 2016 Elysian Park - Downtown Water Recycling Projects

The Elysian Park-Downtown Water Recycling Projects (WRPs), two separate projects, will supply approximately 2,741 acre-feet per year (AFY) of recycled water for irrigation and industrial uses to Elysian Park, Downtown Los Angeles, Chinatown, Exposition Park, Boyle Heights, and Southeast Los Angeles.

Project features include construction of a two million gallon tank at Elysian Park, 97,300 linear feet (18 miles) of 16-inch recycled water pipeline (purple pipe), construction of two 3,000 gallon per minute (GPM) pump stations, and a 30,000 gallon forebay tank to provide a potable backup to the recycled water system.

The EIR was certified in June 2016.[17] The EIR provides: "Regarding impacts on flows, a change in the volume of discharges to the Los Angeles River due to implementation of the proposed project is not anticipated and, thus, no impacts to the river's biological resources, habitat, or recreational opportunities are anticipated to occur…. By increasing flows to the plant, the Chevy Chase Sewer Diversion Project will result in an increase in the overall amount of recycled water produced at LAG, ensuring enough recycled water to supply the [WRPs] without affecting current discharges to the Los Angeles River. Therefore, a change in the volume of discharges to the river due to implementation of the proposed project is not anticipated and no impacts to the river's biological resources, habitat, or recreational opportunities would occur." (WRP EIR, 3-118 to 119.)

Because this project will not impact the River's flows, it was not included in the Glendale Hydraulic Flow Analysis.

8.e. 2016 Los Angeles Groundwater Replenishment Project

Description: This Project is the outcome of the planning process in the City of Los Angeles' 2012 RWMP to increase the use of recycled water, and replenish the groundwater basin where it can eventually be pumped and supplied to homes for drinking and non-drinking uses. The Los Angeles Groundwater Replenishment (GWR) Project will provide up 30,000 AF of treated wastewater, per year, from TWRP (Tillman) to the Hansen and Pacoima Spreading Grounds in the eastern San Fernando Valley. TWRP has a capacity to treat up to 80 mgd of wastewater if both the existing 40-mgd phases are operational. However, only a single phase is currently operated at a given time. Currently, the wastewater that would otherwise reach TWRP (Tillman) bypasses the plant and is conveyed to Hyperion Treatment Plant in Playa Del Rey, where it undergoes a secondary level of treatment and is discharged into Santa Monica Bay. This project proposes to operate both 40 mgd phases to provide sufficient effluent to support the 30,000 AFY goal. The EIR for the project reiterates that the City will continue to discharge at least 27 mgd to the Los Angeles River (nearly 42 cfs), while meeting existing and future recycled water needs in the City of Los Angeles. Construction is scheduled from 2019 to 2022 and spreading operations are expected to start mid-2023.

[17] https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-fr-envirt-repo-archive?_adf.ctrl-state=t1eqvl7l_4&WT.mc_id=pev_confpage)&_afrLoop=408280291888862&_afrWindowMode=0&_afrWindowId=el2yxrhuy#%40%3F_afrWindowId%3Del2yxrhuy%26_afrLoop%3D408280291888862%26WT.mc_id%3Dpev_confpage%2529%26_afrWindowMode%3D0%26_adf.ctrl-state%3Du9jc0t7tb_46

Environmental Review: The Draft EIR was completed in May 2016 and the Final EIR was certified by the City of Los Angeles in December 2016. The EIR finds that there will be no impacts to the River's biological resources because the same amount of treated wastewater will continue to flow the River.[18]

Cumulative Impacts: The 2012 RWMP was not included in the Hydraulic Modeling Report because, as discussed above, after project implementation, a minimum annual average of 27 mgd would continue to be provided to the River from TWRP. Therefore, the project, which would utilize the available unused treatment capacity of TWRP to provide recycled water for the advanced water purification processes, would not result in a change in discharge to the River.

8.d. 2015 Griffith Park South Water Recycling Project

The Griffith Park South Water Recycling Project (GPSWRP) will extend the existing recycled water system to the southern facilities of Griffith Park to increase recycled water supply and offset the demand of potable water in Central Los Angeles. LADWP has identified Roosevelt Golf Course as a customer for recycled water as the golf course currently uses potable water for irrigation. The GPSWRP will provide 370 AFY of recycled water produced by LAG and used for irrigation at the Roosevelt Golf Course and future areas of expansion within Griffith Park.

The final MND was approved by LADWP in March 2014. The MND does not identify any reductions in discharge to the LA River from the LAG WRP and therefore was not included in the Glendale Hydraulic Flow Analysis. The expected completion date of the project is September 2018.

9. 2012 Tujunga Spreading Grounds Enhancement Project

Description: This project plans to capture an average of 8,000 AFY of stormwater to recharge into the San Fernando Groundwater Basin via the Tujunga Spreading Grounds. Stormwater from the largely undeveloped mountain areas flows first to Hansen Dam, where it is temporarily held, and then released to Tujunga Wash (a tributary to the Los Angeles River), from which it can be diverted to the project site.

Phase 1 construction began in July 2016 and is anticipated to be completed in Fall of 2019. Phase 2 of the construction will begin in April 2019. The projected completion date is 2020.

Environmental Review: The FEIR was approved in June 2013. No quantitative data could be found on how this project might affect summer dry season flows in the LA River, likely because this project focuses on capturing wet weather flows to reduce flooding during precipitation events. The EIR concluded that the "project will result in a reduction of stormwater runoff which subsequently becomes polluted from mixing with urban runoff and enters the Los Angeles River, and therefore is expected to have a beneficial impact on surface water quality."[19]

Cumulative Impacts: The EIR does not provide a quantitative assessment of the consequences for dry season runoff to the Los Angeles River. Accordingly, the Tujunga project was not included in the Hydraulic Modeling Report.

[18] DEIR, p. 3.4-19; FEIR, p. 3-51.
[19] DEIR, p. 2-12.

10. 2007 Los Angeles River Revitalization Master Plan

Description: The Los Angeles River Revitalization Master Plan (LARRMP) is a blueprint for a variety of greening projects within half a mile of the river along a 32 mile stretch of the river within the City of Los Angeles, to be implemented in near term (5-20 years) and long term (20-50 years).[20] Proposed measures include creating more natural channel reaches and planting vegetation along the bottom of the channel, creating a greenway along the bank of the channel and routing stormdrains through bio-swales and bio-filtration systems.

Measures in the LARRMP within the Glendale Study Area include:

- Expand Verdugo Wash confluence
- Taylor Yard – create one mile of water quality terraces within the high flow channel area and modify the channel bottom to provide habitat

Environmental Review: The final PEIR/PEIS was prepared in April 2007. The impact assessment of the EIR is at the programmatic level, not the project level and no specific projects were described in a manner that allows analysis of the effects of the LARRMP on dry weather flows in proposed Project's Study Area. In addition, none of these proposed measures will directly remove water from the LA River. Rather, the proposed measures are designed to improve habitat and biological resources. The LARRMP proposes to increase vegetation within the Los Angeles River from 30-50%. This increase in habitat would reduce peak flow rates (primarily in the winter months) in the Los Angeles River improving fish and wildlife habitat.[21] "Increasing the amount of vegetation in the channel and reducing water velocities would improve water quality and the ecological productivity of the river, along with improving the aesthetics and recreational use of the area."[22] The City of Los Angeles concluded: "Overall, potential net cumulative long-term impacts on biological resources associated with the LARRMP are expected to be beneficial. Implementing the LARRMP measures would increase the amount of fish and wildlife habitat; provide greater ecological/biological benefits; aid in linking isolated habitats; help increase the amount of open space; help expand species diversity; and reduce the amount of impermeable surface area in the River Corridor."[23]

Cumulative Impacts: The LARRMP was not included in the Hydraulic Modeling Report because (1) the LARRMP did not quantify the impacts of the proposed measures on dry weather (summer) River flows; and (2) the LARRMP will not result in "related impacts" because the project does not propose to remove flows from the River (as the proposed Project does), but instead proposes to increase the amount of vegetation in the River to slow peak velocity flows (wet weather; winter) in order to improve habitat and the health of biological resources.

11. 2006 Arroyo Seco Watershed Management and Restoration Plan

20 http://boe.lacity.org/lariverrmp/
21 LARRMP Final PEIR/S Findings and Statement of Overriding Considerations, April 2007, p. 24.
22 LARRMP Final PEIR/S, p. 4-30.
23 LARRMP Final PEIR/S Findings and Statement of Overriding Considerations, April 2007, p. 46.

Description: The Arroyo Seco Watershed Management and Restoration Plan was prepared for the State Water Resources Control Board in 2006. The study is intended to build upon the work completed during the 2002 Arroyo Seco Watershed Restoration Feasibility Study (ASWRFS). This Plan developed policies to manage and restore water quality and habitat in the Arroyo Seco watershed (tributary to the Los Angeles River). The Plan focused on water quality and habitat, and included a series of recommended projects to enhance water quality and habitat improvement, including restoration of riparian areas with native plants.

Environmental Review: No CEQA documents were located. No quantitative data could be found on how revitalization efforts along Arroyo Seco might affect summer dry season flows in the LA River.

Cumulative Impacts: Proposals that have not crystallized to the point that it would be reasonable and practical to evaluate its cumulative impacts need not be treated as a probable future project and therefore this was not included in the Hydraulic Modeling Report. However, these revitalization efforts are proposed to occur downstream of Segment A of the Study Area for the proposed Project and therefore would not impact Glendale's flow analysis (see Hydraulic Modeling Report). Glendale's flow analysis did not include the area downstream of the Arroyo Seco confluence and above Segment B because from this point downstream the River is a concrete channel.

12. 2006 LASAN Water Integrated Resources Plan (IRP)

Description: The 2006 LASAN IRP integrates planning for wastewater, recycled water, and stormwater.[24] The IRP reviewed the water and wastewater needs of the City of Los Angeles through 2020 and identified necessary infrastructure improvements and policy recommendations. The IRP describes upgrades to the infrastructure of the Los Angeles River Watershed based on increases in wastewater flows due to population increase. The Approved Alternative Includes expanding TWRP to 100 mgd; adding storage to TWRP and LAGWRP; and upgrading Hyperion. Wastewater treatment capacity at TWRP would be expanded by increasing capacity from 64 mgd to 100 mgd. The Alternative also proposed to use an additional 56,100 afy of recycled water and would manage up to 42 percent of dry weather flow and up to 47 percent of wet weather urban runoff generated in the City of Los Angeles. However, recycled water projects and runoff management techniques were not sufficiently developed to be analyzed at a project level.

Environmental Review: The final EIR for the IRP was prepared in September 2006. The IRP components analyzed at a project level are: (1) proposed process upgrades to and/or capacity expansions to existing wastewater treatment and reclamation plants, and (2) construction of new wastewater conveyance system pipelines. None of these will result in a reduction in River flows, and in fact, expanding TWRP (Tillman) could result in additional flows to the LA River. The EIR also included program-level evaluation of new facilities, including (1) construction of wastewater system facilities (wastewater conveyance); (2) recycled water facilities; and (3) and runoff system facilities and measures.[25] These programmatic level components could result in a reduction in flows to the LA River, but there are insufficient details to evaluate such

[24] https://www.lacitysan.org/san/faces/home/portal/s-lsh-es/s-lsh-es-owla/s-lsh-es-owla-r/s-lsh-es-owla-r-wirp;jsessionid=v0fjDFloyQ1iXZL6SZ6zRRBY5JjU_lIGsvsddbOmQreSCQ9MAguF!-1093801154!784227684?_afrLoop=12282949021367094&_afrWindowMode=0&_afrWindowId=null#!%40%40%3F_afrWindowId%3Dnull%26_afrLoop%3D12282949021367094%26_afrWindowMode%3D0%26_adf.ctrl-state%3Dynmvxmf6q_4

[25] IRP DEIR, p. 2-46.

impacts. The EIR explained that specific locations of program-level components have not been determined and will be subject to separate environmental review.[26] Although no Los Angeles River flow study or analysis of flows at each reach of the River was appended to the EIR, the EIR did include a table of "Average Summer Dry Weather Flow to the Los Angeles River for Each IRP Alternative" that estimates that dry weather River flows *after* implementation of various project alternatives (i.e., recycled water, reductions in dry weather runoff) will range from 71 to 101 mgd (110 to 156 cfs). The EIR also estimates that after installing smart meters and treating dry weather runoff in urban runoff plants, the net dry weather flow entering the River would range from 35 to 51 mgd and Tillman flows would range from 45.7 to 71.4 mgd.[27]

Cumulative Impacts: Proposals for increasing the amount of recycled water used by the City of Los Angeles and plans to capture dry weather flow have not crystallized to the point that it would be reasonable and practical to evaluate its cumulative impacts need not be treated as a probable future project and therefore the components of the project that could theoretically reduce flows were not included in the Hydraulic Modeling Report. In addition, the Glendale Hydraulic Model only included 2.1 cfs of "other sources" between Tujunga Av. and Arroyo Seco (see p. 15), which is much lower than summer dry weather flows estimated by the EIR for the IRP *after* project implementation.

