FINAL

BURBANK 2017 WASTEWATER CHANGE PETITION

Initial Study/Negative Declaration

Prepared for
City of Burbank

August 22, 2017

ESA PCR

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Prepared for
City of Burbank
275 East Olive Avenue
Burbank, California 91510
Contact: Michael Thompson, P.E.

August 22, 2017

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California Environmental Quality Act

Initial Study

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

1. **Project Title:** Burbank 2017 Wastewater Change Petition

2. **Lead Agency Name and Address:**
City of Burbank
275 East Olive Avenue
Burbank, California 91510

3. **Contact Person and Phone Number:**
Michael Thompson, P.E.
Principal Civil Engineer
Burbank Water & Power
(818) 238-3500

4. **Project Location:** The proposed project site includes the Burbank Water & Power (BWP) service area within the City of Burbank and adjacent portions of the City of Los Angeles, and is generally bounded by the Verdugo Hills to the north and east, the Hollywood Hills to the south, and Laurel Canyon Boulevard to the west.

5. **Project Sponsor's Name and Address:**
City of Burbank
275 East Olive Avenue
Burbank, California 91510

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

7. **Zoning:** Numerous (varies by location)

8. **Description of Project:** The City of Burbank proposes to gradually decrease the volume of treated wastewater discharged from the BWRP to the Channel in order to increase the delivery of recycled water to various users within the BWP service area and adjacent jurisdictions.

9. **Surrounding Land Uses and Setting: Briefly describe the project's surroundings:** The project site is generally bounded by the Verdugo Hills to the north and east, the Hollywood Hills to the south, and Laurel Canyon Boulevard to the west

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?**

BWP, on behalf of the City of Burbank, 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 16, 2017. 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, Burbank Water and Power's Wastewater Change Petition, is analyzed in this Initial Study/Negative Declaration (IS/ND), 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/ND 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 Burbank. The City of Burbank is the Lead Agency under CEQA and is responsible for preparing the IS/ND 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
☐ Biological Resources
☐ Greenhouse Gas Emissions
☐ Land Use / Planning
☐ Population / Housing
☐ Transportation / Traffic
☐ Mandatory Findings of Significance
☐ Agriculture Resources
☐ Cultural Resources
☐ Hazards & Hazardous Materials
☐ Mineral Resources
☐ Public Services
☐ Tribal Cultural Resources
☐ Air Quality
☐ Geology / Soils
☐ Hydrology / Water Quality
☐ Noise
☐ Recreation
☐ Utilities / Service Systems

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.

William O. Mace, Jr.
Signature

William O. MACE, JR.
Printed name

8/30/17
Date

Asst General Manager-Water Sys.
For City of Burbank

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?	☐	☐	☐	☒

	Potentially Significant	Less Than Significant	Less Than Significant	No Impact

III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Impact	With Mitigation Incorporation	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?	☐	☐	☐	☒

<u>VI. GEOLOGY AND SOILS</u> – Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
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?	☐	☐	☐	☒

<u>VIII. HAZARDS AND HAZARDOUS MATERIALS</u> – 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?	☐	☐	☐	☒

VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:	**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 result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
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?	☐	☐	☐	☒

IX. HYDROLOGY AND WATER QUALITY – Would the project:	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
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?	☐	☐	☐	☒

XII. NOISE – Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

XIV. PUBLIC SERVICES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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	Less Than Significant Impact	No Impact
a) 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	☐	☐	☐	☒
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**	**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?	☐	☐	☒	☐
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

ATTACHMENT A - PROJECT DESCRIPTION

A. INTRODUCTION

The City of Burbank ("City") is proposing to incrementally reduce discharges of tertiary-treated wastewater from its Burbank Water Reclamation Plant ("BWRP") to the Burbank Western Channel ("Channel"), which is located approximately two miles upstream from and tributary to the Los Angeles River ("River"), in order to allow for increased use of recycled water for irrigation and other non-potable uses within the BWP service area and adjacent jurisdictions. The proposed reduction in wastewater discharges from the BWRP (herein referred to as the "proposed project") pursuant to the City's 2017 Wastewater Change Petition and associated change in place of use filed with the State Water Resources Control Board ("SWRCB") ("Wastewater Change Petition") would occur over time, and would not involve any construction activities or other physical changes to the environment other than the increased use of recycled water to offset 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.

B. PROJECT LOCATION AND SURROUNDING USES

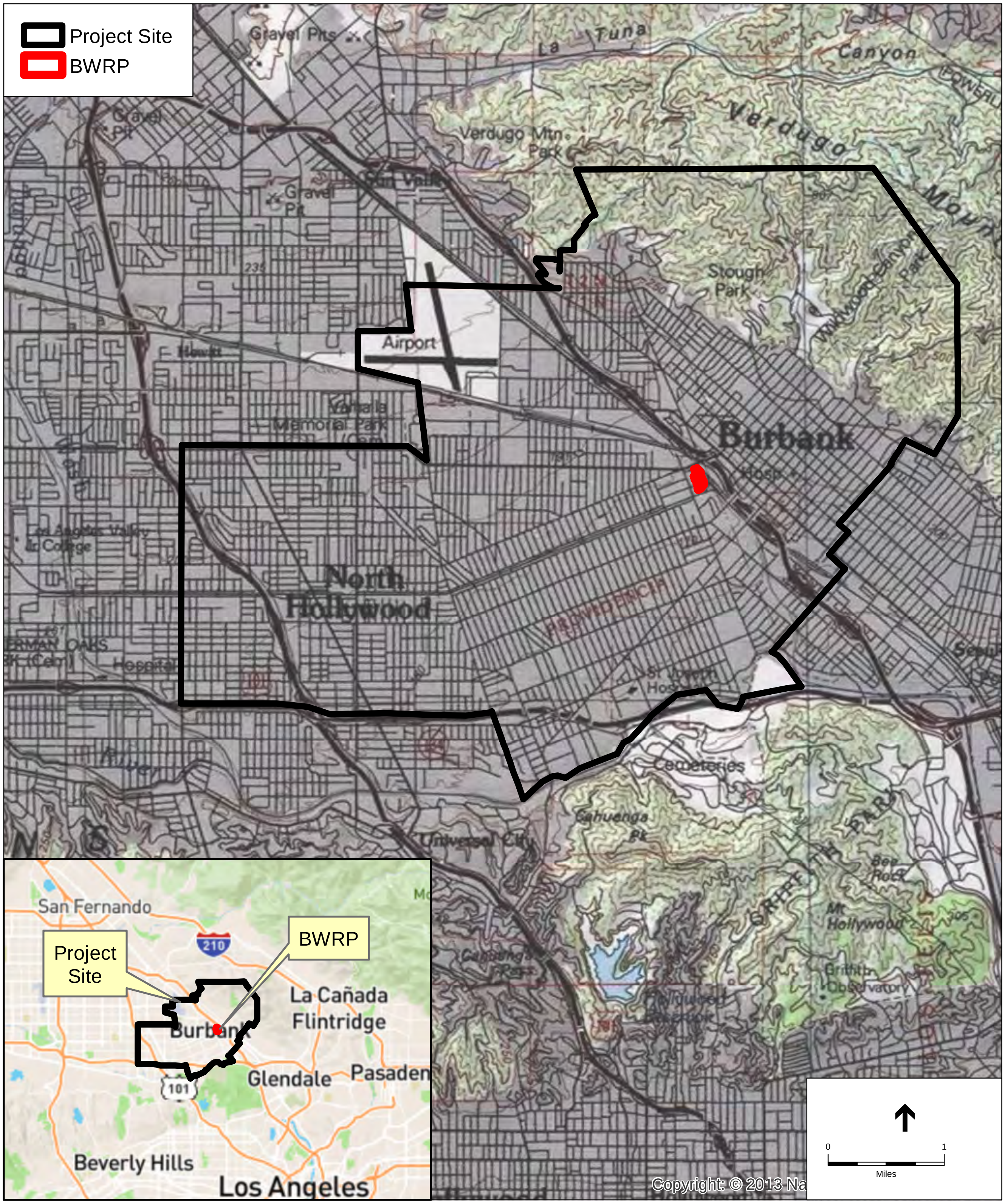
The project site, which includes the BWP service area within the City of Burbank and adjacent portions of the City of Los Angeles, and is generally bounded by the Verdugo Hills to the north and east, the Hollywood Hills to the south, and Laurel Canyon Boulevard to the west. The location of the project site is illustrated in **Figure A-1**, *Regional Location and Vicinity Map*, below, while an aerial photograph of the BWRP and adjacent Channel with surrounding land uses is provided below in **Figure A-2**, *Aerial Photograph*.

C. ENVIRONMENTAL SETTING

1. Project Background, Existing Conditions and Permits

(a) Historical BWRP Upgrades, Recycled Water System and Prior Environmental Review

The following provides a summary of the City's recycled water system, including the BWRP. All of the water treated at the BWRP is imported from outside the region by the Metropolitan Water District. A more detailed history is included in the Wastewater Change Petition for the proposed project (pages 3-7 of Exhibit 1) included in Appendix A of this Initial Study. Since its initial construction in 1966, the BWRP has been upgraded at least four times. In 1971, the BWRP was upgraded to increase the amount of wastewater it could treat from 6 Million Gallons per Day ("MGD") to 9 MGD. In 1992, the City expanded its recycled water system, leading the City to file a Wastewater Change Petition with the SWRCB, which is provided as Exhibit 2 in Appendix A of this Initial Study. In 2000, the BWRP was again upgraded to maintain compliance with new, more stringent, water quality regulations. The BWRP underwent a further upgrade in 2002 to remove ammonia from the wastewater. The current BWRP treatment process is illustrated below in **Figure A-3**, *BWRP Flow Schematic*.



SOURCE: USGS Topographic Series (Burbank, CA); Open Street Map, 2016.

Burbank Wastewater Change Petition

Figure A-1

Regional Location and Project Vicinity Map

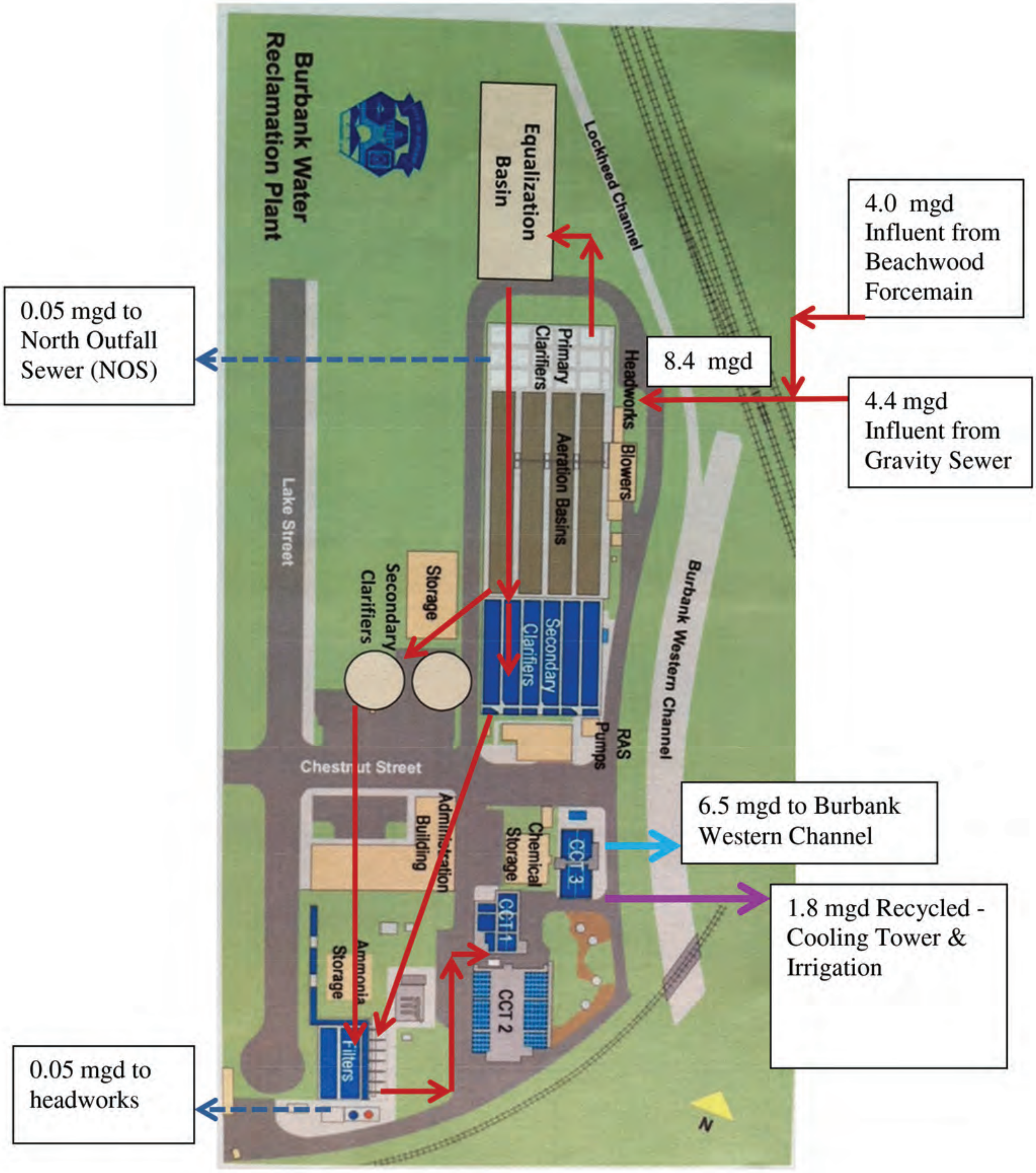
SOURCE: Google Maps, 2015 (Aerial).

Burbank Wastewater Change Petition

Figure A-2

Aerial Photograph

ESA PCR



SOURCE: City of Burbank 2012; ESA PCR 2016

Figure A-3
BWRP Flow Schematic

In 2007, the City prepared a Recycled Water Master Plan ("RWMP") that identified potential areas for expansion of the existing recycled water distribution system, including the following new uses: heating, ventilation, and air conditioning ("HVAC") cooling towers, vehicle washing, decorative fountains, dust control, street sweeping, and sewer cleaning. That same year, the BWRP underwent additional improvements, referred to as the Equalization Basin Project. The Equalization Basin Project included (1) changing the BWRP's disinfection system, (2) constructing an equalization storage basin, and (3) upgrading the BWRP to comply with an impending National Pollutant Discharge Elimination System (NPDES) permit. The City determined that all potential significant impacts could be effectively mitigated through mitigation measures. Therefore, a Mitigated Negative Declaration was prepared and submitted to the State Clearinghouse. In 2008, the City started expanding its existing recycled water system, in accordance with the 2007 RWMP. This expansion included multiple pipeline extensions and the construction of two new pump stations. The City determined that all potential significant impacts could be effectively mitigated through mitigation measures and prepared a Mitigated Negative Declaration, which it filed with the State Clearinghouse.

The City also delivers recycled water from its BWRP to the City of Los Angeles. Three recycled water pipeline projects within the City of Los Angeles that were not considered in BWP's 2008 Mitigated Negative Declaration have since been constructed and are supplied with recycled water by the BWRP. These three pipelines, which were included as part of the Whitnall Dog Park Water Recycling Project, Chandler Boulevard Bike Path Water Recycling Project, and the North Hollywood Park Water Recycling Project (part of the larger San Fernando Valley Water Recycling Project), were subject to separate environmental review by the City of Los Angeles in 2012. Specifically, the Whitnall Dog Park Water Recycling Project and Chandler Boulevard Bike Path Water Recycling Project were determined to be categorically exempt pursuant to Public Resources Code 21080.21, while a Mitigated Negative Declaration (SCH No. 2012111053) was adopted for the San Fernando Valley Water Recycling Project, which addressed impacts associated with the construction and operation of recycled water pipelines associated with the North Hollywood Park Water Recycling Project. Please see additional discussion and Figure A-5, below, for additional information regarding the expanded Place of Use for recycled water produced at the BWRP.

(b) Existing Permits

On April 14, 2016, the Los Angeles Regional Water Quality Control Board ("LARWQCB") adopted Waste Discharge Requirements/Waste Recycling Requirements ("WDRs/WRRs") Order No. R4-2016-0144 ("Order No. R4-2016-0144"), governing the City's recycling of treated wastewater.[1] (See Exhibit 1 in Appendix A of this Initial Study.) The BWRP discharges tertiary-treated wastewater from Discharge Point 002 into the Burbank Western Channel under separate Waste Discharge Requirements ("WDR") Order R4-2012-0059 ("Order No. R4-2012-0059"), that also serves as an NPDES permit. The renewed permit (Tentative Order R4-2017-00XX) was adopted by the LARWQCB on March 2, 2017.

(c) 1993 Order Approving Wastewater Change Petition

In 1992, the City filed a Wastewater Change Petition with the SWRCB, pursuant to Sections 1210 and 1211 of the California Water Code. The City requested to temporarily decrease the amount of wastewater discharged to the Burbank Channel and to change the place of use of recycled water from its existing uses for power plant cooling and landscape irrigation purposes to include irrigation in the eastern portion of the City,

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[1] *Prior to the adoption of this Order, the City was operating under WDRs/WRRs Order No. 91-101, adopted by the LARWQCB on September 9, 1991.*

northeast of Interstate 5. On March 4, 1993, the SWRCB issued an order approving the change in place of use and purpose of use requested by the City (see Exhibit 2 in Appendix A of this Initial Study). The SWRCB "determined that the changes do not constitute the initiation of a new right nor operate to the injury of any other lawful user of water."

2. Point of Discharge

The BWRP is permitted by the LARWQCB to discharge to the Los Angeles River pursuant to Order No. R4-2012-0059. The BWRP discharges at a single point, Discharge Point 002, into the concrete-lined Burbank Western Channel located within the Burbank USGS Quadrangle (non-sectioned area), which is located approximately 12,000 feet (over two miles) from the confluence of the Los Angeles River.[2] The latitude and longitude of Discharge Point 002 is 34°10'58"N and 118°19 '05"W. The location of Discharge Point 002 and the receiving Burbank Western Channel are shown in the photographs provided in **Figure A-4**, *BWRP Discharge Point Photos*. At the terminus of the Burbank Western Channel, the recycled water enters the Los Angeles River as shown above in Figure A-2. Figure A-3, above, also provides a schematic of BWRP flows and Discharge Point 002. The City is not proposing to change its point of discharge.

3. Place of Use

Currently, approximately 25% of the tertiary-treated effluent (2,705 acre-feet ("AF") in 2015/2016) produced at BWRP is beneficially reused for landscape irrigation and industrial uses throughout the City and within some adjacent portions of the City of Los Angeles. **Figure A-5**, *Place of Use*, and **Figure A-6**, *Place of Use: Recycled Water User Sites*, below, identify the City's current place of use, which depict the City's recycled water system and various existing users receiving recycled water from the BWRP within the BWP service area and adjacent areas of the City of Los Angeles. As noted above under Project Background, Existing Conditions and Permits, three recycled water pipeline projects within the City of Los Angeles (see Figure A-5 below) are supplied with recycled water by the BWRP through an agreement with BWP.

These projects, including the Whitnall Dog Park Water Recycling Project, Chandler Boulevard Bike Path Water Recycling Project, and the North Hollywood Park Water Recycling Project (part of the larger San Fernando Valley Water Recycling Project), were subject to separate environmental review by the City of Los Angeles in 2012.

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[2] *Previously, BWRP also discharged from Discharge Point 001, which served as the surface water discharge point from the Burbank Power Plant. Discharge Point 001, however, has not been operable since June 14, 2005 when the Burbank Power Plant was converted to a zero liquid discharge facility.*

PHOTOGRAPH 1. BWRP Discharge Point 002 into a concrete-lined rectangular open channel looking downstream to the southeast.

PHOTOGRAPH 2. Concrete-lined rectangular open channel upstream of Discharge Point looking upstream toward the northwest.

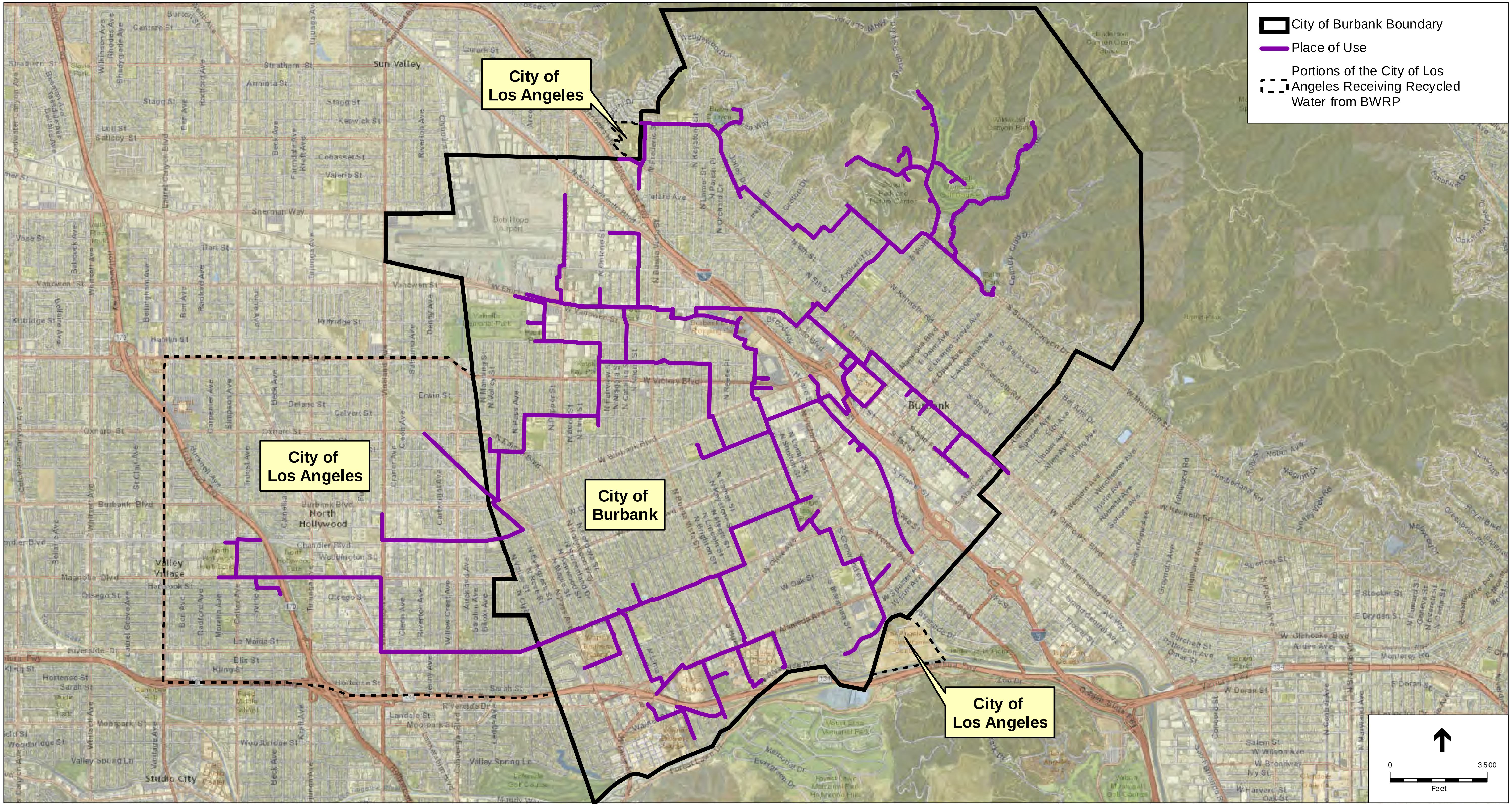
SOURCE: City of Burbank 2016; ESA PCR 2016

Burbank Wastewater Change Petition

Figure A-4

BWRP Discharge Point Photographs

ESA PCR



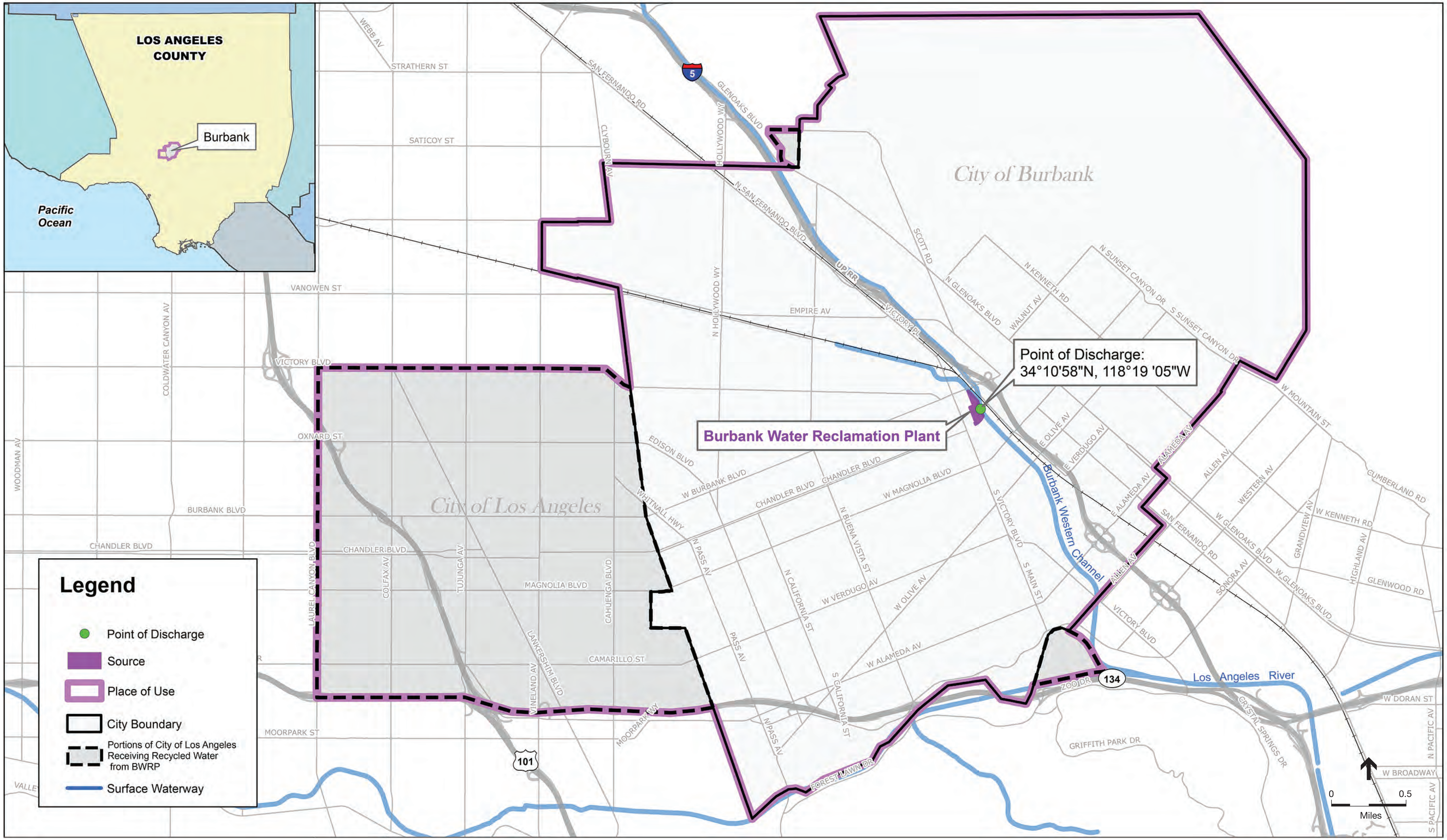
SOURCE: City of Burbank, 2016.

Burbank Wastewater Change Petition

Figure A-5

Place of Use

ESA PCR



SOURCE: Burbank Water & Power, 2017

Burbank Wastewater Change Petition

Figure A-6

Place of Use - Recycled Water User Sites

ESA PCR

Two other recycled water users located outside the City of Burbank, but within the City of Los Angeles, including Woodbury University in the northwest portion of the BWP service area and the L.A. Equestrian Center in the southeast portion of the service area, were identified as Potential Anchor Customers in the City of Burbank's 2008 Recycled Water System Expansion Project, and thus the use of recycled water for non-potable applications at these locations was already evaluated as part of the Mitigated Negative Declaration adopted for that project. Accordingly, all of the City's recycled water infrastructure and the use of recycled water from the BWRP in the place of use depicted herein was previously reviewed and no new analysis is required. The updated Place of Use illustrated below in Figure A-5 incorporates these projects.

Existing and future customers are depicted by the shaded areas in Figure A-6. The BWRP also currently provides approximately 1.8 MGD for use in cooling towers serving the City's power plants, as shown in Figure A-3. The remainder of wastewater received by the BWRP is treated and discharged to the Burbank Western Channel at Discharge Point 002 (5,376 AF in 2015/2016), as summarized below in **Figure A-7**, *BWRP Discharge Summary 1991-2025*. As also shown in Figure A-7, since 1992 the City has discharged an average volume of 6,483 AF of wastewater to the Burbank Western Channel, with discharge volumes ranging from a low of 4,198 AF in 1999/2000 to a high of 8,277 AF in 2004/2005. Historical and projected monthly discharges to the Channel are summarized in Figure A-7. As a result of increased demand for recycled water, Burbank is proposing to gradually increase its use of recycled water from 2,705 AF to approximately 5,027 AF by 2025 (see Figure A-7). Over approximately the next ten years, this proposed change would gradually reduce the volume of BWRP's discharges into the Burbank Western Channel from 5,376 AF to 3,766 AF (see Figure A-7). This additional recycled water will be put to use within the City of Burbank and the San Fernando Valley portion of Los Angeles, all of which is within the Upper Los Angeles River Area ("ULARA", see Figures A-5 and A-6). Because the City is now proposing to gradually decrease discharges of treated wastewater into the Channel, it is now requesting from the SWRCB a change in Place of Use from its 1993 Place of Use to an expanded Place of Use that encompasses all of Burbank and portions of the City of Los Angeles (includes existing and future sites, see Figures A-5 and A-6). Consistent with BWRP's current recycled water distribution, all recycled water will be used within the ULARA, which will maintain return flows to the Los Angeles River and its tributaries.

(iv) Purpose of Use

BWRP generates tertiary-treated recycled water, which is distributed for irrigation and industrial uses to customers located within the City and the San Fernando Valley portion of Los Angeles. The remainder of the wastewater received at the BWRP is treated and discharged into the concrete-lined Burbank Western Channel, which flows into the Los Angeles River, as illustrated above in Figure A-2. Pursuant to its current Wastewater Change Petition, the City is proposing to use an additional 2,322 AF of tertiary-treated water to continue to meet the growing local irrigation and industrial demand for recycled water and to supply portions of the City of Los Angeles within the ULARA,[3] as shown in Figure A-7, and this will result in reduced discharges of wastewater to the Western Channel over the next 10 years.

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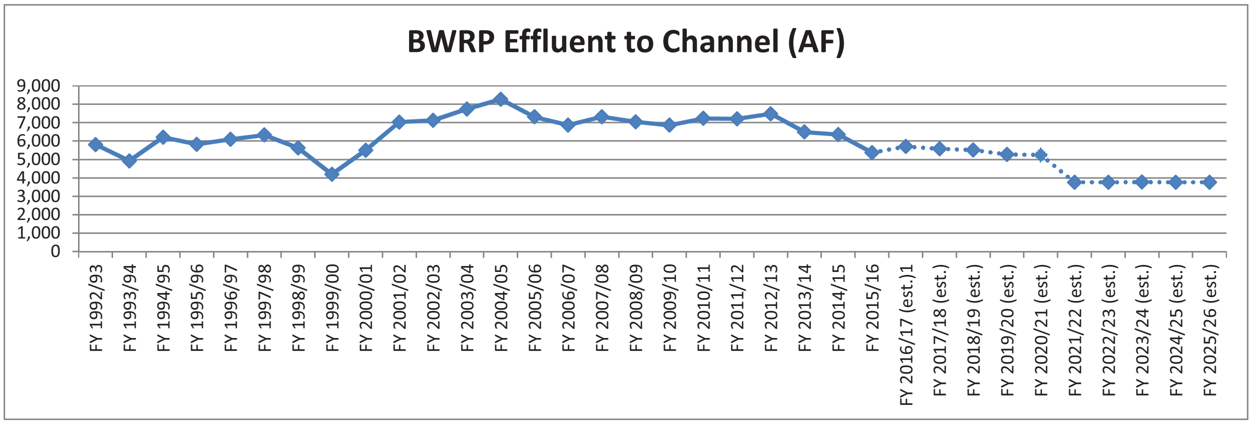
[3] *The City's existing uses for recycled water include landscape irrigation, cooling tower, vehicle washing, decorative fountains, dust control, street sweeping, and sewer cleaning. All uses conform to Title 22 of the California Code of Regulations.*

Year	Total Quantity of Water Treated by BWP (AF)	Total Quantity of Recycled Water Delivered to Customers (both inside and outside BWP) (AF)	Discharge 002 (at BWRP) to Channel (AF)	Discharge 001 (at BWP) to Channel (AF)	Total Discharged
FY 1991/92		415	970	4,744	5,714
FY 1992/93		618	724	5,095	5,819
FY 1993/94	8,640	755	256	4,672	4,928
FY 1994/95	9,162	667	645	5,565	6,210
FY 1995/96	8,268	509	1,011	4,814	5,824
FY 1996/97	9,118	957	1,450	4,648	6,098
FY 1997/98	8,486	730	1,971	4,365	6,336
FY 1998/99	7,801	677	1,077	4,554	5,630
FY 1999/00	7,492	863	2,069	2,129	4,198
FY 2000/01	8,925	1,004	2,635	2,873	5,507
FY 2001/02	8,911	807	3,083	3,949	7,032
FY 2002/03	8,908	570	2,371	4,756	7,127
FY 2003/04	9,200	537	4,259	3,485	7,744
FY 2004/05	9,662	556	5,343	2,934	8,277
FY 2005/06	9,706	1,317	7,318	0	7,318
FY 2006/07	10,060	2,184	6,877	0	6,877
FY 2007/08	10,296	2,165	7,329	0	7,329
FY 2008/09	9,897	1,975	7,055	0	7,055
FY 2009/10	9,315	2,069	6,868	0	6,868
FY 2010/11	9,147	1,717	7,237	0	7,237
FY 2011/12	9,237	1,924	7,215	0	7,215
FY 2012/13	9,364	1,614	7,491	0	7,491
FY 2013/14	8,997	2,370	6,497	0	6,497
FY 2014/15	8,388	2,261	6,361	0	6,361
FY 2015/16	8,009	2,705	5,376	0	5,376
FY 2016/17 (est.)[1]	8,790	3,047	5,709	0	5,709
FY 2017/18 (est.)	8,790	3,172	5,586	0	5,586
FY 2018/19 (est.)	8,790	3,242	5,517	0	5,517
FY 2019/20 (est.)	8,814	3,502	5,277	0	5,277
FY 2020/21 (est.)	8,790	3,512	5,252	0	5,252
FY 2021/22 (est.)	8,790	5,027	3,766	0	3,766
FY 2022/23 (est.)	8,790	5,027	3,766	0	3,766
FY 2023/24 (est.)	8,814	5,027	3,776	0	3,776
FY 2024/25 (est.)	8,790	5,027	3,766	0	3,766
FY 2025/26 (est.)	8,790	5,027	3,766	0	3,766

[1] In order to calculate future discharges, we used FY 2015/16 as the baseline. Therefore, estimated future discharge amounts are based on the amount of water treated by the BWRP in FY 2015/16 (8,009 AF). We also assumed that the amount of water lost to sludge removal and/or evaporation would be an average of 0.25AF/day.



SOURCE: City of Burbank 2017; ESA PCR 2017

Figure A-7
BWRP Discharge Summary 1991-2025

D. LAND USE AND ZONING DESIGNATIONS

The project site includes the entire BWP recycled water service area within the City, as well as several adjacent portions of the City of Los Angeles that are supplied with recycled water by the BWRP. 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 the BWRP with the highest recycled water demands include Industrial uses (e.g., Burbank Power Plants), Institutional uses (e.g., Woodbury University and public schools), Public Park/Open Space/Recreation uses (e.g., various public parks, Caltrans right-of-way irrigation, Burbank Landfill, DeBell Golf Course), and Commercial uses (e.g., IKEA, Costco, Warner Bros. Studios). Refer to Figure A-6 above for the location of the various recycled water users within the project site.

E. DESCRIPTION OF THE PROPOSED PROJECT

1. Reason for Proposed Change

The City is proposing to continue to implement its recycled water reuse program in order to increase 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 acre-feet per year by 2020 and by at least two million acre-feet per year 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

As noted above, the City owns and operates the BWRP located at 740 N. Lake Street, Burbank, California. All of the water treated at the BWRP is imported from the Metropolitan Water District, as discussed on page 6 of Exhibit 1 in Appendix A of this Initial Study. 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 discharge of treated water to a concrete-lined channel that is tributary to the Los Angeles River. This proposed change will not require the construction of additional facilities or grading-related activity. The City will continue to discharge treated water at the same point of diversion, but in lesser quantities (refer to Figure A-7 above).

Pursuant to guidelines established by the California Department of Public Health and the Los Angeles Regional Quality Control Board ("LARWQCB"), as discussed in further detail in Exhibit 1 of Appendix A of this Initial Study, the BWRP 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 into the Burbank Western Channel, which is located approximately 12,000 feet (over 2 miles) from the confluence of the Los Angeles River. The location of the discharge conduit and receiving concrete-lined channel are shown above in Figures A-2 (aerial photo) and A-4 (discharge point photos). At the terminus of the Burbank Western Channel, the recycled water enters the Los Angeles River as shown in Figure A-2.

During normal operation, approximately 25% of BWRP's tertiary-treated effluent (2,705 AF in FY 2015/16) is currently beneficially reused for landscape irrigation and industrial uses and the remainder is discharged into the Burbank Western Channel (5,376 AF in FY 2015/16), as shown above in Figure A-7. As a result of increased demand for recycled water within the ULARA, the City is proposing to gradually increase its use of recycled water (2,705 AF to 5,027 AF), thereby reducing its discharge of treated wastewater into the channel over the next ten years from 5,376 AF to approximately 3,766 AF.

In addition to the City's own potential re-use of this water, other water agencies and private parties have expressed an interest in obtaining recycled water from the BWRP for further beneficial uses. Recycled water conveyed to these agencies (and/or private parties) would be used to meet additional recycled water demands within the ULARA. The re-use of the City'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 expedite requests to change water permits to enable those deliveries.

F. PROJECT SCHEDULE

No construction activities would be associated with the proposed project, as the project entails reductions in the volume of treated wastewater discharged into the Burbank Western Channel. As such, no construction would occur and no physical changes to the environment, aside from reduced discharges to the Channel, would occur under the proposed project. Nonetheless, the proposed discharge reductions would occur incrementally over time, with maximum reductions proposed by the year 2026.

G. NECESSARY APPROVALS

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

- California State Water Resources Control Board – Approval of Wastewater Change Petition
- City of Burbank – Adoption of Negative Declaration

Attachment B
Explanation of Checklist Determinations

ATTACHMENT B - EXPLANATION OF CHECKLIST DETERMINATIONS

I. AESTHETICS

Would the project:

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

Less Than Significant Impact. The proposed project involves the gradual reduction in discharges of tertiary treated wastewater from the Burbank Water Reclamation Plant (BWRP) to the Los Angeles River (River) via the Burbank Western Channel (Channel), with a proportional increase in the delivery of recycled water for non-potable applications in the Burbank Water and Power (BWP) service area and adjacent jurisdictions, and no construction or other physical changes to facilities are proposed. The project site includes the BWRP and adjacent segment of the Channel, which contains no designated scenic resources and does not provide views of such resources, as well as the expanded Place of Use which comprises all areas of the BWP recycled water service area and limited portions of the City of Los Angeles (see Figure A-5 in Attachment A of this Final Initial Study). While no portion of the BWRP or Channel contain a scenic vista or valued scenic resources, the River itself may 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. Views of the River from this and other publicly available viewpoints might be considered as providing a scenic vista; however, despite the conservative assumption that the River is a visually prominent feature as viewed from surrounding publicly available vantage points, implementation of the 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 the BWRP 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 downstream habitat such that visible reduction in vegetation or other visible features of the River would occur.

With regard to aesthetic effects related to the expanded Place of Use, the application of recycled water produced at the BWRP within the City of Burbank and City of Los Angeles would offset potable water supplies that are currently being utilized for non-potable applications such as landscape irrigation. The increased use of recycled water, therefore, would not have any visible effects within the project area, as the use of recycled water would not result in changes to the amount or location of landscaping or other vegetation or involve other physical changes that could cause adverse visual impacts. Rather, the proposed project would result in the conservation of potable water to enhance the City's potable supplies. In addition, since the expansion of the City's recycled water distribution system was previously evaluated in an Initial Study/Mitigated Negative Declaration (IS/MND) adopted in 2008, and the recycled water distribution system components within the City of Los Angeles were also previously the subject of separate CEQA review, the short-term construction-related effects of these improvements, as well as the long-term impacts associated with the application of recycled water at these locations, were already evaluated and impacts were determined to be less than significant. As such, impacts to scenic vistas 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?

Less Than Significant Impact. The portion of the project site that includes the BWRP and adjacent Channel is entirely urbanized with little to no vegetation, and no scenic resources including trees, rock outcroppings, or historic buildings (including those within a state scenic highway) occur on-site. While the expanded Place of Use, which includes the BWP recycled water service area and portions of the City of Los Angeles, may contain some designated or otherwise notable scenic resources, the impacts associated with the construction and operation of recycled water pipelines and related facilities within these areas have already been evaluated pursuant to CEQA and impacts were determined to be less than significant. This determination was based on the temporary nature of construction activities and the fact that recycled water would be used to offset potable water use in these areas and thus the operation of recycled water pipelines and other facilities would not result in any notable changes to the environment other than the benefit associated with conservation of potable water to enhance the City's potable supplies. Furthermore, as discussed above, the proposed project would incrementally reduce wastewater discharges from the BWRP to the River, which could 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.

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

Less Than Significant Impact. As discussed in Responses I.a. and I.b. above, the application of recycled water within the BWP service area and adjacent portions of the City of Los Angeles would not result in visible changes to the project area, as evaluated in previous CEQA documentation, and thus the construction and operation of recycled water facilities 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 BWRP and Channel portion of the project site is completely urbanized and lacks any valued scenic resources, while the River, located downstream of the project site, may be considered a valued scenic resource. However, given the minimal effect of the proposed 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. 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?

No Impact. The project site is currently developed with the BWRP, adjacent Burbank Western Channel, and the entire expanded Place of Use depicted in Figure A-5 in Attachment A of this Final Initial Study. The project does not propose development or change in current operations beyond that requested in the 2017 Wastewater Change Petition; the project 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 project would only result in the increased use of recycled water to offset potable water use and enhance the City's potable water supplies. As such, no 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 is currently developed with the BWRP, adjacent Burbank Western Channel, and other portions of the City of Burbank and City of Los Angeles where recycled water produced at BWRP is applied for non-potable uses. 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.[1] Furthermore, the City's 2035 General Plan (General Plan) does not identify the project site as an area designated for agriculture use. Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. No impact would occur in this regard.

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

No Impact. As discussed above, the project site is currently developed with the BWRP, adjacent Burbank Western Channel, and other urbanized portions of the City of Burbank and City of Los Angeles. 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 project would not conflict with existing zoning for agricultural use or a Williamson Act contract and no impact would occur in this regard.

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[1] *State of California Department of Conservation, California Important Farmland Finder, http://maps.conservation.ca.gov/ciff/ciff.html, accessed December 2016.*

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 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 project would not have the potential to conflict with existing zoning for forest land or timberland and no impact 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, and neither the proposed reduction in wastewater discharges to the River nor the increased application of recycled water in the project area would have the potential to affect forest land. As such, the project would not result in the loss of forest land or conversion of forest land to non-forest use and no impact 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. Since there are no agricultural uses or related operations on or near the project site, and the proposed project would only involve the increased application of recycled water to offset potable water use within the BWP service area and adjacent portions of the City of Los Angeles, the project would not involve the conversion of farmland to other uses, either directly or indirectly. No impacts to farmland or agricultural uses would occur.

III. AIR QUALITY

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?

No Impact. The project site is located within the 6,745-square-mile South Coast Air Basin (SoCAB). Air quality planning for the SoCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The 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).

Pursuant to the Wastewater Change Petition (the project), submitted by BWP, 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 discharge of treated water to a concrete-lined channel that is tributary to the Los Angeles River, while proportionally increasing the delivery of recycled water to various users within the BWP service area and adjacent portions of the City of Los Angeles as shown in Figure A-5 in Attachment A of this Final Initial Study. This proposed change would not require the construction of additional facilities or grading-related activity, and the environmental effects of the construction and operation of the necessary distribution facilities have already been the subject of previous CEQA review. The City would continue to discharge treated water at the same point of diversion, but in reduced quantities. As the project does not propose development or change in current operations beyond the Wastewater Change Petition, the project would not generate any additional air pollutant emissions that could exceed the SCAQMD significance thresholds. As such, no impact would occur in this regard.

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

No Impact. As the project does not propose any physical development or changes in current operations beyond the reduction in treated effluent discharges and increased deliveries of recycled water to various users per the proposed Wastewater Change Petition, the project would not violate air quality standards or substantially contribute to an existing or projected violation. No impact would occur in this regard.

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)?

No Impact. As discussed in Response III.a., the project would not generate any additional air pollutant emissions that could exceed the SCAQMD significance thresholds. No impact would occur in this regard.

d. Expose sensitive receptors to substantial pollutant concentrations?

No Impact. Land uses that are generally considered more sensitive to air pollution than others are as follows: hospitals, schools, residences, playgrounds, child care centers, athletic facilities, and retirement/convalescent homes. The project site is located in a highly urbanized area with a wide variety of land uses, and although there are a number of sensitive receptors located within the project site, the project does not propose development or changes in current BWRP operations beyond the reduction in treated effluent discharges and increased deliveries of recycled water to various users per the proposed Wastewater Change Petition. Furthermore, the environmental effects of the construction and operation of the necessary distribution facilities have already been the subject of previous CEQA review. As such, no impacts would occur in this regard.

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

No Impact. As no development or changes in current operations are proposed by the project, aside from the reduction in treated effluent discharges and increased deliveries of recycled water to various users, no objectionable odors affecting a substantial number of people are expected as a result of project implementation. As such, no impacts would occur in this regard.

IV. BIOLOGICAL RESOURCES

Would the project:

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

Less Than Significant Impact. ESA prepared two technical memoranda in March and August 2017 (included in Appendix D and Appendix E, respectively, of this Final Initial Study) to assess the existing conditions of biological resources in the Los Angeles River between the outlet of the Burbank Western Channel and the Pacific Ocean (biological study area); and to assess the potential project-specific and cumulative impacts that could occur to those biological resources in the biological study area from the reduction in wastewater proposed by the project. According to the memorandum a total of 14 special-status wildlife species are known to occur or have a high potential to occur in the biological study area for at least some part of the year, and are listed below in **Table IV-1**, *Survey Area Special Status Species*, below.

TABLE IV-1
SURVEY AREA SPECIAL STATUS SPECIES

Common Name	Scientific Name	Status
Reptiles		
two-striped garter snake	*Thamnophis hammondii*	California Species of Special Concern
Birds		
Cooper's hawk	*Accipiter cooperii*	California Watchlist Species
sharp-shinned hawk	*Accipiter striatus*	California Watchlist Species
Vaux's swift	*Chaetura vauxi*	California Species of Special Concern
white-tailed kite	*Elanus leucurus*	California Fully Protected Species
merlin	*Falco columbarius*	California Watchlist Species
American peregrine falcon	*Falco peregrinus anatum*	Federal Bird of Conservation Concern and California Fully Protected Species
yellow-breasted chat	*Icteria virens*	California Species of Special Concern
osprey	*Pandion haliaetus*	California Watchlist Species
bank swallow	*Riparia riparia*	California Threatened Species
yellow warbler	*Setophaga petechial*	California Species of Special Concern
least Bell's vireo	*Vireo bellii pusillus*	Federal Endangered Species and California Endangered Species
Mammals		
western mastiff bat	*Eumops perotis californicus*	California Species of Special Concern
hoary bat	*Lasiurus cinereus*	Western Bat Working Group Species of Medium Concern
big free-tailed bat	*Nyctinomops macrotis*	California Species of Special Concern

Many of the special-status bird species that occur or have a high potential to occur are dependent on black willow thickets, a terrestrial riparian woodland habitat that occurs in the northern half of the biological study area, to breed, forage, and/or perch. Two-striped garter snake prefers aquatic habitats such as open water, ponding water, and fast and slow moving channel flows of the Los Angeles River and the bat species forage above the aquatic habitats. Birds of prey such as American peregrine falcon and white-tailed kite are attracted to abundant prey species, including the numerous shorebirds and waterfowl that forage in the Los

Angeles River. Special-status native fish species that historically occurred in the Los Angeles River, such as Santa Ana sucker (*Catostomus santaanae*), Arroyo chub (*Gila orcuttii*), Southern steelhead (*Oncorhynchus mykiss*), Santa Ana speckled dace (*Rhynicthys osculus* spp *robustus*), no longer occur in the river due to channelization and damning of the river. These species do occur in the Los Angeles River watershed in Tujunga Creek, Tujunga Wash, and Haines Creek, but they are not able to reach the Los Angeles River because migration is blocked by Tujunga and Hansen dams.

The project would gradually reduce yearly water discharge from the BWRP by approximately 30 percent. No direct impacts to special-status species is expected from the project because no construction is planned, however, the project will reduce the amount of aquatic habitats and has the potential to reduce the amount of riparian vegetation within the river that is dependent on perennial flows, which is considered habitat modification. The amount of water in the Los Angeles River fluctuates widely by year and by season, and in times of low flows (generally April to November), the river's main water source is primarily from discharged wastewater. The main source of discharged water to the Los Angeles River is from the Tillman Water Reclamation Plant in the Sepulveda Basin, approximately 8 miles upstream from the biological study area. Local surface runoff also contributes to the flow during the low flow season, including flows from the 152 square mile watershed upstream of Sepulveda Basin, as does water from Verdugo Wash that flows into the biological study area at the Highway 134 Bridge. Other notable sources of water into the Los Angeles River are at the Arroyo Seco Channel, the Rio Hondo Channel, and the Tujunga Wash.

The hydraulic model results provided in Hydraulic Modeling Report I (Appendix B of this Final Initial Study) show that under proposed project conditions the average velocity within the entire study area would be slightly reduced, from 1.38 to 1.36 feet/sec (-1.4%) under the 2016 baseline dry season flow, and that average depth in the deepest part of the channel would be slightly reduced from 0.65 to 0.64 feet (-1.3%) as shown in Table 2 of Hydraulic Modeling Report I. The proposed project would slightly reduce the total wetted area of channel from 132.89 to 132.20 acres (0.69 acres, -0.5% of existing condition) during the 2016 dry season baseline condition, as shown in Table 3 of Hydraulic Modeling Report I. As indicated therein, 26% of the reduction in wetted area occurs on concrete banks or bed and 74% on soft channel materials, so the reduction in wetted earthen channel would be 0.51 acres or 0.39% of the existing wetted channel area.

During long-term average dry season conditions, the average velocity under the proposed project condition would be reduced from 1.83 to 1.82 feet/sec (-0.6%), the average depth in the deepest part of the channel reduced from 0.92 to 0.92 feet (-0.6%) and total wetted area from 150.74 to 150.49 acres (0.25 acres, -0.2% of existing conditions). The proportion of natural channel affected by the reduction in wetted area is 58% for the long term average summer condition. Therefore, 0.15 acres of earthen channel would be dewatered by the proposed flow condition. The projected reductions in flow velocity, depth, wetted area associated with the proposed project would not result in a significant reduction in habitat or resources that support special status species in the project area.

According to the analysis in the memorandum provided in Appendix D of this Final Initial Study (and presented below in part IV.b.), there would be a less than significant loss of black willow thickets from the reduced discharge from the BWRP alone, and the seasonal water level would essentially be unaffected, especially during the rainy season (December – May), therefore, the resident and migratory wildlife community that depends on the water in the Los Angeles River for foraging, breeding and refuge will be unaffected by the project. Although the Los Angeles River has been channelized and greatly affected by urbanization, the riparian habitat in the river is dynamic, as with most river systems, and the variability in flows that occur from rainfall and other sources of water in the Los Angeles River will be unaffected by the proposed 1,610-AF decrease in wastewater discharge from the BWRP. 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 the BWRP. In addition, with regard to potential effects associated with the increased application of recycled water within the project site, it is not anticipated that the use of recycled water for non-potable applications would result in measurable adverse effects on any sensitive species or habitats, since such recycled water applications would offset potable water use previously utilized for the same purposes. As such, the substitution of recycled water for potable water at these locations would not result in an adverse impact to sensitive biological resources. Therefore, impacts to special-status wildlife 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. No portion of the project site, including the BWRP, adjacent Channel, and the BWP recycled water service area and portions of the City of Los Angeles provided with BWRP recycled water, contain any riparian habitat or other sensitive natural communities, and as such the increased use of recycled water for non-potable uses would have no potential to adversely affect such resources. However, two sensitive habitat types do occur within the biological study area to the south of the project site, including riparian vegetation consisting of black willow thickets and aquatic habitat; both of which are dependent on the water in the Los Angeles River for persistence and could be impacted by the reduced flows. The habitats in the biological study area are generally of low quality and degraded by development, invasive species, homeless camps, and trash; but native riparian and aquatic/semi-aquatic habitats in pristine form almost no longer exist within the biological study area. A diversity of wildlife is attracted to the biological study area 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. The southern 7 miles of the biological study area is designated by the Audubon Society as an Important Bird Area because of the amount of shorebird migration and winter foraging (greater than 200 species of birds recorded) in the shallow waters of the concrete lined segment that has been documented. Potential impacts to these habitats are discussed below.

Riparian Vegetation: A total of 75.3 acres of black willow thickets ("BWT") occur in the northern one third of the biological study area. During times of low flow in the River (April to November) the BWT relies on upstream discharges of wastewater. The project proposes to remove 1,610 AF of the yearly wastewater that is currently discharged from the BWRP, which is approximately 2.2 cfs. However, the reduction in volume of discharge is only about 4.5 percent of wastewater that is discharged into the river under 2016 baseline conditions when considering the current minimum combined discharge from the Tillman Water Reclamation Plant and the BWRP (i.e., 36,198 AF or 50 cfs), or about 1.7 percent of existing flows under long term average dry season conditions. Additional water into the river comes from surface runoff and from the Verdugo Wash. Other notable sources of water into the river that supports the black willow thickets in the biological study area include the Tujunga Wash approximately 3 miles upstream from the biological study area. The proposed project would reduce the discharge volume at the BWRP at all times of year, and water discharge reduction that would occur during the naturally higher flow times (December to March) is inconsequential. It is reasonable to assume that the reduction in water will result in some very small amount of loss in riparian vegetation during the low flow periods. But the reduction in volume will occur over a 10 year period, which will allow riparian vegetation sufficient time to adapt to the changes by growing deeper roots, and it is not expected that there would be measureable change in amount of riparian habitat from a 4.5 percent reduction of discharge between the Tillman Water Reclamation Plant and the BWRP. Further, the BTW in the biological study area is supported by variable flow conditions in the Los Angeles River therefore dynamic conditions exists (as with most river systems) resulting in communities to be scoured and re-establish from year to year depending on the volume and velocity of flows. During years where there is a low volume of water in the Los Angeles River following a scouring event, and when high and fast moving flows are absent, it can be expected that the BWT will increase in size. In addition, the less than one-half inch reduction in flow depth would not be expected to drop the water level along the River banks below the depth of root structures, particular those of BWT and other riparian vegetation with deep root systems. For these reasons, the reduction of discharged water proposed by the project will pose no threat to the persistence of the BWT community in the biological study area.

Within the Study Area, based on a review of available aerial photography[2] algal mats within the concrete portion of the River channel (downstream from approximately Interstate 5) provide some limited foraging habitat for migratory bird species. Therefore, the reduction in flows in the River during dry months could potentially incrementally reduce the size of these foraging areas. However, the algal mats are not considered a distinct habitat type by applicable resource agencies, including the California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS). In addition, although algal mats may provide incidental foraging opportunities for some species, none of the special status bird species that may exist in the study area utilize these mats for foraging purposes. This is due to the fact that the special status species in the area include the least tern and California brown pelican (both fish-eating species), peregrine falcon (bird-eating species), and least Bell's vireo (insect-eating species), none of which rely on crustaceans (which would be supported by algal mats) as a primary food source, and thus none of these species would be measurably affected by a reduction in algal mats along the River. In addition, it should be noted that the majority of these algal mats within the study area are located along the River's concrete channel at levels above the channel bottom, and thus are assumed to be sustained by water from incidental urban runoff or other distinct sources (i.e., flows not directly related to upstream discharges to the River, including discharges from the BWRP).[3] Therefore, the above-channel algal mats will not be impacted by the Project's proposed flow reductions to the River. Nonetheless, some of the algal mats in the study area are located along the low-flow channel bottom and thus are sustained, in part, by flows from BRWP and other sources, such as TWRP (Tillman). While the proposed reductions in dry weather flows in the River associated with the Project could incrementally reduce the water supply available to these algal mats along the River's low-flow channel, these algal mats are localized and limited in terms of their ability to sustain foraging birds or other wildlife. Thus the reduction in Project-related discharges to the River would not result in significant adverse impacts to special status species or migratory birds related to existing algal mats in the River channel.

Aquatic Habitat: Aquatic habitat occurs throughout the biological study area, varying between, a fast moving in narrow areas, thin sheet-flow over concrete, slower, turbulent moving water over boulders, slow-moving water along the edge of black willow thickets, and areas of ponding water; and also varies between freshwater habitat throughout the northern areas of the biological study area and brackish water in the final 2.5 miles of the biological study area that is part in the Los Angeles Estuary. The reduction in volume of discharged water by the proposed project would be 1,610 AF from the River each year, or 4.5 percent of wastewater that is discharged into the river under 2016 baseline conditions when considering the current

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[2] *Google Maps. https://www.google.com/maps. Accessed August 18, 2017.*

[3] *Ibid.*

minimum combined discharge from the Tillman Water Reclamation Plant and the BWRP (i.e., 36,198 AF or 50 cfs), or about 1.7 percent of existing flows under long term average dry season conditions. Additional water into the river comes from surface runoff, the Tujunga Wash, and the Verdugo Wash. Water sources in the southern reaches of the river are from the Arroyo Seco Channel and the Rio Hondo Channel that provide water to the Los Angeles Estuary. The BWT in the biological study area help 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 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 biological study area is 6.5 feet. A 4.5-percent reduction of discharge from the BWRP 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 Los Angeles River. In the concrete-lined portions of the Los Angeles River in the biological study area the 4.5 percent reduction of wastewater discharge will 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 these locations. The reduction of freshwater into the Estuary from the Los Angeles River would be nominal and insignificant considering the seasonal variation in water volume that occurs within the river from its tributaries and from rainfall, as well as from variations in discharge volumes from TWRP and surface runoff. Also, the areas of Los Angeles Estuary in the biological study area receives water from the sources listed above and from the Arroyo Seco and Rio Hondo Channels that enter the river shortly upstream from the Estuary.

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

No Impact. No construction or alteration of any federally protected wetland is proposed for the project, and no portion of the BWP service area or adjacent portions of the City of Los Angeles that receive recycled water from the BWRP contain such resources. Although the Los Angeles River is considered a Traditional Navigable Water as defined by Section 404 of the Clean Water Act, impacts to riparian vegetation will be unmeasurable, and impacts to aquatic habitat will be nominal. For these reasons no adverse effect on federally protected wetlands will occur from the project, and the project will not require a Section 404 Clean Water Act Permit, nor will it require a Streambed Alteration Agreement from the California Department of Fish and Wildlife.

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?

No Impact. As discussed previously the biological study area is an important foraging area for migratory birds, and the southern 7 miles of the biological study area is designated by the Audubon Society as an Important Bird Area for this reason. In addition, fish in the biological study area (almost entirely non-native recreational species) and other aquatic species may use the water for moving between sections of the Los Angeles River. However, the project will not deter foraging birds from the site because no construction is planned and reductions in water flow in the Los Angeles River from the project will be nominal, and the birds will continue to have access to these areas. Also, a 4.5-percent reduction of discharge from the BWRP 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 Los Angeles River. Furthermore, the increased utilization of recycled water to offset potable water use for applications such as landscape irrigation would not result in any measurable changes in vegetation, including trees that could provide nesting or foraging habitat for migratory birds, and thus the project would not result in adverse effects to wildlife in this regard. For these reasons there will be no impact to movement of fish or wildlife species, wildlife corridors, or native wildlife nursery sites.

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

No Impact. The project would not directly impact biological resources protected by local policies or ordinances because no such resources occur in the biological study area. In addition, the increased use of recycled water in lieu of potable water for non-potable applications is not expected to have any measurable effect on the number or health of trees or other vegetation in the area, and thus no impact is expected in this regard.

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 project would not affect any habitat protected by a habitat conservation plan or natural community conservation plan. Thus, no impacts would occur in this regard.

V. CULTURAL RESOURCES

Would the project:

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

No Impact. As no physical development or changes in current operations are proposed by the project other than the decrease in wastewater discharges and increased use of recycled water to offset potable water use per the proposed Wastewater Change Petition, project implementation would not have any physical effect on historical resources in the area. Thus, the project would not cause a substantial adverse change in the significance of a historical resource. No impact would occur in this regard.

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

No Impact. As no physical development or changes in current operations are proposed by the project other than the decrease in wastewater discharges and increased use of recycled water to offset potable water use per the proposed Wastewater Change Petition, project implementation would not result in construction or excavation, or any other activities that could cause a substantial adverse change in the significance of an archaeological resource. No impact would occur in this regard.

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

No Impact. As no physical development or changes in current operations are proposed by the project other than the decrease in wastewater discharges and increased use of recycled water to offset potable water use per the proposed Wastewater Change Petition, project implementation would not result in construction or excavation, or any other activities that could cause a substantial adverse change in the significance of a unique paleontological resource or site or unique geologic feature. No impact would occur in this regard.

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

No Impact. As no physical development or changes in current operations are proposed by the project other than the decrease in wastewater discharges and increased use of recycled water to offset potable water use per the proposed Wastewater Change Petition, project implementation would not result in construction or excavation, or any other activities that could disturb human remains, including those interred outside of dedicated cemeteries. No impact would occur in this regard.

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, Exhibit S-3, Fault Locations, the known active and inactive faults within and near the project site include the Verdugo Fault, North Hollywood Fault, and Griffith Fault. Although portions of the project site may be located within one or more designated Alquist-Priolo Earthquake Fault Zones, since no physical development or changes in the current facilities or operations at the existing BWRP are proposed by the project, its implementation 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. No impact 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 the BWRP are proposed, the project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. No impact would occur in this regard.

iii. Seismic-related ground failure, including liquefaction?

No Impact. Liquefaction is a process that occurs when saturated sediments are subjected to repeated strain reversals during a seismic event. The strain reversals cause increased pore water pressure such that the internal pore pressure approaches the overburden stress and the shear strength approaches zero. Liquefied soils are subject to flow or excessive strain. Liquefaction occurs in soils below the groundwater table. 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.

According to the City's General Plan Safety Element, Exhibit S-4, Liquefaction Zones, portions of the project site are located within a liquefaction zone. However, as no physical development or changes in current facilities or operations at the BWRP are proposed by the project, its implementation 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 is located in a highly urbanized area characterized mostly by relatively flat topography, with the exception of the northeast portion of the City of Burbank which contains significant slope areas. According to the City's General Plan Safety Element, Exhibit S-5, Earthquake-Induced Landslide Zones, the vast majority of the project site (i.e., those areas outside the northeast portion of the City of Burbank) is not located within an area susceptible to landslides. Nonetheless, despite the presence of landslide hazards in this area, since no physical development or changes in current BWRP facilities or operations are proposed, the project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. As such, no impact would occur in this regard.

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

No Impact. As no physical development or changes in current facilities or operations at the BWRP are proposed, the project 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 would not result in substantial soil erosion or the loss of topsoil. No impact 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 BWRP are proposed by the project, no impacts would occur in this regard.

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 are proposed by the project, the project would not have the potential to be affected by expansive soils or otherwise result in adverse effects related to such soils. The project would not cause any disturbance to the existing soils that are beneath the site or in any off-site areas. No impact 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 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

Would the project:

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

No Impact. As no physical development or changes in current facilities or operations at the BWRP are proposed, the project would not generate greenhouse gas emissions, either directly or indirectly. No impact would occur in this regard.

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

No Impact. No development or changes in current BWRP facilities or operations are proposed by the project, and thus its implementation would not have the potential to conflict with any applicable plans, policies, or regulations related to greenhouse gas emissions reductions. No impact would occur in this regard.

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?

No Impact. No construction or changes in current BWRP facilities and operations are proposed by the project other than the gradual reduction in treated wastewater discharges to the Channel and the proportionate incremental increase in the use of recycled water to offset potable supplies being used for non-potable purposes. No additional sources of hazardous materials or increases in activities involving hazardous materials would occur under the 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?

No Impact. No construction activities involving hazardous materials or other activities that could result in releases of hazardous materials would occur under the proposed project. Likewise, no changes to current BWRP facilities or operations are proposed by the project, and thus there would be no additional risks associated with hazardous materials releases relative to existing conditions. 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?

No Impact. Sensitive land uses are generally considered uses such as playground, schools, senior citizen centers, hospitals, day-care facilities, or other uses that are more susceptible to poor air quality, such as residential neighborhoods. The project site is located in an urbanized area characterized by industrial variety of land uses, and although there are a number of sensitive receptors located within the area, including several schools, no physical development or changes in current BWRP facilities and operations are proposed by the project. As such, the 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. Therefore, no impact would occur.

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?

No Impact. The project site contains a number of properties that are included in a list of hazardous materials sites, according to the California Department of Toxic Substances Control website.[4] Nonetheless,

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[4] *California Environmental Protection Agency, Department of Toxic Substances Control. Envirostor Database. http://www.envirostor.dtsc.ca.gov/public/. Accessed January 2017.*

no physical development or other changes in current operations that could potentially result in hazardous materials releases from known hazardous materials site are proposed by the project. As such, the project would not create a significant hazard to the public or the environment. No impact would occur in this regard.

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 within the boundaries of the project site. However, as noted previously, no additional construction or any changes in current BWRP facilities or operations are proposed by the project. As such, the project would not result in a safety hazard for people residing or working in the project area related to aircraft or airport activities. 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 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.

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

No Impact. According to the City's General Plan Safety Element, Exhibit S-2, Evacuation Routes, a number of evacuation routes are designated within the City of Burbank and affected adjacent portions of the City of Los Angeles. However, since no development or changes in current operations are proposed by the project, other than the increased use of recycled water to offset the current use of potable supplies for non-potable purposes, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. 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, Exhibit S-1, Fire Zones, two areas of the project sit, including the Verdugo Hills in the northeast portion of the City of Burbank and the Warner Bros. Studio property at the south end of the City, are located within a wildfire hazard zone. However, no physical development or changes in current BWRP facilities or operations are proposed by the project that would increase the risk of loss, injury or death involving wildland fires. Thus, no impacts would occur in this regard.

IX. HYDROLOGY AND WATER QUALITY

Would the project:

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

Less Than Significant Impact. The proposed project would involve the gradual reduction of discharges of treated effluent from the BWRP to the River via the Channel. While these discharges would be incrementally reduced over time, with the volume of treated wastewater previously discharged instead being utilized for non-potable applications, the treatment process and discharge requirements for effluent for the BWRP would not change pursuant to the City's approved Waste Discharge Requirements/Waste Recycling Requirements ("WDRs/WRRs") per Order No. R4-2016-0144 ("Order No. R4-2016-0144"), governing the City's recycling of treated wastewater. Although the end-use application of treated wastewater generated at BWRP 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 WDRs/WRRs. Thus, impacts in this regard would be less than significant.

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)?

Less Than Significant Impact. The proposed project would involve the gradual reduction of discharges of treated effluent from the BWRP to the River via the Channel. 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 BWRP percolate into local aquifers and may contribute to groundwater supplies.[5] 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 the BWRP, 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 San Fernando Valley or areas downstream of the Channel's confluence 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. 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.