[26] IRP DEIR, p. 2-46.
[27] IRP DEIR, p. 3.11-84.

Appendix F
Noise Modeling Data

Project: Glendale Recycled Water System Expansion

Construction Noise Impact on Sensitive Receptors

Glendale T

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				Central Avenue					Glenoaks Boulevard				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Mobilization					**94**	***91***				**73**	***70***		
Flatbed Truck	2	75	40%	10	82	78	81	10	115	61	57	60	10
Lowboy	3	85	50%	10	94	91	94	10	115	73	70	73	10
Pavement Cutting					**94**	***87***				**73**	***66***		
Pavement Saw	1	90	20%	10	94	87	90	10	115	73	66	69	10
Pick-up Truck	1	75	40%	10	79	75	78	10	115	58	54	57	10
Excavation, Pipe Laying, Backfilling					**88**	***90***				**67**	***69***		
Air Compressor	2	78	50%	10	85	82	85	10	115	64	61	64	10
Backhoe	2	80	40%	10	87	83	86	10	115	66	62	65	10
Dump Truck	2	76	20%	10	83	76	79	10	115	62	55	58	10
Excavator	2	81	40%	10	88	84	87	10	115	67	63	66	10
Forklift	1	75	10%	10	79	69	72	10	115	58	48	51	10
Generator Sets	2	81	50%	10	88	85	88	10	115	67	64	67	10
Mechanic Truck	1	75	40%	10	79	75	78	10	115	58	54	57	10
Pick-up Truck	2	75	40%	10	82	78	81	10	115	61	57	60	10
Welder	1	74	40%	10	78	74	77	10	115	57	53	56	10
Paving					**89**	***87***				**68**	***66***		
Grinding Machine	1	85	50%	10	89	86	89	10	115	68	65	68	10
Paver	1	77	50%	10	81	78	81	10	115	60	57	60	10
Roller	1	80	20%	10	84	77	80	10	115	63	56	59	10
Demobilization					**94**	***91***				**73**	***70***		
Flatbed Truck	2	75	40%	10	82	78	81	10	115	61	57	60	10
Lowboy	3	85	50%	10	94	91	94	10	115	73	70	73	10
Street Sweeper	1	82	10%	10	86	76	79	10	115	65	55	58	10

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Glendale Recycled Water System Expansion

Construction Noise Impact on Sensitive Receptors

Chevy Chase

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				Chevy Chase Drive				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Mobilization					**90**	***87***		
Flatbed Truck	2	75	40%	15	78	74	77	10
Lowboy	3	85	50%	15	90	87	90	10
Pavement Cutting					**90**	***84***		
Pavement Saw	1	90	20%	15	90	83	86	10
Pick-up Truck	1	75	40%	15	75	71	74	10
Excavation, Pipe Laying, Backfilling					**84**	***87***		
Air Compressor	2	78	50%	15	81	78	81	10
Backhoe	2	80	40%	15	83	79	82	10
Dump Truck	2	76	20%	15	79	72	75	10
Excavator	2	81	40%	15	84	80	83	10
Forklift	1	75	10%	15	75	65	68	10
Generator Sets	2	81	50%	15	84	81	84	10
Mechanic Truck	1	75	40%	15	75	71	74	10
Pick-up Truck	2	75	40%	15	78	74	77	10
Welder	1	74	40%	15	74	70	73	10
Paving					**85**	***84***		
Grinding Machine	1	85	50%	15	85	82	85	10
Paver	1	77	50%	15	77	74	77	10
Roller	1	80	20%	15	80	73	76	10
Demobilization					**90**	***88***		
Flatbed Truck	2	75	40%	15	78	74	77	10
Lowboy	3	85	50%	15	90	87	90	10
Street Sweeper	1	82	10%	15	82	72	75	10

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Glendale Recycled Water System Expansion

Construction Noise Impact on Sensitive Receptors

Chevy Oaks/Camino San Rafael

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				Chevy Oaks Drive					Camino San Rafael				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Mobilization					**88**	***85***				**86**	***83***		
Flatbed Truck	2	75	40%	20	76	72	75	10	25	74	70	73	10
Lowboy	3	85	50%	20	88	85	88	10	25	86	83	86	10
Pavement Cutting					**88**	***81***				**86**	***79***		
Pavement Saw	1	90	20%	20	88	81	84	10	25	86	79	82	10
Pick-up Truck	1	75	40%	20	73	69	72	10	25	71	67	70	10
Excavation, Pipe Laying, Backfilling					**82**	***84***				**80**	***82***		
Air Compressor	2	78	50%	20	79	76	79	10	25	77	74	77	10
Backhoe	2	80	40%	20	81	77	80	10	25	79	75	78	10
Dump Truck	2	76	20%	20	77	70	73	10	25	75	68	71	10
Excavator	2	81	40%	20	82	78	81	10	25	80	76	79	10
Forklift	1	75	10%	20	73	63	66	10	25	71	61	64	10
Generator Sets	2	81	50%	20	82	79	82	10	25	80	77	80	10
Mechanic Truck	1	75	40%	20	73	69	72	10	25	71	67	70	10
Pick-up Truck	2	75	40%	20	76	72	75	10	25	74	70	73	10
Welder	1	74	40%	20	72	68	71	10	25	70	66	69	10
Paving					**83**	***81***				**81**	***79***		
Grinding Machine	1	85	50%	20	83	80	83	10	25	81	78	81	10
Paver	1	77	50%	20	75	72	75	10	25	73	70	73	10
Roller	1	80	20%	20	78	71	74	10	25	76	69	72	10
Demobilization					**88**	***85***				**86**	***83***		
Flatbed Truck	2	75	40%	20	76	72	75	10	25	74	70	73	10
Lowboy	3	85	50%	20	88	85	88	10	25	86	83	86	10
Street Sweeper	1	82	10%	20	80	70	73	10	25	78	68	71	10

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Glendale Recycled Water System Expansion

Construction Noise Impact on Sensitive Receptors

Pump Stations

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				Pump Station 1					Pump Station 2					Pump Station 3				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Mobilization					**80**	***77***				**86**	***83***				**80**	***77***		
Flatbed Truck	2	75	40%	50	68	64	67	10	25	74	70	73	10	50	68	64	67	10
Lowboy	3	85	50%	50	80	77	80	10	25	86	83	86	10	50	80	77	80	10
Pavement Cutting					**80**	***73***				**86**	***79***				**80**	***73***		
Pavement Saw	1	90	20%	50	80	73	76	10	25	86	79	82	10	50	80	73	76	10
Pick-up Truck	1	75	40%	50	65	61	64	10	25	71	67	70	10	50	65	61	64	10
Excavation, Pipe Laying, Backfilling					**74**	***76***				**80**	***82***				**74**	***76***		
Air Compressor	2	78	50%	50	71	68	71	10	25	77	74	77	10	50	71	68	71	10
Backhoe	2	80	40%	50	73	69	72	10	25	79	75	78	10	50	73	69	72	10
Dump Truck	2	76	20%	50	69	62	65	10	25	75	68	71	10	50	69	62	65	10
Excavator	2	81	40%	50	74	70	73	10	25	80	76	79	10	50	74	70	73	10
Forklift	1	75	10%	50	65	55	58	10	25	71	61	64	10	50	65	55	58	10
Generator Sets	2	81	50%	50	74	71	74	10	25	80	77	80	10	50	74	71	74	10
Mechanic Truck	1	75	40%	50	65	61	64	10	25	71	67	70	10	50	65	61	64	10
Pick-up Truck	2	75	40%	50	68	64	67	10	25	74	70	73	10	50	68	64	67	10
Welder	1	74	40%	50	64	60	63	10	25	70	66	69	10	50	64	60	63	10
Paving					**75**	***73***				**81**	***79***				**75**	***73***		
Grinding Machine	1	85	50%	50	75	72	75	10	25	81	78	81	10	50	75	72	75	10
Paver	1	77	50%	50	67	64	67	10	25	73	70	73	10	50	67	64	67	10
Roller	1	80	20%	50	70	63	66	10	25	76	69	72	10	50	70	63	66	10
Demobilization					**80**	***77***				**86**	***83***				**80**	***77***		
Flatbed Truck	2	75	40%	50	68	64	67	10	25	74	70	73	10	50	68	64	67	10
Lowboy	3	85	50%	50	80	77	80	10	25	86	83	86	10	50	80	77	80	10
Street Sweeper	1	82	10%	50	72	62	65	10	25	78	68	71	10	50	72	62	65	10
Maximum Pipe Installation						***77***					***83***					***77***		
Pump Stations					**72**	***73***				**78**	***79***				**72**	***73***		
Dump Truck	1	76	20%	50	66	59	62	10	25	72	65	68	10	50	66	59	62	10
Excavator	1	81	40%	50	71	67	70	10	25	77	73	76	10	50	71	67	70	10
Pick-up Truck	1	75	40%	50	65	61	64	10	25	71	67	70	10	50	65	61	64	10
Cranes	1	81	40%	50	71	67	70	10	25	77	73	76	10	50	71	67	70	10
Cement Truck	2	79	40%	50	72	68	71	10	25	78	74	77	10	50	72	68	71	10
Concurrent Pipe Installation & Pump Station Construction						***78***					***84***					***78***		

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Appendix G
Glendale's Wastewater Change Petition

ESA

glendale california
City of Glendale
Glendale Water & Power
Administration

141 N. Glendale Ave., Level 4
Glendale, CA 91206-4975
Tel 818.548.2107 Fax 818.552.2852
www.glendaleca.gov

September 14, 2016

Mitchell Moody
Division of Water Rights
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

Subject: City of Glendale Water Division Petition for additional Recycled Water from Los Angeles Glendale Water Reclamation Plant (LAGWRP)

Dear Mr. Moody:

Enclosed are the following documents relative to a Petition for Change (Petition) under **Los Angeles Glendale Water Reclamation Plant (LAGWRP):**

1. Petition for Water Rights Change.
2. Environmental Information for Petitions.
3. Attachments 1-7
4. CD with Copy of Pasadena's Draft Environmental Report and Glendale Water Master Plan
5. $1000 and $850 checks payable to SWRCB and CDFWS, Respectively.

Glendale and Los Angeles are joint and equal partners in the ownership of the reclaimed water produced by the LAGWRP and each City has rights to one-half of the reclaimed water before its lawful discharge into the Los Angeles River (see attachment 7).

Glendale Water and Power (GWP) Water Division is filing this Petition with the Division of Water Rights to request additional delivery of approximately 3500 acre-feet per year (AFY) of Title 22 disinfected, tertiary-treated recycled water for irrigation in the cities of Glendale and Pasadena.

We look forward to working with you and your staff during the review and approval process for this Petition for Change.

Stephen M. Zurn
General Manager - GWP

SMZ/MED:cl

Attachments

City Of Glendale

REQUEST FOR DEMAND

To: **Director of Finance**

Date: **September 13, 2016**

Vendor Info: ☐ Regular ☒ One Time ☐ Employee

Division: **GWP Water**

Vendor #: 149559 Address #

Contact: Tracy Wassif Phone Ext: 3972

Name: State of California

Address: State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

Note: 2 RFDs attached for 2 checks that need to be issued:

1) Department of Fish & Wildlife - $850

2) Division of Water Rights -$1000

* Certified Mail *

Explanation of Request:

Payment for the fee application fee to Division of Wate
application is to file for water rights to deliver recycled v
Plant (LAGWRP) to the City of Pasadena Water and P
Glendale. The unused treated water from LAGWRP is
to this change in discharge amount, the City must appl

. This
eclamation
ity of
River. Due

Account	Fund	Org	Program	Sub Class / F E R C	Project	Activity ID	Invoice Num.	Amount	A/P USE ONLY
44760					11799	UW031		1,000.00	

Division Head

9.16.16
Date

Note: *All necessary supporting data and documents must be attached to this request.*

C-253 (REV. 4/03/03)

City Of Glendale

REQUEST FOR DEMAND

To: **Director of Finance**

Date: **September 13, 2016**

Vendor Info: ☐ Regular ☒ One Time ☐ Employee

Division: **GWP Water**

Vendor #: 101838 Address #:

Contact: Tracy Wassif Phone Ext: 3972

Name: State of California

Address: State of California
Department of Fish and Wildlife
P.O. Box 2000
Sacramento, CA 95812-2000

Amount: **$850.00**

Disposition of Completed Warrant:

All warrants will be mailed directly to the vendor.

Explanation of Request:

Payment for the fee to the Department of Fish and Wildlife for the water rights petition application to the State Water Resources Control Board - Division of Water Rights. This application is to file for water rights to deliver recycled water from the Los Angeles/Glendale Water Reclamation Plant (LAGWRP) to the City of Pasadena Water and Power and to other customers throughout the City of Glendale. The unused treated water from LAGWRP is currently being discharged to the Los Angeles River. Due to this change in discharge amount, the City must apply for water rights.