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[5] *See Upper Los Angeles River Area (ULARA) Watermaster Annual Report. http://ularawatermaster.com/index.html?page_id=922 (See also, City of Los Angeles vs. City of San Fernando, et al. (LA County, Case No. 650079).)*

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

Less Than Significant Impact. The proposed project would result in the gradual reduction of discharges of treated effluent from the BWRP to the River via the Channel and the increased use of recycled water within the project site to offset the use of potable water for non-potable applications. 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 *Hydraulic Modeling Reports* prepared for the proposed project in March and August 2017 (included as Appendix B and Appendix C, respectively, of this Final Initial Study), the proposed reductions in flow to the River as a result of increased reuse of wastewater from the BWRP constitute a four-percent (4%) reduction in baseline 2016 dry season flow, and a two-percent (2%) reduction in long-term dry season flow downstream of Sepulveda Dam.[6] These results somewhat overstate the impact, since additional base flows enter the River downstream of Sepulveda Dam from storm drains and Tujunga Wash.

The hydraulic model results show that under proposed project conditions the average velocity within the entire study area would be slightly reduced, from 1.38 to 1.36 feet/sec (-1.4%) under the 2016 baseline dry season flow, and that average depth in the deepest part of the channel would be slightly reduced from 0.65 to 0.64 feet (-1.3%) as shown in Table 2 of Hydraulic Modeling Report I (Appendix B of this Final Initial Study). The proposed project would slightly reduce the total wetted area of channel from 132.89 to 132.20 acres (0.69 acres, -0.5% of existing condition) during the 2016 dry season baseline condition, as shown in Table 3 of Hydraulic Modeling Report I (Appendix B of this Final Initial Study). As indicated therein, 26% of the reduction in wetted area occurs on concrete banks or bed and 74% on soft channel materials, so the reduction in wetted earthen channel is 0.51 acres or 0.39% of the existing wetted channel area.

During long-term average dry season conditions, the average velocity under the proposed project condition would be reduced from 1.83 to 1.82 feet/sec (-0.6%), the average depth in the deepest part of the channel reduced from 0.92 to 0.92 feet (-0.6%) and total wetted area from 150.74 to 150.49 acres (0.25 acres, -0.2% of existing conditions). The proportion of natural channel affected by the reduction in wetted area is 58% for the long term average summer condition, so 0.15 acres of earthen channel are dewatered by the proposed flow condition. Results from all the scenarios are shown averaged for the entire study reach in Tables 2 and 3 of the Hydraulic Modeling Report I (Appendix B of this Final Initial Study), with reach-by-reach results in Tables 4 and 5.

For both sets of background flows (2016 dry season baseline and long term dry season average), the modeled project effects are very minor, fall well within the range of data collection and hydraulic model uncertainty and error, and would likely be undetectable in the field. As such, given that the project would result in a nominal reduction in overall flow volumes in the River, it is not anticipated that such a reduction would have the potential to cause substantial erosion or siltation. This is due to the fact that increases in erosion and siltation are associated with increases in runoff volumes and/or velocities, neither of which

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[6] *The 2% and 4% reductions refer to the project reductions as a percentage of the flow in the LA River during 2016 summer (4% reduction) and during the longer term summer average (2%).*

would occur under the proposed project. Thus, while the proposed project would alter the volume of water draining to the River from the BWRP, 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?

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 the BWRP, 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. 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?

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 as currently occurs with potable water, the 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 the BWRP under the proposed project, the capacity of existing or planned stormwater drainage systems (including the Channel and River) would not be exceeded. In addition, the quality of treated effluent discharged would not change from that required by the City's WDRs/WRRs for BWRP. Therefore, impacts to stormwater systems related to increased runoff volumes or polluted runoff would be less than significant.

f. Otherwise substantially degrade water quality?

Less Than Significant Impact. Refer to Response to Item IX.a. above. While treated wastewater discharges from the BWRP would be incrementally reduced over time, with proportionate increases in deliveries of recycled water to offset potable water use, the treatment process and discharge requirements for effluent for the BWRP would not change pursuant to the City's approved Waste Discharge Requirements/Waste Recycling Requirements ("WDRs/WRRs") per Order No. R4-2016-0144 ("Order No. R4-2016-0144"), governing the City's recycling of treated wastewater. Although the end-use application of treated wastewater generated at BWRP would change over time, the quality of discharged or recycled effluent would comply with the WDRs/WRRs. 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, Exhibit S-6, FEMA Flood Zone Areas, limited portions of the project site are located within or adjacent to both 500-year flood plains and 100-year flood plains. However, the project does not propose any physical development or changes in current BWRP facilities and operations beyond the discharge reductions and increased deliveries of recycled water to offset potable water use under the proposed Wastewater Change Petition. As such, the project 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?

No Impact. According to the City's General Plan Safety Element, three reservoirs upstream from the City, Reservoirs #1, #4, and #5, are classified as dams by the California Department of Water Resources. These reservoirs impound more than 50 acre-feet of water. However, these reservoirs are not large enough to result in considerable risk of inundation in Burbank that would result from failure of any of these facilities. 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. Thus, no impacts would occur in this regard.

j. Inundation by seiche, tsunami, or mudflow?

No Impact. A tsunami is a great sea wave produced by a significant undersea disturbance. Given the proximity to the Pacific Ocean, Burbank 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 three reservoirs upstream from the City. However, these reservoirs are enclosed concrete tanks and are not large enough to result in considerable risk of inundation in Burbank that would result from failure of any of these facilities. Mudflows result from the downslope movement of soil and/or rock under the influence of gravity. As no physical development or changes in current BWRP facilities or operations are proposed by the project, its implementation would have no impact with regard to inundation by seiche, tsunami, or mudflows.

X. LAND USE AND PLANNING

Would the project:

a. Physically divide an established community?

No Impact. The project site is currently developed with the BWRP, adjacent portion of the Channel, and other urban uses throughout the BWP recycled water service area and adjacent portions of the City of Los Angeles served by BWRP recycled water. The project does not propose any physical development or changes in current BWRP facilities or operations beyond the discharge reductions and increased application of recycled water in the proposed Wastewater Change Petition. As such, the 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?

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 project would not involve any physical development or changes in current BWRP facilities or operations beyond the discharge reductions and incremental increases in recycled water deliveries to offset potable water use in the proposed Wastewater Change Petition that could conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. 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. The project does not propose any physical development or changes in current BWRP facilities or operations beyond the discharge reductions and incremental increases in recycled water deliveries to offset potable water use proposed in the Wastewater Change Petition. As such, the 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. The project does not propose any physical development or changes in current BWRP facilities or operations beyond the discharge reductions and incremental increases in recycled water deliveries to offset potable water use proposed in the Wastewater Change Petition. As such, the 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

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?

No Impact. Noise sensitive areas typically include residential areas, schools, convalescent hospitals, acute care facilities, and park and recreational areas. The project site is located in a highly urbanized area characterized by industrial wide variety of land uses, and although there are numerous sensitive receptors located within and in the vicinity of the project site, the project does not propose any physical development or changes in current BWRP facilities or operations. The increased application of recycled water to offset potable water use within the BWP service area and adjacent portions of the City of Los Angeles would not result in any changes in noise generation associated with operation of distribution facilities in these areas. In addition, as discussed previously, construction-related noise impacts of recycled water distribution facilities were previously subject to separate CEQA review, and impacts were determined to be less than significant. As such, the project would not generate any noise or an increases in noise levels that would expose persons to or generate noise levels in excess of standards established in the City's General Plan or noise ordinance. No impact would occur in this regard.

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

No Impact. The project does not propose development or any change in current operations or facilities at the BWRP that could result in new or increased sources of groundborne noise or vibration. As discussed in Response XII.a, above, construction-related vibration impacts of recycled water distribution facilities were previously subject to separate CEQA review, and impacts were determined to be less than significant. As such, project implementation would not result in 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?

No Impact. The project does not propose any physical development or changes in current operations or facilities at the BRWP that could create a permanent increase in ambient noise levels in the project vicinity, and as noted above, the use of recycled water in lieu of potable water for non-potable applications would not result in additional noise generation beyond existing conditions. As such, the project would not have the potential to cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. No impact would occur in this regard.

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

No Impact. As discussed above, the project does not propose construction activity or changes in current BWRP facilities or operations that could cause temporary or periodic increases in noise levels in the project vicinity. In addition, as discussed previously, construction-related noise impacts of recycled water distribution facilities were previously subject to separate CEQA review, and impacts were determined to be less than significant. Given the lack of physical construction or other changes at or near the project site, no impact would occur in this regard.

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. As noted previously, the project site encompasses the City of Burbank and adjacent portions of the City of Los Angeles, and also includes the Hollywood Burbank Airport. However, the project site is currently developed with a variety of urban uses, and nonetheless, no physical development or changes in current BWRP facilities and operations are proposed by the project. As such, the project would not have the potential to expose people residing or working in the project area to excessive noise levels associated with airport operations or aircraft. 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. As discussed above, the project site is not located in the vicinity of a private airstrip. As such, the project would not have the potential to expose people residing or working in the project area to excessive noise levels associated with airstrip operations or aircraft. No impact would occur in this regard.

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 BWRP facilities or operations 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 Burbank and other jurisdictions served by recycled water from the BWRP, in order to offset potable use for these applications. 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 BWP 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 BWRP facilities or operations beyond the discharge reductions and incremental increases in recycled water deliveries to offset potable water use proposed in the Wastewater Change Petition, and therefore the project would have no potential to displace housing. No impact 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 BWRP facilities or operations beyond the discharge reductions and incremental increases in recycled water deliveries to offset potable water use proposed in the Wastewater Change Petition, and therefore the project would have no potential to displace people. 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.

No Impact. As no development or changes in current 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 its implementation. 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. No impact would occur in this regard.

b. Police protection.

No Impact. As no development or changes in current 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. No impact would occur in this regard.

c. Schools.

No Impact. The proposed project would does not involve any physical development or other changes that could generate students or increase demands for schools or other related facilities. No impact would occur in this regard.

d. Parks.

No Impact. The project would not introduce any new population that would create additional demands on existing or planned park facilities. Furthermore, the 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?

Less Than Significant Impact. As noted previously, the proposed project would not involve any physical construction or other changes to BWRP 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 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 at its confluence with the Channel at the north end of the Glendale Narrows portion of the River, 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). 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 (12 inches) is likely to be suitable for the type of craft used on the Los Angeles River. As discussed above under Section IX, Hydrology and Water Quality, of this Final Initial Study, in ARBOR reach 6[7] (see Figure 4 in Appendix B of this Final Initial Study), average flow depth in the center of the channel is 1.13 feet (13.56 inches) under 2016 dry season baseline conditions, and is predicted to fall to 1.12 feet (13.44 inches) under the with-project condition, a decline of 0.014 feet (0.17 inches) or approximately 1.2%. Under the long term dry season condition, the deepest part of the channel would be 1.57 feet (18.84 inches), and is predicted to fall to 1.56 feet (18.72 inches) under the with-project condition, a decline of 0.009 feet (0.11 inches) or approximately 0.6%. Therefore, full implementation of the proposed project (i.e., maximum reductions in future discharges to the River from the BWRP) would result in a residual depth of at least one foot, which is

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[7] *BWP is aware of the 2015 Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) prepared by the City of Los Angeles in conjunction with the U.S. Army Corps of Engineers for the Los Angeles River Ecosystem Restoration Feasibility Study, which evaluates alternatives for the purpose of restoring 11 miles of the Los Angeles River from approximately Griffith Park to downtown Los Angeles while maintaining existing levels of flood risk management. See Appendix C. As explained herein the project's nominal reduction in overall flows over time would not have a significant impact on biological or recreational resources and therefore would not impede the Los Angeles River Ecosystem Restoration Feasibility Study's preferred alternative, which includes channel widening, removing invasive species, and increasing recreational uses on an 11 mile stretch of the river.*

considered more than adequate to support ongoing watercraft recreation within this portion of the River. As such, while the proposed project would not have the ability to affect recreational activities other than those within the Elysian Valley River Recreation Area that are dependent upon adequate water flows, flows within that stretch of the River would not be notably reduced by the maximum contemplated upstream discharge reductions from BWRP. Therefore impacts to 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. The project does not propose neighborhood or regional parks and implementation of the project would not result in an increased demand for parks or recreational facilities. 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?

No Impact. As no development or changes in current operations are proposed by the project, the project would not generate any traffic or result in any adverse effects on the traffic system. As such, the 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 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 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. Although the project site includes the Hollywood Burbank Airport, the project does not involve air transportation or any physical development that could increase traffic levels or change 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)?

No Impact. As no development or changes in current BWRP facilities or operations are proposed by the project, it would not have the potential to increase hazards due to a design feature. Thus, no impacts would occur in this regard.

e. Result in inadequate emergency access?

No Impact. The project would not result in any physical development or other changes to the project site or surrounding area such that emergency access would be reduced or otherwise adversely affected. 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?

No Impact. No development or changes in current operations at the BWRP are proposed by the project, and thus its implementation would have no potential to affect alternative transportation or related facilities. Therefore, the 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 (i-ii). No physical development on- or off-site or changes in current BWRP facilities or operations are proposed by the project, and thus its implementation would have no potential to physically affect Tribal Cultural Resources (TCRs) in the area. The City's correspondence with affected tribes regarding formal government-to-government consultation is provided in Appendix F of this Final Initial Study. Therefore, no impact to TCRs 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 within the jurisdiction of the Sanitation Districts of Los Angeles County and the Los Angeles Regional Water Quality Control Board (LARWQCB). The proposed project would involve the gradual reduction of discharges of treated effluent from the BWRP to the River via the Channel and a proportionate incremental increase in deliveries of recycled water for non-potable applications. While these discharges would be incrementally reduced over time, and recycled water deliveries incrementally increased, the treatment process and discharge requirements for effluent for the BWRP would not change pursuant to the City's approved Waste Discharge Requirements/Waste Recycling Requirements ("WDRs/WRRs") per Order No. R4-2016-0144 ("Order No. R4-2016-0144"), governing the City's recycling of treated wastewater. Although the end-use application of treated wastewater generated at BWRP would change over time, the quality of discharged or recycled effluent would comply with the WDRs/WRRs. As such, the 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 would continue to discharge treated wastewater from the BWRP at the same location within the Channel, but in reduced quantities. As a result of increased demand for recycled water within the ULARA, 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. The 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?

No Impact. Project implementation would not create drainage system capacity problems as no development or change in current operations are proposed by the project. In fact, the proposed project would result in the overall reduction in discharge volumes to the Channel and 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. Thus, the 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 change in current operations. In fact, the use of recycled water for non-potable applications would offset the use of potable water that is currently being utilized for these purposes. Thus, the project would result in an increase in BWP 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 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. The project would not require additional wastewater treatment capacity or new or expanded facilities. 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?

No Impact. As no development or changes in current operations are proposed by the project, project implementation would not generate additional demands for solid waste disposal. No impact would occur in this regard.

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

No Impact. No physical development or changes in current operations are proposed by the project such that compliance with solid waste regulations beyond what is already required would be necessary. 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?

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 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.

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 would result in reduced discharges of treated effluent from the BWRP, increased delivery and usage of recycled water to customers within the City of Burbank and adjacent jurisdictions, which would offset potable water consumption and increase water supply reliability. While the effects of the project's increased use of recycled water would be generally limited to the BWP service area and adjacent portions of the City of Los Angeles, the treated wastewater flows contributed to the River could be subject to further reductions from other similar projects in the area, which could be considered a cumulative impact.

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.[8] Based on this review, two (2) pending or completed (2015 or later) wastewater change petitions were listed by the SWRCB that could potentially affect treated wastewater discharges to the River and the corresponding flow volumes. (See discussion below under Hydraulic Modeling Report II.)

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[8] *California Environmental Protection Agency, State Water Resources Control Board. Wastewater Change Petition Orders. Available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/applications/wastewater_petition_orders/. Accessed April 12, 2017. Note: no other Wastewater Change Petitions, other than the ones discussed herein, have been filed since at least 2003 requesting reductions to LA River discharges.*

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.

Hydraulic Modeling Report I

For the hydraulic modeling assessment undertaken as part of this Initial Study (see Appendix B: Hydraulic Modeling Report I, dated March 6, 2017), existing background flow condition assumed for the Los Angeles River is based on summer 2016 flow measurements (50 cfs) in the Los Angeles River downstream of Sepulveda Dam. Other proposed water recycling projects including the Glendale Water and Power Recycled Water Diversion, and stormwater management programs, have the potential to reduce discharges to the Los Angeles River in the future, but these inputs were not assumed to contribute anything to background flow because they enter the river downstream of the USGS Sepulveda Basin flow gage. The impact analysis is therefore considered to be conservative in that it does not rely on flows that are currently augmenting River flows downstream from the channel but may be reduced as a result of future projects. In other words, the analysis exaggerates the effect of the project flow reduction by underestimating (zeroing out) the current background flow. For example, the assumed baseline flow of 50 cfs did not include: (1) additional flows joining the River downstream of the Sepulveda Basin and within the study area via the Tujunga Wash, urban runoff and local stormdrains, (2) any releases from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP), or (3) any contributions to River from groundwater upwelling. Accordingly, even if all of the City of Los Angeles' activities (e.g. recycled water and stormwater capture goals) were implemented[9], there would still be at least 50 cfs in the study area of the River during the summer months. As a result, the hydrologic model utilized to analyze project-related effects on flow greatly overstated the incremental effect of Burbank's proposed discharge reduction and effectively engaged in a "worst-case" cumulative impacts analysis. The assumed baseline flow of 50 cfs is well below the long-term average dry season flows of 126.6 cfs (April – Sept., 1985-2012) and the average annual flows in the LA River of 283.6 cfs.

Hydraulic Modeling Report II

Nonetheless, despite the lack of reliable information available at the time the original hydraulic analysis was performed (see Hydraulic Modeling Report I included as Appendix C to this Final Initial Study), and based on additional information provided in public comments on the Draft Initial Study/Negative Declaration, further exploration of potential effects of additional discharge reductions was performed as summarized in Hydraulic Modeling Report II (included as Appendix C to this Final Initial Study). In addition, the effects of potential cumulative flow reductions on biological resources were also evaluated in the Supplement to Biological Resources Assessment dated August 18, 2017 (included as Appendix E of this Final Initial Study). The following summarizes the analysis and conclusions regarding cumulative effects presented in Appendix C and Appendix E. It should be noted that because the flow scenarios evaluated in Hydraulic Modeling Report II incorporate different background flow assumptions in order to respond to public comments, the

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[9] *See Exhibit A to Hydraulic Modeling Report II, which explains that most of these activities have only been analyzed at a programmatic level and do not provide sufficient project level details to conduct a quantitative analysis on dry weather flow reductions in the LA River or will not impact dry weather River flows. Nonetheless, the baseline condition used in Hydraulic Modeling Report I did not take these flows into account and therefore any future reduction in these flows as a result of the City of Los Angeles' activities would not impact the results of the report, which showed that there would be a less than significant impact on biological resources and recreation.*

respective project-specific and cumulative flow results vary from those presented in Hydraulic Modeling Report I and in the preceding analyses above. However, the relative contributions of the project and related projects are presented as percentages of overall flows, which allows for a comparison of impacts despite the difference in overall flow volumes considered.

A number of related projects were considered in the evaluation of cumulative effects, which are summarized in Exhibit A to Hydraulic Modeling Report II (Appendix C of this Final Initial Study). With the exception of two pending wastewater change petitions, one of which was not included in the public comments, none of the actions identified in public comments 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 proposed project's potential to reduce dry weather flows in the study area of the LA River, or the action(s) is expected to either have a positive impact on the LA River or no impact on the River's dry weather flows. The two pending wastewater change petitions (see Water Code § 1211), include:

1. The City of Glendale's wastewater change petition (WW0097), noticed April 20, 2017 (Glendale Petition), for proposed reductions in wastewater to the LA River from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP). The Glendale Petition proposes to reduce flow from 8.08 to 2.85 MGD in August, or 12.5 to 4.4 cfs and is considered in the cumulative impacts analysis for the proposed project.

2. The Sanitation Districts of Los Angeles County's wastewater change petition (WW0098). However, because 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 the study area, it was not considered in the cumulative impacts analysis for the proposed project.

As a result of this review, only the Glendale Petition proposed flow reduction was assessed, together with the proposed project, in this cumulative flow analysis. Three sources of flow were considered in Hydraulic Modeling Report II: flows from Burbank WRP (including existing and proposed project flows), flows from LAGWRP (existing and proposed by the Glendale Petition) and flows in the LA River that are independent of the proposed project and Glendale Petition flows.

Burbank WRP flows (Project flows)

Existing and proposed flows from Burbank WRP were taken from the proposed project (Wastewater Change Petition WW0019). As shown in Table 1 of Hydraulic Modeling Report II (Appendix C of this Final Initial Study), 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), on average.

Glendale Petition flows (Cumulative Flows)

Existing and proposed flows from Glendale Petition were taken from the Wastewater Change Petition WW0097. As shown in Table 2 of Hydraulic Modeling Report II (Appendix C of this Final Initial Study), flows from Glendale Petition in August will be reduced from 8.08 to 2.85 MGD (12.5 to 4.4 cfs), on average.

LA River Flows (Background Flows)

In contrast to the Hydraulic Modeling Report I which assumed a single flow value throughout the study reach and did not include inflows from other water sources downstream of Sepulveda Basin, this report does account for inflows to the LA River that occur downstream of Sepulveda Basin. The increases downstream of Sepulveda Basin in the study reach were characterized using ten years of data from the Los Angeles County Department of Public Works Annual Hydrologic Reports as shown in Figure 2. Note that Water Year 2015-16 was not available at the time this analysis was performed. 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. The data were further subdivided as follows:

- Dividing the contribution from Burbank Western Channel into discharges that would be unaffected by the proposed project (August flow in Burbank Western Channel minus proposed August flow reduction per Table 1 of Hydraulic Modeling Report II) and discharges that would be eliminated due to the proposed project (proposed August flow reduction per Table 1 of Hydraulic Modeling Report II).

- Dividing the contribution from LAGWRP into discharges that would not be affected by the Glendale Petition (August flow minus proposed flow reduction per Table 2 of Hydraulic Modeling Report II) and discharges that would be eliminated by the Glendale Petition (per Table 2 of Hydraulic Modeling Report II).

- Calculating other flow sources that are not gaged directly (upwelling groundwater and dry weather runoff, shown as the purple band in Figure 2 of Hydraulic Modeling Report II) 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 LAGWRP. This can be represented in the following equation: Other flows = LA River @ Arroyo Seco – (LA River @ Tujunga Ave + Burbank Channel + Verdugo Wash + LAGWRP 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 ten-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. ESA evaluated hydrologic conditions in the LA River in the lowest flow month, of the lowest flow year, in a ten-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 proposed project, together with the reduced flows attributable to the Glendale Petition, would be proportionately less than reported below.

Three flow scenarios were evaluated in Hydraulic Modeling Report II:

1. Existing conditions (Worse Case Condition): August 2008 Condition with existing August discharge levels from Burbank and Glendale Petitions as described in their respective change petitions (Tables 1 and 2 of Hydraulic Modeling Report II)

2. Project effects: August 2008 Condition with discharge from Burbank WRP reduced from 6.9 to 2.8 cfs (Table 1 of Hydraulic Modeling Report II) (proposed project)

3. Cumulative effects: August 2008 Condition with discharge from Burbank WRP reduced from 6.9 to 2.8 cfs per Table 1 of Hydraulic Modeling Report II (proposed project) and discharge from LAGWRP reduced from 12.5 to 4.4 cfs per Table 2 of Hydraulic Modeling Report II (Glendale Petition).

The flows in the August 2008 Condition are shown in Table 3 of Hydraulic Modeling Report II and schematically as they were applied to individual reaches of the hydraulic model. It was assumed that flow in the LA River at the confluence with the Burbank Western Channel was the same as flow in the LA River at Tujunga Avenue. 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 study area limit 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 (3.2 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 (Reaches 2-6).

Hydraulic Modeling Report II Results

The hydraulic model results for the proposed project show that under the August 2008 Conditions: (1) the average velocity within the entire study area would be slightly reduced, from 1.45 to 1.37 feet/sec (-1.6% change), and (2) the average depth in the deepest part of the channel would be slightly reduced from 9 to 8.88 inches (0.2 inches, or -2.2%), as shown in Table 5 of Hydraulic Modeling Report II. Under August 2008 Conditions, the hydraulic model results for the proposed project and Glendale Petition (cumulative effects) are: (1) the average velocity within the study area would be reduced from 1.45 feet/sec to 1.37 feet/sec (-5.6%), and (2) the average depth would be reduced from 9 to 8.52 inches (0.48 inches, or 5.3%).

The proposed project would slightly reduce the total wetted area of channel from 136.96 to 135.82 acres (1.14 acres, -0.83% of existing condition) during the August 2008 Condition, as shown in Table 6 of Hydraulic Modeling Report II. This represents an average 7-inch-wide strip along both edges of the channel throughout the study reach. 27% of the reduction in wetted area occurs on concrete banks or bed and 73% on soft channel materials, so the reduction in wetted soft channel is 0.83 acres.

Under cumulative effects, an additional 1.63 acres of channel would not be wetted during the August 2008 Condition, for a cumulative loss of 2.77 acres, or 2.02% of the total wetted channel area. This could be represented by a strip 18 inches wide on both sides of the channel through the study reach. With a 36:64 ratio of concrete to earth, there will be a temporary dewetting of 1.77 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.

Potential Impacts to Biological Resources

Under the cumulative project effects scenario, the average changes in flow depth (0.48 inches) and velocity (4.8%) are very small, and thus will not have a significant impact on habitat. As discussed in the Hydraulic Modeling Report II, the reduction in wetted area is 2.77 acres, or 2.02% of the existing condition wetted area, which would be spread out over the 7.8-mile study area on either side of the River channel. As noted above for Project-specific impacts, of this area, it is expected that 36% of the reduction in wetted area occurs in areas of concrete bank or bed protection, reducing the area of earthen channel affected to 1.77 acres or 1.29% of the existing condition wetted area. This cumulative reduction in wetted area would occur over the 7.8-mile study area (or an approximately 18-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 (or approximately 64% of the channel area affected by the cumulative flow reductions), 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 LAGWRP 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 II (Appendix C of this Final Initial Study), in ARBOR reach 6, average flow depth in the center of the channel is 1.24 feet under the August 2008 Condition, and is predicted to fall to 1.22 feet under the with-Project condition, a decline of 0.29 inches or -1.9%. The reduction in wetted channel area within Reach 6 is 0.42 acres (1.35% of the existing wetted area) of which 36% is concrete channel. The proposed project, therefore, is not likely to have a noticeable effect on recreation within Reach 6, or elsewhere.

Under the cumulative effects scenario average flow depth in the center of the channel is predicted to fall from 1.24 feet to 1.17 feet, a decline of 0.86 inches or -5.8%. The reduction in wetted channel area within Reach 6 is 1.21 acres (3.9% of the existing wetted area) of which 55% is concrete channel. 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

As such, 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, combined with the effect of other projects, is not cumulatively considerable since the BWRP's discharges currently do not represent a significant percentage of overall flows in the River south of the Channel confluence, and the proposed discharge reductions, combined with other related projects (such as the Glendale Petition) would have a less than significant impact on biological resources and recreation in the River. Thus, based on the analyses summarized above and presented in detail in Appendices C and E of this Final Initial Study, while the project could contribute incrementally to cumulative effects regarding flow reductions in the River, the project's contribution to such impacts, combined with the other projects, 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 in BWRP facilities and operations are proposed by the project. The 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. Thus, substantial adverse effects on human beings, either directly or indirectly, are not anticipated to occur as a result of project implementation. No impact would occur in this regard.

Attachment C
Reponses to Comments

ATTACHMENT C - RESPONSES TO COMMENTS

A. INTRODUCTION

An Initial Study was prepared by the City of Burbank (Burbank) in accordance with the California Environmental Quality Act (CEQA), as amended, to evaluate the potential environmental effects associated with implementation of the Burbank 2017 Wastewater Change Petition (proposed Project). The Initial Study assessed the proposed Project's potential for significant environmental impacts for each environmental category listed in the CEQA Guidelines' Environmental Checklist Form (Appendix G).

The Initial Study was submitted to the State Clearinghouse, Governor's Office of Planning and Research, and circulated for public review on April 22, 2017. A Notice of Intent to Adopt a Negative Declaration (NOI) was circulated with the Initial Study. The Draft Initial Study/ Negative Declaration (IS/ND) was initially made available to the public through the State Clearinghouse on April 22, 2017 for a period of 30 days with the public comment period ending on May 23, 2017. The NOI was published in the local newspaper and the NOI and IS/ND were both published on the Burbank's website. Burbank received only one (1) comment letter. No other letters or comments on the proposed Project or the IS/ND were received during the public comment period.

B. 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 together with any comments received during the public review process. The decision-making body shall adopt the proposed 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 reflects the lead agency's independent judgment and analysis. Burbank, as noted above, received only one (1) comment letter during the 30-day public review period. A copy of the original comment letter is included on the subsequent pages. The LA Letter is followed by a response from Burbank staff. None of the comments made on the Initial Study (or the responses herein) affect the original conclusions related to potential environmental significance that were drawn in the Initial Study.

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

The public agencies, organizations, and/or private individuals that submitted written comments on the Draft Initial Study/ND through May 23, 2017 include the following:

1. Richard F. Harasick, Senior Assistant General Manager
   Los Angeles Department of Water and Power
   111 N. Hope Street
   Los Angeles, California 90012

2. Enrique C. Zaldivar, P.E., Director and General Manager
   LA Sanitation
   1149 S. Broadway, 9th Floor
   Los Angeles, California 90015

The Los Angeles Department of Water and Power and LA Sanitation, both departments of the City of Los Angeles, submitted a joint comment letter dated April 13, 2017 (LA Comment letter). Responses to the comments provided in this letter are presented below.

2. Format of Responses to Comments

Courtesy statements, introductions, closings, and individual comments within the body of the letter have been identified and numbered. A copy of the comment letter and Burbank'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 the comment letter. The bracketed comment letter and the written responses to the comments in these letters are provided below.

LETTER 1

Los Angeles LA DWP Department of Water & Power

ERIC GARCETTI
Mayor

Commission
MEL LEVINE, *President*
WILLIAM W. FUNDERBURK JR., *Vice President*
JILL BANKS BARAD
CHRISTINA E. NOONAN
AURA VASQUEZ
BARBARA E. MOSCHOS, *Secretary*

DAVID H. WRIGHT
General Manager

May 22, 2017

Michael Thompson, Principal Civil Engineer, P.E.
Burbank Water and Power
275 East Olive Avenue
Burbank, CA 91502

Dear Mr. Thompson:

Subject: Comment Letter Regarding the Burbank 2017 Wastewater Change Petition
Initial Study/Negative Declaration, State Clearinghouse #2017041060

On behalf of the City of Los Angeles Department of Public Works Los Angeles Sanitation (LASAN), and the Los Angeles Department of Water and Power (LADWP), collectively "City of Los Angeles," we strongly support the City of Burbank's (Burbank) plans to gradually increase the use of recycled water over the next decade. The City of Los Angeles 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. However, the Burbank 2017 Wastewater Change Petition Initial Study/Negative Declaration, State Clearinghouse #2017041060 (IS/ND) fails to adequately identify and analyze the cumulative effects of Burbank's plans to decrease the amount of water discharged into the Los Angeles River. We urge your agency to reconsider whether a Negative Declaration is appropriate, in light of the multiple projects occurring and reasonably expected to occur in the Los Angeles River, and to analyze the cumulative impacts of Burbank's intention to 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 your agency to prepare either a Mitigated Negative Declaration or an Environmental Impact Report (EIR). 1

"Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. 2

(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 that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts

2 Cont.

can result from individually minor but collectively significant projects taking place over a period of time. California Code of Regulations, Tit. 14, §15355.

3

Currently, the City of Los Angeles discharges approximately 44,000 acre-feet per year (AFY) of water to the Los Angeles River. Burbank discharges approximately 5,376 AFY. The two petitions filed with the State Water Resources Control Board by Burbank seek to gradually decrease the amount of water discharged to the Los Angeles River from 5,376 to 3,766 AFY of water over the next 10 years. The remaining water flowing in the Los Angeles River consists of upwelling groundwater, dry-weather flows from tributaries, and intermittent storm water flows. Burbank states:

"Although the proposed project would contribute to a reduced flow in the river channel that could affect existing biological resources, 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 of the Los Angeles River, Page 20).

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

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 the following:

- City of Glendale Recycled Water use expansion
- Lower Los Angeles River Revitalization Master Plan

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

- City of Los Angeles' River Revitalization Master Plan
- United States 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
- City of Los Angeles' Enhanced Watershed Management Plan
- Water Integrated Resources Plan and One Water LA 2040
- Projected Reduction of Groundwater Upwelling
- Future revitalization efforts along Arroyo Seco

3 Cont.

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

4

While Burbank has acknowledged the existence of several other planned projects and programs that will reduce flows to the Los Angeles River, California law states that Burbank cannot ignore the effects of its own Project combined with those projects and programs. "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 when 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 . . ." CCR Tit. 14, §15064(h)(1).

Burbank 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." " . . . 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

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

1. **Attachment A. Project Description (Page 10) and FIGURE A-7**

   "As a result of increased demand for recycled water, Burbank is proposing to gradually increase its use of recycled water from 2,705 Acre-Feet (AF) to approximately 5,027 AF by 2025 (see Figure A-7)."

   Comment: The reduction in flow is characterized throughout the IS/ND as "gradual." However, according to Figure A-7, there is nearly a 30 percent reduction in total discharge from FY 2020/2021 to 2021/2022. The entire proposed reduction occurs in a single year and is therefore not gradual.

2. **Figure A-7 (Page 11)**

   6

   Comment: For all fiscal years, there are arithmetic errors between columns 2 through 5. The volume of treated water (we assume this is the effluent from Burbank Water Reclamation Plant [BWRP]) should equal to the amount of recycled water deliveries and discharges. In addition, there is a discrepancy in the amount of total quantity of water treated by BWP shown in the table and footnote 1. Footnote 1 states the water treated by BWRP in FY 2015/16 is 9,206 AF but the amount shown in the table is 8,009 AF. 6 Cont.

3. Attachment B. Section IV. Item b. (Page B-8)

7 "However, the project will not deter foraging birds from the site because no construction is planned and reductions in water flow in the Los Angeles River from the project will be nominal, and the birds will continue to have access to these areas. Also, a 5.8-percent reduction of discharge from the BWRP could lower the depth of water by less than one inch, but not to a point that affect fish migration or movement by any of the native aquatic species within the Los Angeles River."

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

4. Attachment B. Section XIX. Item b. (Page B-29)– Cumulative Effects 8

"As such, 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 the BWRP's discharges currently do not represent a significant percentage of overall flows in the River south of the Channel confluence, and the proposed discharge reductions are also not substantial from year to year and would be implemented over time. Thus, while the project could contribute to cumulative effects regarding flow reductions in the River, the project's contribution to such impacts would not be considerable."

Comment: It does not provide an adequate environmental analysis of the cumulative impacts to the Los Angeles River and the environment because it ignores 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 all these efforts to 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. 8 Cont.

5. **Appendix A, Attachment A, Item VI(B) (Page 15)** 9

   "In this area, groundwater from Upper Los Angeles River Area discharges into the riverbed, providing consistent base flows."

   <u>Comment</u>: 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 should not be considered a reliable water source or a consistent base flow.

6. **Appendix C. Section 2.1.2. (Page 6) and Section 3.2 (Page 12)** 10
   "In addition, groundwater upwelling is believed to contribute to flows in the study area."

   "These results somewhat overstate the impact of the proposed flow reduction, since additional flows enter the river downstream of Sepulveda Dam from groundwater upwelling, the Los Angeles – Glendale Water Reclamation Plant, local storm drains and Tujunga Wash. These flow would somewhat 'dampen' the effects of the proposed project on the study area."

   <u>Comment:</u> As previously stated, rising groundwater should not be considered a reliable water source or a consistent base flow.

7. **Appendix B. Biological Resources Assessment of the Los Angeles River (Page 20)** 11

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

   <u>Comment:</u> This statement does not take into account the potential reduced discharge from other entities. The cumulative impact would need to be studied.

The City of Los Angeles' protest letter dated April 13, 2017, pertaining to Burbank's 1211 petition is attached for reference. 12

13 LADWP and LASAN reiterate our support for Burbank's recycled water projects. 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/ND. Should you have any questions, please contact Ms. Evelyn Cortez-Davis, LADWP Manager of Special Projects & Groundwater Planning, at (213) 367-3564 or Mr. Hassan Rad, LASAN Manager of Regulatory Affairs Division, (213) 847-5186.

Sincerely,

Susan Rowghani for RFH

Richard F. Harasick
Senior Assistant General Manager – Water System
Los Angeles Department of Water and Power
111 North Hope Street
Los Angeles, CA 90012

Enrique C. Zaldivar, P.E.
Director and General Manager
Los Angeles Sanitation
1149 South Broadway, 9th Floor
Los Angeles, CA 90015

RV:vf
Attachment
By e-mail
c: Leslie Grober, Deputy Director, Division of Water Rights, State Water Resources Control Board
Liz Crosson, Water Policy Advisor, Office of Los Angeles Mayor Eric Garcetti
Traci Minamide, Chief Operating Officer, LASAN
Mas Dojiri, Assistant Director, LASAN
Hassan Rad, Manager of Regulatory Affairs Division, LASAN
Nancy Sutley, Chief Sustainability Officer, LADWP
Evelyn Cortez-Davis, Manager of Special Projects & Groundwater Planning, LADWP

Attachment

Los Angeles Department of Water & Power

ERIC GARCETTI
Mayor

Commission
MEL LEVINE, *President*
WILLIAM W. FUNDERBURK JR., *Vice President*
JILL BANKS BARAD
MICHAEL F. FLEMING
CHRISTINA E. NOONAN
BARBARA E. MOSCHOS, *Secretary*

DAVID H. WRIGHT
General Manager

April 13, 2017

BY EMAIL AND U.S. MAIL

Mr. Mitchell Moody
State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, California 95812-2000
mitchell.moody@waterboards.ca.gov

Dear Mr. Moody:

Subject: Response Pursuant to Water Code 1700 et seq. to Petitions WW0091 and WW0019 filed by City of Burbank and the Petition filed by City of Glendale (Collectively Petitions)

The City of Los Angeles historically maintains a diverse portfolio of water supplies and continues to be a strong proponent of the production and use of recycled water. The City of Los Angeles holds water rights to all of the native water in the Los Angeles River and to the recycled water from its water treatment plants that currently discharge to the Los Angeles River.

The Los Angeles Department of Water and Power (LADWP) and Los Angeles Sanitation (LASAN) support efforts of the local cities within the Upper Los Angeles River Area and the lower Los Angeles River area that are joining us in crafting ways to increase local supplies and increase the regional use of recycled water; however, we understand that the cumulative effects on the flows of the Los Angeles River due to the collective changes of use could be significant.

LADWP and LASAN urge the State Water Resources Control Board (Board) to consider the impact on the public interest as it reviews the Petitions. The issues surrounding the Los Angeles River are complicated, involving multiple beneficial uses, planned revitalization projects, and competing demands for the limited supply of water. The Board should consider the Petitions in that context. Prior to taking any action on the Petitions, LADWP and LASAN urge the Board to convene a workshop for interested stakeholders in order to reach consensus on how to best conserve the public interest in the Los Angeles River.

SERVICE

LADWP and LASAN mailed a copy of this letter to Burbank at the address identified in the notice of the petitions:

City of Burbank
c/o Brownstein, Hyatt, Farber Schreck, LLP
Attn: Stephanie Hastings
1020 State Street
Santa Barbara, CA 93101

LADWP and LASAN appreciate the opportunity to respond to the Petitions. Should you have any questions, please contact Ms. Evelyn Cortez-Davis of LADWP at (213) 367-3564 or Mr. Hassan Rad of LASAN at (213) 847-5186.

Sincerely,

Richard F. Harasick
Senior Assistant General Manager
Los Angeles Department of Water and Power
111 N. Hope Street
Los Angeles, CA 90012

Enrique C. Zaldivar, P.E.
Director and General Manager
LA Sanitation
1149 S. Broadway, 9th Floor
Los Angeles, CA 90015

c: Felicia Marcus, Chair, State Water Resources Control Board
Leslie Grober, Deputy Director, Division of Water Rights, State Water Resources Control Board
Liz Crosson, Water Policy Advisor, Office of Los Angeles Mayor Eric Garcetti
Hassan Rad, Manager, Regulatory Affairs Division, LA Sanitation
Nancy Sutley, Chief Sustainability Officer, LADWP
Evelyn Cortez-Davis, Manager of Special Projects & Groundwater Planning

Comment Letter 1

Richard F. Harasick, Senior Assistant General Manager
Los Angeles Department of Water and Power
111 N. Hope Street
Los Angeles, California 90012

Enrique C. Zaldivar, P.E., Director and General Manager
LA Sanitation
1149 S. Broadway, 9th Floor
Los Angeles, California 90015

Response to Letter 1

The following studies were undertaken to evaluate the impacts of the proposed Project individually and cumulatively:

Appendix B:	LA River Reduced Discharge Study: Hydraulic Modeling Report (March, 2017) (Hydraulic Modeling Report I)
Appendix C:	LA River Reduced Discharge Study: Hydraulic Modeling Report (August, 2017) (Hydraulic Modeling Report II)
Appendix D:	Biological Resources Assessment of the LA River (March 29, 2017) (Biological Assessment)
Appendix E:	Supplement to Biological Resources Assessment of the LA River (August 18, 2017) (Supplement to Biological Assessment)

The studies and reports are referred to throughout these responses to comments.

Response to Comment 1-1. This comment provides an introduction to the detailed comments included in the comment letter. In general, this comment states that while Los Angeles “strongly supports Burbank’s plans to gradually increase the use of recycled water over the next decade,” the comment suggests that the Initial Study/Negative Declaration (IS/ND) prepared by Burbank for the proposed Project did not adequately address cumulative impacts of the Project, and further indicates that upon consideration of other projects affecting flows within the Los Angeles River (LA River or River), Burbank may consider preparation of a Mitigated Negative Declaration (MND) or Environmental Impact Report (EIR) instead of the IS/ND it has already prepared. Because no significant impacts were identified and none of the information presented by commenter contains substantial evidence to support a "fair argument" that the project will have a significant impact on the environment, no mitigation is required and no further environmental documentation (MND or otherwise) is required. Burbank’s responses to LA’s comments related to these issues are provided in subsequent responses below.

Response to Comment 1-2. This comment provides a definition of cumulative impacts per Section 15355 of the State CEQA Guidelines. However, the commenter does not raise a substantive issue regarding the IS/ND or the analysis provided therein. As such, no further response is warranted.

Response to Comment 1-3. This comment discusses current discharges to the River by the City of Los Angeles and Burbank, and summarizes the proposed discharge reductions contemplated by Burbank as part of the proposed Project and as analyzed in the IS/ND. The commenter further argues that the determination of less than significant impacts to biological resources ignores the fact that flows in the River would fluctuate throughout the implementation of the proposed Project and would not remain constant. To the contrary, the analyses presented in the IS/ND do not ignore the seasonal and annual fluctuations in the baseline flow in the River.

In response, it is useful to provide a short background on the LA River. The LA River drains a watershed of 800 square miles that extends from the eastern portions of the Santa Monica Mountains, Simi Hills, and Santa Susana Mountains to the western portion of the San Gabriel Mountains. The watershed includes and is shaped by the path of the Los Angeles River. The upper portion of the watershed (approximately 324 square miles) is dominated by forest or open space and the remaining watershed (approximate 476 square miles) is characterized by intensive commercial, industrial, and residential uses. The LA River was converted from its natural course and channelized starting in 1914 to reduce flooding in the region. Today, over 40 miles of the 51-mile Los Angeles River are lined with concrete. Prior to channelization, the Los Angeles River was characterized by intermittent flow during the majority of the year. Today, the existing dry weather flow in the LA River is dominated by wastewater discharges; the remaining flow (approximately 20 percent) is attributable to dry-weather runoff, storm drain runoff, and groundwater discharging (or "upwelling") at the surface.

Based on current conditions, habitat in the study area is generally of low quality, but the portion of the 6.5-mile reach that has a soft-bottomed channel supports some in-channel riparian vegetation as well as aquatic habitat for fish, amphibian, reptiles and other organisms. Scouring during high flood events clears some of the understory vegetation in this reach, but well-rooted willows have persisted in recent years. To evaluate the impacts of the proposed Project on biological resources within the River, the Hydraulic Modeling Report I assumed an extreme "worst-case" baseline flow scenario of 50 cfs that did not include any cumulative flow inputs throughout the study area portions of the River beyond the baseline flows generated upstream of Sepulveda Basin, which are primarily produced by and discharged from the Tillman Water Reclamation Plant (TWRP).

The TWRP has a maximum capacity of 80 mgd or 123 cfs. Even after implementation of various future recycled water and groundwater replenishment projects, the City of Los Angeles has committed to discharging a minimum annual average of 27 mgd (approximately 42 cfs or 30,000 AFY) of the tertiary-treated water produced at TWRP into the Los Angeles River via its wildlife lakes.[1] In addition to the commitment of 42 cfs from TWRP, approximately 28.6 cfs in flows enter the LA River from the 152 square mile watershed upstream.[2] Assuming approximately 28 cfs of combined flows from the upper watershed, plus the minimum 42 cfs from TWRP, is 70 cfs – far in excess of the 50 cfs used in the analysis. The assumed baseline flow of 50 cfs is well below the long-term average dry season flows of 126.6 cfs (April – Sept., 1985-2012) and the average annual

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[1] *See May 2016, DEIR for LA Groundwater Replenishment Project, p. ES-11; City of Los Angeles' Integrated Resources Plan, Five Year Report; 2006 Draft EIR for the City's Integrated Resources Plan (programs for wastewater, runoff, and recycled water assume an annual average of 27 mgd would be discharged from TWRP to the Los Angeles River).*

[2] *Assuming average dry weather runoff of 190 GPD per acre of developed watershed (City of Los Angeles Integrated Resources Plan, Facilities Plan, Vol 3, Runoff Management, CDM, 2004, p. 4-9), total runoff upstream of TWRP is estimated to be: 152 square miles x 640 acres per square mile = 97,280 acres; 97,280 x 190 GPD per acre = 18,483,200 GPD; 18,483,200 x 0.1336806 cubic feet per gallon = 2,470,844 cubic feet per day; 2,470,844 cubic feet per day/24 hours per day = 102,952 cubic feet per hour; 102,952 cubic feet per hour/60 minutes per hour = 1,716 cubic feet per minute; 1,716 cubic feet per minute/60 seconds per minute = 28.6 cfs.*

flows in the LA River of 283.6 cfs.[3] In addition, the City of Los Angeles' EIR for its Integrated Resources Plan estimates that dry weather River flows after implementation of various City of Los Angeles project alternatives (i.e., recycled water, reductions in dry weather runoff) will range from 71 to 101 mgd (110 to 156 cfs).[4]

Further, the baseline flows used to evaluate the proposed Project's impacts on River flow are conservative for another reason. All of the wastewater Burbank treats at BWRP is imported water, which is foreign to the LA River watershed. As noted in Burbank's Wastewater Change Petitions, Burbank has not and does not abandon any wastewater flows generated from Burbank's importation of water and/or treatment at BWRP and therefore has the sole and exclusive right to reuse all of its treated wastewater. Accordingly, these non-native flows are not part of the environmental baseline.

Contrary to the comment, the assumed baseline flow of 50 cfs did **not** include: (1) additional flows joining the River downstream of the Sepulveda Basin and within the study area via the Tujunga Wash, urban runoff and local storm drains, (2) any releases from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP),[5] or (3) any contributions to River from groundwater upwelling.[6] In doing so, the analysis expressly assumed that seasonal and annual River flows downstream of Sepulveda Basin would **not** remain constant, and further assumed that these flows would be non-existent entirely. Accordingly, even if all of the City of Los Angeles' activities (e.g. recycled water and stormwater capture goals) were implemented, there would still be at least 50 cfs in the River during the summer months, and potentially much more. As a result, the hydrologic model utilized to analyze project-related effects on flow greatly overstated the incremental effect of Burbank's proposed discharge reduction and effectively engaged in a "worst-case" cumulative impacts analysis.

The commenter goes onto list various projects known to the City of Los Angeles and argues that the first two projects "may place quantifiable demands on dry-weather flows within the Los Angeles River," and the last nine projects "may result in modifications to dry-weather flows within the Los Angeles River" and therefore that the proposed Projects could be cumulatively considerable. The commenter states these projects (listed below) were not accounted for in the analyses presented in the IS/ND.

1. City of Glendale, Wastewater Change Petition (WW0097)
2. Lower Los Angeles River Revitalization Master Plan
3. City of LA, River Revitalization Master Plan
4. USACE, Los Angeles River Ecosystem Restoration Feasibility Study
5. City of LA, 2012 Recycled Water Master Planning Documents
6. LADWP, 2015 Stormwater Capture Master Plan
7. City of LA, Enhanced Watershed Management Plan
8. LASAN, Water Integrated Resources Plan
9. One Water LA Plan[7]
10. Projected reduction of groundwater upwelling

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[3] *Hydraulic Modeling Report I, Table 1.*

[4] *See 2006 Draft EIR for the City's Integrated Resources Plan, p. 3.11-84.*

[5] *As discussed in detail in the Hydraulic Modeling Report II, discharges from LAGWRP are 12.5 cfs, on average, and are proposed to be reduced to 4.4 cfs, on average, with implementation of the Glendale Wastewater Change Petition WW0097.*

[6] *Hydraulic Modeling Report I, p. 6.*

[7] *The LA Comment letter listed the Water Integrated Resources Plan and One Water LA 2040 as a single item. However, because a plan has been prepared for the Water Integrated Resources Plan, but not the One Water LA, we have separated the two.*

11. Future revitalization efforts along Arroyo Seco

As described above, and as analyzed in the Hydraulic Modeling Report I, ESA evaluated the impacts of the proposed Project assuming a worst-case baseline static flow condition of 50 cfs. Accordingly, any future fluctuations in flow in the study area—whether increases or decreases—resulting from any existing or future projects, would have no bearing on the analysis.

Nevertheless, in an abundance of caution, and to respond to the LA Comment letter specifically, ESA undertook a second hydraulic analysis of the incremental cumulative effects of all known and sufficiently defined projects for which quantifiable reductions in River flow within the study area could be ascertained. As the commenter suggests, the last 9 listed projects "may result in modifications to dry-weather flows within the Los Angeles River," but the commenter does not provide any information nor quantifies impacts from these other projects. As described herein, no such analyses were located.

First, ESA conducted a review of all publically-available reports and information on each of the activities listed in the LA Comment Letter, along with three additional activities. (See Hydraulic Modeling Report II, Exhibit A: ESA Memo dated August 21, 2017.) With the exception of the City of Glendale, Wastewater Change Petition (WW0097)[8] (project # 1 on the list above), none of the actions identified in LA's Comment letter 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. 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. 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.

For those projects for which an Environmental Impact Report or Notice of Preparation has been published with the State Clearinghouse (project #s 3, 4, 5.a, 7, 8 and 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 LA River. (Exhibit A, pp. 2-3, 5-7.) For project #s 3, 4, 5.a. and 11, the action is expected to have no impact on dry year flows or the action is expected to have a positive impact on the recreational values and the biological resources in the LA River. (Exhibit A, pp. 2-3, 5, 8-9.) For the remainder of the projects (project #s 2, 5, 6, 9, 10, 11 and 13), no Environmental Impact Report or Notice of Preparation has been published (project # 2, 5, 6, 9, and 11) or no such project is known to exist (project # 10).

Second, despite the lack of quantifiable information regarding potential reductions in dry weather River flow, ESA made very conservative flow assumptions (based on August 2008) regarding a number of the supplies cited by the City of Los Angeles. It then re-ran the flow model to assess the cumulative impacts of the proposed Project and projects identified in the LA Comment Letter. The results of this analysis are set forth in the Hydraulic Modeling Report II. The resulting cumulative effects of the proposed Project to flow volume, velocity,

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[8] *The only other Wastewater Change Petition that has been filed with the SWRCB since at least 2003 (earliest date on SWRCB website) requesting reductions in discharges to the LA River is the City of Glendale's WW0097. In 2013, the City of LA adopted an MND for its San Fernando Recycled Water Project and LA did not file a wastewater change petition. Part of this project proposes to maximize the use of recycled water to replace potable water sources by extending its recycled water pipeline network to serve recycled water from TWRP (Tillman) to the San Fernando Valley area of the City of Los Angeles. The MND did not analyze the impacts of this project on the Los Angeles River.*

depth, and wetted area are nearly identical to the results calculated in the Hydraulic Modeling Report I. (See Table 1 below.)

In response to the LA Comment Letter, the Hydraulic Modeling Report II included three sources of dry season flows in its analysis: (1) flows from Burbank WRP (including existing and proposed flows), (2) flows from LAGWRP (existing and proposed); and (3) flows in the LA River that are independent of the Burbank and LAGWRP flows, including treated wastewater discharges from TWRP and dry season urban runoff, as these flows are reliable and consistent and thus appropriate for use as baseline flow sources. August 2008 was selected as the baseline flow for these three sources as that year had the lowest total flow in the LA River within the ten-year period for which data is available, and therefore is the most sensitive to flow reductions—e.g., the worst case analysis. Specifically, the Hydraulic Modeling Report II used a baseline condition of 50 cfs at the LA River at Tujunga Avenue (the closest flow gage upstream of the confluence between the LA River and the Burbank Western Channel) and 79 cfs above the Arroyo Seco confluence, which demonstrates that even in extremely dry years, nearly 30 cfs of flow enters the study area between its upstream and downstream limits.

As explained above, the Hydraulic Modeling Report I used an even more conservative baseline because while it also assumed a baseline condition of 50 cfs at Sepulveda Basin, based on the average flow in the summer of 2016, it used this assumed baseline throughout the entire study area, including 7.8 miles downstream, at Arroyo Seco. In other words, it did not include other known flows that enter the River downstream of Sepulveda Basin as measured by downstream USGS gages. The relationship between the baseline conditions used in the two reports is depicted in Table 2 of the Hydraulic Modeling Report II.

The Hydraulic Modeling Report II concludes that the proposed Project would reduce flows in the LA River between Burbank Western Channel and the Arroyo Seco confluence by 5-7% during the August 2008 Condition—e.g., the worst case scenario. August 2008 was the month of lowest flow in the LA River during the most recent ten-year period of record, one of the driest periods historically, and using this as a baseline shows the Project impacts at a time of higher than average sensitivity. In other words, during average and above average flow conditions, the Project would have an even smaller impact.

The proposed Project flow reduction translates to an average reduction in flow depth of 0.2- inch and a reduction in flow velocity of 1.6%. The shrinkage in wetted channel area is 1.14 acres over a 7.8-mile reach (0.83% of the existing wetted channel area in the August 2008 Condition, equivalent to a 7-inch-wide strip on either side of the channel). About a quarter of the shrinkage occurs on concrete lined bank or bed areas, with three quarters on soft bottomed channel.

The cumulative effects of the proposed Project and Glendale Petition reductions are larger but still very small. Cumulatively, the projects would reduce water depths in the River by 0.5-inch inches on average, with a maximum reduction in depth of 0.9-inch within Reach 6. In sum, cumulatively, the River's depth will be impacted by less than 1.0 inch. The Project-specific and cumulative changes in flow depth, velocity, and wetted area, both overall and by reach, are depicted in bar graph form below in Figures 1, 2, 3, and 4 (note that these are included in Hydraulic Modeling Report II as Figures 6 through 9).

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 unlikely to have an impact.

The overall (average) results of the Hydraulic Modeling Report II are nearly identical to the results of the Hydraulic Modeling Report I, as show in Table 1 below, with the differences reflecting the more detailed reach-specific flow inputs used in Hydraulic Modeling Report II. The reach-specific results for both analyses are also nearly identical. (Compare Hydraulic Modeling Reports I and II.)

Figure 1. Average flow depth and velocity under Project and Cumulative effects

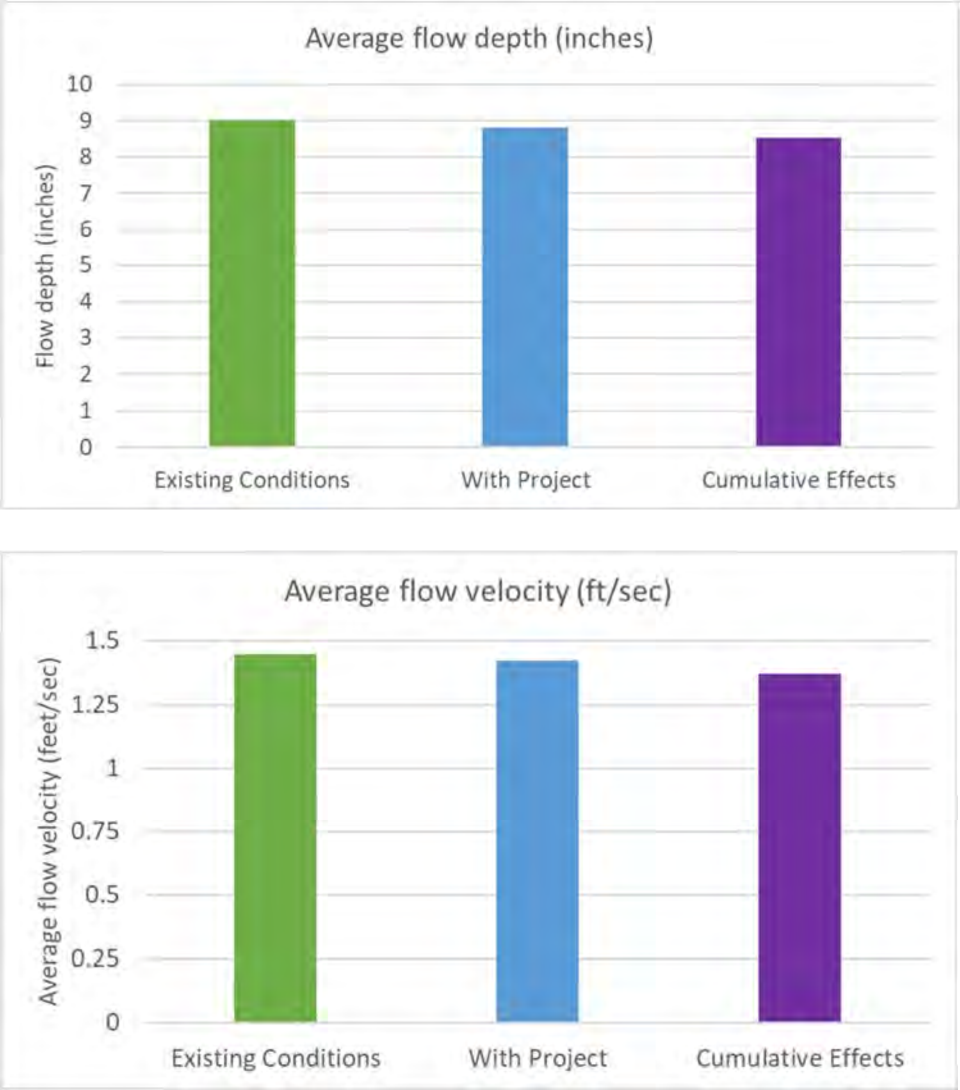

Figure 2. Average wetted area under Project and Cumulative effects

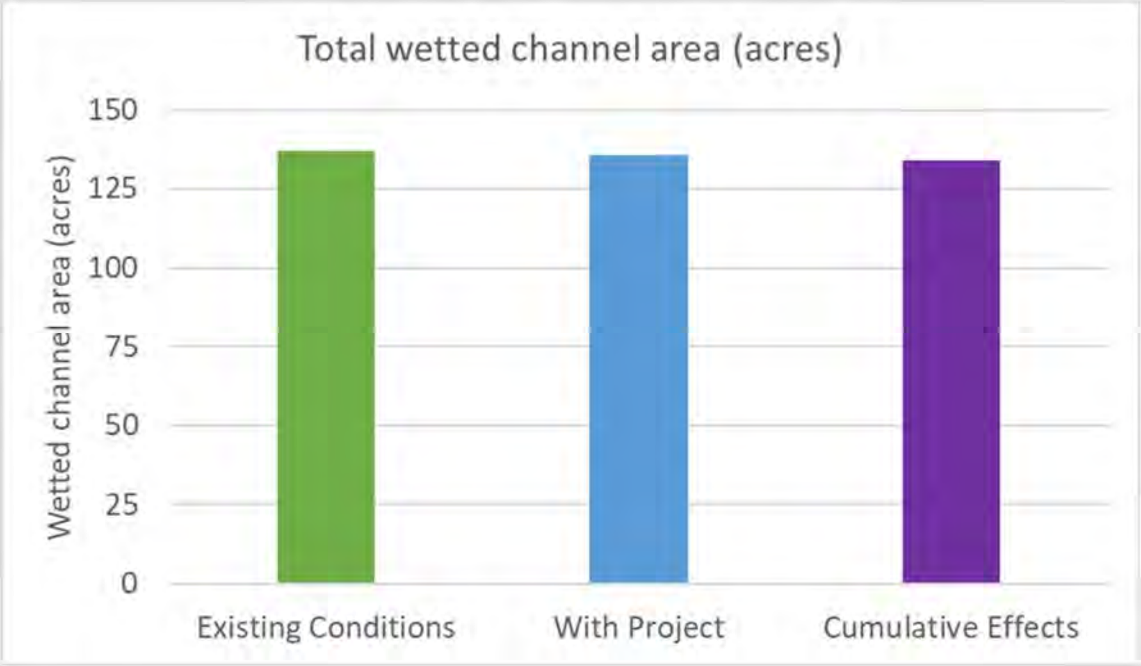

Figure 3. Reach by reach flow depth and velocity under Project and Cumulative effects

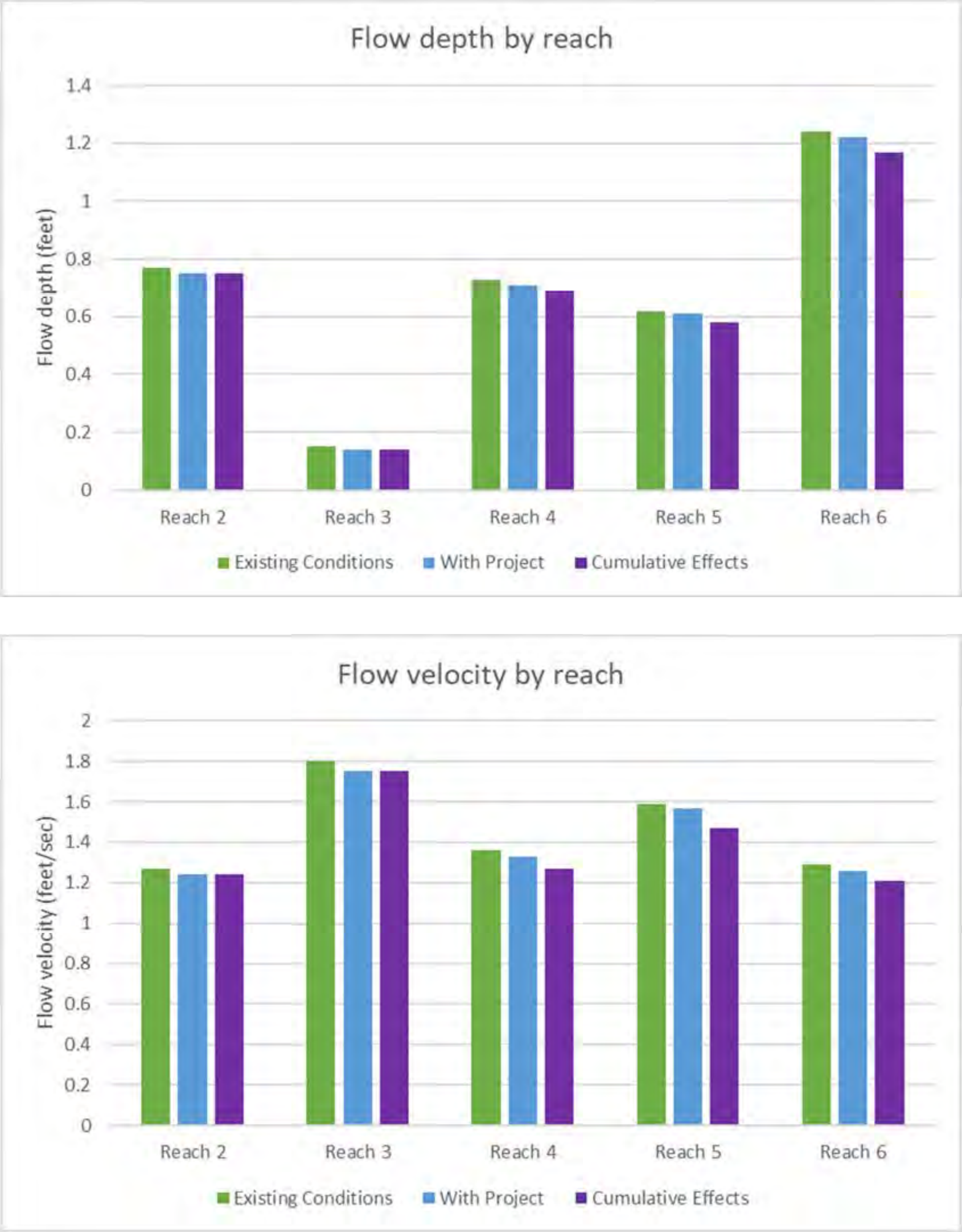

Figure 4. Reach by reach flow depth and velocity under Project and Cumulative effects

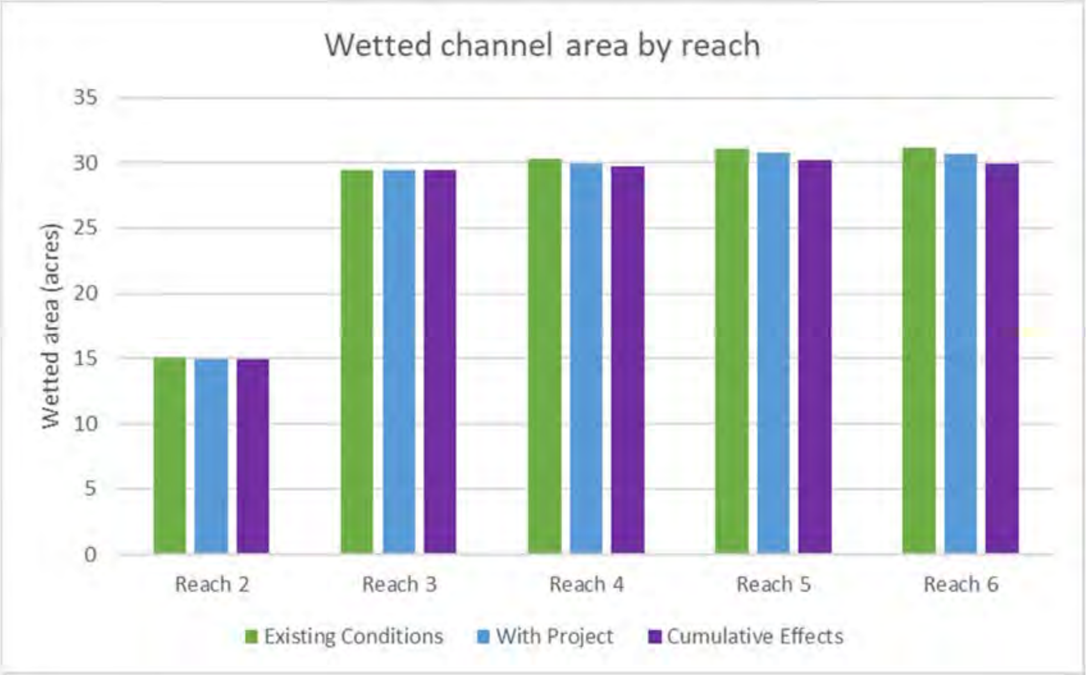

Table 1: Comparison of Overall Model Results

	Flow depth (inches)	Change in flow depth (inches)	Flow velocity (ft/sec)	Change in flow velocity (ft/sec)	Wetted channel (acres)	Change in wetted channel (acres)
Hydraulic Modeling Report I						
Existing Conditions[9]	7.80	-n/a	1.38	-n/a	132.89	-n/a
With Project	7.68	-0.12	1.36	-0.02	132.20	-0.69
Assumed Cumulative Effects[10]	7.68	-0.12	1.36	-0.02	132.20	-0.69
Hydraulic Modeling Report II						
Existing Conditions	9.00	-n/a	1.45	-n/a	136.96	-n/a
With Project	8.80	-0.20	1.42	-0.02	135.82	-1.14
Cumulative Effects	8.52	-0.48	1.37	-0.08	134.19	-2.77

Response to Comment 1-4. Please refer to Response to Comment 1-3 above. The commenter suggests that given the cumulative effects of the proposed Project in conjunction with the other listed projects, the proposed Project would result in cumulatively considerable impacts and thus an EIR must be prepared. However, based on the responses and supporting information provided above in Response to Comment 1-3, Burbank continues to make the determination that even in light of the related projects listed by the commenter, the proposed Project's incremental effect on the River combined with the effects of the listed projects is not cumulatively considerable and thus impacts in this regard are considered less than significant as concluded in the IS/ND.