Account	Fund	Org	Program	Sub Class / F E R C	Project	Activity ID	Invoice Num.	Amount	A/P USE ONLY
44760					11799	UW031		850.00	

Division Head

9.16.16
Date

Note: *All necessary supporting data and documents must be attached to this request.*

C-253 (REV. 4/03/03)

Please indicate County where your project is located here:

Los Angeles

MAIL FORM AND ATTACHMENTS TO:
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
http://www.waterboards.ca.gov/waterrights

PETITION FOR CHANGE

Separate petitions are required for each water right. Mark all areas that apply to your proposed change(s). Incomplete forms may not be accepted. Location and area information must be provided on maps in accordance with established requirements. (Cal. Code Regs., tit. 23, § 715 et seq.) Provide attachments if necessary.

- ☐ **Point of Diversion** Wat. Code, § 1701
- ☒ **Point of Rediversion** Cal. Code Regs., tit. 23, § 791(e)
- ☒ **Place of Use** Wat. Code, § 1701
- ☐ **Purpose of Use** Wat. Code, § 1701
- ☐ **Distribution of Storage** Cal. Code Regs., tit. 23, § 791(e)
- ☐ **Temporary Urgency** Wat. Code, § 1435
- ☐ **Instream Flow Dedication** Wat. Code, § 1707
- ☒ **Waste Water** Wat. Code, § 1211
- ☐ **Split** Cal. Code Regs., tit. 23, § 836
- ☐ **Terms or Conditions** Cal. Code Regs., tit. 23, § 791(e)
- ☐ **Other**

Application ☐ Permit ☐ License ☐ Statement ☐

I (we) hereby petition for change(s) noted above and described as follows:

Point of Diversion or Rediversion – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Present: Sec. 0, T.1S, R.14W SBB&B. 6,478,420 E 1,872,402 N (NAD 83 Zone 5). See map in Attachment 4.

Proposed: Retain Existing: Present Point of Discharge. Add: Discharge to Proposed Place of Use as shown in Attachment 6.

Place of Use – Identify area using Public Land Survey System descriptions to ¼-¼ level; for irrigation, list number of acres irrigated.

Present: Several approved recycled water use sites throughout the City of Glendale as shown in Attachment 2. Excess recycled water discharged to Los Angeles River (Map shown in Attachment 4).

Proposed: Various recycled water use sites in the Cities of Pasadena and Glendale as shown in Attachments 2 and 6.

Purpose of Use

Present: Discharged to LA River, and irrigation throughout the City of Glendale.

Proposed: Irrigation for the City of Pasadena and additional Glendale sites.

Split

Provide the names, addresses, and phone numbers for all proposed water right holders.

Not applicable.

In addition, provide a separate sheet with a table describing how the water right will be split between the water right holders: for each party list amount by direct diversion and/or storage, season of diversion, maximum annual amount, maximum diversion to offstream storage, point(s) of diversion, place(s) of use, and purpose(s) of use. Maps showing the point(s) of diversion and place of use for each party should be provided.

Distribution of Storage

Present: Not applicable.

Proposed: Not applicable.

gency

ary urgency change will be effective from Not applicable. to Not applicable.

e an attachment that describes the urgent need that is the basis of the temporary urgency change and whether the ge will result in injury to any lawful user of water or have unreasonable effects on fish, wildlife or instream uses.

Instream Flow Dedication – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Upstream Location: Not applicable.

Downstream Location: Not applicable.

List the quantities dedicated to instream flow in either: ☐ cubic feet per second or ☐ gallons per day:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Will the dedicated flow be diverted for consumptive use at a downstream location? ○ Yes ○ No

If yes, provide the source name, location coordinates, and the quantities of flow that will be diverted from the stream.

Waste Water

If applicable, provide the reduction in amount of treated waste water discharged in cubic feet per second.

Will this change involve water provided by a water service contract which prohibits your exclusive right to this treated waste water? ○ Yes ◉ No

Will any legal user of the treated waste water discharged be affected? ○ Yes ◉ No

General Information – For all Petitions, provide the following information, if applicable to your proposed change(s).

Will any current Point of Diversion, Point of Storage, or Place of Use be abandoned? ○ Yes ◉ No

I (we) have access to the proposed point of diversion or control the proposed place of use by virtue of:

☒ ownership ☐ lease ☐ verbal agreement ☐ written agreement

If by lease or agreement, state name and address of person(s) from whom access has been obtained.

Amendment No. 1 Joint Powers Agreement Between the City of Los Angeles and the City of Glendale to Provide for Operation and Maintenance of the Los Angeles-Glendale Water Reclamation Plant is shown in Attachment 7.

Give name and address of any person(s) taking water from the stream between the present point of diversion or rediversion and the proposed point of diversion or rediversion, as well as any other person(s) known to you who may be affected by the proposed change.

None.

All Right Holders Must Sign This Form: I (we) declare under penalty of perjury that this change does not involve an increase in the amount of the appropriation or the season of diversion, and that the above is true and correct to the best of my (our) knowledge and belief. Dated 9/14/2016 at Glendale.

Right Holder or Authorized Agent Signature

Right Holder or Authorized Agent Signature

NOTE: All petitions must be accompanied by:

(1) the form Environmental Information for Petitions, including required attachments, available at: http://www.waterboards.ca.gov/waterrights/publications_forms/forms/docs/pet_info.pdf

(2) Division of Water Rights fee, per the Water Rights Fee Schedule, available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/fees/

(3) Department of Fish and Wildlife fee of $850 (Pub. Resources Code, § 10005)

State of California
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
http://www.waterboards.ca.gov/waterrights

ENVIRONMENTAL INFORMATION FOR PETITIONS

This form is required for all petitions.

Before the State Water Resources Control Board (State Water Board) can approve a petition, the State Water Board must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). This form is not a CEQA document. If a CEQA document has not yet been prepared, a determination must be made of who is responsible for its preparation. As the petitioner, you are responsible for all costs associated with the environmental evaluation and preparation of the required CEQA documents. Please answer the following questions to the best of your ability and submit any studies that have been conducted regarding the environmental evaluation of your project. If you need more space to completely answer the questions, please number and attach additional sheets.

DESCRIPTION OF PROPOSED CHANGES OR WORK REMAINING TO BE COMPLETED

For a petition for change, provide a description of the proposed changes to your project including, but not limited to, type of construction activity, structures existing or to be built, area to be graded or excavated, increase in water diversion and use (up to the amount authorized by the permit), changes in land use, and project operational changes, including changes in how the water will be used. For a petition for extension of time, provide a description of what work has been completed and what remains to be done. Include in your description any of the above elements that will occur during the requested extension period.

The City of Glendale proposes to deliver up to 3,100 acre-feet per year of Title 22 disinfected, tertiary treated recycled water to the City of Pasadena for irrigation. The Pasadena Non-Potable Water Project is proposed to convey recycled water from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) to potential customers through a pump stations, a transmission pipeline, and distribution mains. The City of Pasadena is responsible for funding and phased construction of the project. The first phase is estimated to be operational in 2018 and the last phase (Phase VI) to be operational in 2028.

For additional information on the Pasadena Non-Potable Water Project, please refer to the draft and final Environmental Impact Reports (EIR) attached to this submittal (CD).

The City of Glendale also plans to expand their recycled water system to connect 9 additional customers with an approximate demand of 400 ac-ft (City) is entitle to 50 percent of the effluent from the LAGWRP, which is a 20 million gallons per day (mgd) facility co-owned by the City and the City of Los Angeles. The City's existing recycled water system consists of approximately 22 miles of "purple also plans to expand their recycled water system to include 9 additional customers with an estimated demand of 331 acre-feet per year, through four expansions segments which are identified in Attachment 2 of this submittal.

Insert the attachment number here, if applicable: 1-2,5

Coordination with Regional Water Quality Control Board

For change petitions only, you must request consultation with the Regional Water Quality Control Board regarding the potential effects of your proposed change on water quality and other instream beneficial uses. (Cal. Code Regs., tit. 23, § 794.) In order to determine the appropriate office for consultation, see: http://www.waterboards.ca.gov/waterboards_map.shtml. Provide the date you submitted your request for consultation here, then provide the following information.

Date of Request: 6/28/2016

Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation? ○ Yes ◉ No

Will a waste discharge permit be required for the project? ○ Yes ◉ No

If necessary, provide additional information below:

Construction of the project may generate waste, as well as cause erosion, turbidity, or sedimentation. The final EIR (included in Attachment 5) lists all potential impacts and determines mitigation measures to ensure the impact is less than significant with mitigation.

Insert the attachment number here, if applicable: 5

Local Permits

For temporary transfers only, you must contact the board of supervisors for the county(ies) both for where you currently store or use water and where you propose to transfer the water. (Wat. Code § 1726.) Provide the date you submitted your request for consultation here.

Date of Contact: Not applicable.

For change petitions only, you should contact your local planning or public works department and provide the information below.

Person Contacted: Erik Krause | Date of Contact: 6/14/2016

Department: Community Development | Phone Number: (818) 937-8156

County Zoning Designation:

Are any county permits required for your project? If yes, indicate type below. ◉ Yes ○ No

☐ Grading Permit ☐ Use Permit ☐ Watercourse ☐ Obstruction Permit

☐ Change of Zoning ☐ General Plan Change ☒ Other (explain below)

If applicable, have you obtained any of the permits listed above? If yes, provide copies. ○ Yes ◉ No

If necessary, provide additional information below:

The following approvals from Los Angeles County are required:
1) LA County Roadway Encroachment Permit,
2) Flood Control Crossing Easement or Lease Agreement,
3) Flood Control Permit for Easement Acquisition, and
4) Concurrence with Construction Staging and Traffic Management Plan

Insert the attachment number here, if applicable:

Federal and State Permits

Check any additional agencies that may require permits or other approvals for your project:

☒ Regional Water Quality Control Board ☒ Department of Fish and Game

☐ Dept of Water Resources, Division of Safety of Dams ☐ California Coastal Commission

☐ State Reclamation Board ☒ U.S. Army Corps of Engineers ☐ U.S. Forest Service

☐ Bureau of Land Management ☐ Federal Energy Regulatory Commission

☐ Natural Resources Conservation Service

Have you obtained any of the permits listed above? If yes, provide copies. ○ Yes ◉ No

For each agency from which a permit is required, provide the following information:

Agency	Permit Type	Person(s) Contacted	Contact Date	Phone Number
RWQCB	CWA Sec 401 WQ			
CA DF&W	Section 1602			
US Army Corp Engineers	NWP 12			

If necessary, provide additional information below:

Not applicable.

Insert the attachment number here, if applicable: ☐

Construction or Grading Activity

Does the project involve any construction or grading-related activity that has significantly altered or would significantly alter the bed, bank or riparian habitat of any stream or lake? ○ Yes ◉ No

If necessary, provide additional information below:

Not applicable.

Insert the attachment number here, if applicable: ☐

Archeology

Has an archeological report been prepared for this project? If yes, provide a copy. ◯ Yes ◉ No

Will another public agency be preparing an archeological report? ◉ Yes ◯ No

Do you know of any archeological or historic sites in the area? If yes, explain below. ◉ Yes ◯ No

If necessary, provide additional information below:

One archaeological site (CA-LAN-26) was discovered in 1938 during the excavation of the existing Sheldon potable water reservoir. The subsurface study identified 2 anomalies and one target of interest. Additional excavations will be performed before construction of Phase 1 and an archaeological monitor will oversee the construction and prepare a final report with the conclusions of the observation.

Insert the attachment number here, if applicable: 5

Photographs

For all petitions other than time extensions, attach complete sets of color photographs, clearly dated and labeled, showing the vegetation that exists at the following three locations:

☒ Along the stream channel immediately downstream from each point of diversion

☒ Along the stream channel immediately upstream from each point of diversion

☒ At the place where water subject to this water right will be used

Maps

For all petitions other than time extensions, attach maps labeled in accordance with the regulations showing all applicable features, both present and proposed, including but not limited to: point of diversion, point of rediversion, distribution of storage reservoirs, point of discharge of treated wastewater, place of use, and location of instream flow dedication reach. (Cal. Code Regs., tit. 23, §§ 715 et seq., 794.)

Pursuant to California Code of Regulations, title 23, section 794, petitions for change submitted without maps may not be accepted.

All Water Right Holders Must Sign This Form:

I (we) hereby certify that the statements I (we) have furnished above and in the attachments are complete to the best of my (our) ability and that the facts, statements, and information presented are true and correct to the best of my (our) knowledge. Dated 9/14/2016 at Glendale.