Response to Comment 1-5. The change in flow between 2020/2021 and 2021/2022 is based on a projection that the three pipelines constructed to deliver recycled water to customers within the City of Los Angeles would be placed into service at the same time as other BWP recycled water customers being connected or converted.

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[9] *The results in the "Existing Conditions" category under the Hydraulic Modeling Report 1 is lower than Hydraulic Modeling Report II because Hydraulic Modeling Report I used a worst-case baseline condition that assumed that there were no inflows to the River downstream of Sepulveda Basin.*

[10] *The cumulative effects are the same as the "with-Project" effects because the Hydraulic Modeling Report I assumed that no flows (stormwater, dry weather runoff, and groundwater upwelling) would enter the River downstream of those measured in August 2016 at Sepulveda Basin, including Burbank's own remaining discharges from the BWRP. Thus, even if these other flows are completely eliminated, which is extremely unlikely, the model results would not change.*

Response to Comment 1-6. The values in the table for past years are actual values reported and are based on actual meter readings. These figures do not always match up precisely because the meters are owned and maintained by different organizations for different purposes and therefore there are slight discrepancies in reporting. Additionally, BWRP has no facilities for handling sludge and therefore all of the sludge generated at the plant is sent to the City of Los Angeles along with some water to facilitate conveyance. The table correctly notes that there is an assumption for volume lost due to sludge conveyance of 0.25 AF/day which equates to approximately 91 AF/year. In addition, there are additional losses of wastewater at times. For example, on occasion, wastewater from the plant is sent to the City of Los Angeles via the North Outfall Sewer for operational reasons. Note that the difference between projected water treated and projection for water discharged plus recycled water purveyed is less than 0.5 percent. Footnote 1 of Figure A-7 in the Initial Study/Negative Declaration misstates the value in the Table of the volume of wastewater treated at the BWRP for FY 2015/16. The correct value is 8,009 AF as shown in the corrected table.

Response to Comment 1-7. The commenter suggests that the discussion of impacts to biological resources, namely cumulative impacts to wildlife (foraging birds and fish migration or movement), does not provide adequate environmental analysis. The commenter does not provide any specific information as to what impacts Burbank failed to adequately analyze.

As described above in Response to Comment, 1-3, the LA River is a highly altered system that is mostly concrete lined. Scouring during high flood events clears some of the understory vegetation in the study area, but well-rooted willows have persisted in recent years. Below Willow Street in Long Beach, the unlined channel is influenced tidally, and supports a mix of scattered wetland and riparian, intertidal, and submerged aquatic habitat.

Again, to the contrary, as discussed in Response to Comments 1-3 above, even when accounting for flow reductions from the 11 projects listed in the LA Comment Letter, and the 3 additional projects, and utilizing both available flow data for those better defined projects or very conservative assumptions for those with limited information, the resulting effects on the flow volume, velocity, depth, and wetted area in the River do not vary substantially from the effects evaluated in the IS/ND based on "worst-case" drought dry weather flow conditions (Hydraulic Modeling Report I). Specifically, in terms of impacts on wetted area, which relates to the areas available for bird foraging along the River, the IS/ND concluded that the proposed Project would slightly reduce the total wetted area of channel from 132.89 to 132.20 acres, a reduction of approximately 0.69-acre of *total* wetted area during the driest summer month (August), 0.42-acre of which would be soft bottom channel and 0.27-acre concrete channel. (See Hydraulic Modeling Report I, p. 12.)

The results based on the updated flow inputs assumed in the Hydraulic Modeling Report II were very similar. The proposed Project-related reduction in total wetted area would be 1.14 acres in August. Under the cumulative impacts analysis, as discussed on page 21 of Hydraulic Modeling Report II, the projected reduction in wetted area would be increased to 2.77 acres in August (1.77-acre soft bottom channel and 1.0-acre concrete channel). As discussed in the Supplement to Biological Assessment (Appendix E of this Final Initial Study), 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 since the vast majority of drainages within the Los Angeles River watershed are intermittent and are routinely exposed to fluctuating surface flows. During high precipitation events, riparian vegetation is torn out and washed downstream, but willow trees, with strong root systems have persisted in the study area. Even with the proposed Project and related projects, sufficient water supplies will continue to support the root zones of Black Willow Thicket (BWT) beneath the River, which occur only in the soft-bottom channel areas, and have deep root systems. The slight reduction in wetted areas during the worst-case dry weather conditions would not be considered substantial and would not notably affect the function or value of existing riparian habitat within the River, and thus implementation of the Project would not substantially adversely affect the ability of special status species, including the least Bell's vireo, to forage or nest within the study area.

As also discussed in the Supplement to Biological Assessment (Appendix E of this Final Initial Study), 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 approximately 12 miles downstream from the study area (from Willow Street upstream to Rosecrans Avenue) and therefore the incremental reduction in flows will have no measureable impact on these mats because of the amount of additional water that joins the channel downstream of the study area. 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, and can survive periodic drying.

As such, impacts were determined to be less than significant and no mitigation measures are required.

Similarly, the IS/ND concluded that under proposed Project conditions the average velocity within the entire study area would be slightly reduced, from 1.38 to 1.36 feet/sec (-1.4%) under the 2016 baseline dry season flow, and that average depth in the deepest part of the channel would be slightly reduced from 0.65 to 0.64 feet (-1.3%)[11], which as stated on page B-9 of the IS/ND would not result in substantial adverse effects to native aquatic wildlife including impacts to fish migration or movement.

When accounting for the updated flow inputs in the analysis undertaken in the Hydraulic Modeling Report II, the average velocity within the entire study area under the proposed Project would be slightly reduced, from 1.45 under existing conditions to 1.42 feet/sec (-2.1%), and average depth in the deepest part of the channel (Reach 6) would be slightly reduced from 1.24 to 1.22 feet (-1.6%). Under cumulative conditions flow velocity would decrease to 1.36 feet/sec (-6.2% compared to existing conditions), while maximum flow depth would be 1.17 feet within Reach 6 (-5.6% versus existing conditions). An overall 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. This again does not represent a substantial reduction relative to the projected flow and depth reductions stated in the IS/ND, which were determined to result in less than significant impacts to aquatic species.

Therefore, given the nominal change in wetted area, flow velocity, and flow depth under the cumulative flow scenario compared with the "worst-case" 2016 baseline scenario evaluated in the IS/ND, impacts to biological resources would be considered less than significant and the project's incremental effect on biological resources along the River combined with the effects of related projects on biological resources is not cumulatively considerable.

Response to Comment 1-8. Please see Responses to Comments 1-3 and 1-7 above. The commenter claims that the discussion of cumulative impacts in the IS/ND does not provide an adequate analysis of the cumulative effects of the various related projects identified by the commenter. However, as discussed above, even when accounting for the related projects' flow contributions and contemplated future flow reductions, the overall effect on flow velocity, depth, and wetted area in the River is comparable to that stated in the IS/ND under the "worst-case" 2016 baseline conditions. In addition, all of the water Burbank delivers to its plant for treatment

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[11] *Ibid. Page 12.*

is imported water to the LA River watershed. Accordingly, Burbank's proposed reduction in wastewater discharges will not affect any native supply of water and, therefore, will not interfere with the water rights of any other legal user, including the City of Los Angeles. As such, the impact conclusions provided in the IS/ND for the proposed Project remain valid and no further analysis or response is warranted.

Response to Comment 1-9. The commenter suggests that groundwater upwelling cannot be considered a reliable flow source for the River as it fluctuates and is dependent upon a number of factors including groundwater pumping rates and local hydrologic cycles. The analysis presented in the IS/ND (Hydraulic Modeling Report I) acknowledges this circumstance in that the hydrologic model did not account for *any* groundwater upwelling sources in the study area in order to provide a conservative "worst-case" flow analysis. Thus any future reductions to this water source would have no effect on the results of the flow model.

Response to Comment 1-10. Please see Response to Comment 1-8 above. The hydrology model in the Hydraulic Modeling Report I did not account for any groundwater upwelling sources due to the lack of reliable flow volume data for this source, and also to provide an even more conservative analysis given the extent of unknowns regarding this and other flow sources. Accordingly, groundwater upwelling is not considered a "consistent base flow" in Burbank's Hydraulic Modeling Report I. To the extent that groundwater upwelling changes based on hydrological cycle or other factors, it will not impact Burbank' analysis. As such, the conclusions regarding flow effects in the IS/ND are overstated.

Response to Comment 1-11. Please see Response to Comment 1-7 above. The analysis of flow impacts and associated cumulative impacts to biological resources when accounting for various related project flow contributions and future reductions would not vary substantially from that presented in the IS/ND under the "worst-case" 2016 baseline conditions, as the Hydraulic Modeling Report I did not take credit for existing flows that would minimize the incremental effect of the proposed Project on the River, but that are not easily or reliably quantified. As such, when accounting for the additional flow sources, even with assumed future reductions in LA River flow associated with implementation of the 11 projects listed in the LA Comment Letter, together with the proposed Project and Glendale Petition, the cumulative effect to biological resources would not be significant and the proposed Project's contribution to such effects would not be substantial.

Response to Comment 1-12. The commenter states that the City of Los Angeles' protest letter to Burbank's Wastewater Change Petition is attached for reference. However, the commenter does not raise a substantive issue regarding the IS/ND or the various analyses contained therein. As such, no further response is warranted.

Response to Comment 1-13. The commenter provides a conclusion statement regarding the comments provided in this letter, and expresses support for Burbank's recycled water projects in general. However, the commenter does not raise a substantive issue regarding the IS/ND or the various analyses contained therein. No further response is warranted.

Appendices

Appendix A

February 2017 BWRP Wastewater Change Petitions

ESA

2121 Alton Parkway
Suite 100
Irvine, CA 92606
949.753.7001 phone
949.753.7002 fax

www.esassoc.com

March 17, 2017

Mitchell Moody
State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000
MMoody@waterboards.ca.gov

RE: Submittal of Updated Wastewater Change Petition for WW0091 and the Change Petition to WW0019 (1993 Order) for the Burbank Water Reclamation Plant

Dear Mr. Moody,

Enclosed please find the City of Burbank's (Burbank) two Petitions, which are being filed concurrently for the Burbank Water Reclamation Plant: (1) Updated Wastewater Change Petition (WW0091), accompanying Environmental Information form and required attachments, which has been revised from the original Petition package submitted to the Board on May 16, 2016 and the revised Petition package submitted to the Board on February 7, 2017, to incorporate additional information and other minor changes pursuant to requests by State Water Board Staff; and (2) Change Petition for WW0019 (1993 Order), which incorporates by reference the Environmental Information form and attachments for the Updated Wastewater Change Petition (WW0091).

Burbank is proposing to use additional tertiary-treated water to continue to meet the growing local irrigation and industrial demand for recycled water and to supply portions of the City of Los Angeles. Because Burbank has an existing Wastewater Order that was issued by the State Water Board in 1993, you have directed Burbank to file two change petitions, for a single project, in order to request: (1) a gradual reduction in the quantity of recycled water discharged into the Burbank Western Wash from what it currently discharges (5,376 AF) to approximately 3,766 AF over a ten-year period (Wastewater Change Petition, WW0091); and (2) a change in Place of Use from its 1993 Place of Use set forth in WW0019 to an expanded Place of Use that encompasses all of Burbank and portions of the City of Los Angeles.

The May 16, 2016 submittal included the $1,000.00 fee required for Wastewater Change Petition (WW0091) and the $850.00 fee for the Department of Fish and Wildlife. This submittal includes the additional $1,000.00 fee required for the Change Petition to WW0019 (1993 Order). You have confirmed that no additional fee for the Department of Fish and Wildlife is required for the Change Petition for WW0019 (1993 Order). Copies of these documents have also been emailed to Ed Pert (ed.pert@wildlife.ca.gov) at the California Department of Fish and Wildlife.

If you have any questions or require additional information, please do not hesitate to contact Stephanie Hastings at 805-882-1415 or at SHastings@bhfs.com.

Sincerely,

David Crook, AICP
Senior Managing Associate, ESA (DCrook@esassoc.com)

cc: Ed Pert, California Department of Fish and Wildlife (Ed.Pert@wildlife.ca.gov)
Michael Thompson, P.E., Burbank Water & Power (MThompson@burbankca.gov)
Stephanie Hastings, Brownstein Hyatt Farber Schreck (SHastings@bhfs.com)

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: See Attachment A, Item No. II

Proposed: See Attachment A, Item No. II

Place of Use – Identify area using Public Land Survey System descriptions to ¼-¼ level; for irrigation, list number of acres irrigated.

Present: See Attachment A, Item No. III

Proposed: See Attachment A, Item No. III

Purpose of Use

Present: See Attachment A, Item No. IV

Proposed: See Attachment A, Item No. IV

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:

Proposed:

Temporary Urgency
This temporary urgency change will be effective from ☐ to ☐.

Include an attachment that describes the urgent need that is the basis of the temporary urgency change and whether the change 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:

Downstream Location:

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.

Not Applicable.

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 See Attachment A - Item No. VI

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.

The BWRP provides recycled water subject to BWP's Rules and Regulation for Utility Service.

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.

See Attachment A, Item No. VI(A)

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 March 15, 2017 at Burbank, California.

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.

See Attached

Insert the attachment number here, if applicable: B

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

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:

On April 14, 2016, the LARWQCB adopted Waste Discharge Requirements/Waste Recycling Requirements Order No. R4-2016-0144, governing the City's recycling of treated waste water. The BWRP discharges tertiary-treated waste water from Discharge Point 002 into the Burbank Western Channel under separate Waste Discharge Requirements Order R4-2012-0059, that also serves as an NPDES permit. The renewed permit (Revised Tentative Order R4-0217-00XX) was adopted by the LARWQCB on March 2, 2017. No additional discharge permits are required

Insert the attachment number here, if applicable:

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

For change petitions only, you should contact your local planning or public works department and provide the information below.

Person Contacted:

Date of Contact:

Department:

Phone Number:

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:

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

If necessary, provide additional information below:

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:

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:

Complete archaeological analysis from the 2012 Burbank Recycled Water System Expansion Project is available.

Insert the attachment number here, if applicable: ☐

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 March 15, 2017 at Burbank, California.

William O. Mace, Jr.

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.)**

CITY OF BURBANK'S CHANGE PETITION

ATTACHMENT B TO ENVIRONMENTAL INFORMATION PETITIONS FORM

History of Burbank Water Reclamation Plant

The City of Burbank (Burbank) owns the Burbank Water Reclamation Plant (BWRP) located at 740 N. Lake Street, Burbank, California, which was constructed in 1966 and has been been upgraded four times. All of the water treated at the BWRP is imported from the Metropolitan Water District and is therefore not subject to the permitting jurisdiction of the State Water Resources Control Board (SWRCB). (See Attachment A, Exh 1 (p. 6); see also *City of Los Angeles v. City of San Fernando*, January 26, 1979.)

Pursuant to guidelines established by the California Department of Public Health and the Los Angeles Regional Water Quality Control Board (LARWQCB) (See Attachment 2, Exh. 1), the BWRP treats effluent to a quality sufficient for discharge into the Los Angeles River. That discharge is released through a point of discharge into the Burbank Western Channel (Channel), which is located approximately 12,000 feet (over 2 miles) from its confluence of the Los Angeles River. The location of the discharge conduit and receiving concrete-lined channel are shown in Exhibits 3, 4 and 5 to Attachment A. At the terminus of the Channel, the recycled water enters the Los Angeles River. (Attachment A, Exh. 5.)

1992 Wastewater Change Petition (WW-19) and 1993 Order

In 1992, a small percentage of recycled water produced at the BWRP was used within Burbank for power plant cooling purposes and to irrigate landscape along the I-5 freeway. The remainder was discharged into two channels. (See Attachment A, Exh. 2.) To accommodate population growth and higher daytime flows, in 1992 Burbank proposed to increase the BWRP's capacity from 9 Million Gallons per Day ("MGD") to 15 MGD, and to expand its Reclaimed Water System to serve recycled water to eight additional users in the eastern part of Burbank. Burbank's goal was to reuse 20% of the recycled water within Burbank and discharge the remainder of treated wastewater (80%) to the Channel.

In 1992, Burbank filed a Wastewater Change Petition to: (1) add 259 acres of land to its Place of Use to include additional irrigation in the eastern portion of Burbank, northeast of Interstate 5; and (2) temporarily decrease flows into the Channel and Los Angeles River by approximately 650 acre-feet (AF) per year (1.54 MGD). (See Attachment A, Exh. 2.) In 1993, the SWRCB issued Order (WW-19) Approving Burbank's Change in Place of Use and Purpose of Use of Treated Wastewater. (See Attachment A, Exh. 2, Place of Use Map and List of Projects Served). Upon completion of the BWRP upgrade, discharge to the Channel was greater than the rate of discharge in 1992. Thus, Burbank's 1992 project ultimately resulted in increased flows into the Los Angeles River. (See Attachment A, Exh. 2.)

1993 to Current (2015/16)

During the period between the SWRCB's issuance of the 1993 Order and 2015/16, the population of Burbank increased from approximately 93,643 to 103,340 residents. During this period, wastewater flows treated by BWRP generally increased, but fluctuated annually depending on hydrologic conditions. (See Attachment A, Exh. 8.) For example, in 1993-94, Burbank treated 8,640 AF of wastewater. (See Attachment A, Exh. 8.) In 2015/16, Burbank treated 8,009 AF of wastewater due to an ongoing drought. (See Attachment A, Exh. 8.)

Since 1993, the quantity of recycled water delivered to Burbank's customers generally increased as Burbank expanded its recycled water system to serve the following new areas: Valhalla, Studio District, Northeastern Burbank Area, Wildwood Canyon, Los Angeles Equestrian Center Extension, and Northern Burbank Extensions. A map and list of properties currently served is attached to the Petition as Exhibit 9 to Attachment A. Recycled water deliveries ranged from 618 AF in 1992/93 to 2,705 AF in 2015/16, and fluctuated annually due to customer demand and hydrologic conditions. (See Attachment A, Exh. 8.)

The amount of treated wastewater discharged into the Channel has fluctuated between 4,198 AF and 8,277 AF per year. (See Attachment A, Exh. 8.) From 1993 to 2015/16, the quantity of discharge has increased or remained within an average range of 6000 to 7000 AF annually and therefore Burbank was not required to apply for a Wastewater Change Petition during that period. (See Attachment A, Exh. 8; Water Code §1211 ("Section 1211 "does not apply to changes in the discharge or use of treated wastewater that do not result in decreasing the flow in any portion of a watercourse.")

Current (2015/16) to Proposed Future Expansion of Recycled Water System (Through 2026)

During normal operation, approximately 25% of BWRP's tertiary-treated effluent (2,705 AF in FY 2015/16) is currently beneficially reused for landscape irrigation and industrial uses and the remainder is discharged into the Channel (5,376 AF in 2015/16). (See Attachment A, Exh. 8.) As a result of increased demand for recycled water within the Upper Los Angeles River Area (ULARA), Burbank is proposing to gradually increase its use of recycled water (2,705 AF to 5,047 AF), thereby reducing, but not eliminating its discharge of treated wastewater into the Channel over the next ten years from 5,376 AF to approximately 3,766 AF. (See Attachment A, Exh. 8.)

Current Wastewater Change Petition and Change in Place of Use Petition (1993 WW-19)

Burbank is now proposing to increase its deliveries of recycled water to serve new customers within Burbank and portions of the City of Los Angeles, which will have a net decrease in the amount of water that is ultimately discharged to the Los Angeles River. Accordingly, Burbank is filing this Petition for Change. Specifically, Burbank is requesting: (1) a change in Place of Use from its 1993 Place of Use set forth in WW-19 to an expanded Place of Use that encompasses all of Burbank and portions of the City of Los Angeles (includes existing and future sites) (See Attachment A, Exh. 7 and 9); and (2) a gradual reduction in discharge into the Burbank Western

Wash from what it currently discharges (5,376 AF) to approximately 3,766 AF over a ten-year period.

This proposed change will not require the construction of additional facilities or grading-related activity. Burbank will continue to discharge treated water at the same point of diversion, but in lesser quantities. (See Attachment A, Exh. 8.)

In addition to Burbank's own potential re-use of this water, other water agencies and private parties have expressed an interest in obtaining recycled water from the BWRP for further beneficial uses. Recycled water conveyed to these agencies (and/or private parties) would be used to meet additional recycled water demands within the ULARA. The re-use of the Burbank's recycled water will reduce demand for imported water. This 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 expedite requests to change water permits to enable those deliveries.

Summary of Requested Changes

Change	1993 Order: WW-19	Current	Proposed
Place of Discharge	Burbank Western Channel	Burbank Western Channel	Burbank Western Channel
Place of Use	Eastern portion of City of Burbank, northeast of Interstate 5	The boundaries of the City of Burbank and a portion of the City of Los Angeles, as depicted on Exhibits 7 and 9 (current customers depicted on Exhibit 9)	The boundaries of the City of Burbank and a portion of the City of Los Angeles, as depicted on Exhibits 7 and 9 (future customers depicted on Exhibit 9)
Purpose of Use	Irrigation and Industrial	Irrigation and Industrial	Irrigation and Industrial
Discharge	Request to temporarily decrease flows into the Channel by approximately 650 AF. In 1991/92, 5,714 AF was discharged, in 1992/92, 5,819 was discharged, and in 1993/94, 4,928 AF was discharged.	5,376 AF (2015/16)	3,766 AF (by 2021/22)

Attachment A

City of Burbank's Wastewater Change Petition and Environmental Information for Petition

I. Item No. 1 (Background and Other Permits)

A. Plant Upgrades, Recycled Water System and Environmental Review

This section provides a summary of the City of Burbank's ("City") recycled water system, including its Burbank Water Reclamation Plant ("BWRP"). All of the water treated at the BWRP is imported from outside the region by the Metropolitan Water District. (See Exhibit 1 (page 6); see also *City of Los Angeles v. City of San Fernando*, January 26, 1979.) A more detailed history is included in Exhibit 1 (pages 3-7). Since its initial construction in 1966, the BWRP has been upgraded at least four times. In 1971, the BWRP was upgraded to increase the amount of wastewater it could treat from 6 Million Gallons per Day ("MGD") to 9 MGD. In 1992, the City expanded its recycled water system, leading the City to file a Wastewater Change Petition with the State Water Resources Control Board ("SWRCB"). (See Exhibit 2.) In 2000, the BWRP was again upgraded to maintain compliance with new, more stringent, water quality regulations. The BWRP underwent a further upgrade in 2002 to remove ammonia from the wastewater.

In 2007, the City prepared a Recycled Water Master Plan ("RWMP") that identified potential areas for expansion of the existing recycled water distribution system, including the following new uses: heating, ventilation, and air conditioning ("HVAC") cooling towers, vehicle washing, decorative fountains, dust control, street sweeping, and sewer cleaning. That same year, the BWRP underwent additional improvements, referred to as the Equalization Basin Project. The Equalization Basin Project included (1) changing the BWRP's disinfection system, (2) constructing an equalization storage basin, and (2) upgrades to comply with an impending National Pollutant Discharge Elimination System ("NPDES") permit. The City determined that all potential significant impacts could be effectively mitigated through mitigation measures. Therefore, a Mitigated Negative Declaration was prepared and submitted to the State Clearinghouse.

In 2008, the City started expanding its existing recycled water system, in accordance with the 2007 RWMP. This expansion included multiple pipeline extensions and the construction of two new pump stations. The City determined that all potential significant impacts could be effectively mitigated through mitigation measures and prepared a Mitigated Negative Declaration, which it filed with the State Clearinghouse.

B. Existing Permits

On April 14, 2016, the Los Angeles Regional Water Quality Control Board ("LARWQCB") adopted Waste Discharge Requirements/Waste Recycling Requirements ("WDRs/WRRs") Order

No. R4-2016-0144 (“Order No. R4-2016-0144”), governing the City’s recycling of treated wastewater.[1] (See Exhibit 1.)

The BWRP discharges tertiary-treated wastewater from Discharge Point 002 into the Burbank Western Channel under separate Waste Discharge Requirements (“WRR”) Order R4-2012-0059 (“Order No. R4-2012-0059”), that also serves as an NPDES permit. This permit is scheduled for review and renewal in 2017.

C. 1993 Order Approving Wastewater Change Petition

In 1992, the City filed a Wastewater Change Petition with the SWRCB, pursuant to Sections 1210 and 1211 of the California Water Code. The City requested to change the use of treated wastewater from its existing use of recycled water for power plant cooling and landscape irrigation purposes to include irrigation in the eastern portion of the City, northeast of Interstate 5. On March 4, 1993, the SWRCB issued an order approving the change in place of use and purpose of use requested by the City. (See Exhibit 2.) The SWRCB “determined that the changes do not constitute the initiation of a new right nor operate to the injury of any other lawful user of water.”

II. Item No. 2 (Point of Discharge)

The BWRP is permitted by the LARWQCB to discharge to the Los Angeles River pursuant to Order No. R4-2012-0059. The BWRP discharges at a single point, Discharge Point 002, into the concrete-lined Burbank Western Channel located within the Burbank USGS Quadrangle (non- sectioned area), which is located approximately 12,000 feet (over 2 miles) from the confluence of the Los Angeles River.[2] The latitude and longitude of Discharge Point 002 is 34°10'58"N and 118°19 '05"W.

The location of Discharge Point 002 and the receiving Burbank Western Channel are shown in the photographs attached as Exhibit 3. At the terminus of the Burbank Western Channel, the recycled water enters the Los Angeles River as shown in attached Exhibits 4 and 5. Exhibit 6 also provides a schematic of BWRP flows and Discharge Point 002.

III. Item No. 3 (Place of Use)

Currently, approximately 25% of the tertiary-treated effluent (2,705 acre-feet (“AF”) in 2015/2016) produced at BWRP is beneficially reused for landscape irrigation and industrial uses throughout the City. Exhibits 7 and 9 identify the City’s current place of use, which depict the City’s recycled water system and various existing users receiving recycled water from the BWRP.

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[1] Prior to the adoption of this Order, the City was operating under WDRs/WRRs Order No. 91-101, adopted by the LARWQCB on September 9, 1991.

[2] Previously, BWRP also discharged from Discharge Point 001, which served as the surface water discharge point from the Burbank Power Plant. Discharge Point 001, however, has not been operable since June 14, 2005 when the Burbank Power Plant was converted to a zero liquid discharge facility.

Existing and future customers are depicted by the shaded areas in Exhibit 9. The BWRP also currently provides approximately 1.8 MGD for use in cooling towers serving the City's power plants. (See Exhibit 6.) The remainder of wastewater received by the BWRP is treated and discharged to the Burbank Western Channel at Discharge Point 002 (5,376 AF in 2015/2016). (See Exhibit 8.) Since 1992, the City has discharged an average volume of 6,483 AF of wastewater to the Burbank Western Channel, with discharge volumes ranging from a low of 4,198 AF in 1999/2000 to a high of 8,277 AF in 2004/2005. (See FN 2, and Exhibit 8.) Historical and projected monthly discharges to the Burbank Western Channel are listed on Exhibit 8.

As a result of increased demand for recycled water, Burbank is proposing to gradually increase its use of recycled water from 2,705 AF to approximately 5,027 AF by 2025. (See Exhibit 8.) Over approximately the next ten years, this proposed change would gradually reduce the volume of BWRP's discharges into the Burbank Western Channel from 5,376 AF to 3,766 AF. (See Exhibit 8.) This additional recycled water will be put to use within the City of Burbank and the San Fernando Valley portion of Los Angeles, all of which is within the Upper Los Angeles River Area ("ULARA"). (See Exhibits 7 and 9.) Burbank is requesting a change in Place of Use from its 1993 Place of Use to an expanded Place of Use that encompasses all of Burbank and portions of the City of Los Angeles (includes existing and future sites) (See Exhibits 7 and 9).

Consistent with BWRP's current recycled water distribution, all recycled water deliveries will remain within the ULARA, which will maintain return flows to the Los Angeles River and its tributaries. When and if regulations change to allow direct potable reuse, the City plans to further petition the SWRCB to allow the City to beneficially use additional amounts of treated wastewater for this use.

IV. Item No. 4 (Purpose of Use)

BWRP generates tertiary-treated recycled water, which is distributed for irrigation and industrial uses to customers located within the City of Burbank and the San Fernando Valley portion of Los Angeles, all of which is within the ULARA. The remainder of the wastewater received at the BWRP is treated and discharged into the concrete-lined Burbank Western Channel, which flows into the Los Angeles River. (See Exhibit 5.)

Pursuant to its current Wastewater Change Petition, the City is proposing to use an additional 2,322 AF of tertiary-treated water to continue to meet the growing local irrigation and industrial demand for recycled water[3] and to supply portions of the City of Los Angeles within the ULARA. (See Exhibit 8.) This will result in reduced discharges of wastewater to the Western Channel over the next 10 years. (See Exhibit 8.)

V. Item No. 5 (Reason for Proposed Change)

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[3] The City's existing uses for recycled water include landscape irrigation, cooling tower, vehicle washing, decorative fountains, dust control, street sweeping, and sewer cleaning. All uses conform to Title 22 of the California Code of Regulations.

The City is proposing to continue to implement its recycled water reuse program in order to increase 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 State Water Resources Control Board's recycled water policy, and the Executive Order issued by the Governor on April 25, 2014.

VI. Item No. 6 (Impacts on Legal Users of Discharge)

A. Legal Users

Pursuant to public records,[4] there are no known legal users of the City's discharged treated effluent that are diverting flows from the Burbank Western Channel. Only one legal user of Los Angeles River water was located downstream of the City's point of discharge at 1,848,272"N and 6,493,341"E: (1) Permit 21342 for 106 acre-feet (Lauren Bon), Priority Date 2013. It is unclear whether this user is appropriating native water or treated wastewater. However, Term K of the permit provides: "[i]nasmuch as the source contains treated wastewater, imported water from another stream system, or return flow from other projects, there is no guarantee that such supply will continue." All of the water treated at the BWRP is imported by the Metropolitan Water District from outside the region. (See Exhibit 1 (page 6); see also *City of Los Angeles v. City of San Fernando*, January 26, 1979.) Wastewater flows discharged from the BWRP, 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.) The City has not, and does not, abandon any wastewater flows generated from the City's importation of water and/or treated at the BWRP. Accordingly, the City's proposed change in purpose of use or place of use will not impact any legal user of water.

B. The Environment

The BWRP currently discharges a portion of its treated effluent to the Burbank Western Channel, which flows into to the Los Angeles River more than 2 miles downstream from the point of discharge. The Burbank Western Channel is concrete-lined and unsuitable for supporting biological resources. (See Exhibit 3.) The Los Angeles River is both rectangular and trapezoidal in cross-section, with concrete-lined inverts and stone- or concrete-lined side slopes. Between 1938 and 1960, 51 miles (82 km) of the Los Angeles River and numerous tributaries within the lower watershed were channelized and cement lined.

Several small areas of the Los Angeles River have stone- or earth-lined inverts, one of which is located near the confluence of the Burbank Western Channel and the Los Angeles River, approximately 2.4 miles downstream from BWRP's Discharge Point 002. In this area, groundwater from ULARA discharges into the riverbed, providing consistent base flows. These earth-lined areas support limited biological resources. The City's proposed change will have a less than significant impact on downstream biological resources because the City is proposing to

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[4] SWRCB's Electronic Water Rights Information Management System database was assessed on May 6, 2016.

gradually decrease discharge of treated wastewater to the Burbank Western Channel and will continue to discharge approximately 3,766 AF annually. Additionally, all water delivered to customers throughout BWRP's recycled water distribution system will remain within the ULARA and return to the Los Angeles River and its tributaries as return flows.

Exhibit 1

CALIFORNIA
Water Boards

Edmund G. Brown Jr.
Governor

Matthew Rodriquez
Secretary for
Environmental Protection

Los Angeles Regional Water Quality Control Board

April 20, 2016

Mr. Daniel J. Rynn
Assistant Public Works Director of Wastewater
City of Burbank
P.O. Box 6459
Burbank, CA 91510-6459

Dear Mr. Rynn:

ADOPTED WASTE DISCHARGE REQUIREMENTS (WDRs) AND WATER RECYCLING REQUIREMENTS (WWRs) – CITY OF BURBANK, BURBANK WATER RECLAMATION PLANT (FILE NO. 83-25, CI-6753, ORDER NO. R4-2016-0144)

On April 7, 2016, the Los Angeles Regional Water Quality Control Board (Regional Water Board) staff sent you a change sheet outlining proposed revisions to the revised tentative Waste Discharge Requirements (WDRs) and Water Reclamation Requirements (WRRs), dated March 29, 2016, for the Burbank Water Reclamation Plant.

In accordance with administrative procedures, this Regional Water Board at a public hearing held on April 14, 2016, reviewed the Revised Tentative WDRs/WRRs together with the change sheet, considered all factors in the case, and adopted WDRs/WRRs Order No. R4-2016-0144.

The complete adopted Order will be sent only to the Permittee. However, these documents are available on the Regional Water Board's website for your review. The Los Angeles Regional Water Quality Control Board's web address is http://www.waterboards.ca.gov/losangeles/ .