Water Right Holder or Authorized Agent Signature

Water Right Holder or Authorized Agent Signature

NOTE:

- **Petitions for Change may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game. (Cal. Code Regs., tit. 23, § 794.)**
- **Petitions for Temporary Transfer may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game and the board of supervisors for the county(ies) where you currently store or use water and the county(ies) where you propose to transfer the water. (Wat. Code § 1726.)**

Attachment 1 – Project Information

Pasadena Non-Potable Water Project Summary

The City of Glendale Water and Power (GWP) proposes to deliver up to 3,100 acre-feet per year (AFY) of Title 22 disinfected, tertiary-treated recycled water to the City of Pasadena Water and Power (PWP) for landscape irrigation, cooling, and other non-potable uses. PWP is responsible for this project's construction. The project will be constructed in six phases including new non-potable water infrastructure of pipelines, storage reservoirs, pressure reducing stations, and pump stations. Phase I which approximately 700 afy of demand is estimated to be operational in 2018 with the last phase, Phase VI, operational in 2028 to serve a total of 51 customers. A map of the proposed phased project can be viewed below. More information regarding this project may be found in the Environmental Impact Report (EIR). The draft and final versions of the EIR are included (see Attachment 5).

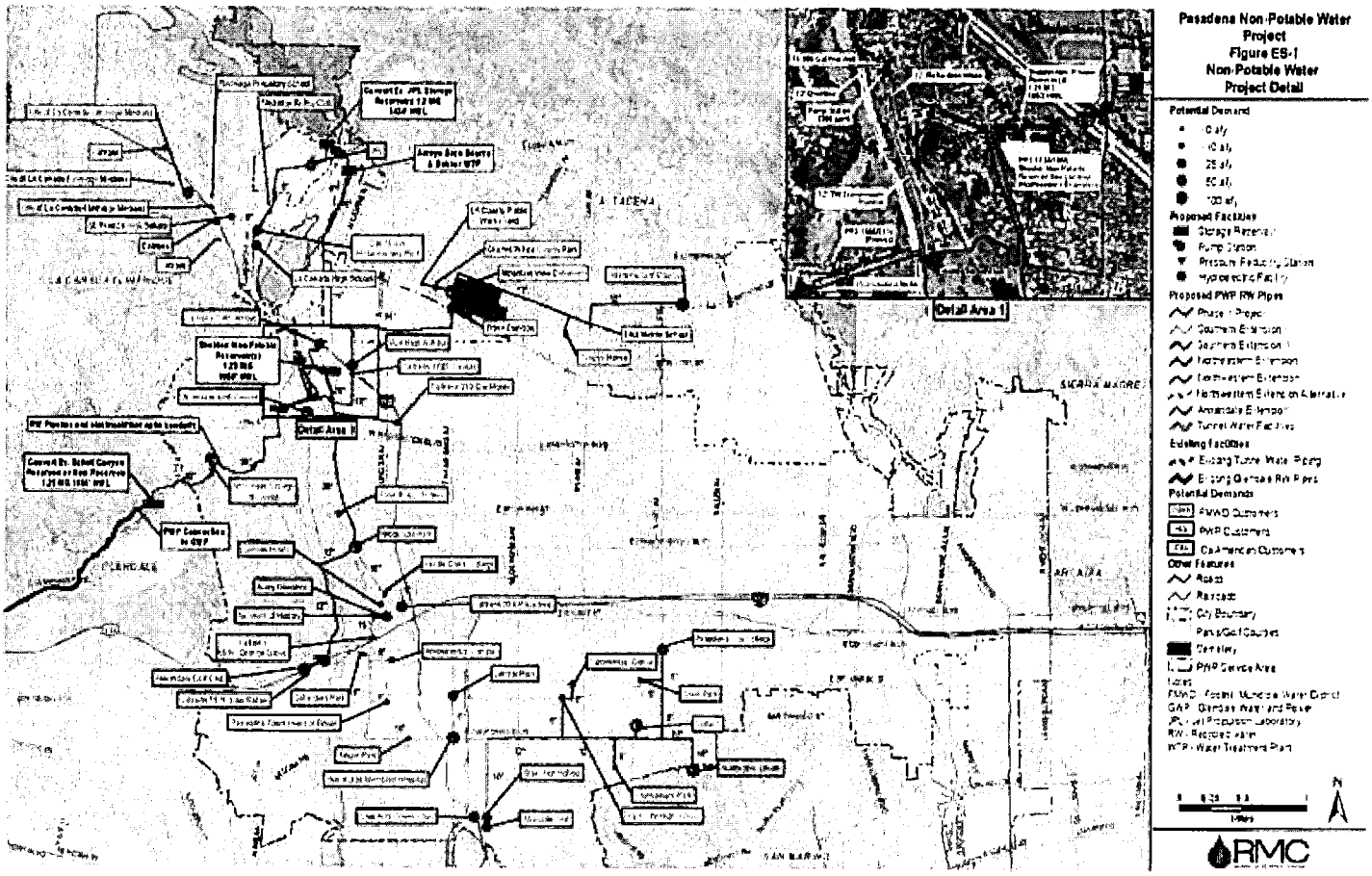


Figure 1: PWP Non-Potable Water Project Map

Attachment 2- GWP Recycled Water Overview and Planned Projects

GWP Recycled Water System Overview

The City of Glendale's existing recycled water system consists of approximately 22 miles of "purple pipe," five storage facilities, and six pump stations as depicted in the Figure 1 below. The system has been delivering water to many schools, parks, street medians, golf courses, cemeteries, and landfills. This system has also provided recycled water for landfill operation, soil compaction, street sweeping, and restroom flushing in high-rise commercial buildings. The City's recycled water system was built with the intent of future expansion throughout the City and to deliver water to the City of Pasadena.

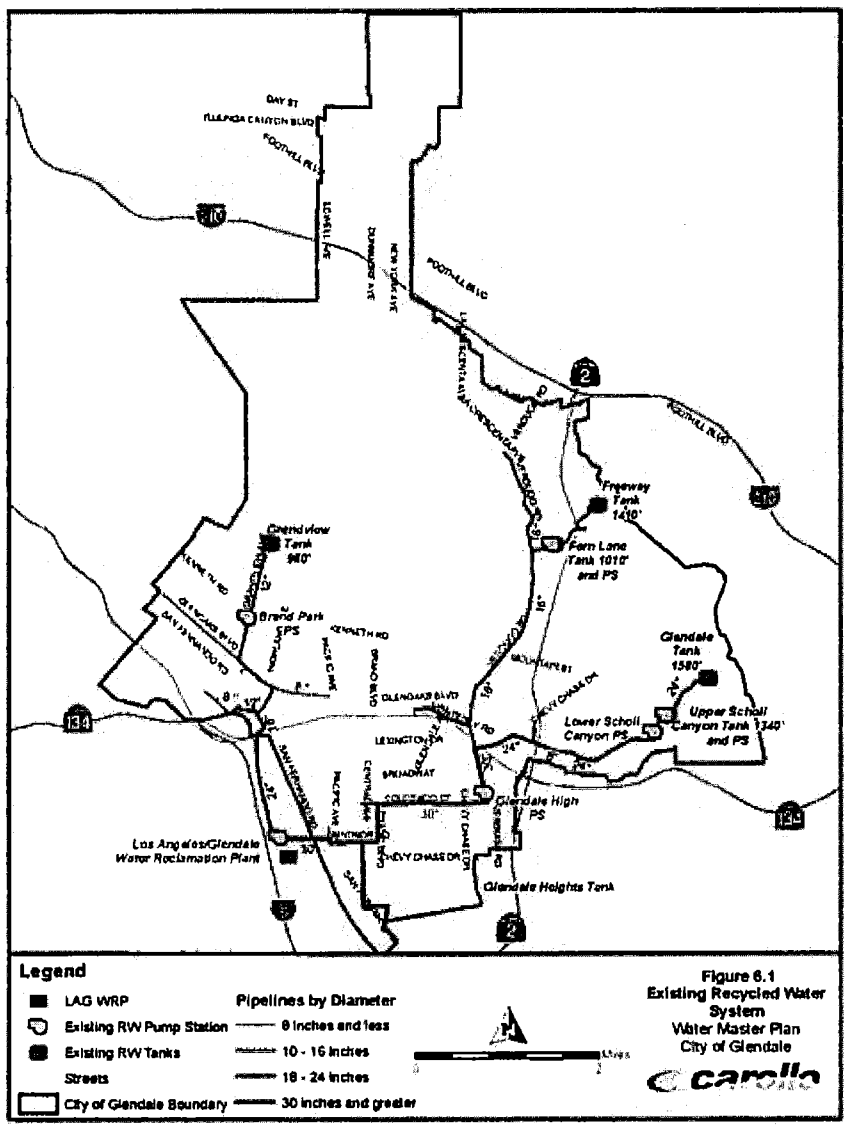


Figure 2: Existing Recycled Water System

GWP Recycled Water System Expansion

As indicated in the City's 2016 Water Master Plan (Attachment 5), the City plans to expand their recycled water system to include nine additional customers with a total estimated demand of 3,431 afy including the delivery of 3,100 afy to the City of Pasadena Water and Power (PWP). Other than the connection to the City of Pasadena, which will be installed, owned and funded by Pasadena, the City has identified four recycled water expansion segments listed below. A map illustrating these four expansion segments may be seen in Figure 3. More information can be found in the 2016 Glendale Water Master Plan, provided as attachment 5 (CD).

Table 1: GWP Recycled Water Expansion Segments

Expansion Segment	Average Annual Potable Water Conversion Demand [2] (afy)
Glendale Unified School District	56
Glendale Tee	50
Chevy Chase Country Club	100
Camino San Rafael Homes	125
Total	**331**
Pipeline to PWP	3,100
Total with Pipeline to PWP	**3,431**

Notes:
(1) Potable water conversion demands are based on City staff's estimates of existing potable users converting to recycled water.
(2) Pipeline will be installed, funded, and owned by the City of Pasadena.

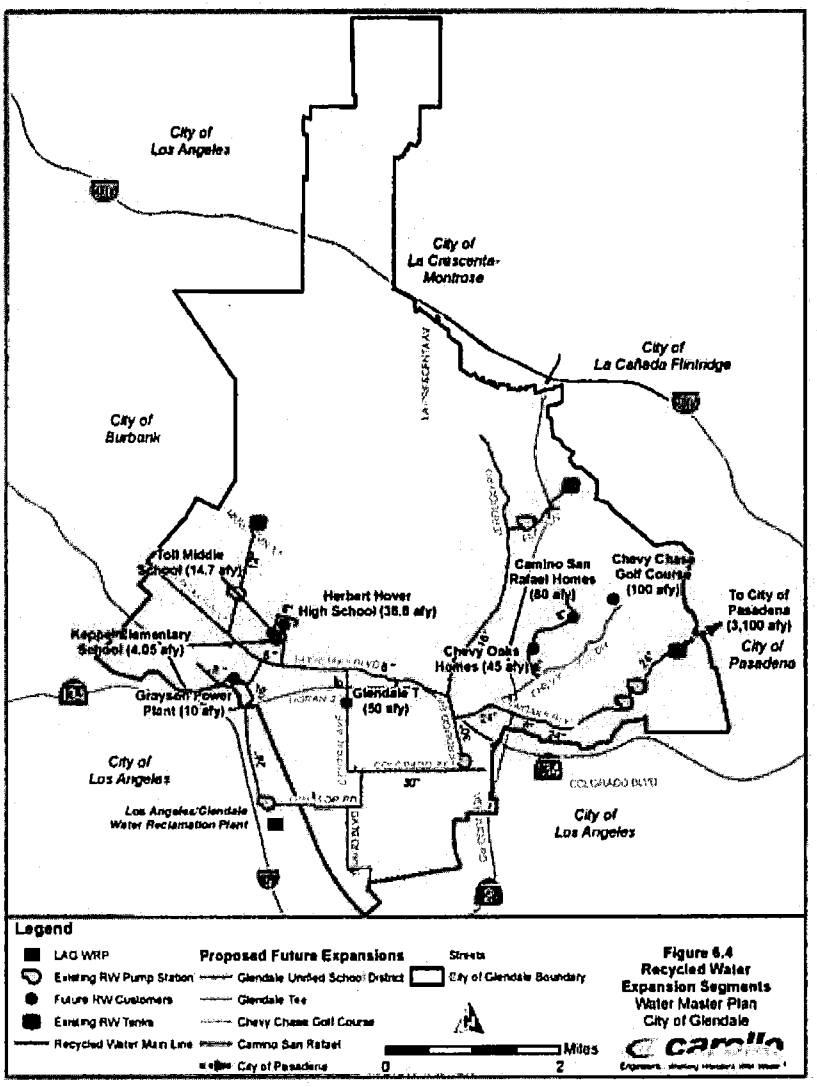


Figure 3: Recycled Water System Expansion

In the 2013/2014 fiscal year, the City served 45 recycled water users with a combination demand of 2,066 ac-ft. A list of the City's users and their monthly demand is provided in Attachment 3.