The City of Burbank is reminded that Section IX.1 of the Adopted Order R4-2016-0144 requires the City of Burbank to file for a wastewater change petition and obtain approval from the Water Rights Division of the State Water Board, prior to making a change in the place of use, or purpose of use of treated wastewater, pursuant to California Water Code section 1211.

If you have any questions, please contact Veronica Cuevas at (213) 576-6662 or the undersigned at (213) 620-2083.

Sincerely,

Cris Morris

Cris Morris, P.E., Chief
Municipal Permitting Unit (NPDES)

Enclosures

cc: See Mailing List

MAILING LIST

Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
NOAA, National Marine Fisheries Service
Department of Interior, U.S. Fish and Wildlife Service
David Coupe, State Water Resources Control Board, Office of Chief Counsel
State Water Resources Control Board, Division of Drinking Water
Department of Fish and Game, Region 5
Los Angeles County, DPW, Watershed Division
Los Angeles County Department of Public Health
Los Angeles Department of Public Works
Los Angeles and San Gabriel River Watershed Council
Water Replenishment District of Southern California
Heal the Bay
Environment Now
Los Angeles Waterkeeper
Natural Resources Defense Council
Friends of the Los Angeles River

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

320 West 4th Street, Suite 200, Los Angeles, California, 90013
(213) 576-6600• Fax (213) 576-6793
http://www.waterboards.ca.gov/losangeles

ORDER NO. R4-2016-0144
(File No. 83-25)

WASTE DISCHARGE REQUIREMENTS
AND
TITLE 22 WATER RECYCLING REQUIREMENTS

ISSUED TO

CITY OF BURBANK
(Burbank Water Reclamation Plant)

The following Permittee is subject to Waste Discharge Requirements (WDRs) and Water Recycling Requirements (WRRs) set forth in this Order:

Table 1. PRODUCER AND PROVIDER INFORMATION

Producer	City of Burbank (The City of Burbank, Producer or Permittee)
Distributor	City of Burbank
Name of Facility	Burbank Water Reclamation Plant (Burbank WRP or Facility)
Facility Address	740 N. Lake Street
	Burbank, CA 91502
	Los Angeles County

Table 2. ADMINISTRATIVE INFORMATION

This Order was adopted and shall become effective on:	April 14, 2016

I, Samuel Unger, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on the date indicated above.

Samuel Unger
Samuel Unger, P.E., Executive Officer

Tentative: 02/22/2016, Revised: 03/29/16, Adopted: 04/14/16

Contents

Tables

Figures

Attachments

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) finds the following:

I. BACKGROUND - DESCRIPTION OF FACILITY AND TREATMENT PROCESS

1. The City of Burbank (City of Burbank, Producer or Permittee) owns the Burbank Water Reclamation Plant (Burbank WRP) located at 740 N. Lake Street, Burbank, California, and contracts Suez, formerly known as United Water, to operate and maintain the Burbank WRP. During normal operation, 26% of the tertiary-treated effluent is beneficially reused for landscape irrigation and industrial uses. Burbank Department of Public Works and Burbank Water & Power are subsumed by the City of Burbank. The two departments carry out separate duties but work collaboratively to implement the recycled water program for the City of Burbank. The City of Burbank operates and maintains the recycled water distribution system and conducts training/inspections of individual user sites.

2. The treatment system at the Burbank WRP consists of flow equalization, coarse solids grinding, primary sedimentation, activated sludge biological treatment with nitrification and denitrification, secondary sedimentation with coagulation, single media deep bed gravity sand filtration, chlorination disinfection with sodium hypochlorite, chloramination, and dechlorination with sodium bisulfite.

3. Since the adoption of the previous Water Recycling Requirements and Waste Discharge Requirements Order No. 91-101, major modifications were made to the Burbank WRP’s treatment system. A biological nutrient removal system with nitrogen de-nitrification process (NDN) was constructed and has been in operation since March 18, 2003. Chloramination facilities, which add back small concentrations of ammonia, to reduce the formation of total trihalomethanes, were constructed and have been operational since December 2007.

4. When the demand for recycled water is low, the Burbank WRP discharges tertiary-treated wastewater from Discharge Point 002 into Burbank Western Channel, a water of the United States, under separate Waste Discharge Requirements (WDRs) Order R4-2012-0059, that serves as a National Pollutant Discharge Elimination System permit. Discharge Point No.001, which used to serve as the surface water discharge point from the Burbank power plant, was abandoned and has not been operable since June 14, 2005, when the power plant was converted to a zero liquid discharge facility.

5. The City of Burbank currently recycles treated wastewater under WDRs/WRRs Order No. 91-101, adopted by this Regional Water Board on September 9, 1991.

II. RECYCLED WATER DISTRIBUTION SYSTEM

1. The City of Burbank generates tertiary-treated recycled water from its Burbank WRP and distributes it for irrigation and industrial uses to the local users listed in Table 3 below:

Table 3. CURRENT* TERTIARY-TREATED RECYCLED WATER USERS

Recycled Water User	Annual Demand (AFY)	Recycled Water User	Annual Demand (AFY)
Parks, Street, Trees, Medians, Parkways		**Schools**	
Bel Aire Ball Field	3	Burbank High School	10
Brace Canyon Park	36	John Burroughs High School	10
Buena Vista Park	30	John Muir Middle School	12
Buena Vista Library/Lincoln Park	4	RL Stevenson Elementary School*	10
Chandler Bikeway	31	Bret Harte Elementary School*	4
Empire Ave Medians	2	Monterey High School*	2
George Izay Park	20	Jordan Middle School*	15
Johnny Carson Park	30	Providence High School*	3
Larry Maxam Park	10	Providencia Elementary School*	8
McCambridge Park	50	Luther Middle School*	20
Nature Center	6	Thomas Edison Elementary School*	10
Ralph Foy Park	14	Walt Disney Elementary School	1
Riverside Park	20	**Golf Courses**	
Robert E Gross Park	12	DeBell-Back 9 and Driving Range	107
Robert Ovrom Park	5	DeBell Front 9	116
S. San Fernando Streetscape	2	DeBell Par 3E, Par 3W	32
Stough Park	2	**Studios**	
Valley Park	5	Warner Music Group*	2
Verdugo Park	12	ABC Disney Television*	10
Vickroy Park	2	Disney Animation*	10
Wildwood Canyon Park	17	Burbank Studios*	25
Whitnall Highway Park North	3	Disney Studios	15
Whitnall Highway Park South	6	Warner Bros Ranch	8
Lundigan Park	5	Warner Bros Studios Main Lot	25
Glenoaks Medians	2	**Other Landscape**	
Five Points Park	5	Burbank Landfill	110
Power Plant		Caltrans I-5	13
Magnolia Power Plant	1,329	Caltrans I-134	50
		Reservoir landscape	5

* These facilities became users of recycled water after the Title 22 Engineering report (July 2014) had been prepared.

Table 3 (Continued)

Recycled Water User	Annual Demand (AFY)	Recycled Water User	Annual Demand (AFY)
Commercial and Office Landscape Irrigation			
AMC	1	Little White Chapel*	1
Ashley Furniture	2	Bethany Towers*	1
Avon & Empire Pkwy	1	Parc Pointe*	1
Bob Hope Airport	20	Central Park at Toluca Lake*	5
Burbank Accessible Apartments	1	Warner Brothers Tower*	2
Burbank Town Center	18	Fry's Electronics*	2
Burbank Police/Fire Bldg.	2	CSATF*	1
BWP Campus Landscape Irrigation/HVAC	8	Mary Alice O'Conner Family Center*	1
Castaways	2	Fire Training Center*	3
Community Services Bldg.	1	Springhill Marriot*	1
Corner Bakery	1	Avalon Bay Communities*	1
Costco	19	The Pointe*	1
Courtyard Marriott	6	Cusamano Building Bob Hope and Riverside*	1
El Pollo Loco	2	Niagara/Riverside HOA*	1
Empire Center	63	LA Graphico*	2
Extended Stay America	4	Empire Landing HOA*	13
Fire Station 16	3	LA County Social Services Building*	2
Media Studios North	25	Harvard Plaza*	3
The Olson Company	1	Pacific Manor*	1
Office Depot	2	Burbank Village Walk*	1
Starlight Bowl	1	Burbank Central Library*	2
St. Joseph Hospital	3	The Graciela Hotel*	1
Valhalla Memorial Park Restland Section	25	LDS Church*	5
Walmart	8	Western Diocese*	3
Crane Aerospace*	3	Entertainment Partners*	1
Century Link*	10	Del Rey Properties*	1
Warner Brothers Warehouse*	1	Verdugo and Hollywood Way*	1
Fotokem*	30		
		TOTAL	2,540

2. Figure 2 (on page 35), taken from Figure ES-4 of the *Burbank Water and Power Recycled Water Master Plan (2010)* prepared by Kennedy Jenks Consultants, shows the location of the current recycled water users in the distribution area. Existing customers are depicted by the light purple shaded areas.

3. The City of Burbank is looking to expand both the volume of recycled water used and the types of uses of recycled water from its Burbank WRP, thereby reducing the amount of treated effluent discharged to surface waters. However, prior to doing so, the City of Burbank will be required to file a wastewater change petition with the State Water Board's Water Rights Division and obtain approval for that petition. Figure 2 also shows the proposed area of expansion. Potential customers are depicted by orange shaded figures and include:
    1. Northeastern Burbank Area Extensions
    2. Wildwood Canyon Park Extension
    3. Burbank WRP Equalization and PS-1 Improvements
    4. Valhalla Extension
    5. Studio District Extension
    6. Northern Burbank Extension
    7. LA Equestrian Center Extension.

III. QUALITY OF TERTIARY-TREATED EFFLUENT

1. The treatment process at the Burbank WRP produces tertiary filtered and disinfected treated effluent. However, the existing treatment system is not designed to remove chloride or total dissolved solids (TDS). Between January 2010 and November 2015, the chloride concentrations have ranged from 94 mg/L to 160 mg/L, averaging at 126 mg/L. During the same timeframe, the TDS concentrations have ranged between 250 mg/L and 960 mg/L, averaging at 659 mg/L. Occasionally the Burbank WRP has exceeded the daily maximum effluent limitation for chloride and TDS.

2. Chloride and total dissolved solids (TDS) concentrations in Burbank's tertiary filtered and disinfected effluent have fluctuated over the years due to the following:

    A. The potable water composition supplied to the City of Burbank from the Metropolitan Water District of Southern California (MWD) has changed as a result of the change in source of potable water supply. As a result, Burbank's potable water has a higher salt concentration.

    Burbank's drinking water comes from two different sources: local groundwater from the San Fernando Basin and water purchased from the MWD. The Colorado River Aqueduct and the State Water Project comprise the imported water supplies purchased from MWD. Burbank's right to produce groundwater from the San Fernando Basin is confirmed by judgment (*City of Los Angeles v. City of San Fernando*, January 26, 1979). For the year 2014, 46% of Burbank's total water supply came from groundwater that was treated solely at the Burbank Operable Unit.

    MWD operates its own treatment facilities for their surface water supplies before delivering them to Burbank. For the year 2014, 43% of the City of Burbank's total water supply came from MWD's State Water Project and Colorado River treated sources. Both BOU and MWD treated sources meet all Federal and State drinking water standards. Recycled tertiary treated effluent is a reliable supply for the irrigation of Burbank's parks and golf course, as well as for cooling water at its Power Plant. In 2014, 11% of the city's total water supply came from recycled water.

B. Water conservation has resulted in decreased flows that are more concentrated in salts to the sewer system. Due to the drought and reduced supplies of import water, California water agencies have been encouraged to develop and utilize more local resources.

3. The Upper Los Angeles River Area (ULARA) Watermaster annual reports show that although the chloride and TDS concentrations in the San Fernando Basin have fluctuated slightly over the years, they are still well below the Basin Plan groundwater quality objectives of 100 mg/L for chloride and 700 mg/L for TDS. Burbank well data from 1991 to 2014, included in ULARA reports, show that the groundwater concentrations for chloride and TDS ranged from 19 mg/L to 30.5 mg/L, and 290 mg/L to 410.3 mg/L, respectively. Based on this data, the Regional Water Board has no reason to believe that the City of Burbank 's use of recycled water has caused any degradation of water quality in the underlying groundwater basin.

IV. PURPOSE OF ORDER

1. In 2007, the City of Burbank prepared a Recycled Water Master Plan (2007 RWMP) that identified potential areas for expansion of the existing recycled water distribution system, including the following new uses: heating, ventilation, and air conditioning (HVAC) cooling towers, vehicle washing, decorative fountains, dust control, street sweeping, and sewer cleaning. In October 2010, the City of Burbank prepared an updated Master Plan to include additional projects that have been identified as economically viable.

2. In July 2014, the City of Burbank submitted an Engineering Report to the State Water Resources Control Board, Division of Drinking Water (DDW) to reflect the changes made to the Burbank WRP treatment process and to request approval for the expansion of its recycled water program to include new uses, consistent with the 2007 RWMP.

3. On May 1, 2015, DDW conditionally approved the City of Burbank's Engineering Report. DDW's requirements have been incorporated into this Order.

4. On September 4, 2015, the Regional Water Board received a copy of the Report of Waste Discharge from the City of Burbank together with a copy of their Title 22 Engineering report dated July 2014. On September 21, 2015, Regional Water Board staff requested information that was deficient in the Title 22 Engineering Report. On December 11, 2015, Brownstein Hyatt Faber Schreck, on behalf of the City of Burbank, submitted the requested information with respect to the cooling towers, and has agreed to submit a change petition to the State Water Board's Division on Water Rights.

5. The City of Burbank has been using the tertiary recycled water for irrigation, commercial, and industrial purposes for decades. However, aside from a finding in

the current Order mentioning the use of recycled water at the power plant cooling towers, there is no documentation that the use of recycled water at the Magnolia Power Plant cooling towers had been approved by DDW or the Regional Water Board in the past. With the 2016 renewal of the WDR/WRR, the Regional Water Board will update the list of approved uses of recycled water for the Burbank WRP and incorporate DDW's requirements into the WDR/WRR Order.

6. This WDR/WRR is being reissued to the City of Burbank pursuant to California Water Code (CWC) sections 13263 and 13523. This Order updates the findings regarding the Facility upgrades that have taken place since 1991; includes additional uses for recycled water, including cooling tower, vehicle washing, decorative fountains, dust control, street sweeping, and sewer cleaning; prescribes limitations for recycled water; and describes the City of Burbank's responsibilities for the production, distribution, monitoring, and application of recycled water. The City of Burbank is responsible for processing individual end-users' applications, inspecting point-of-use facilities, and ensuring end-users' compliance with the requirements contained in this Order. The actual delivery of recycled water to end-users is subject to approval by the DDW and/or its delegated local health agency.

V. APPLICABLE PLANS, POLICIES AND REGULATIONS

1. The Regional Water Board adopted a revised *Water Quality Control Plan for the Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) on June 13, 1994, and amended by various Regional Water Board resolutions. The Basin Plan (i) designates beneficial uses for surface and groundwater; (ii) establishes narrative and numeric water quality objectives that must be attained or maintained to protect the designated (existing and potential) beneficial uses and conform to the State's antidegradation policy; and (iii) includes implementation provisions, programs, and policies to protect all waters in the region. In addition, the Basin Plan incorporates (by reference) all applicable State Water Resources Control Board (State Water Board) and Regional Water Board plans and policies and other pertinent water quality policies and regulations. This Order implements the plans, policies, and provisions of the Basin Plan and other applicable plans and policies.

   The Basin Plan (Chapter 3) incorporates California Code of Regulations (CCR) Title 22 primary Maximum Contaminant Levels (MCLs) by reference. This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect. Also, the Basin Plan specifies that "Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses." Accordingly, the secondary MCLs, which are limits based on aesthetic, organoleptic standards, are also incorporated into this permit to protect groundwater quality.

2. The Basin Plan contains water quality objectives for the San Fernando Groundwater Basin, which is considered to be the receiving water underlying the current recycled water use area.

3. The beneficial uses of the receiving groundwater are as follows:

Table 4. BENEFICIAL USES OF GROUNDWATER

Receiving Water Name	Beneficial Use(s)
San Fernando Basin East of Highway 405 (overall); Department of Water Resources (DWR) Basin No. 4-12)	Existing: Municipal and domestic water supply (MUN); industrial service supply (IND); industrial process supply (PROC); and agricultural supply (AGR).
Los Angeles Coastal Plain Central Basin DWR Basin No. 4-11	Existing: MUN, IND, PROC, and AGR.
Los Angeles Coastal Plain West Coast Basin DWR Basin No. 4-11	Existing: MUN, IND, PROC, and AGR.

4. The water quality objectives for these groundwater basins are:

Table 5. WATER QUALITY OBJECTIVES FOR GROUNDWATER

DWR Basin No.	Basin	Objectives (mg/L)			
		TDS	Sulfate	Chloride	Boron
4-6	San Fernando Basin • East of Highway 405	700	300	100	1.5
	• West of Highway 405	800	300	100	1.5

The City of Burbank's current recycled water use area overlies the San Fernando Groundwater Basin.

5. On June 29, 1992, the City of Burbank had filed a treated wastewater change petition with the State Water Board's Division of Water Rights, pursuant to Sections 1210 and 1211 of the CWC. The change of the use was for irrigation and industrial purposes in the eastern portion of the City of Burbank, northeast of Interstate 5. On March 4, 1993, the Division of Water Rights issued *Treated Waste Water Change Petition WW-19, Order Approving Change in Place of Use and Purpose of Use of Treated Waste Water,* to the City of Burbank. Now that the City of Burbank proposes to increase the amount of recycled water used, the City of Burbank is required to file a *Petition for Change* with the State Water Board's Division of Water Rights prior to initiating the increase. Filing of the Petition for Change by the City of Burbank is pending.

6. It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

7. The State Water Board adopted Resolution No. 77-1, *Policy with Respect to Water Reclamation in California*, which includes principles that encourage and recommend funding for water recycling and its use in water-short areas of the state. On September 26, 1988, the Regional Water Board also adopted Resolution No. 88-012, *Supporting Beneficial Use of Available Reclaimed Water in Lieu of Potable Water for the Same Purpose*, which encourages the beneficial use of recycled wastewater and supports water recycling projects.

8. A 1996 Memorandum of Agreement (MOA) between the California Department of Public Health – whose functions with respect to recycled water have been transferred to DDW – and the State Water Board on behalf of itself and the Regional Water Boards regarding the use of recycled water allocates primary areas of responsibility and authority between these agencies. The MOA provides methods and mechanisms necessary to ensure ongoing and continuous future coordination of activities relative to the use of recycled water in California. This Order includes requirements consistent with the MOA.

9. DDW has primary statewide responsibility for protecting public health with respect to the use and application of recycled water. It has established statewide water recycling criteria in California Code of Regulations, title 22, division 4, chapter 3 (hereafter referred to as title 22). Approved uses of recycled water under title 22 depend on the level of treatment, disinfection, and potential for public contact.

10. On October 28, 1968, the State Water Board adopted Resolution No. 68-16*, Statement of Policy with Respect to Maintaining High Quality of Waters in California* (Resolution 68-16), establishing an Antidegradation Policy for the State Water Board and Regional Water Boards. State Board Resolution No. 68-16 (Resolution 68-16) requires the Regional Water Board, in regulating discharge of waste, to maintain high quality waters of the State until it is demonstrated that any change in quality (1) will be consistent with maximum benefit to the people of the State, (2) will not unreasonably affect beneficial uses, and (3) will not result in water quality less than that described in the Regional Water Board's policies. Resolution 68-16 requires the discharge be regulated to meet best practicable treatment or control to assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State be maintained.

    Application of recycled water for irrigation is limited to agronomic rates and therefore is not expected to measurably impact groundwater quality. This Order does not allow incidental percolation of the disinfected tertiary effluent to groundwater because all of the detention basins are concrete-lined at the facility. The Order requires the effluent to meet MCLs for drinking water and groundwater quality standards in the Basin Plan. The effluent limitations for TDS and chloride are set equal to the current limits, based on historic performance levels.

11. The California Legislature has declared that a substantial portion of the future water requirements of the state may be economically met by beneficial use of recycled water. (Wat. Code, § 13511.) The Legislature also expressed its intent that the state undertake all possible steps to encourage development of water

recycling facilities so that recycled water may be made available to help meet the growing water requirements of the state. (Wat. Code, § 13512.). This Order requires best practicable treatment or control, which is a combination of treatment, storage, and application methods that implement the requirements of title 22 and the Basin Plan. The use of recycled water in place of both raw and potable water supplies for the non-potable uses allowed under this order improves water supply availability and helps to ensure that higher quality water will continue to be available for human uses and for instream uses for fish and wildlife. Treatment technologies required under the permit include tertiary treatment and disinfection for pathogen removal. As required by the Antidegradation Policy, the Regional Water Board finds that very little, if any degradation of water may occur as the result of the use of disinfected tertiary treated effluent as a source of recycled water, since percolation to groundwater is not expected to take place. Following approval of the change in use petition by the State Water Board's Division of Water Rights, the conditions of this Order will allow Burbank DPW to expand its recycled water use according to their RWMP, and provides maximum benefit to the people of California. On February 3, 2009, the State Water Board adopted *Resolution 2009-0011, Adoption of a Policy for Water Quality Control for Recycled Water* (Recycled Water Policy) (Revised January 22, 2013, effective April 25, 2013.) The Recycled Water Policy promotes the use of recycled water to achieve sustainable local water supplies. The Recycled Water Policy recommends that local water and wastewater entities together with other stakeholders who contribute salt and nutrients to a groundwater basin or sub-basin fund and develop Salt and Nutrient Management Plans (SNMPs) to comprehensively address all sources of salts and nutrients.

12. Section 13523 of the CWC provides that a Regional Water Board, after consulting with and receiving recommendations from DDW or its delegated local health agency, and after any necessary hearing, shall, if it determines such action to be necessary to protect the health, safety, or welfare of the public, prescribe WRRs for water that is used or proposed to be used as recycled water. CWC Section 13523 further provides that, at a minimum, the WRRs shall include, or be in conformance with, the statewide water recycling criteria established by DDW pursuant to CWC Section 13521.

13. Pursuant to CWC Section 13523, the Regional Water Board has consulted with DDW regarding the proposed recycling project and has incorporated their requirements in this Order.

14. The requirements contained in this Order are in conformance with the goals and objectives of the Basin Plan and implement the requirements of the CWC and CCR Title 22, Division 4, Chapter 3 - *Water Recycling Criteria*.

15. CWC Section 13523.5, on WRRs, states that a Regional Water Board may not deny issuance of WRRs to a project that violates only a salinity standard in a Basin Plan. This provision does not apply to WDRs. WDRs for projects that recycle water may contain effluent and other limitations on discharges of salts, as necessary to meet water quality objectives, comply with the Antidegradation Policy or otherwise protect beneficial uses.

16. Pursuant to California Water Code section 13241 and 13263, the State Water Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:

    A. Past, present, and probable future beneficial uses of water. The City of Burbank has prepared a Master Plan for uses of recycled water to expand the recycled water distribution system and reduce the amount of potable water used;

    B. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto. The surface water adjacent to the Burbank WRP is Burbank Western Channel, tributary to the Los Angeles River. However, recycled water uses will not involve direct discharges to surface waters;

    C. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area. Stakeholders in the basin are required to prepare a Salt and Nutrient Management Plan. The City of Burbank will participate in the process;

    D. Economic considerations. The City of Burbank prepared a Title 22 Engineering Report describing the quality of water produced at the Burbank WRP and the planned uses of recycled water;

    E. The need for developing housing within the region(s). The City of Burbank has adequate housing for its population of 103,340 people; and

    F. The need to develop and use recycled water. The City of Burbank's 2010 Recycled Water Master Plan investigated potential new clients of recycled water and proposes to expand the amount of tertiary treated water that is recycled from the Burbank WRP.

VI. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) AND NOTIFICATION

1. The City of Burbank prepared a Mitigated Negative Declaration (MND) for the proposed *Burbank Recycled Water System Expansion Project* and submitted it to the State Clearinghouse on November 5, 2008 for review (State Clearing House number 2008111017). The project will expand the existing recycled water system as outlined in the 2007 RWMP. Expansion of the recycled water system will result in increased recycled water deliveries of over 900 acre-ft/yr. The individual expansion areas are identified as the Vallhalla, Studio District, Northeastern Burbank Area, Wildwood Canyon, Los Angeles Equestrian Center Extension, and Northern Burbank Extensions. The proposed pipeline extensions total approximately 89,500 linear feet, ranging in size from 6 to 12 inches in diameter. Two new pump stations were required for the expansion, and are located at Foy Park and Wildwood Canyon Park. The Foy Park Pump Station (PS) is located below grade. Pump station PS-1, located at the Burbank Water Reclamation Plant,

was also expanded as a part of this project. To meet the proposed increase in demand caused by the expansion of the recycled water distribution system, the capacity of PS-1 was expanded from approximately 1,350 gallons per minute (gpm) to 5,500 gpm. The PS-1 expansion was completed in November 2010. The State Clearinghouse review of the MND became final on December 4, 2008.

2. On December 24, 2008, September 20, 2010, and May 12, 2011, the City of Burbank filed Notice of Determinations (NODs) for additional recycled water projects, consistent with the 2010 RWMP. The NODs involved modifying the existing PS-1 pump station, installing a new booster pump station, and constructing new recycled water pipelines to connect the Burbank WRP to Valhalla Memorial and other users; and expanding the City of Burbank 's existing recycled water system to serve the Northern Burbank and Studio District areas, by installing approximately 15,600 linear feet of pipeline in the Northern Burbank area and approximately 20,550 linear feet of pipeline in the Studio District area. The Regional Water Board has considered the environmental effects identified in the MND (State Clearinghouse number 2008111017) but did not submit a comment letter to the State Clearinghouse. No changes or alterations have been required or incorporated into the project.

3. The Regional Water Board has incorporated requirements into this Order to protect the quality of the waters of the state consistent with the applicable plans and policies that apply to the discharges regulated by this Order and has established a monitoring and reporting program to determine compliance with the terms of the Order and assure protection of water quality.

4. Pursuant to CWC Section 13320, any aggrieved person may seek review of this Order by filing a petition with the State Water Board in accordance with Title 23 CCR, sections 2050-2068. A petition must be sent to the State Water Resources Control Board, P.O. Box 100, Sacramento, CA 95812, within 30 days of adoption of this Order. The regulations are available at http://www.waterboards.ca.gov/public_notices/petitions/water_quality/index.shtml The State Water Board must receive the petition within 30 days of the date of this Order.

The Regional Water Board has notified the City of Burbank and interested agencies and persons of its intent to issue WDRs/WRRs Order No. R4-2016-0144 for the production, distribution and use of recycled water and has provided them with an opportunity to submit written comments.

The Regional Water Board, in a public meeting, heard and considered all comments pertaining to these WDRs/WRRs.

THEREFORE, IT IS HEREBY ORDERED that Order No. 91-101 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the CWC (commencing with section 13000) and regulations and guidelines adopted thereunder, the Burbank DPW shall comply with the requirements in this Order.

VII. FINAL EFFLUENT LIMITATIONS

1. Recycled water shall be limited to tertiary-treated municipal wastewater only, as proposed.

2. The disinfected tertiary-treated effluent shall not contain pollutants in the treated effluent downstream of the dechlorination basin in excess of the following limits listed in Table 6.

Table 6. CONCENTRATIONS IN DISINFECTED TERTIARY EFFLUENT

Constituents	Units	30-Day Average	7-Day Average	Daily Maximum
Biochemical Oxygen Demand ($BOD_5 20^oC$)	mg/L	20[1]	30[1]	45[1]
Total Suspended Solids (TSS)	mg/L	15[1]	40[1]	45[1]
Settleable Solids	mL/L	0.1[1]	---	0.3[1]
Oil and Grease	mg/L	10	---	15
Total Dissolved Solids	mg/L	900[2]	---	---
Chloride	mg/L	150[2]	---	---
Sulfate	mg/L	300[2]	---	---
Boron	mg/L	1.5[2]	---	---
Nitrate-N + Nitrite-N	mg/L	10[3]	---	---
Bis(2-ethylhexyl)phthalate	µg/L	4[4]	--	--
Total Trihalomethanes	µg/L	80[4]	---	---

3. The pH of the disinfected tertiary-treated effluent used as recycled water shall at all times be within the range of 6.5 to 8.5 pH units.

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[1] This is a technology-based limit contained in similar orders for Publicly Owned Treatment Works (POTWs) indicative of treatment levels that are achievable by tertiary-treated wastewater treatment systems.

[2] Order No. 91-101 included TDS and chloride limitations that were based on historic performance concentrations and were closer to the Basin Plan Water Quality Objectives for surface water, rather than the Basin Plan Water Quality Objectives for the San Fernando Groundwater Basin. These same limits are being carried over onto the revised Order. Groundwater monitoring data gathered from 1991 to 2014 by the Watermaster and included in the ULARA reports show that there was a slight fluctuation in the concentrations of chloride and TDS, with peak concentrations occurring in 2009. However, recent data indicates that groundwater chloride concentrations are decreasing and are returning to levels found close to two decades ago. The use of tertiary-treated recycled water from the Burbank WRP has not resulted in any known degradation of the underlying groundwater quality since recycled water has been applied at agronomic rates and using best management practices.

[3] This limitation is based on a Basin Plan Water Quality Objective for groundwater: Groundwaters shall not exceed 10 mg/L nitrogen as nitrate nitrogen plus nitrite nitrogen.

[4] Burbank's WRP's tertiary-treated effluent had reasonable potential to cause or contribute to an exceedance of the Basin Plan Water Quality Objective. Total trihalomethanes is the sum of bromoform, chloroform, chlorodibromomethane, and bromodichloromethane.

4. The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

5. Recycled water shall not contain trace constituents or other substances in concentrations exceeding the Title 22 MCLs contained in the current edition of DDW's Drinking Water Standards.

6. Disinfected tertiary-treated effluent used as recycled water that could affect the receiving groundwater shall not contain any substances in concentrations toxic to human, animal, or plant life.

7. Disinfected tertiary-treated effluent used as recycled water shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect the beneficial uses of the receiving groundwater.

8. The use of recycled water shall not impact tastes, odors, color, foaming, or other objectionable characteristics to the receiving water.

9. Maximum Contaminant Level Triggers

   A. Trigger Mechanism

      The effluent will be monitored annually for all constituents with current applicable MCLs for drinking water established by DDW included in Attachment A. If the annual sampling result of these constituents (target chemicals) exceeds the corresponding MCL, using the criteria established in Attachment A. of the Monitoring and Reporting Program (MRP) No. 6753, then the City of Burbank will perform accelerated effluent monitoring for these target chemicals for two or more consecutive months until the MCL is met, at which point the City of Burbank may resume the regular frequency of testing.

   B. New Reasonable Potential Analysis

      The WDRs/WRRs may be reopened to include limitations for constituents which showed reasonable potential to cause or contribute to an exceedance of a Basin Plan water quality objective.

   C. Attenuation Study

      An attenuation study may be conducted for the target chemicals that exceed the MCLs listed in Attachment A. The purpose of the study would be to demonstrate whether or not the effluent concentrations that exceed MCLs are attenuated in the groundwater by soil aquifer treatment and if there is an effect on the groundwater basin. The study will be a minimum of two years or until sufficient data is established to calculate the appropriate attenuation factor, if warranted. The City of Burbank is required to submit a work plan acceptable to the Executive Officer, which details the proposed attenuation study within 120 days after an average annual exceedance of the trigger.

VIII. COMPLIANCE SCHEDULE DISCUSSION

1. The previous WRR/WDR order (Order No. 91-101) did not include a limit for TTHMs, however the Monitoring and Reporting Program did require monitoring of each trihalomethane individually. Although there is no MCL for each individual trihalomethane, there is an MCL of 80 µg/L for the sum of these compounds which includes: bromodichloromethane, dibromochloromethane, bromoform, and chloroform.

2. The TTHMs samples collected between 2007 and 2011 ranged in concentration from as low as less than 0.15 µg/L to as high as 138 µg/L on December 2, 2007. However, following the chloramination plant process upgrade in late 2007, TTHM concentrations have not exceeded the 80 µg/L MCL. Since the Burbank WRP is expected to be able to comply with the TTHM MCL-based limit, a time schedule is not needed.

IX. SPECIFICATIONS FOR RECYCLED WATER

1. Pursuant to CWC section 1211, the City of Burbank shall file for a wastewater change petition with and obtain approval from the Water Rights Division of the State Water Board, prior to making a change in the place of use, or purpose of use of treated wastewater.

2. The treatment, storage, distribution, or use of recycled water shall not cause or contribute to a condition of pollution as defined in CWC section 13050(l) or nuisance as defined in CWC section 13050(m).

3. Recycled water shall be managed in conformance with the applicable regulations contained in the CCR Title 22 requirements.

4. The Recycled Water Producer or Distributor[5] shall collectively provide all users *disinfected tertiary recycled water*,[6] as proposed, that meets the standards for

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[5] The Distributor may be a recycled water wholesaler, retail water supplier, or retailer as defined in CWC Division 7, Chapter 7.5, Section 13575, the *Water Recycling Act of 1991*.

[6] “Disinfected tertiary recycled water” means a filtered and subsequently disinfected wastewater that meets the following criteria:

(a) The filtered wastewater has been disinfected by either of the following:

(1). A chlorine disinfection process following filtration that provides a chlorine contact time (CT); the product of total chlorine residual and modal contact time measured at the recycled water, as described in CCR Title 22, Division 4, Chapter 3, Article1, Sections 60301.230 and 60301.320.

5. **Surface Irrigation**. CCR Title 22, Division 4, Chapter 3, Article 3, Section 60304 contains requirements for surface irrigation.

   A. Recycled water used for the surface irrigation of the following shall be *disinfected tertiary recycled water.*[6]

      1. Food crops, including all edible root crops, where the recycled water comes into contact with the edible portion of the crop;

      2. Parks and playgrounds;

      3. School yards;

      4. Residential landscaping;

      5. Unrestricted access golf courses; and

      6. Any other irrigation use not specified in this Section and not prohibited by other Sections of the CCR.

   B. Recycled water used for the surface irrigation of the following shall be at least *disinfected secondary-23 recycled water:*[7]

      1. Cemeteries;

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same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or

(2). A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as the polio virus may be used for purposes of the demonstration.