Attachment 3- GWP Recycled Water Usage FY2014-2015

GLENDALE RECYCLED WATER ACCOUNTS

FISCAL YEAR 2013-14

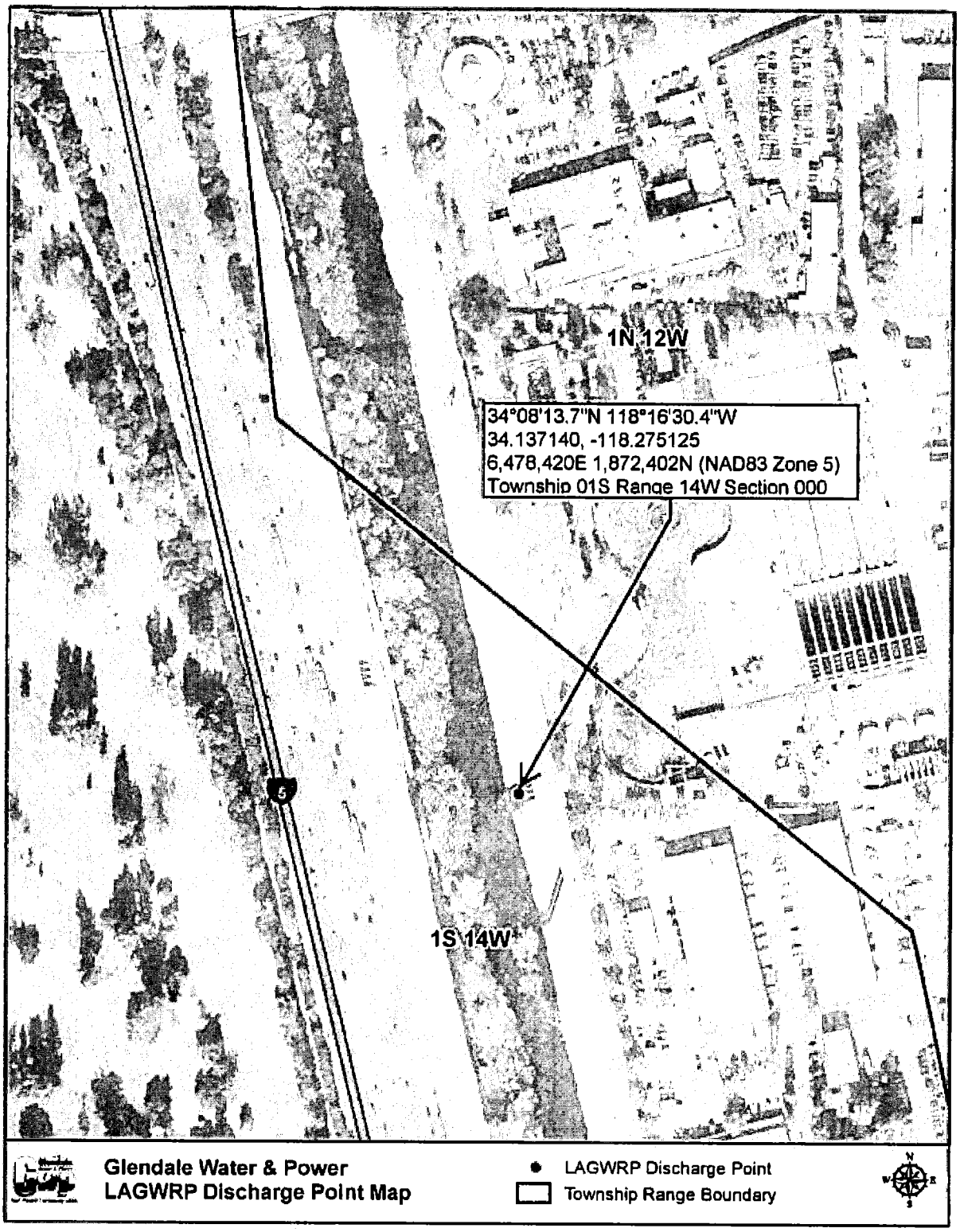
No.	PROJECT	ADDRESS	ACCOUNT NO	METER NO	CONSUMPTION (ACRE-FEET) Jul 13	Aug 13	Sep 13	Oct 13	Nov 13	Dec 13	Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	TOTAL
	FOREST LAWN PROJECT (A - 1)																
1	City of Glendale	1600 S Brand Boulevard	20241950 00	51999		0.59		0.74	0.67	0.67	0.67	1.18		0.33		0.61	5.46
[redacted]	Forest Lawn Memorial Park	1712 S Glendale Avenue	31192010 00	49206		54.31	6.60	96.41	90.50	43.40	63.81	85.19	9.83	18.57	55.33	52.59	576.56
[redacted]	Forest Lawn Memorial Park	3690 San Fernando Road	50009222 00	87936	0.02	0.03	0.03	0.02	0.01	0.01	0.02	0.03	0.01	0.01	0.02	0.02	0.24
4	Silver Crest Homes	316 W Windsor Road	50001202 00	72329	0.48		0.28		0.23		0.36		0.33		0.32		2.10
5	Cerritos Elementary School	120 E Cerritos Avenue	50006840 00	80038	0.66	0.66	0.56	0.55	0.47	0.33	0.74	0.50	0.11	0.15	0.51	0.59	5.83
6	Cerritos Elementary School	1715 S Glendale Avenue	50008277 00	81934	0.06	0.09	0.09	0.09	0.05	0.04	0.07	0.10	0.02	0.02	0.07	0.10	0.81
7	Cerritos School Park - Parks & Recreation	3690 San Fernando Road	50008056 00	81913	0.28	0.29	0.31	0.25	0.21	0.17	0.24	0.39	0.07	0.12	0.24	0.29	2.89
8	Edison Elementary & Pacific Park	501 Riverdale Drive	50006134 00	86028			4.01	3.25			1.90		1.13		1.40		11.69
			Sub-Total		1.51	55.96	11.98	101.31	92.15	44.65	67.83	87.39	11.50	19.19	57.89	54.22	605.57
	POWER PLANT PROJECT (A - 2)																
[redacted]	Caltrans	943 W Doran Street	22516764 00	54722	4.61	2.48	3.77	2.46	0.36	0.55	1.12	1.53	1.83	0.34	1.44	1.41	21.89
	Grayson Power Plant - GWP	800 Air Way	50005630 00	63383	11.37	28.81	26.34	34.38	14.48	9.92	22.05	20.71	13.99	2.83	14.36	12.54	216.81
11	Public Works - Parkway Irrigation	-	-	-	0.17	0.22	0.12	0.08	0.07	0.06	0.02	0.05	0.06	0.04	0.07	0.12	1.08
12	GLENDALE WATER & POWER-UOC	800 Air Way	50012227 00	91871	0.15	0.07	0.11	0.14	0.16	0.32	0.49	0.32	0.31	0.03	0.07	0.08	2.25
			Sub-Total		16.30	31.58	30.36	37.06	15.08	10.84	23.68	22.62	16.19	3.24	15.94	14.15	242.03
	BRAND PARK PROJECT (A - 3)																
13	City of Glendale	2008 W Glenoaks Boulevard	12356670 00	45544	0.81		1.29		1.11		1.01		0.38		0.41		5.12
14	City of Glendale	1830 W Glenoaks Boulevard (at Irving)	12382250 00	52435	0.72		0.66		0.62		0.69		0.38		0.40		3.49
15	Parks and Recreation	1108 W Glenoaks Boulevard	12513010 00	49328	0.82		0.98		1.24	1.24	2.76	1.24		0.50	0.34		9.13
16	Parks and Recreation	978 W Glenoaks Boulevard	12550700 00	40958	0.67		0.70		0.63		0.72			0.46	0.57		3.75
17	Glenoaks Medians	720 W Glenoaks Boulevard	12576220 00	42802	1.00		0.59		0.60		0.68			0.46	0.53		3.86
18	Glenoaks Medians	618 W Glenoaks Boulevard	12581960 00	51516	0.79		0.65		0.47	0.47	1.09	0.47		0.40		0.46	4.80
19	Glenoaks Medians	532 W Glenoaks Boulevard	12583040 00	54717	0.62		0.35		0.36	0.36	0.76	0.36		0.35		0.34	3.40
20	City of Glendale	1628 W Glenoaks Boulevard	22453700 00	46017		1.10		0.49		0.78	0.78	0.78	1.22	0.53		0.79	6.46
21	City of Glendale	1400 W Glenoaks Boulevard	22482660 00	40409	0.64	1.15		1.01		1.16	1.16	1.16	1.91		0.39		8.58
22	Brand Park	1700 W Mountain Street	31091775 00	54519	5.46	6.36	5.45	5.45	6.13	2.62	4.39	5.05	2.00	1.54	3.74	4.79	53.01
23	Pelanconi Park (2 - meters)	905 Cleveland Road	31092073 00	54718 54719	1.47	1.34	0.85	1.37	2.24	0.88	1.37	1.70	0.51	0.49	1.05	1.50	14.96
24	Grandview Memorial Park (3 - meters)	1341 Glenwood Road	32191200 04	53124	4.75	2.97	4.26	0.63	0.00	2.29	3.35	2.90	2.29	0.00		0.92	24.35
			50017872 01	91912	1.12	1.26	1.38	0.21	0.00	0.80	1.16	1.00	0.80	0.00		0.30	8.02
25	Walt Disney - 1	1101 Flower Street	50006720 00	87398	0.59	0.88	0.90	0.95	1.00	1.00	2.25	0.53	0.42	0.39	0.43	0.74	10.09
26	Walt Disney - L	1201 Flower Street	50006722 00	87408								0.44					0.44
27	City of Glendale (Railroad Irrigation)	5773 San Fernando Road	50009365 00	86076	0.06		1.08	0.55	0.52	0.27	0.39	0.44	0.40	0.17	0.22	0.26	4.40
28	City of Glendale Traffic-Trans	907 Flower Street	50012000 00	91930	0.24	0.38		0.35	0.15	0.29	0.29		0.30	0.13	0.13	0.16	2.61
29	Walt Disney Co.	900 Grand Central Ave	50018286 00	35753058	0.13	0.17	0.14	0.27	0.28	0.28	0.70	0.39	0.33	0.44	0.47	0.81	4.42
30	Walt Disney Co.	1200 Grand Central Ave	50018254 00	35740154	1.48	2.44	1.97	1.57	0.28	0.28	0.79	0.55	1.16	1.37	1.67	2.15	15.71
31	City of Glendale	630 Kellogg Ave	30091005 00	40171902		6.76	4.62	14.53	3.61	3.61	7.32	6.74	4.45	4.58	5.52	8.28	70.02
32	City of Glendale	700 Flower St	50015893 00	40510122		0.13	0.44	0.71	0.09	0.09	0.09	0.25	0.17	0.06	0.03	0.55	2.62
	Less Makeup Water (Potable)	To Grandview RW Tank	[illegible]			0.06											0.06
			Sub-Total		21.37	25.13	26.41	28.29	19.33	16.43	31.73	24.02	16.79	11.78	15.92	22.06	259.25
		(Sum A-1, A-2, and A-3)	Acre-Feet		39.17	112.67	68.74	166.66	126.56	71.92	123.24	134.02	44.47	39.21	89.75	90.42	1,106.85
		(A - 1)	GRCL - 1 MWD		1.51	55.96	11.98	101.31	92.15	44.65	67.83	87.39	11.50	19.19	57.89	54.22	605.57
		(B)	GRCL - 2 MWD		95.24	91.43	117.81	121.74	76.25	37.71	79.69	77.14	65.06	50.96	72.56	99.34	984.93
		(A - 3)	GRCL - 3 MWD		21.37	25.19	26.41	28.29	19.33	16.43	31.73	24.02	16.79	11.78	15.92	22.06	259.31
		[(B) + (A - 3)]	GRCL - 2 & 3 MWD		116.60	116.63	144.22	150.03	95.58	54.14	111.43	101.16	81.84	62.73	88.49	121.40	1,244.24
			Total GRCL's		118.11	172.58	156.20	251.34	187.73	98.79	179.26	188.54	93.34	81.93	146.38	175.61	1,849.81

GLENDALE RECYCLED WATER ACCOUNTS

FISCAL YEAR 2013-14

No.	PROJECT	ADDRESS	ACCOUNT NUMBER	Meter No.	CONSUMPTION (ACRE-FEET)												TOTAL
		VERDUGO SCHOLL PROJECT (B)			Jul 13	Aug 13	Sep 13	Oct 13	Nov 13	Dec 13	Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	
33	Parks & Recreation	515 E Colorado Street	31492805-00	61549	0.47	0.59	0.50	0.14	0.13	0.13	0.26	0.25	0.20	0.02	0.13	0.14	3.17
34	Colorado Street Irrigation	1311 E Colorado Street	10512470-00	70907	0.06		0.04		0.18		0.13		0.11		0.07		0.63
35	City of Glendale (Sidewalk Irrigation)	1401 E Colorado Street	10511248-00	70908	0.06		0.17		0.20		0.24		0.20				0.87
36	Caltrans (2 - meters)	1970 E Glenoaks Boulevard (E&W/S (2)	10641215-00	44497 52509					2.64		0.25		0.49		0.44		4.02
37	Caltrans	404 N Verdugo Road (at Chevy Chase Dr)	10915398-00	652086	15.20		14.69		4.80		4.50		2.44		2.32		43.96
38	Caltrans	709 Howard Street (at Monterey Road)	11621385-00	43696	2.69		4.92		5.59		2.74		3.84		1.45		21.25
39	Parks & Recreation	741 S Brand Boulevard (Median)	10228900-00	52431	0.69		1.00		0.97		0.79		0.46		0.41		4.32
40	Caltrans (206319350)	2000 E Chevy Chase Drive (at Harvey)	20413415-00	41638													0.00
41	Montecito Park	2978 N Verdugo Road (at Sparr)	21026940-01	53396		0.07		0.04		0.04	0.04	0.07	0.04	0.01		0.02	0.36
42	Parks & Recreation	3220 N Verdugo Road/Median/ La Crescenta Avenue *CIPP	21130300-00	53121		0.80		1.29		1.35	1.35	2.47	1.35	0.86		1.31	10.97
43	Parks & Recreation	3021 N Verdugo/Canada Median	21452650-00	53107		0.17		0.16		0.16	0.16	0.27	0.16	0.04		0.10	1.21
44	Parks & Recreation	Verdugo/Canada (South) Overpass	21615900-01	53252						0.00	0.00	0.00	0.00				0.00
45	Parque Vaquero	1285 N Verdugo Road	21680110-00	61564	0.25	0.34		0.25		0.13	0.13	0.29	0.13	0.05		0.04	1.62
46	Parks & Recreation	701 N Glendale Avenue (Median)	21688594-00	53133		0.71		0.40		0.44	0.44	0.78	0.44	0.20		0.58	4.18
47	Civic Auditorium	1401 N Verdugo Road	31091125-00	51638	0.47	0.88	0.57	0.48	0.60	0.40	0.61	0.74	0.29	0.14	0.31	0.43	5.91
[redacted]	Sports Complex	2200 Fern Lane	31091370-00	71345	2.58	3.10	2.78	2.35	2.05	0.74	0.77	1.74	0.70	0.54	2.00	2.39	21.76
49	Adult Recreation Center	201 E Colorado Street	31092175-00	51834	0.91	0.97	1.15	0.89	1.19	0.43	0.51	0.70	0.13	0.18	0.45	0.71	8.23
50	Glenoaks Park	2531 E Glenoaks Boulevard	31092325-00	53119	0.53	0.69	0.58	0.74	0.82	0.42	0.64	0.67	0.30	0.44	0.58	0.37	7.01
51	Parks & Recreation - Scholl Canyon Park / Lower Scholl Canyon PS	2849 E Glenoaks Boulevard	31092375-00	52444	1.28	1.38	1.29	1.29	0.77	0.51	0.59	1.22	1.16		1.63	0.84	11.96
52	Scholl Canyon Ballfield	3200 E Glenoaks Boulevard	31092600-00	52807	2.02	1.89	2.42	1.93	1.27	0.72	1.09	2.16	0.52	0.61	1.31	1.99	18.12
53	Glendale High School	1440 E Broadway	31691142-00	652085	2.43	2.50	2.29	4.10	3.17	1.60	3.69	1.00	1.00	0.68	2.79	2.43	27.67
54	Wilson Junior High School	1220 Monterey Road	31692740-00	652067	0.14	0.01			0.19	0.18	0.44	0.18	0.18	0.13	0.13	0.03	1.61
55	Glendale Adventist Medical Center	1520 E Chevy Chase Drive	31791090-00	77541	1.51	1.29	1.43	1.15	1.18	1.19	1.60	2.18	1.76	0.97	1.24	1.36	16.87
56	Glenoaks Elementary School	2015 E Glenoaks Boulevard	31791182-00	75439	0.23	0.33	0.45	0.93	0.38	0.09	0.46	0.03	0.03	0.06	0.29	0.15	3.43
57	Glendale Community College (2 - meters)	1500 N Verdugo Road	31891780-00	51835 53614	5.40	2.63		5.22	1.32	1.32	4.98	3.04	1.73	3.07	2.03	2.83	33.56
[redacted]	Oakmont Country Club	3100 Country Club Drive	31893000-00	52975	37.52	32.56	50.88	38.84	25.77	9.47	22.54	22.63	31.95	28.39	31.50	44.34	376.38
59	Central Library	222 E Harvard Street	32093752-00	51989 51996	0.74	0.60	0.70	0.65	0.91	0.08	0.23	0.25	0.18	0.16	0.30	0.33	5.12
60	Armory - State of California	230 E Colorado Street	32290830-00	54715	0.12	0.13	0.10	0.11	0.12	0.12	0.23	0.22	0.22	0.09	0.09	0.10	1.65
61	Scholl Canyon Golf Course	3800 E Glenoaks Boulevard	33093145-01	54713	18.69	23.04	19.07	20.82	13.11	9.74	16.09	15.78	5.42	6.90	13.78	21.24	183.68
62	Upper Scholl Recycled Water P.S.	3798 E Glenoaks Boulevard	33093180-01 50019056-00	53114 53117 43171911	0.55	0.38	0.07	0.11		0.10	0.16	0.20	0.11	0.20	0.11	0.87	2.86
63	LA County Sanitation District - Scholl Canyon Landfill	2847 E Glenoaks Boulevard	50008944-00	52808		13.38	12.39	21.17	7.62	7.62	12.04	15.27	6.32	3.07	8.77	15.65	123.30
64	City of Glendale - Public Works	3798 E Glenoaks Boulevard	50008945-00	80047							0.01						0.01
65	City of Glendale - Public Works	3798 E Glenoaks Boulevard	50009170-00	46349								0.74					0.74
66	City of Glendale - Public Works	1926 Fern Lane	50005623-00	74167		0.01	0.02	0.02	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.14
67	Colton & Colson G C Inc (Glendale Retirement)	1551 E Chevy Chase Drive	50008949-00	81966	0.11	0.11	0.12	0.11	0.36	0.11	0.21	0.25	0.22	0.10	0.15	0.15	2.03
68	Americana at Brand LLC	233 S Brand Boulevard	50009495-00	88293	0.17	2.25		1.49	0.59	0.59	1.65	0.59	0.53	0.92		0.87	9.86
69	City of Glendale - Neighborhood	870 Monterey Road	50010490-00	91283	0.06	0.04	0.06	0.03	0.02	0.01	0.02	0.02	0.02	0.02	0.03	0.05	0.38
70	City of Glendale [illegible]	[illegible] Monterey Road	[illegible]	[illegible]	0.12	0.00	0.09		0.07		0.02		0.00		0.00		0.30
	Car Park	1415 E Colorado Street	0	0													0.00
	Less Make-up Water (Potable)	To Glendale and Fern Ln RW Tanks	VERDUGO SCHOOLS PROJECT (B)			0.44					0.02						0.47
	Less Make-up Water (Potable)	To Glendale Recycled Tank	VERDUGO SCHOOLS PROJECT (B)			0.17		16.61				2.99	2.22	2.90	0.25		25.14
		(B)	Acre Feet		95.24	90.82	117.81	105.13	74.25	37.71	79.67	74.15	62.83	48.06	72.32	99.34	959.32
		(A's) + (B)	Total Usage - Acre Feet		134.41	203.49	186.55	271.79	202.81	109.63	202.91	208.17	107.31	87.27	162.06	189.76	2,066.17

Attachment 4 – Point of Discharge Map



Attachment 5 – Pasadena Non-Potable Water Project Draft and Final Environmental Impact Report and Glendale 2016 Water Master Plan

Provided on CD with this Petition for Change submission package

PASADENA NON-POTABLE WATER PROJECT

ENVIRONMENTAL IMPACT REPORT

FINAL
SCH #2014081091

Prepared By:

RMC water and environment

In Association with

PCR

DECEMBER 2015

Attachment 6 – Photographs

Photographs of the Existing Point of Discharge (See Attachment 4 for map showing location)

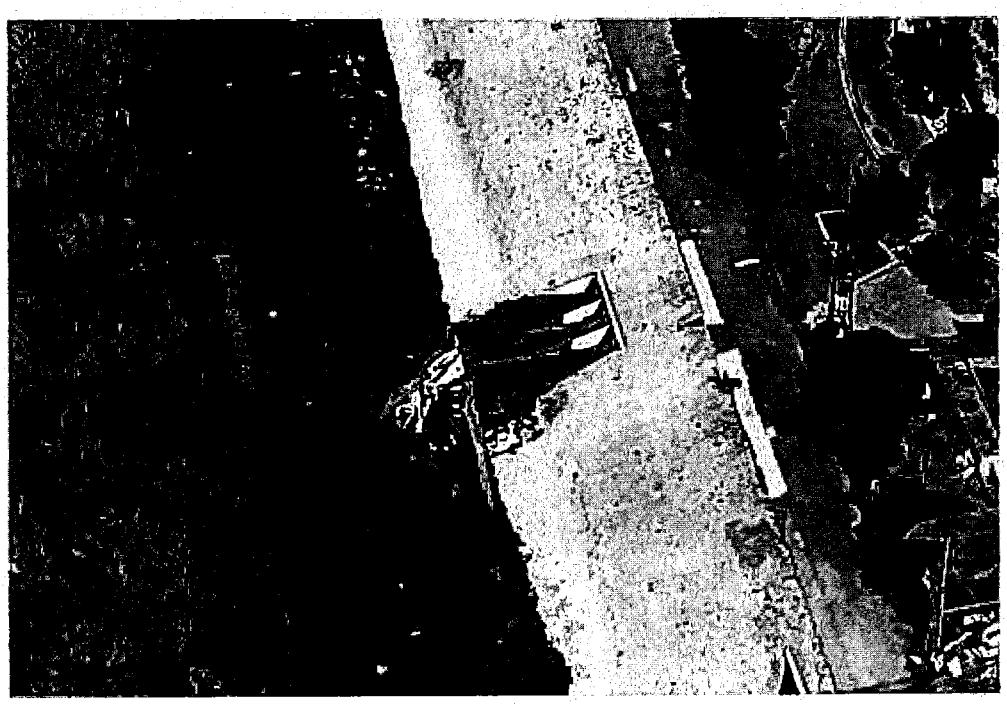


Figure 4: Los Angeles River at Discharge Point

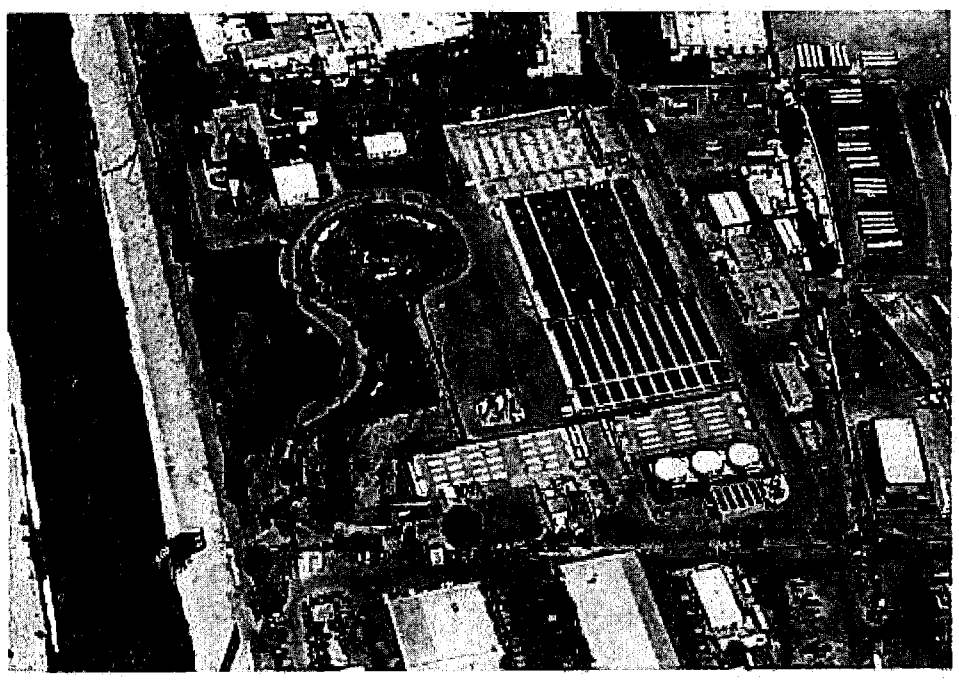


Figure 5: Ariel of LAGWARP and Discharge Point

Representative Photographs of Irrigated Land in Pasadena

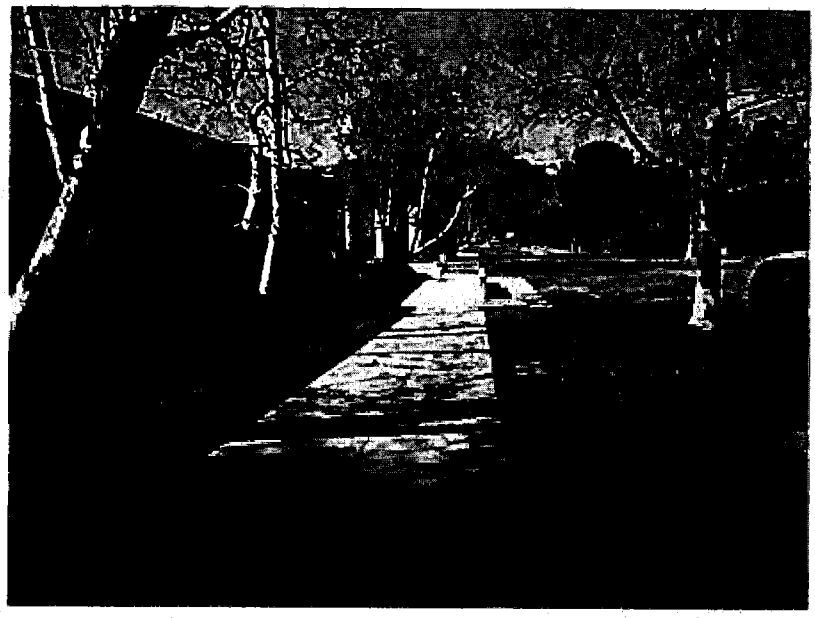


Figure 6: Representative Irrigated Land in Pasadena (Art Center)