(b) The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

[7] "Disinfected secondary-23 recycled water" means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a MPN of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period.

2. Freeway landscaping;

3. Restricted access golf courses;

4. Ornamental nursery stock and sod farms where access by the general public is not restricted;

5. Pasture for animals producing milk for human consumption; and

6. Any nonedible vegetation where access is controlled so that the irrigated area cannot be used as if it were part of a park, playground or school yard.

C. Recycled water used for the surface irrigation of the following shall be at least *undisinfected secondary recycled water:*[8]

1. Orchards where the recycled water does not come into contact with the edible portion of the crop;

2. Vineyards where the recycled water does not come into contact with the edible portion of the crop;

3. Non-food-bearing trees (Christmas tree farms are included in this category provided no irrigation with recycled water occurs for a period of 14 days prior to harvesting or allowing access by the general public);

4. Fodder and fiber crops and pasture for animals not producing milk for human consumption;

5. Seed crops not eaten by humans;

6. Food crops that must undergo commercial pathogen-destroying processing before being consumed by humans; and

7. Ornamental nursery stock and sod farms provided no irrigation with recycled water occurs for a period of 14 days prior to harvesting, retail sale, or allowing access by the general public.

6. **Impoundments**. CCR Title 22, Division 4, Chapter 3, Article 3, Section 60305 contains requirements for using recycled water for impoundments.

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[8] “Undisinfected secondary recycled water” means oxidized wastewater. “Oxidized wastewater” means wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.

A. Recycled water used as a source of water supply for nonrestricted recreational impoundments shall be disinfected tertiary recycled water that has been subjected to *conventional treatment.*[9]

B. Recycled water used as a source of supply for restricted recreational impoundments and for any publicly accessible impoundments at fish hatcheries shall be at least *disinfected secondary-2.2 recycled water.*[10]

C. Recycled water used as a source of supply for landscape impoundments that do not utilize decorative fountains shall be at least *disinfected secondary-23 recycled water.*[7]

7. **Cooling**. CCR Title 22, Division 4, Chapter 3, Article 3, Section 60305 contains requirements for using recycled water for cooling purposes.

A. Recycled water used for industrial or commercial cooling or air conditioning that involves the use of a cooling tower, evaporative condenser, spraying or any mechanism that creates a mist shall be a *disinfected tertiary recycled water.*[6]

8. **Other Purposes**. CCR Title 22, Division 4, Chapter 3, Article 3, Section 60305 contains requirements for using recycled water for other purposes.

A. Recycled water used for the following other purposes shall be *disinfected tertiary recycled water:*[6]

1. Flushing toilets and urinals;
2. Priming drain traps;
3. Industrial process water that may come into contact with workers;
4. Structural fire fighting;
5. Decorative fountains;
6. Commercial laundries;
7. Consolidation of backfill around potable water pipelines;

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[9] "Conventional treatment" means a treatment chain that utilizes a sedimentation unit process between the coagulation and filtration processes and produces an effluent that meets the definition for *disinfected tertiary recycled water.*

[10] "Disinfected secondary-2.2 recycled water" means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period.

        8. Artificial snow making for commercial outdoor use; and

        9. Commercial car washes, including hand washes if the recycled water is not heated, where the general public is excluded from the washing process

    B. Recycled water used for the following purposes shall be at least *disinfected secondary-23 recycled water.*[5]

        1. Industrial boiler feed;

        2. Nonstructural fire fighting;

        3. Backfill consolidation around nonpotable piping;

        4. Soil compaction;

        5. Mixing concrete;

        6. Dust control on roads and streets;

        7. Cleaning roads, sidewalks and outdoor work areas; and,

        8. Industrial process water that will not come into contact with workers.

9. Recycled water shall be retained in the areas of use and shall not be allowed to escape as surface flow except as provided for in a separate NPDES permit.

10. Recycled water use and monitoring shall be consistent with any applicable Salt and Nutrient Management Plan for the basin/sub-basin.

11. Recycled water shall not be applied to uses other than those enumerated above unless a revised engineering report has been submitted to and approved by the Regional Water Board and DDW for such other uses and/or requirements for these uses have been prescribed by this Regional Water Board, in accordance with Section 13523 of the CWC.

12. All recycled water pipelines and valves shall be installed with purple identification tapes or purple polyethylene vinyl wraps according to the American Water Works Association (AWWA) California-Nevada Section guidelines.

13. The Burbank DPW is permitted to use tertiary-treated recycled water produced at the Burbank WRP for the following approved uses:

    A. Surface irrigation (including all categories described in Section IX.5);

    B. Impoundments (including all categories described in Section IX.6);

C. Cooling (including all categories described in Section IX.7); and,

D. Other purposes (as described in Section IX.8).

X. SPECIFICATIONS AND REQUIREMENTS FOR DUAL-PLUMBED SYSTEMS

1. The specifications for cooling towers and dual-plumbed systems are as follows:

   Recycled water used for cooling industrial or commercial cooling or air conditioning that involves the use of a cooling tower, evaporative condenser, spraying, or any mechanism that creates a mist shall be disinfected tertiary recycled water.

2. “Dual plumbed” means a system that utilizes separated piping systems for recycled water and potable water within a facility and where the recycled water is used for either of the following purposes:

   A. To serve plumbing outlets (excluding fire suppression systems) within a building, or

   B. Outdoor landscape irrigation at individual residences.

3. The public water supply shall not be used as a backup or supplemental source of water for a dual-plumbed recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of CCR Title 17, Division 1, Chapter 5, Subchapter 1, Group 4, Article 2, Sections 7602 (a) and 7603 (a), and that such connection has been approved by DDW and/or its delegated local agency.

4. The City of Burbank shall not deliver recycled water to a facility using a dual-plumbed system unless the report of recycled water use, required pursuant to Section 13522.5 of the CWC, and which meets the requirements set forth in Sections IV.4 and/or IV.5 of this Order, has been submitted and approved by DDW and/or its delegated local agency. The Regional Water Board shall be furnished with a copy of DDW approval together with the aforementioned report within 30 days following the approval.

5. The report of recycled water use, submitted pursuant to Section 13522.5 of the CWC, shall contain the following information for dual-plumbed systems, in addition to the information required by CCR Title 22, Division 4, Chapter 3, Article 7, Section 60323 (Engineering Report):

   A. A detailed description of the intended use site identifying the following:

      1. The number, location, and type of facilities within the use area proposing to use dual-plumbed systems;

      2. The average number of persons estimated to be served by each facility on a daily basis;

3. The specific boundaries of the proposed use site including a map showing the location of each facility to be served;

4. The person or persons responsible for operation of the dual-plumbed system at each facility; and,

5. The specific use to be made of the recycled water at each facility.

B. Plans and specifications describing the following:

1. Proposed piping system to be used;

2. Pipe locations of both the recycled and potable systems;

3. Type and location of the outlets and plumbing fixtures that will be accessible to the public; and,

4. The methods and devices to be used to prevent backflow of recycled water into the public water system.

C. The methods to be used by the City of Burbank to assure that the installation and operation of the dual-plumbed system will not result in cross connections between the recycled water piping system and the potable water piping system. These shall include a description of pressure, dye or other test methods to be used to test the system every four years.

6. Prior to the initial operation of the dual-plumbed recycled water system and annually thereafter, the dual-plumbed system within each facility and use site shall be inspected for possible cross connections with the potable water system. The recycled water system shall also be tested for possible cross connections at least once every four years. The testing shall be conducted in accordance with the method described in Section X.5.C of this Order. The inspections and the testing shall be performed by a cross connection control specialist certified by the California-Nevada Section of the AWWA or an organization with equivalent certification requirements. A written report documenting the result of the inspection and testing for the prior year shall be submitted to DDW within 30 days following completion of the inspection or test.

7. The City of Burbank shall notify DDW of any incidence of backflow from the dual-plumbed recycled water system into the potable water system within 24 hours of discovery of the incident.

8. Any backflow prevention device installed to protect the public water system serving the dual-plumbed recycled water system shall be inspected and maintained in accordance with CCR Title 17, Division 1, Chapter 5, Subchapter 1, Group 4, Article 2, Section 7605.

XI. DDW SPECIFICATIONS

Based on DDW's recommendations, this is what the Regional Water Board is requiring:

1. Treatment Provisions

   A. The disinfection process must provide a minimum CT[11] of 450 mg-min/L at all times for tertiary treated wastewater. The CT shall have a minimum of 90 minutes modal contact time. Where, "Modal Contact Time" is defined as "the amount of time elapsed between the time that a tracer, such as a salt or dye, is injected into the influent at the entrance to a chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber."

   B. Burbank WRP's CT shall be considered as in compliance "at all times" when the lowest CT value using the following factors is above the 450 mg-min/L requirement.

      1. Modal contact time under highest flow and corresponding chlorine residual at that time.

      2. Lowest chlorine residual and corresponding contact time.

      3. Highest chlorine residual and corresponding modal contact time.

      4. Modal contact time under lowest flow and corresponding residual.

   C. The modal contact time in XI.1.B above shall be calculated on the theoretical detention time for the actual flow multiplied by a short circuiting factor of 0.95.

   D. The recycled water shall be treated to a tertiary filtered disinfected level that does not exceed the following:

      1. 7-day median of 2.2 MPN per 100 milliliters;

      2. 23 MPN per 100 milliliters in more than one sample in any 30-day period; and,

      3. 240 MPN per 100 milliliters in any sample.

   E. The turbidity levels for filtered recycled water shall not exceed any of the following:

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[11] CT is the product of the total chlorine residual and modal contact time measured at the same point. Where modal contact time is defined as the amount of time elapsed between the time that a tracer, such as a salt or dye, is injected into the influent at the entrance to a chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber.

1. An average of 2 NTU within a 24-hour period;

2. 5 NTU more than 5 percent of the time within a 24-hour period; and,

3. 10 NTU at any time.

F. The Burbank WRP treatment facility will need to be operated by qualified recycled treatment plant operators, as specified in CCR Title 23 (Waters), Division 3 (State Water Resources Control Boards and Regional Water Quality Control Boards), Chapter 26.

2. Monitoring and Reporting Provisions have been incorporated into section V.1 of the Monitoring and Reporting program (MRP).

3. Distribution System Provisions

A. The City of Burbank shall ensure that there are no cross connections between domestic potable water lines and recycled water lines at all times. Any makeup water using domestic water shall be used through an approved air gap. The City of Burbank belongs to the Los Angeles County Environmental Health Department's Cross-Connection Control Program. A certified cross connection control specialist shall test all backflow devices annually. Air gaps shall be at least twice the pipe diameter and be located above ground.

B. The California-Nevada Section American Water Works Association's *Guidelines for the Distribution of Non-Potable Water (1992)* needs to be followed including purple pipe, adequate signs, etc. To prevent any cross-contamination, adequate separation of the recycled water lines, the domestic water lines and sewer lines shall be provided at all times.

4. Use Area Requirements are incorporated in section XII below.

5. General DDW Requirements

A. DDW requests a copy of the Burbank WRP's technical plans.

B. The City of Burbank relies upon supervisor training provided by the Los Angeles County Sanitation District. This Order requires that the City of Burbank develop its own Site Supervisor training in order to promote greater communication and cooperation with its recycles water users.

XII. USE AREA[12] REQUIREMENTS

1. The City of Burbank shall ensure that no recycled water irrigation areas are within 50 feet of a domestic water supply well and no effluent holding ponds are located within 100 feet of any domestic water supply well. Any reclaimed water spray, mist, or runoff shall be confined to the reclaimed water use area and shall not contact any drinking water fountains, food handling facilities or where public may be present. Reclaimed water use should be limited to times when public is not present.

2. All above ground irrigation appurtenances shall be marked appropriately.

3. Use /site supervisors must be appointed for the recycled water use areas and their staff must be trained on the hazards of working with recycled water and periodically retrained.

4. The recycled water system shall be evaluated for cross connections by a shutdown test a minimum of every four years.

5. The July 2014 Title 22 Engineering Report incorporates that use of cooling towers. The plant is approved for providing disinfected tertiary water to cooling towers for use. However, DDW must approve each new cooling tower facility, as each facility's pipe routing may cause DDW to consider the facility Dual-Plumbed, which would require a Dual-Plumbed Engineering Report to be submitted to DDW for approval.

6. The City of Burbank and its recycled water users shall follow Title 22, Article 5 of the CWC, when submitting Dual Plumbed Engineering Reports to DDW for approval.

7. At a minimum, Dual-Plumbed facilities shall be visually inspected for cross connections annually, and have a shutdown test performed every four years.

8. Any report of findings of inspection and shutdown tests need to be submitted to DDW, County Health Department and the Regional Water Board. The procedures used to conduct the shutdown test must be described.

9. For each new recycled water use area, the City of Burbank needs to provide DDW, or its delegated agency, with a description for of the use area including, but not limited to: a description of the recycled water use (e.g. landscape, specific food crop, cooling tower, etc.); method of use (e.g. spray, food, or drip); the location of domestic water supply facilities adjacent to the use areas; site containment measures; the party responsible for the distribution and use of the recycled water at the site; identification of other governmental entities which may have regulatory jurisdiction over the reuse site(s) such as State Food and Drug, State Licensing

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[12] "Use area" is an area of recycled water use with defined boundaries, which may contain one or more facilities where recycled water is used.

and Certification, County Health Department, etc. These agencies shall be provided with a copy of the 2014 Title 22 Engineering Report for review and comment before the City of Burbank begins delivering recycled water to the new users, so that these agencies may perform whatever inspection/task is required. The City of Burbank needs to notify and provide the above information for each new use site that is connected to the recycled water system to the Regional Water Board and to DDW as part of the monitoring reports submitted to these two agencies.

10. If recycled water system lateral pipelines are located along the property lines of homeowners, there could be potential for cross connections. DDW has documented cases of homeowners illegally connecting to unpressurized recycled water laterals near their property. DDW requires a buffer zone between the recycled water lines and the property owners. If the City of Burbank does not feel it can maintain adequate control of the recycled water system pipelines, the pipelines will need to be relocated or a physical barrier needs to be installed to prevent this type of potential problem. The homeowners need to be educated on the use of recycled water in the area. The City of Burbank should specify a plan to interface with the homeowners as a part of the Rules of Service Agreement in an adjacent property awareness program.

11. Application of recycled water to the use area shall be at reasonable agronomic rates and shall consider soil, climate, and nutrient demand. Application rates shall ensure that a nuisance is not created.

12. For each new/proposed recycled water use area, a use site report that addresses compliance with the following use area requirements and includes results of a completed shut-down test shall be submitted to the Regional Water Board and to DDW for approval.

13. For existing recycled water use areas, use site reports and use site agreements shall be submitted to the Regional Water Board and to DDW within six months.

14. The use and distribution of recycled water shall comply with DDW's CCR, Title 22, Division 4, Chapter 3 - *Water Recycling Criteria*; and the CCR, Title 17, Division 1, Chapter 5, Subchapter 1, Group 4, Cross-Connection Control Requirements.

15. No physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water. All back-up/ auxiliary potable supplies shall discharge through approved air-gaps or swivel-ell connections with approved backflow prevention on the potable supply line. Back-up/auxiliary supply piping plans shall be submitted and reviewed by DDW. A County Health Department certified tester shall test all backflow devices annually. Air gaps shall be at least twice the pipe diameter and be located above ground. Swivel-ell connections shall be controlled by the domestic water supplier. The use site agreements shall include conditions that clarify the control and operation of swivel-ell connections.

16. The California-Nevada Section American Water Works Association's (AWWA) *Guidelines for the Distribution of Non-Potable Water (1992)* needs to be followed, including purple pipe, adequate signs, etc. Adequate separation of at least 4-foot horizontal and 1-foot vertical separation shall be provided between recycled water lines and domestic potable water lines. Less separation may be approved by DDW or its delegated agency on a case-by-case basis.

17. Plans and maps showing domestic water lines and recycled water lines at each use site shall be maintained. The lines must be marked clearly and labeled as domestic water lines and recycled water lines. Shut-down tests may be needed to demonstrate that cross-connections do not exist.

18. Supervisors must be appointed for the recycled water use areas and their staff must be trained on the hazards of working with recycled water and periodically retrained.

19. Recycled water use areas shall be inspected by the reclaimed water provider.

20. No impoundment of *disinfected tertiary recycled water* shall occur within 100 feet of any domestic water supply well.

21. No irrigation with *disinfected tertiary recycled water* shall take place within 50 feet of any domestic water supply well unless all of the following conditions have been met:

    A. A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from and the ground surface;

    B. The well contains an annular seal that extends from the surface into the aquitard;

    C. The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities;

    D. The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well; and,

    E. The owner of the well approves of the elimination of the buffer zone requirement.

22. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.

23. No recycled water shall be applied to irrigation areas during periods when soils are saturated.

24. Incidental runoff from landscape irrigation shall be controlled through the following practices:

A. Implementation of an operations and management plan that may apply to multiple sites and provides for detection of leaks, (for example, from broken sprinkler heads), and correction either within 72 hours of learning of the runoff, or prior to the release of 1,000 gallons, whichever occurs first,

B. Proper design and aim of sprinkler heads,

C. Refraining from application during precipitation events, and

D. Management of any ponds containing recycled water such that no discharge occurs unless the discharge is a result of a 25-year, 24-hour storm event or greater, and there is notification of the appropriate Regional Water Board Executive Officer of the discharge, unless the discharge is otherwise regulated pursuant to an NPDES permit.

25. All use areas that are accessible to the public shall be posted with signs that are visible to the public. The size shall be no less than 4 inches high by 8 inches wide, and shall include the following wording: “RECYCLED WATER – DO NOT DRINK”. Each sign shall display an international symbol similar to that shown in CCR Title 22, Division 4, Chapter 3, Article 4, Section 60310-A, (See Figure A-3). Alternative signage and wording, or an educational program, may be acceptable on a case-by-case basis, provided the use site demonstrates to the Regional Water Board and to DDW that the alternative approach will assure an equivalent degree of public notification.

26. Public contact may occur in cemeteries, as allowed under Assembly Bill No. 803, also known as the Water Recycling Act of 2013,[13] and in non-restricted impoundments because the Burbank WRP meets the tertiary-treatment requirements. No hose bibs shall be present on portions of the recycled water piping system that are subject to access by the general public. Only quick couplers that differ from those used on the potable water system shall be used in such areas. Hose bibs at existing non-cemetery use sites need to be retrofitted immediately.

27. Recycled water pipelines located along the property lines of homeowners can pose a potential for cross-connections. DDW recommends a buffer zone between the recycled water lines and the property lines, if such situations are present. If adequate buffer cannot be maintained, mitigation measures including relocation of pipelines, physical barrier, and homeowner education are recommended.

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[13] The Water Recycling Act of 2013 revised Division 8, Part 1, Chapter 4.5 of the California Health and Safety Code, commencing with section 8117, such that, “Hose bibs are approved for use at cemeteries supplied with disinfected tertiary treated recycled water.” Furthermore, section 8118 states that “A cemetery supplied with disinfected tertiary treated recycled water that installs a hose bib in an area subject to access by the general public shall post signage and labeling visible to the general public that the water is nonpotable. The signage and labeling shall be regularly inspected by the water purveyor, as defined in Section 512 of the Water Code, to ensure that the general public has proper notice of this fact.”

XIII. GENERAL REQUIREMENTS

1. Recycled water shall not be used for direct human consumption or for the processing of food or drink intended for human consumption.

2. Bypass, discharge, or delivery to the use area of inadequately treated recycled water, at any time, is prohibited.

3. The recycling facility shall be adequately protected from inundation and damage by storm flows.

4. Recycled water use or disposal shall not result in earth movement in geologically unstable areas.

5. Adequate freeboard and/or protection shall be maintained in the recycled water storage tanks and process tanks to ensure that direct rainfall will not cause overtopping.

6. The wastewater treatment and use of recycled water shall not result in problems caused by breeding of mosquitoes, gnats, midges, or other pests.

7. Odors of sewage origin shall not be perceivable at any time outside the boundary of the treatment facility.

8. The City of Burbank shall, at all times, properly operate and maintain all treatment facilities and control systems (and related appurtenances) which are installed or used by the City of Burbank to achieve compliance with the conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls (including appropriate quality assurance procedures).

9. A copy of these requirements shall be maintained at the water reclamation facility so as to be available at all times to operating personnel.

10. The City of Burbank shall furnish each user of recycled water a copy of these requirements and ensure that the requirements are maintained at the user's facility so as to be available at all times to operating personnel.

11. Supervisors and operators of this publicly owned wastewater treatment facility shall possess a certificate of appropriate grade as specified in CCR Title 23, Division 3, Chapter 26.

12. For any material change or proposed change in character, location, or volume of recycled water, or its uses, the City of Burbank shall submit at least 120 days prior to the proposed change an engineering report or addendum to the existing engineering report to the Regional Water Board and DDW (pursuant to CWC Division 7, Chapter 7, Article 4, Section 13522.5 and CCR Title 22, Division 4, Chapter 3, Article 7, Section 60323) for approval. The Engineering Report shall be

prepared by a qualified engineer registered in California. This updated engineering report shall describe the current treatment plant, the impacts on the recycled water operation, and contain the operation and maintenance management plan, including a preventive (fail-safe) procedure and contingency plan for controlling accidental discharge and/or delivery to users of inadequately treated recycled water.

XIV. PROVISIONS

1. The City of Burbank shall continue to submit plans for proposed and as-built drawings for recycled water projects to and obtain approval from DDW or its delegated local health agency for each recycled water project. The AWWA *Guidelines for the Distribution of Non-Potable Water* shall be followed, including installation of purple pipe, adequate signs, etc. As-built drawings shall show the final locations of the potable water, sewer, and recycled water pipelines, and indicate adequate separation between the recycled water and potable domestic water lines, both of which shall also be marked clearly or labeled using separate colors for identification. In addition, a copy of each application to DDW for a recycled water project shall be delivered to the Regional Water Board for inclusion in the administrative file with the following information:

   A. A description of each use area including, but not limited to, a description of what will be irrigated (e.g., landscape, specific food crop, etc.); method of irrigation (e.g., spray, flood, or drip); the location of domestic water supply facilities adjacent to the use areas; site containment measures; the party responsible for the distribution and use of the recycled water at the site; and, identification of other governmental entities which may have regulatory jurisdiction over the reuse site(s); and,

   B. A map showing specific areas of use, areas of public access, surrounding land uses, the location and construction details of wells in or near the use areas, the location and type of signage, the degree of potential access by employees or the public, and any exclusionary measures (e.g. fencing). The City of Burbank shall submit to the Regional Water Board a copy of the approved Recycled Water Project for the recycled water distribution system and DDW approval within 30 days of approval.

2. For any extension or expansion of the recycled water system or use areas not covered by the July 2014 Engineering Report, the City of Burbank shall submit a report detailing the extension or expansion plan for approval by DDW or its delegated local health agency. The plan shall include, but not be limited to, the information specified in Sections XIII.1.A. and B., above. Following construction, as-built drawings shall be submitted to DDW or its delegated local health agency for approval prior to delivery of recycled water. The City of Burbank shall submit to the Regional Water Board a copy of the approved expansion plan and DDW approval within 30 days of approval.

3. If the recycled water system lateral pipelines are located on an easement contiguous to a homeowner’s private property and where there is a reasonable probability that an illegal or accidental connection to the recycled water line could

be made, the City of Burbank shall provide a buffer zone or other necessary measures between the recycled water lines and the easement to prevent any illegal or accidental connection to the recycled water lines. The City of Burbank shall notify homeowners about the recycled water lateral and restrictions on usage of recycled water.

4. The City of Burbank shall inspect the recycled water use areas on a periodic basis. The City of Burbank shall propose an inspection schedule, based the type of use site, for approval by DDW within 90 days of the effective date of this permit. A report of findings of the inspection shall be submitted to DDW, the County Health Department, and the Regional Water Board on a quarterly basis.

5. The City of Burbank shall submit to the Regional Water Board, under penalty of perjury, technical self-monitoring reports according to the specifications contained in the Monitoring and Reporting Program, as directed by the Executive Officer.

6. The City of Burbank shall notify this Regional Water Board and DDW by telephone or electronic means within 24 hours of knowledge of any violations of recycled water use conditions or any adverse conditions as a result of the use of recycled water from this facility; written confirmation shall follow within 5 working days from date of notification. The report shall include, but not be limited to, the following information, as appropriate:

   A. The nature and extent of the violation;

   B. The date and time when the violation started; when compliance was achieved; and, when injection was suspended and restored, as applicable;

   C. The duration of the violation;

   D. The cause(s) of the violation;

   E. Any corrective and/or remedial actions that have been taken and/or will be taken with a time schedule for implementation to prevent future violations; and,

   F. Any impact of the violation.

7. The City of Burbank shall notify this Regional Water Board and DDW, immediately by telephone or by email, of any confirmed coliform counts that could cause a violation of the requirements for the total coliform effluent limit. This information shall be confirmed in the next monitoring report. For any actual coliform limit violation that occurred, the report shall also include the cause(s) of the high coliform counts, the corrective measures undertaken (including dates thereof), and the preventive measures undertaken to prevent a recurrence.

8. The direct use of Title 22 tertiary-treated and disinfected recycled water for impoundments and irrigation could affect the public health, safety, or welfare;

requirements for such uses are, therefore, necessary in accordance with CWC Division 7, Chapter 7, Article 4, Section 13523.

9. Recycled water ponds shall comply with the following

   A. The recycled water pond is designed not to spill during precipitation events. Spills that occur under extreme weather conditions or emergencies should not be considered for enforcement.

   B. Recycled water ponds can be drained and refilled with potable water or flushed with potable water prior to the onset of the wet season. Flushing may not displace all of the recycled water, and the water quality threat is minimal. Adequate hard plumbed air-gap separations shall be provided on all potable water connections, where provisions are made for filling/re-filling or flushing recycled water ponds with potable water.

   C. Recycled water ponds designed to spill recycled water during the wet season can be regulated under Phase 1 municipal storm water permits or under an individual permit. These permits require reduction of pollutants to the maximum extent practicable. The permits also incorporate receiving water limitations requiring the implementation of an iterative process for addressing any exceeding of water quality objectives.

10. This Order does not exempt the City of Burbank from compliance with any other laws, regulations, or ordinances which may be applicable; it does not legalize the recycling and use facilities; and it leaves unaffected any further constraint on the use of recycled water at certain site(s) that may be contained in other statutes or required by other agencies.

11. This Order does not alleviate the responsibility of the City of Burbank to obtain other necessary local, state, and federal permits to construct facilities necessary for compliance with this Order; nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency. Expansion of the recycled water distribution facility shall be contingent upon issuance of all necessary requirements and permits, including a conditional use permit.

12. After notice and opportunity for a hearing, this Order may be modified, revoked and reissued, or terminated for cause, including but not limited to, failure to comply with any condition in this Order; endangerment of human health or environment resulting from the permitted activities in this Order; obtaining this Order by misrepresentation or failure to disclose all relevant facts; or, acquisition of new information that could have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the City of Burbank for modification, revocation and reissuance, or termination of the Order or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

13. The City of Burbank shall furnish, within a reasonable time, any information the Regional Water Board or DDW may request to determine whether cause exists for

modifying, revoking and reissuing, or terminating this Order. The City of Burbank shall also furnish the Regional Water Board, upon request, with copies of records required to be kept under this Order for at least three years.

14. In an enforcement action, it shall not be a defense for the City of Burbank that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the City of Burbank shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost.

15. The City of Burbank will not be required to implement a groundwater monitoring program at this time, since recycled water is not being used for any groundwater recharge purpose.

16. This Order includes the attached *Standard Provisions Applicable to Waste Discharge Requirements* (Attachment B.) If there is any conflict between the provisions stated hereinbefore and the Standard Provisions, the provisions stated hereinbefore shall prevail.

17. This Order includes the attached Monitoring and Reporting Program No. CI-6753. If there is any conflict between provisions stated in the Monitoring and Reporting Program and the Standard Provisions, those provisions stated in the Monitoring and Reporting Program prevail.

XV. REOPENER

This Order may be reopened to include the most scientifically relevant and appropriate limitations for this recycling Facility, including (1) a revised chloride limit based on monitoring results, Antidegradation studies, or other Board Policy or (2) the application of an attenuation factor based upon an approved site-specific attenuation study conducted by the City of Burbank.

FIGURE 1 – PROCESS FLOW DIAGRAM

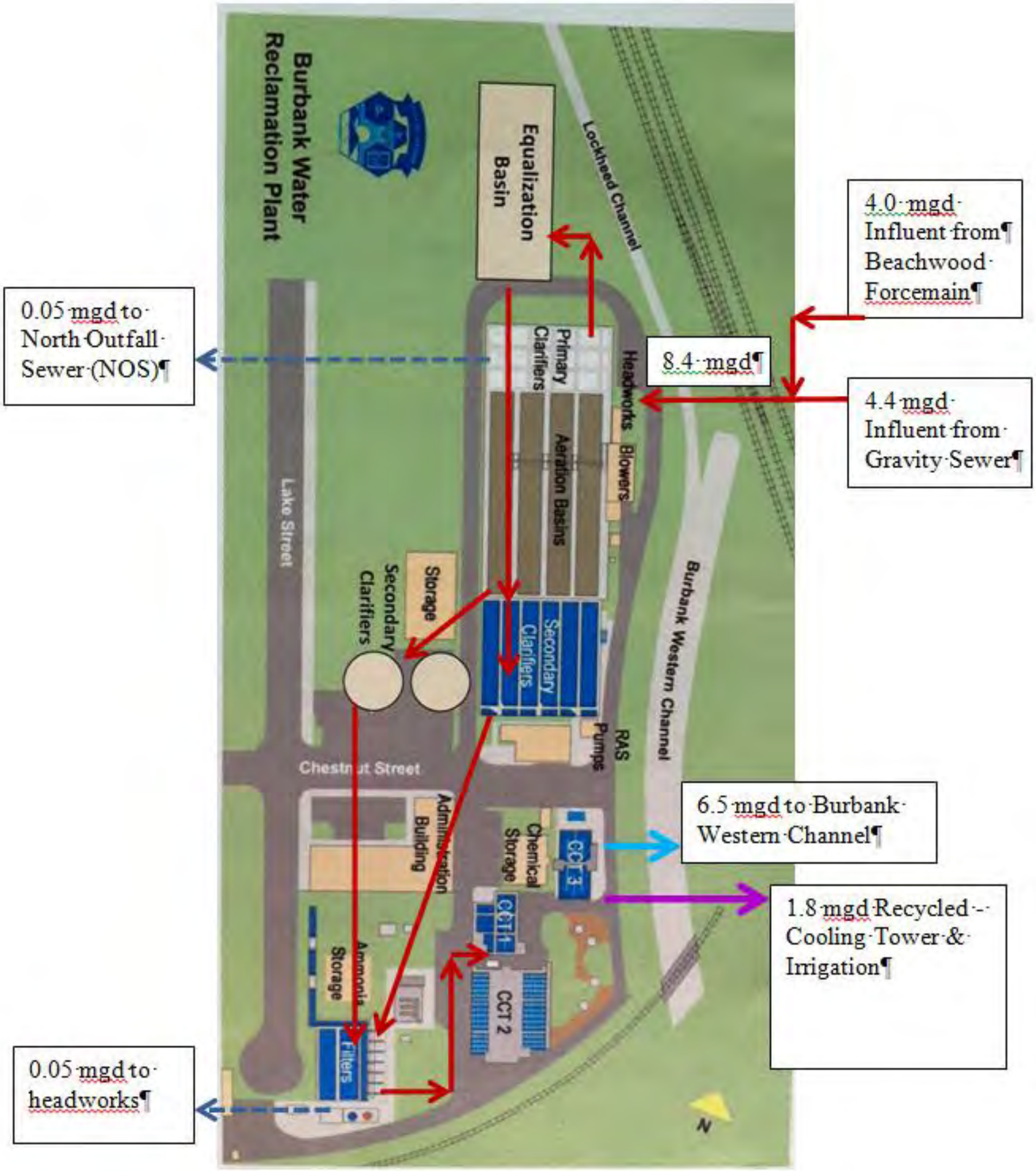

FIGURE 2 – EXISTING & POTENTIAL RECYCLED WATER USERS

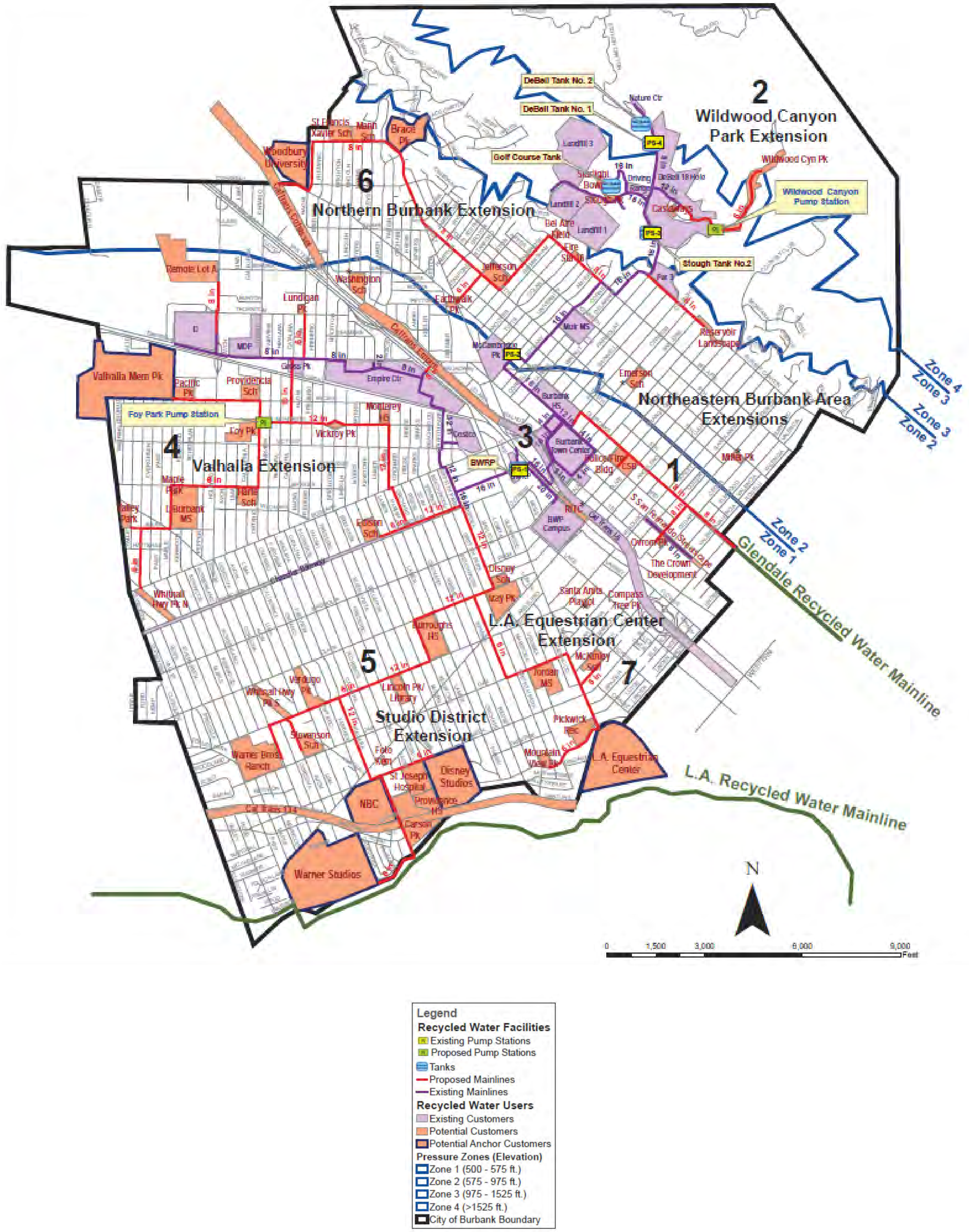

FIGURE 3 – WATER RECYCLING CRITERIA

Water Recycling Criteria

FIGURE 60310-A

ATTACHMENT A - MAXIMUM CONTAMINANT LEVELS (MCLS)

These pollutants shall be analyzed at least annually, or more frequently if specified in the Monitoring and Reporting Program of Order No. R4-2016-0144. However, if the annual test result exceeds the corresponding MCL listed below, then the City of Burbank shall perform accelerated monthly effluent monitoring for the target chemicals for two or more consecutive months until the MCL is no longer exceeded, at which point the City of Burbank may resume the regular frequency of testing. The MCLs in this list serve as triggers for accelerated monitoring, not as effluent limitations.