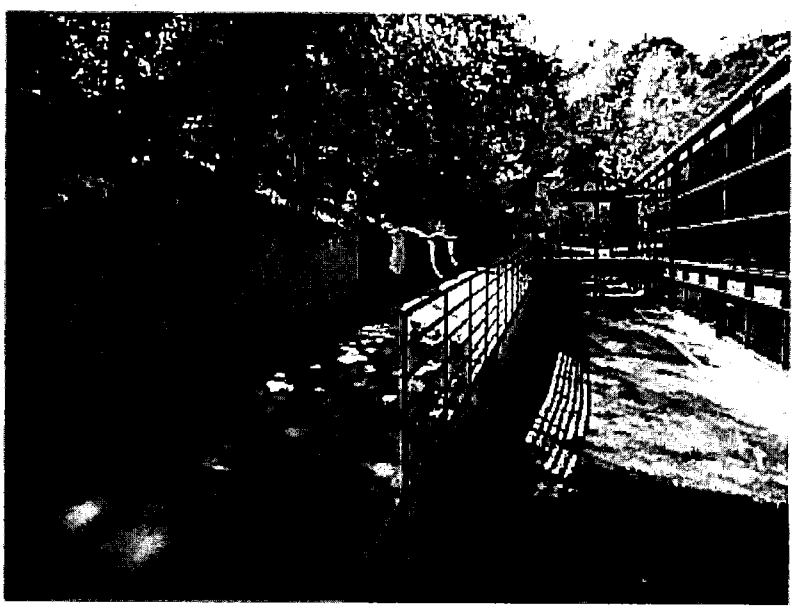


Figure 7: Representative Irrigated Land in Pasadena (Art Center)

Figure 8: Representative Irrigated Land in Pasadena (Brookside Golf Course)

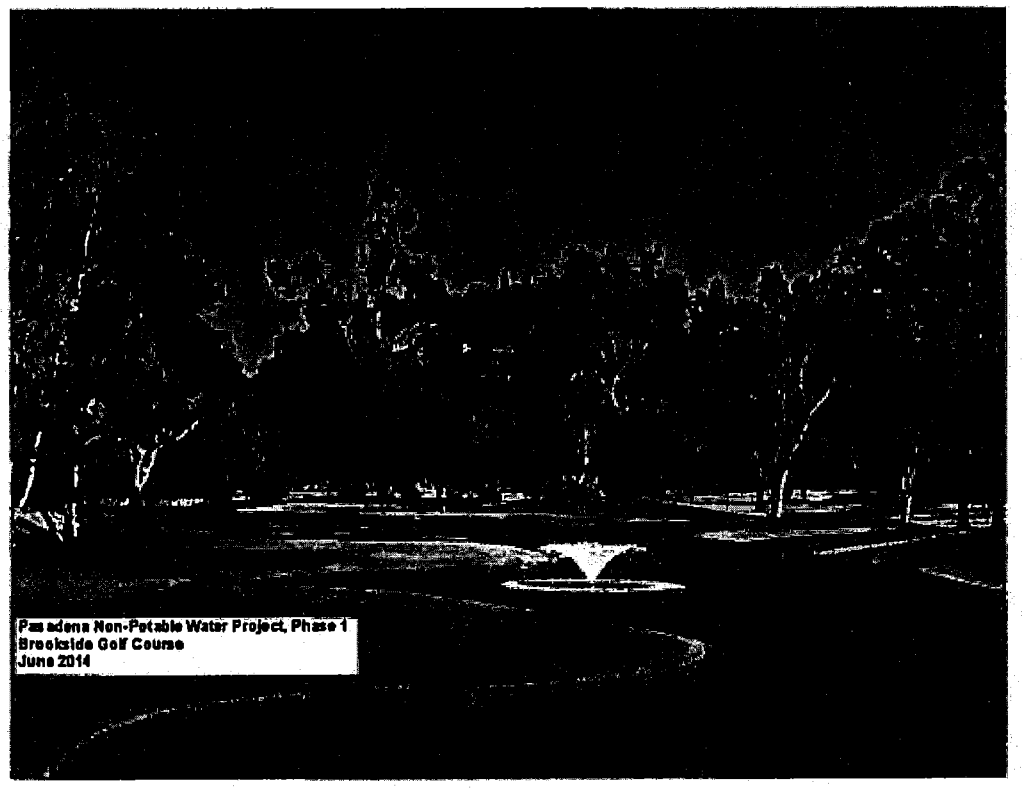


Figure 9: Representative Irrigated Land in Pasadena (Brookside Golf Course)

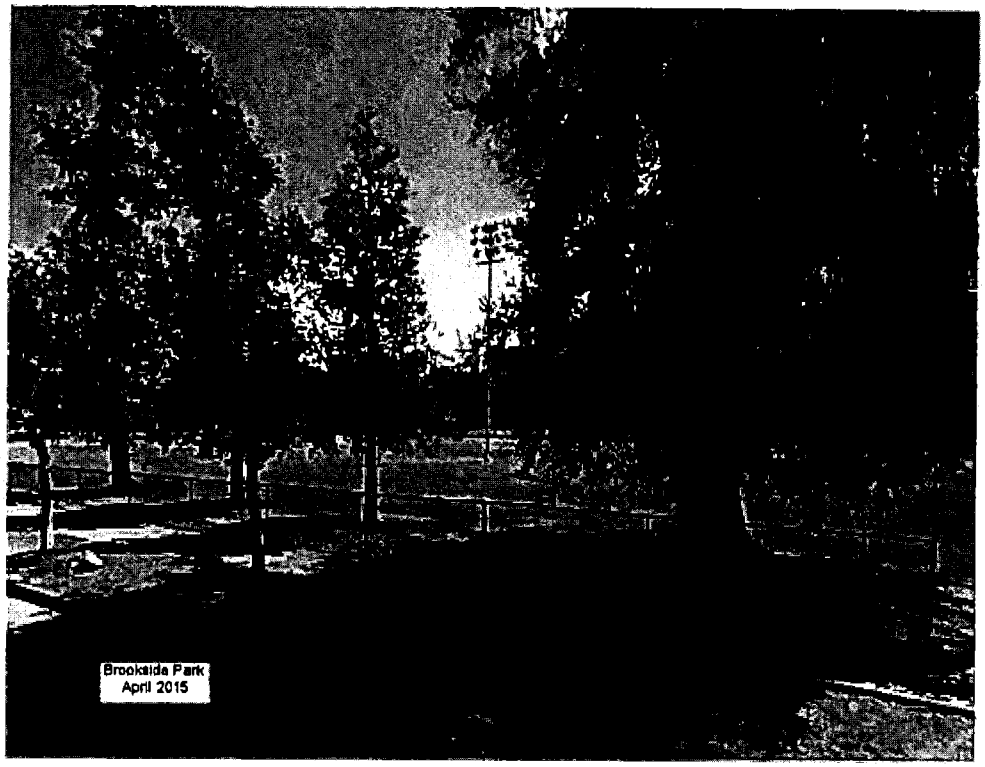


Figure 10: Representative Irrigated Land in Pasadena (Brookside Park)

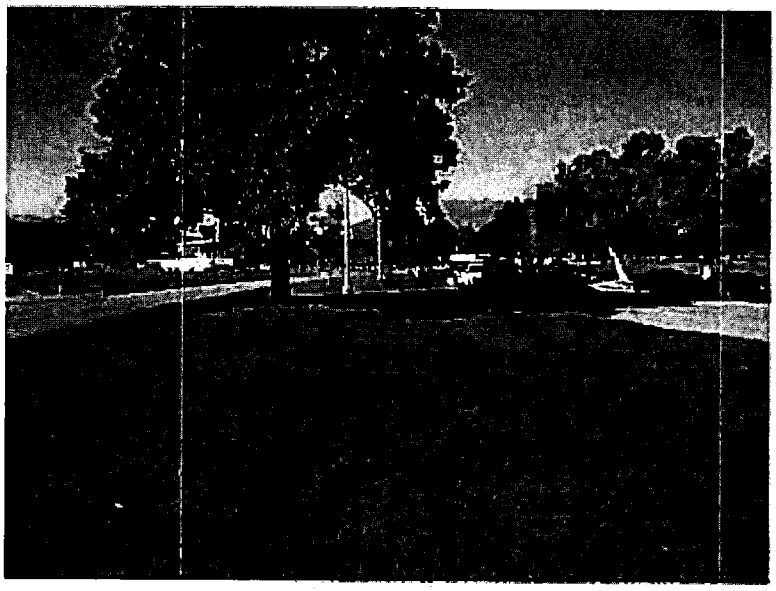


Figure 11: Representative Irrigated Land in Pasadena (Rosebowl)

Attachment 7 – Joint Powers Agreement

AMENDMENT NO. 1

JOINT POWERS AGREEMENT
BETWEEN THE CITY OF LOS ANGELES AND
THE CITY OF GLENDALE TO PROVIDE FOR
OPERATION AND MAINTENANCE OF THE
LOS ANGELES-GLENDALE WATER RECLAMATION PLANT

This Amendment No. 1 to the "Joint Powers Agreement Between the City Of Los Angeles And The City Of Glendale To Provide For Operation And Maintenance Of The Los Angeles-Glendale Water Reclamation Plant" ("1973 JPA") (Los Angeles Contract Number 42257) related to the operation, maintenance, upgrade and improvement of the Los Angeles-Glendale Water Reclamation Plant (the "Plant") dated 1973, is made and entered into this day of July 3, 2003 by and between the City of Glendale, a California Municipal Corporation ("Glendale") and the City of Los Angeles, a California Municipal Corporation ("Los Angeles"), collectively, the "Parties."

WHEREAS, on September 25, 1970, the Parties entered into the "Joint Powers Agreement Between The City of Los Angeles and The City Of Glendale To Provide For Engineering And Architectural Services For The Preparation Of Plans And Specifications For Stage I Of The Glendale-Los Angeles Water Reclamation Plant" ("1970 JPA"); and

WHEREAS, in said 1970 JPA, the Parties agreed: (a) that the Parties plan to share equally and jointly in the cost of physical plant and ownership of the inflow capacity and plan to share the operation and maintenance costs of the Plant on an equal basis; (b) that Glendale conveyed its fee interest of approximately 17 acres in said land to Los Angeles by grant deed for the sole purpose of constructing, operating and maintaining the Plant and in the event the land should ever cease to be used for a water reclamation plant, within 12 months of said date, Los Angeles shall convey an undivided one-half (1/2) interest in the land to Glendale; and (c) that Glendale and Los Angeles are joint and equal partners in the ownership of the reclaimed water produced by the Plant and each city has rights to one-half of the reclaimed water before its lawful discharge into the Los Angeles River and said rights are held to be separate and independent of the rights to wastewater treatment capacity and may be separately conveyed in title; and

WHEREAS, on February 28, 1973, the Parties entered into the 1973 JPA in order to set forth the Parties' respective duties and responsibilities regarding operation and maintenance of the Plant; and

WHEREAS, beginning in 1999, Los Angeles entered into agreements with other entities in the region for conveyance, treatment and disposal of wastewater services in a manner that proportionally shares in the operation, maintenance and capital costs for said services as calculated by measuring discharge in terms of flow and strength in an amalgamated system as described in said agreements (the "Amalgamation Agreement"); and

WHEREAS, Los Angeles proposes to enter into the Amalgamation Agreement with Glendale by which a portion of the Plant would be considered to be in said amalgamated system as set forth in the Amalgamation Agreement; and

WHEREAS, Glendale desires to enter into said Amalgamation Agreement under the terms and conditions set forth therein; and

WHEREAS, concurrent with Glendale entering into said Amalgamation Agreement, it will be necessary to amend the 1973 JPA in order to accommodate the terms and conditions of the Amalgamation Agreement and provide consistency therewith; and

WHEREAS, the Parties acknowledge and agree to make best efforts to negotiate and execute, within two years from the effective date of this Amendment No. 1, a replacement agreement or a second amendment to the 1973 JPA to further clarify the duties and responsibilities for operation and maintenance of the Plant; and

WHEREAS, this Amendment No. 1 shall not be deemed an abrogation of the 1970 JPA.

NOW, THEREFORE, the parties agree as follows:

1) The Parties hereby acknowledge and ratify the terms of the 1970 JPA except Paragraph 12 therein which is deemed by the Parties to be superseded by Section IX.A of the Amalgamation Agreement, as defined herein.

2) The 1973 JPA is hereby amended as follows:

a. Paragraph I shall be amended to add the definitions of "Amalgamation Agreement," "Amalgamated System," "Amalgamated System Sewerage Facilities Charge," "Flow Year," "MGD-Miles" and "Strength" to read as follows:

"Amalgamation Agreement" means that certain agreement between Los Angeles and Glendale for the conveyance, treatment and disposal of wastewater providing for the discharge of wastewater from Glendale to Los Angeles' wastewater treatment and collection system, including the discharge of sludge from Glendale's portion of the Plant and for Glendale's payment to Los Angeles for conveying, treating and disposing of Glendale's wastewater discharges.

"Amalgamated System" means that portion of the Los Angeles Wastewater Treatment and Collection System providing service to Glendale, as further defined in the Amalgamation Agreement. The Amalgamated System does not include the portion of the Plant the costs of which are paid by the City of Glendale.

"Amalgamated System Sewerage Facilities Charge" or "ASSFC" means the charge, as determined in Section II.C.3 of the Amalgamation Agreement, levied on new or expanding dischargers to recover the full cost of constructing Amalgamated System capacity to accommodate the anticipated increase in wastewater discharge.

"Amalgamated System Sewerage System Charge" or "ASSSC" means the charge levied on an entity to recover that entity's proportionate share of the net amalgamated system expenses as set forth in the Amalgamation Agreement.

"Flow Year" means the fourth quarter of one Fiscal Year and the first three quarters of the next Fiscal Year. The designation of the Flow Year (e.g. 1998-99) shall be the same as that of the Fiscal Year from which the three quarters are utilized.

"MGD-Miles" means the product of the quantity of flow of an area of Los Angeles, Glendale or other entity discharging wastewater to the Amalgamated System and the distance between the point of discharge of that

area of Los Angeles, Glendale or other entity into the Amalgamated System and the point(s) of treatment as more fully described in the Amalgamation Agreement.

"Strength" means the parameters of biochemical oxygen demand and suspended solids as defined in the Amalgamation Agreement and as same may be amended.

b. Paragraph I, shall be amended to remove the definitions of "Connecting Sewer," "Excess Flow," "Hyperion Plant," and "Plant Influent."

c. Paragraph I, shall be amended to revise the definitions of "Operation and Maintenance Costs," "Overhead," "Product Water," and "Plant Waste" to read as follows:

"Operation and Maintenance Costs" with respect to the Plant means any funds expended each Fiscal Year in connection with operation, maintenance, upkeep, repair, improvement, alteration, renewal and replacement of said Plant less any revenue or income derived from the sale of by-products other than reclaimed water. The costs for or in connection with the aforesaid items shall include the cost of all tools, equipment, labor, supplies, materials, appliances, power, fuel, utilities, engineering and inspection, and all overhead connected therewith.

"Overhead" means those costs which are applicable to productive activities generally but not chargeable to specific projects or activities. Overhead which totals 37.85 percent for the Bureau of Sanitation of Los Angeles will be applied to the Direct Labor Costs of the Operation and Maintenance of the Plant and 83.17 percent for the Bureau of Engineering of Los Angeles will be applied to the Direct Labor Costs of engineering and administration. The above percentages are subject to review at intervals of not less than two years for the purpose of revising the rates to reflect any cost adjustments. The costs of administration, management and support activities as part of the Amalgamated System Expenses pursuant to Section II.B.2 of the Amalgamation Agreement are not included in this definition.

"Reclaimed Water" means that treated portion of sewage to be discharged from the Plant for distribution to Glendale and Los Angeles for their reuse or their disposal.

"Plant Waste" means solids captured in the primary sedimentation process, solids wasted from the activated sludge process, skimmings, and wash water, together with treated or untreated sewage and other wastes discharged from the Plant into the Amalgamated System for transportation, treatment and disposal.

d. Paragraph II, subsection C shall be amended to read as follows:

C. Capital Costs

Should Los Angeles determine that additional Capital Costs are required in order for the Plant to function properly, upon mutual agreement by both parties, Los Angeles shall be permitted to make such capital expenditures.

e. Paragraph IV, Subsection C shall be amended to read as follows:

C. Plant Capacity Operation

Los Angeles shall regulate the Plant to operate at all times at Plant capacity as defined herein. The Parties agree to renegotiate this subsection of the 1973 JPA due to potential regulatory and NPDES permit requirements affecting the operational capacity of the Plant. This renegotiation shall take place as part of the "best efforts" negotiation of a replacement JPA contemplated by the recitals of this amendment.

f. Paragraph IV, Subsections D and F shall be removed.

g. Paragraph IV, Subsection E shall be renumbered and amended to read as follows:

D. Right of Glendale to Discharge Plant Waste into the Amalgamated System

Glendale, as part owner of the Plant, shall be permitted to discharge its proportional share of the Plant Waste into the Amalgamated System.

h. Paragraph V, Subsections A and B shall be removed.

i. Paragraph V, Subsection C shall be renumbered and amended to read as follows:

A. Allocation of Costs for Flow Determination

The cost of measurement of combined flow at the Plant will be treated as Plant cost and shared in the same manner as other Plant costs.

j. Paragraph VI shall be amended to read as follows:

A. Operation and Maintenance Charge for the Plant. Glendale shall pay to Los Angeles annually its share of the operation and maintenance costs of the non-Amalgamated System portion of the Plant for each Fiscal Year, charged to Glendale pursuant to this agreement, Glendale's share shall be determined as follows:

$$\text{Glendale's Share} = [(O\&M_Q) + \sum(O\&M_{Strength} \times D_{Strength}/TD_{Strength})]/2,$$

where:

$O\&M_Q$ = The total operation and maintenance costs of the Plant for the Fiscal Year, which are allocated to flow using the same method as used to allocate Amalgamated System costs in Section III.A.1.a of the Amalgamation Agreement;

$O\&M_{Strength}$ = The total operation and maintenance costs of the Plant for the Fiscal Year, which are allocated to each Strength parameter using the same method as used to allocate Amalgamated System costs in Section III.A.1.a of the Amalgamation Agreement;

$D_{Strength}$ = The quantity that Glendale contributes, for each Strength parameter, to

the Strength loading of the non-Amalgamated System portion of the Plant during the Fiscal Year;

$TD_{Strength}$ = The total Strength loading, for each Strength parameter, of the non-Amalgamated System portion of the Plant during the Fiscal Year.

B. Payment

1. On or before the first day of February of each Fiscal Year, Los Angeles shall submit to Glendale a preliminary invoice for estimated charges for Operation and Maintenance of the Plant and charge for Contract Administration, as such are applicable for that Fiscal Year. The amounts of such estimated charges for each Fiscal Year, after expiration of the first full Fiscal Year that this agreement is in effect, shall be identical to the total amounts billed on the final invoice for sewage treatment and disposal and for sewage transportation for the preceding Fiscal Year. On or before the first day of March, immediately following the aforesaid preliminary billing, the estimated charges shall be paid by Glendale to Los Angeles.

2. On or before the first day of February after the close of a Fiscal Year, Los Angeles shall submit a final invoice to Glendale for the final charges for operation and Maintenance of the Plant and charge for Contract Administration, as such were applicable for that Fiscal Year. The final invoice shall account for the advance payment made under the preliminary invoice for that Fiscal Year. Within 30 days after the date of the final invoice, the payment or refund set forth in said invoice shall be made.

k. Paragraph VII, Subsection A shall be amended to read as follows:

A. Glendale will comply and will require all persons, public agencies, firms, or corporations within its territorial boundaries or using any Glendale sewers tributary to the Amalgamated System and the Plant, to

comply with all standards adopted by Los Angeles relative to the quality of sewage permitted to be discharged into the Amalgamated System, and will adopt and enforce such regulations as may be necessary.

(3) All other provisions, requirements, terms and conditions of 1973 JPA shall remain in full force and effect.

IN WITNESS WHEREOF, Glendale and Los Angeles have caused this Amendment No. 1 to the 1973 JPA related to the operation, maintenance, upgrade and improvement of the Los Angeles-Glendale Water Reclamation Plant ("Reclamation Plant") to be executed by their duly authorized representatives on this 3 day of July, 2003.

ATTEST:

By: _____
J. Michael Carey
Los Angeles City Clerk

CITY OF LOS ANGELES

By: _____
James K. Hahn, Mayor

JUN 30 2003

Date: _____

Approved as to Form:

Rockard J. Delgadillo
Los Angeles City Attorney

By: _____
Christopher M. Westhoff
Assistant City Attorney

CITY OF GLENDALE

By: _____
James E. Starbird
City Manager

Date: _____

Approved as to Form:
Scott H. Howard
City Attorney

By: _____
Christina R. Sansone
Sr. Assistant City Attorney

Appendix H
Native American Tribal Consultation

ESA

glendale california
City of Glendale
Glendale Water & Power
Administration

141 N. Glendale Ave., Level 4
Glendale, CA 91206-4975
Tel 818.548.2107 Fax 818.552.2852
www.glendaleca.gov

February 12, 2018

Fernandeño Tataviam Band of Mission Indians
Caitlin B. Gulley
Tribal Historic and Cultural Preservation Officer
1019 2nd Street
San Fernando, CA 91340

Soboba Band of Luiseño Indians
Joseph Ontiveros, Cultural Resource Director
P.O. Box 487
San Jacinto, CA 92581

RE: Glendale Wastewater Change Petition WW0097 IS/MND

Dear Tribal Representative:

In conformance with the tribal consultation requirements of Assembly Bill (AB) 52, this letter is to inform you that Glendale Water and Power (GWP) is reviewing the proposed project described below. Per AB 52, the tribe has the right to consult on a proposed public or private project prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. The project description is as follows:

As a result of increased demand for recycled water, GWP proposes to gradually decrease the volume of treated wastewater discharged from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) to the adjacent Los Angeles River (River) channel in order to increase the delivery of recycled water to various users within the GWP and Pasadena Water and Power (PWP) service areas and adjacent jurisdictions. Specifically, GWP is proposing to gradually increase its use of recycled water from approximately 2,000 acre-feet (AF) per year to approximately 5,500 AF by 2028. Over approximately the next ten years, this proposed change would gradually reduce the volume of LAGWRP's discharges into the River from 10,500 AF to 7,500 AF per year. This additional recycled water will be put to use within the GWP and PWP services areas (see **Figure 1**, *Regional Vicinity Map*, **Figure 2**, *Aerial Photograph*, **Figure 3**, *Place of Use – GWP Service Area*, and **Figure 4**, *Place of Use – PWP Service Area*, below).

Aside from the proposed reductions in treated wastewater discharges to the River and increased use of recycled water within the GWP and PWP service areas, the GWP also proposes limited construction activities associated with the installation of three (3) new 8-inch recycled water distribution pipelines and three (3) associated below-grade pump stations, which would be limited to existing street rights-of-way and other disturbed areas within the City of Glendale. Refer to Figure 2 for the location of the pipeline alignments and pump stations associated with proposed construction activities.

Assembly Bill (AB) 52 Tribal Consultation Letter

You have 30 calendar days from receipt of this letter to notify us in writing that you want to consult on this project. Please provide the lead contact person's contact information. Please mail your request to:

Michael De Ghetto, P.E.
Chief Assistant General Manager – Water
Glendale Water & Power
141 N. Glendale Avenue, 4th Floor
Glendale, CA 91206

(818) 551-3023
MDeGhetto@glendaleca.gov

Sincerely,

Michael De Ghetto
Chief Assistant General Manager – Water

Attachments: Figure 1, Regional Vicinity Map
Figure 2, Aerial Photograph
Figure 3, Place of Use – GWP Service Area
Figure 4, Place of Use – PWP Service Area