TABLE A1 – Concentrations of Primary MCLs[14]

Constituents	Units	Monthly Average
Aluminum	µg/L	1000
Antimony	µg/L	6
Arsenic	µg/L	10
Barium	µg/L	1000
Beryllium	µg/L	4
Cadmium	µg/L	5
Total Chromium	µg/L	50
Chromium VI	µg/L	10
Cyanide	µg/L	150
Fluoride	µg/L	2000
Mercury	µg/L	2
Nickel	µg/L	100
Perchlorate	µg/L	6
Selenium	µg/L	50
Thallium	µg/L	2
Copper	µg/L	1300
Lead	µg/L	15
Benzene	µg/L	1
Carbon Tetrachloride	µg/L	0.5
1,2-Dichlorobenzene	µg/L	600
1,4-Dichlorobenzene	µg/L	5
1,1-Dichloroethane	µg/L	5
1,2-Dichloroethane (1,2-DCA)	µg/L	0.5
1,1-Dichloroethylene (1,1-DCE)	µg/L	6
Cis-1,2-Dichloroethylene	µg/L	6
Trans-1,2-Dichloroethylene	µg/L	10
Dichloromethane	µg/L	5
1,2-Dichloropropane	µg/L	5
1,3-Dichloropropene	µg/L	0.5
Ethylbenzene	µg/L	300

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[14] These MCLs are based on Title 22 of the California Code of Regulations, which are incorporated by reference into the *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan)* as water quality objectives. This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect.

TABLE A1 – Concentrations of Primary MCLs[14]		
Constituents	**Units**	**Monthly Average**
Methyl-tert-butyl-ether (MTBE)	µg/L	13
Monochlorobenzene	µg/L	70
Styrene	µg/L	100
1,1,2,2-Tetrachloroethane	µg/L	1
Tetrachloroethylene (PCE)	µg/L	5
Toluene	µg/L	150
1,2,4-Trichlorobenzene	µg/L	5
1,1,1-Trichloroethane	µg/L	200
1,1,2-Trichloroethane	µg/L	5
Trichloroethylene (TCE)	µg/L	5
Trichlorofluoromethane	µg/L	150
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	1200
Vinyl Chloride	µg/L	0.5
Xylenes (m,p)	µg/L	1750[15]
Alachlor	µg/L	2
Atrazine	µg/L	1
Bentazon	µg/L	18
Benzo(a)pyrene	µg/L	0.2
Carbofuran	µg/L	18
Chlordane	µg/L	0.1
Dalapon	µg/L	200
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	0.2
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	70
Di(2-ethylhexyl)adipate	µg/L	400
Di(2-ethylhexyl)phthalate (DEHP)	µg/L	4
Dinoseb	µg/L	7
Diquat	µg/L	20
Endrin	µg/L	2
Endothall	µg/L	100
Ethylene Dibromide (EDB)	µg/L	0.05
Glyphosate	µg/L	700
Heptachlor	µg/L	0.01
Heptachlor epoxide	µg/L	0.01
Hexachlorobenzene	µg/L	1
Hexachlorocyclopentadiene	µg/L	50
Gamma BHC (Lindane)	µg/L	0.2
Methoxychlor	µg/L	30
Molinate	µg/L	20
Oxamyl	µg/L	50
Pentachlorophenol	µg/L	1
Picloram	µg/L	500
Polychlorinated Biphenyls (PCBs)	µg/L	0.5
Simazine	µg/L	4

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[15] The MCL is for either a single isomer or the sum of the isomers.

TABLE A1 – Concentrations of Primary MCLs[14]		
Constituents	**Units**	**Monthly Average**
2,4,5-TP (Silvex)	µg/L	50
2,3,7,8-TCDD (Dioxin)	µg/L	0.00003
Thiobencarb	µg/L	70
Toxaphene	µg/L	3

TABLE A2 – Concentrations of Secondary MCLs[24]		
Constituents	**Units**	**Monthly Average**
Copper	µg/L	1000
Foaming agents (MBAS)	µg/L	500
Iron	µg/L	300
Manganese	µg/L	50
Silver	µg/L	100
Zinc	µg/L	5000

TABLE A3 – Disinfection Byproducts MCLs[24]		
Constituents	**Units**	**Monthly Average**
Total Trihalomethanes (TTHMs)* • Bromodichloromethane • Bromoform • Chloroform • Dibromochloromethane	µg/L	80
Haloacetic acid (five) (HAA5) • Monochloroacetic acid • Dichloroacetic acid • Trichloroacetic acid • Monobromoacetic acid • Dibromoacetic acid	µg/L	60
Bromate	µg/L	10
Chlorite	µg/L	1000

TABLE A4 – Radionuclide MCLs[24]		
Constituent	**Units**	**Monthly Average**
Gross Alpha particle activity (excluding radon and uranium)	pCi/L	15
Gross Beta particle activity (excluding radon and uranium)	mrem/yr	4
Radium-226 + Radium-228	pCi/L	5
Strontium-90	pCi/L	8
Tritium	pCi/L	20,000
Uranium	pCi/L	20

ATTACHMENT B - STANDARD PROVISIONS

APPLICABLE TO WASTE DISCHARGE REQUIREMENTS

1. DUTY TO COMPLY

The Permittee must comply with all conditions of these waste discharge requirements. A responsible party has been designated in the Order for this project, and is legally bound to maintain the monitoring program and permit. Violations may result in enforcement actions, including Regional Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Water Board. [California Water Code (CWC) Sections 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350]. Failure to comply with any waste discharge requirement, monitoring and reporting requirement, or other order or prohibition issued, reissued or amended by the Los Angeles Water Board or State Water Resources Control Board is a violation of these waste discharge requirements and the Water Code, which can result in the imposition of civil liability. (California Water Code, Section 13350, subdivision (a).)

2. GENERAL PROHIBITION

Neither the treatment nor the discharge of waste shall create a pollution, contamination or nuisance, as defined by Section 13050 of the CWC. In addition, the discharge of waste classified as hazardous, as defined in California Code of Regulations, Title 23, Section 2521, subdivision (a) is also prohibited.

3. AVAILABILITY

A copy of these waste discharge requirements shall be maintained at the discharge facility and be available at all times to operating personnel. [CWC Section 13263].

4. CHANGE IN OWNERSHIP

The Permittee must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order’s responsibility and coverage to a new permittee containing a specific date for the transfer of this Order’s responsibility and coverage between the current permittee and the new permittee. This agreement shall include an acknowledgement that the existing permittee is liable for violation up to the transfer date and that the new permittee is liable from the transfer date forward. [CWC Sections 13267 and 13263].

5. CHANGE IN DISCHARGE

In the event of a material change in the character, location, or volume of a discharge, the Permittee shall file with this Regional Water Board a new Report of Waste Discharge. [CWC Section 13260, subdivision (c)]. A material change includes, but is not limited to, the following:

a. Addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the waste.

b. Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.

c. Significant change in the disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area significantly removed from the original area potentially causing different water quality or nuisance problems.

d. Increase in flow beyond that specified in the waste discharge requirements.

e. Increase in area or depth to be used for solid waste disposal beyond that specified in the waste discharge requirements. [CCR Title 23 Section 2210].

6. REVISION

These waste discharge requirements are subject to review and revision by the Regional Water Board. [CCR Section 13263].

7. NOTIFICATION

Where the Permittee becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Water Board, it shall promptly submit such facts or information. [CWC Sections 13260 and13267].

8. VESTED RIGHTS

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the Permittee from his liability under Federal, State or local laws, nor do they create a vested right for the Permittee to continue the waste discharge. [CWC Section 13263, subdivision (g)].

9. SEVERABILITY

Provisions of these waste discharge requirements are severable. If any provision of these requirements is found invalid, the remainder of these requirements shall not be affected.

10. OPERATION AND MAINTENANCE

The Permittee shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order. [CWC Section 13263, subdivision (f)].

11. HAZARDOUS RELEASES REQUIREMENT

Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Water Board or the appropriate Regional Water Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the California Water Code unless the discharge is in violation of a prohibition in the applicable Water Quality Control plan. [CWC Section 13271, subdivision (a)].

12. OIL OR PETROLEUM RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any water of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Article 3.5 (commencing with Section 8574.1) of Chapter 7 of Division 1 of Title 2 of the Government Code. This provision does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Section 311 of the Clean Water Act or the discharge is in violation of a prohibition in the applicable Water Quality Control Plan. [CWC Section 13272].

13. INVESTIGATIONS AND INSPECTION

The Permittee shall allow the Regional Water Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;

b. Have access to and copy at reasonable times, any records that must be kept under the conditions of this Order;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order, or as otherwise authorized by the California Water Code, any substances or parameters at any location. [CWC Section 13267].

e. Except for material determined to be confidential in accordance with applicable law, all reports prepared in accordance with the terms of this Order shall be available for public inspection at the office of the Los Angeles Regional Water Board. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.

14. MONITORING PROGRAM AND DEVICES

The Permittee shall furnish, under penalty of perjury, technical monitoring program reports; such reports shall be submitted in accordance with specifications prepared by the Executive Officer, which specifications are subject to periodic revisions as may be warranted. [CWC Section 13267].

All monitoring instruments and devices used by the discharge to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the Permittee shall submit to the Executive Officer a written statement, signed by a registered professional engineer, certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required.

The analysis of any material required pursuant to Division 7 of the Water Code shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code. However, this requirement does not apply to field tests, such as test for color, odor, turbidity, pH, temperature, dissolved oxygen, conductivity, and disinfectant residual chlorine. (California Water Code, Section 13176).

Unless otherwise permitted by the Regional Water Board Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Water resources Control Board's Division of Drinking Water. All analyses shall be required to be conducted in accordance with the latest edition of “Guidelines Establishing Test Procedures for Analysis of Pollutants” [40 CFR Part 136] promulgated by the U.S. Environmental Protection Agency. [CCR Title 23, Section 2230]. The Quality Assurance-Quality Control Program must conform to the USEPA Guidelines "Laboratory Documentation Requirements for Data Validation", January 1990, USEPA Region 9) or procedures approved by the Los Angeles Regional Water Quality Control Board.

All quality assurance and quality control (QA/QC) analyses must be run on the same dates when samples were actually analyzed. All QAIQC data shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, and explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recoveries. In cases where contaminants are detected in QA/QC samples (e.g., field, trip, or lab blanks); the accompanying sample results shall be appropriately flagged .

The Discharger shall make all QA/QC data available for inspection by Regional Board staff and submit the QA/QC documentation with its respective quarterly report. Proper chain of custody procedures must be followed and a copy of that documentation shall be submitted with the quarterly report.

15. TREATMENT FAILURE

In an enforcement action, it shall not be a defense for the Permittee that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the Permittee shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost. [CWC Section 13263, subdivision (f)].

16. DISCHARGE TO NAVIGABLE WATERS

Any person who discharges pollutants or proposes to discharge pollutants to navigable waters of the United States within the jurisdiction of this state or a person who discharges dredged or fill material or proposes to discharge dredged or fill material into navigable waters of the United States within the jurisdiction of this state shall file a report of waste discharge in compliance with the procedures set forth in Water Code section 13260. (California Water Code, Section 13376).

17. ENDANGERMENT TO HEALTH AND ENVIRONMENT

The Permittee shall report any noncompliance which may endanger health or the environment. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrence(s) must be reported to the Executive Officer within 24 hours:

a. Any bypass from any portion of the treatment facility;

b. Any discharge of treated or untreated wastewater resulting from sewer line breaks, obstruction, surcharge or any other circumstances; and,

c. Any treatment plant upset which causes the effluent limitation of this order to be exceeded. [CWC Sections 13263 and 13267].

18. MAINTENANCE OF RECORDS

The Permittee shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Water Board Executive Officer.

Records of monitoring information shall include:

a. The date, exact place, an time of sampling or measurements;

b. The individual(s) who performed the sampling or measurements;

c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or method used; and

f. The results of such analyses.

19. SIGNATORY REQUIREMENT

a. All application reports or information to be submitted to the Executive Officer shall be signed and certified as follows:

  i. For a corporation – by a principle executive officer or at least the level of vice president;

  ii. For a partnership or sole proprietorship – by a general partner or the proprietor, respectively; and,

  iii. For a municipality, state, federal or other public agency – by either a principal executive officer or ranking elected official.

b. A duly authorized representative of a person designated in paragraph (a) of this provision may sign documents if:

  i. The authorization is made in writing by a person described in paragraph (a) of this provision;

  ii. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and,

iii. The written authorization is submitted to the Executive Officer.

Any person signing a document under this Section shall make the following certification:

> "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.[CWC Sections 13263, 13267, and 13268]."

20. OPERATOR CERTIFICATION

Supervisors and operators of municipal wastewater treatment plants and privately owned facilities regulated by the Public Utilities Commission (PUC), used in the treatment or reclamation of sewage and industrial waste shall possess a certificate of appropriate grade in accordance with California Code of Regulation, Title 23, Section 3680. State Water Boards may accept experience in lieu of qualification training (California Code of Regulations, Title 23, Sections 3680 and 3680.2). In lieu of a properly certified wastewater treatment plant operator, the State Water Board may approve use of water treatment plant operator of appropriate grade certified by the State Department of Public Health where reclamation is involved. (California Code of Regulations, Title, 23, Section 3670.1, subdivision (b).)

ADDITIONAL PROVISIONS APPLICABLE TO PUBLICLY OWNED TREATMENT WORKS' ADEQUATE CAPACITY

21. Whenever a Regional Water Board finds that a publicly owned wastewater treatment plant will reach capacity within four years, the Board shall notify the permittee. Such notification shall inform the permittee that the regional board will consider adopting a time schedule order pursuant to Section 13300 of the Water Code or other enforcement order unless the Permittee can demonstrate that adequate steps are being taken to address the capacity problem. The notification shall require the Permittee to submit a technical report to the Regional Water Board within 120 days showing how flow volumes will be prevented from exceeding capacity, or how capacity will be increased. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies and the press. The time for filing the required technical report may be extended by the Regional Water Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Water Board itself. [CCR Title 23, Section 2232].

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM (CI-6753)
(File No. 83-25)

FOR

WASTE DISCHARGE REQUIREMENTS
AND
TITLE 22 WATER RECYCLING REQUIREMENTS

ISSUED TO

CITY OF BURBANK
(Burbank Water Reclamation Plant)

Contents

Tables

MONITORING AND REPORTING PROGRAM (MRP) CI-6753

This Monitoring and Reporting Program is issued by the Regional Water Quality Control Board. Los Angeles Region (Regional Water Board) pursuant to California Water Code (CWC) section 13267(b)(1), which authorizes the Regional Water Board to require the submittal of technical and monitoring reports. The reports required by this MRP are necessary to ensure compliance with Waste Discharge Requirements (WDRs) and Water Recycling Requirements (WRRs) Order No. R4-2016-0144 for the Burbank Water Reclamation Plant (WRP). The City of Burbank (the City of Burbank, Producer or Permittee) owns the Burbank WRP and distributes the recycled water, but contracts Suez, formerly known as United Water, to operate the Burbank WRP. Therefore, the City of Burbank is responsible for compliance with Order No. R4-2016-0144. The City of Burbank shall implement this MRP on the effective date of this Order. Failure to comply with this MRP could result in the imposition of monetary civil liability pursuant to Division 7 of the California Water Code and other applicable laws.

I. GENERAL MONITORING REQUIREMENTS

1. Whenever possible, quarterly monitoring shall be performed during the months of February, May, August, and November; semiannual monitoring shall be performed during the months of February and August; and annual monitoring shall be performed during the third quarter (July thru September) of each calendar year. Should there be instances when monitoring could not be conducted during the specified months, the Permittee shall notify the Regional Water Board, state the reason why the monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate schedule. Results of quarterly, semiannual and annual analyses shall be reported in the quarterly monitoring report following the analysis. If the use of recycled water does not occur during that monitoring period, the Permittee shall collect a sample during the next reuse event. If there is no use of recycled water during the reporting period, the report shall so state. Monitoring reports shall continue to be submitted to the Regional Water Board, regardless of whether or not there was a use of recycled water.

2. Monitoring shall be used to determine compliance with the requirements of this Order. Since the City of Burbank's Title 22 Engineering Report does not contemplate any groundwater recharge projects in the near future, a groundwater monitoring and reporting plan does not need not be submitted at this time.

3. The samples shall be analyzed using analytical methods described in 40 CFR Part 136; or where no methods are specified for a given pollutant, by methods approved by the State Water Resources Control Board, Division of Drinking Water (DDW), the Regional Water Board and/or the State Water Resources Control Board (State Water Board). The Permittee shall select the analytical methods that provide RDLs lower than the limits prescribed in this Order. For those constituents that have drinking water notification levels (NLs) and/or public health goals (PHGs), the RDLs shall be equal to or lower than either the NLs or the PHGs whenever feasible. Every effort should be made to analyze pollutants using the lowest RDL possible.

4. The Permittee shall instruct its laboratories to establish calibration standards so that the RDLs (or equivalent if there is a different treatment of samples relative to calibration standards) are the lowest calibration standard. At no time shall the analytical data be derived from extrapolation beyond the lowest point of the calibration curve.

5. Upon request by the Permittee, the Regional Water Board, in consultation with DDW and the State Water Board Quality Assurance Program, may establish RDLs, in any of the following situations:

   A. When the pollutant has no established method under 40 CFR 136;

   B. When the method under 40 CFR 136 for the pollutant has a RDL higher than the limit specified in this Order; or

   C. When the Permittee agrees to use a test method that is more sensitive than those specified in 40 CFR Part 136.

6. The laboratory conducting the analyses shall be certified by DDW's Environmental Laboratory Accreditation Program (ELAP),, the Regional Water Board, or the State Water Board for a particular pollutant or parameter.

7. Recycled water samples must be analyzed within allowable holding time limits specified in 40 CFR Part 136.3. All quality assurance / quality control (QA/QC) analyses must be run on the same dates when samples are actually analyzed. The Permittee shall make available for inspection and/or submit the QA/QC documentation upon request by Regional Water Board or DDW staff. Proper chain of custody procedures must be followed, and a copy of that documentation shall be submitted with the quarterly report.

8. For all bacterial analyses, sample dilutions shall be performed so the range of values extends from 1 to 800. The detection methods used for each analysis shall be reported with the results of the analyses.

II. RECYCLED WATER MONITORING

A sampling station(s) shall be established where representative samples of recycled water can be obtained. For this recycling project, recycled water samples shall be obtained from the Burbank WRP's effluent channel immediately downstream of the chlorine contact basin. However, the coliform samples may be collected within the third chlorine contact tank[16] at the Burbank WRP. Should there be any change in the

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[16] This is consistent with the Correspondence dated June 17, 2015, in which the Executive Officer responded to a request by the City of Burbank to change the location of the coliform sample collection at the Burbank WRP. The Regional Water Board staff consulted with the State Water Board Division of Drinking Water (DDW) and confirmed that the relocation of the sampling point for coliform was consistent with the tracer study that was conducted for the facility. The City of Burbank was granted conditional approval to relocate the coliform sample collection location

sampling station, the proposed station shall be approved by the Executive Officer prior to its use. The following shall constitute the recycled water monitoring program:

TABLE M1. TITLE 22 RECYCLED WATER MONITORING

Constituent	Units	Type of Sample	Minimum Frequency of Analysis[17]
Total recycled water flow	MGD[18]	recorder	continuous[19]
pH	pH units	grab	daily
Turbidity[20]	NTU	recorder	Continuous[17]
Total Coliform[21]	MPN/100 mL	grab[22]	daily[23]
Total Chlorine Residual[24]	mg/L	grab[20]	daily
Oil & Grease	mg/L	grab[20]	quarterly

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provided that Burbank complied with the terms of DDW's letter dated May 1, 2015, approving the Title 22 Engineering Report.

[17] The frequency of monitoring shall be performed as specified in Table M1. However, if the MCL or corresponding Basin Plan water quality objective is exceeded for a given pollutant, then its frequency of monitoring shall be increased to monthly for at least two consecutive months until the discharge no longer exceeds the given MCL, or achieves compliance with the corresponding effluent limitation.

[18] The amount of tertiary treated effluent that was recycled shall be reported in million gallons per day as well as a percentage of treated effluent. Percent recycled shall be calculated as follows: % Effluent Recycled = (amount of effluent recycled/(amount of effluent recycled + amount of effluent discharged to Burbank Western Channel))*100.

[19] For those constituents that are continuously monitored, the Permittee shall report the monthly minimum, the monthly maximum, and the daily average values.

[20] Turbidity shall be continuously monitored and recorded at a point after final filtration. The average value recorded each day, the amount of time that 5 NTU is exceeded, and the incident of exceeding 10 NTU, if any, shall be reported.

[21] Samples shall be obtained subsequent to the chlorination process.

[22] A grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples shall be collected during normal peak loading conditions for the parameter of interest, which may or may not be during hydraulic peaks. When an automatic composite sampler is not used, composite sampling shall be done as follows: If the duration of the discharge is equal to or less than 24 hours but greater than eight (8) hours, at least eight (8) flow-weighted samples shall be obtained during the discharge period and composited. For discharge duration of less than eight (8) hours, individual 'grab' sample may be substituted.

[23] Daily samples shall be collected Monday through Friday, except for holidays.

[24] Chlorine residual concentration shall be monitored and recorded at a point after the final chlorine contact basins.

Constituent	Units	Type of Sample	Minimum Frequency of Analysis[17]
Settleable Solids	mL/L	grab[20]	weekly
Total Suspended Solids (TSS)	mg/L	24-hr comp.	weekly
Biochemical Oxygen Demand	mg/L	24-hr comp.	weekly
Total Dissolved Solids (TDS)	mg/L	24-hr comp.	monthly
Sulfate	mg/L	24-hr comp.	monthly
Chloride	mg/L	24-hr comp.	monthly
Boron	mg/L	24-hr comp.	monthly
Fluoride	mg/L	24-hr comp.	monthly
Nitrate-N + nitrite-N	mg/L	24-hr comp.	quarterly
Nitrate-N	mg/L	24-hr comp.	quarterly
Nitrite-N	mg/L	24-hr comp.	quarterly
Ammonia-N	mg/L	24-hr comp.	quarterly
Arsenic	µg/L	24-hr comp.	semi-annually
Barium	µg/L	24-hr comp.	annually
Cadmium	µg/L	24-hr comp.	semi-annually
Chromium VI	µg/L	grab[20]	quarterly
Chromium III	µg/L	grab[20]	quarterly
Copper	µg/L	24-hr comp.	semi-annually
Cyanide	µg/L	grab	semi-annually
Iron	µg/L	24-hr comp.	semi-annually
Lead	µg/L	24-hr comp.	semi-annually
Manganese	µg/L	24-hr comp.	semi-annually
Mercury	µg/L	24-hr comp.	semi-annually
Nickel	µg/L	24-hr comp.	semi-annually
Selenium	µg/L	24-hr comp.	semi-annually
Silver	µg/L	24-hr comp.	semi-annually
Zinc	µg/L	24-hr comp.	semi-annually
Total Organic Carbon (TOC)	mg/L	grab[20]	quarterly
Bis(2-ethylhexyl)phthalate	µg/L	24-hr comp.	monthly
Total Trihalomethanes	µg/L	grab[20]	monthly
Phenolic compounds	µg/L	24-hr comp.	semi-annually
1,3-Dichlorobenzene	µg/L	grab[20]	annually
2-Chloroethyl vinyl ether	µg/L	grab[20]	annually
Acrolein	µg/L	grab[20]	annually
Acrylonitrile	µg/L	grab[20]	annually
Benzene	µg/L	grab[20]	annually
Bromomethane	µg/L	grab[20]	annually
Chlorobenzene	µg/L	grab[20]	annually
Chloroethane	µg/L	grab[20]	annually
Chloromethane	µg/L	grab[20]	annually
Methylene chloride	µg/L	grab[20]	annually

Constituent	Units	Type of Sample	Minimum Frequency of Analysis[17]
Total 1,3-Dichloropropene	µg/L	grab[20]	annually
Endrin	µg/L	24-hr comp.	annually
Lindane	µg/L	24-hr comp.	annually
Toxaphene	µg/L	24-hr comp.	annually
Methoxychlor	µg/L	24-hr comp.	annually
PCBs	µg/L	24-hr comp.	annually
DDT	µg/L	24-hr comp.	annually
Attachment A - VOCs and Disinfection Byproducts	µg/L	grab[20]	annually
Remaining Attachment A Pollutants	µg/L and pCi/L	24-hr comp.	annually
EPA Priority Pollutants - VOCs and Disinfection Byproducts	µg/L	grab[20]	annually
Remaining EPA Priority Pollutants	µg/L	24-hr comp.	annually
2,4-D	µg/L	24-hr comp.	annually
2,4,5-TP (Silvex)	µg/L	24-hr comp.	annually

III. RECYCLED WATER USE MONITORING

The Permittee shall submit a quarterly report, in a tabular form, listing the users serviced during the quarter, the amount of recycled water delivered to each user (reported in both gallons and in acre-feet), and the use of the recycled water. A summary of these data shall also be included in the annual report.

IV. GROUNDWATER MONITORING

The Permittee is not required to monitor the groundwater since there is no purposeful groundwater recharge activity as a result of the approved uses of Burbank WRP's tertiary-treated recycled water.

TABLE M2. GROUNDWATER MONITORING

Constituent	Units	Type of Sample	Minimum Frequency of Analysis
N/A			

V. GENERAL REPORTING REQUIREMENTS

The Permittee shall submit all reports to the Regional Water Board and DDW by the dates indicated below. All monitoring and annual summary reports must be addressed to the Regional Water Board, Attention: Information Technology Unit. Reference the reports to Compliance File No. CI-6753 to facilitate routing to the appropriate staff and file.

1. 24- Hour Reporting

A. The following shall be reported within 24 hours to the Regional Water Board (these reports shall indicate a plant shutdown and diversion of inadequately treated water):

1. The failure of the plant's chlorination equipment,
2. Effluent total coliform bacteria MPN greater than 240/100 mL,
3. Turbidity greater than 10 NTU, and
4. CT less than 150 mg-min/L.

2. Quarterly Monitoring Reports

A. These reports shall include, at a minimum, the following information:

1. The volume of the recycled water used. If no recycled water is used during the quarter, the report shall so state.
2. A table listing the users serviced during the quarter, the amount of recycled water delivered to each user (reported in both gallons and in acre-feet), and the use of the recycled water.
3. The date and time of sampling and analyses.
4. All analytical results of samples collected during the monitoring period of the recycled water and groundwater.
5. The monitoring report shall specify the USEPA analytical method used, the method detection limit (MDL), and the RDL for each constituent analyzed.
6. Records of any operational problems, plant upset(s), equipment breakdowns or malfunctions, and any diversion(s) of off-specification recycled water and the location(s) of final disposal.
7. Discussion of compliance, noncompliance, or violation of requirements.
8. All corrective or preventive action(s) taken or planned with a schedule of implementation, if any.

B. DDW requires the following data results be submitted quarterly at a minimum. The Regional Water Board may require more frequent reporting:

1. Daily total coliform bacteria monitoring, running 7-day median calculation, and maximum daily coliform reading for previous months.

2. Minimum daily chlorine residual

3. Average effluent turbidity (24 hour period), 95th percentile effluent turbidity (24 hour period), and daily maximum turbidity reading.

4. Daily CT compliance determinations.

C. For the purpose of reporting compliance with numeric limitations, analytical data shall be reported using the following reporting protocols:

1. Sample results greater than or equal to the RDL must be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample);

2. Sample results less than the RDL but greater than or equal to the laboratory's method detection limit must be reported as "Detected but Not Quantified", or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."); or

3. Sample results less than the laboratory's MDL must be reported as "Not Detected", or ND.

D. If the Permittee samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) more frequently than required in this MRP using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with average effluent, receiving water, etc., limitations.

E. The Regional Water Board may request supporting documentation, such as daily logs of operations.

3. Annual Reports

A. Tabular summaries of the monitoring data obtained during the previous calendar year.

B. A table listing the users serviced during the year, the amount of recycled water delivered to each user (reported in both gallons and in acre-feet), and the use of the recycled water.

C. A discussion of the compliance record and corrective or preventive action(s) taken or planned to bring the recycled water into full compliance with the requirements in this Order.

D. A description of any changes and anticipated changes, including any impacts in operation of any unit processes or facilities shall be provided.

E. A list of the analytical methods employed for each test and associated ELAP-required laboratory quality assurance/quality control procedures shall be included. The report shall re-state, for the record, the laboratories used by the Permittee to monitor compliance with this Order, their status of certification, and a summary of performance.

F. A list of current operating personnel, their responsibilities, and their corresponding grade and date of certification.

G. The date of the facility's Operation and Maintenance (O&M) Management Plan, the date the plan was last reviewed, and whether or not the plan is complete and valid for the current facilities.

H. The groundwater monitoring data that is gathered for the San Fernando basin and is submitted to the Watermaster for inclusion in the Upper Los Angeles River Area (ULARA) reports shall also be submitted to the Regional Water Board as part of the annual report for the Burbank WRP WDRs/WRRs.

4. Report Submittal Dates

A. The Permittee shall submit the required reports to the Regional Water Board and to DDW. The reports shall be received on the dates indicated as follows:

1. **Quarterly Monitoring Reports** shall be received by the 15th day of the second month following the end of each quarterly monitoring period accord. The first Quarterly Monitoring Report under this program shall be received at the Regional Water Board and DDW by July 15, 2016, covering the monitoring period from April 1 to June 30, 2016.

Table M1 Quarterly Report Periods and Due Dates

Reporting Period	Report Due
January – March	May 15th
April – June	August 15th
July – September	November 15th
October – December	February 15th

2. The **Annual Summary Monitoring Report** shall be received by April 15th of each year. The first Annual Summary Report under this program shall be received at the Regional Water Board and DDW by April 15, 2017, covering the monitoring period of year 2016.

5. Electronic Monitoring

On August 1, 2014, the Permittee was certified to only submit electronic SMRs (eSMRs) to the Regional Water Board using the California Integrated Water Quality System (CIWQS).

The Permittee shall continue submitting reports through CIWQS and reference the reports to Compliance File No. CI-6753, to facilitate routing to the appropriate staff and file.

A. Reports to DDW may be submitted:

   1. Via email to the following address if they are in PDF format and they are less than or equal to 10 MB: DDWRegion4@waterboards.ca.gov.

6. Summary of Non-compliance

All monitoring reports shall contain a separate section titled “Summary of Non-Compliance” that discusses the compliance record and corrective actions taken or planned to bring the reuse into full compliance with this Order. This section shall clearly list all instances of non-compliance. For every item where the requirements are not met, the Permittee shall submit a statement of the actions undertaken or proposed that will bring the recycled water program into full compliance with requirements at the earliest possible time and a timetable for implementation of the corrective measures.

7. Monitoring reports shall be signed by either the principal Executive Officer or ranking elected official. A duly authorized representative of the aforementioned signatories may sign documents if all of the following are true:

   A. An authorization is made in writing by the signatory;

   B. The authorization specifies the representative as either an individual or position having responsibility for the overall operation of the regulated facility or activity; and,

   C. The written authorization is submitted to the Executive Officer of this Regional Water Board.

8. The monitoring report shall contain the following completed declaration:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments thereto; and that, based on my inquiry of the individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

Executed on the day of _____at ______________________________

_______________________ Signature
_______________________ Title

9. The Permittee shall retain records of all monitoring information, including all calibration and maintenance, monitoring instrumentation, and copies of all reports required by this Order, for a period of at least three (3) years from the date of sampling measurement or report. This period may be extended by request of the Regional Water Board or DDW at any time and shall be extended during the course of any unresolved litigation regarding the regulated activity.

10. Records of monitoring information shall include:

    A. The date, exact place, and time of sampling or measurements;

    B. The individual(s) who performed the sampling or measurements;

    C. The date(s) analyses were performed;

    D. The individual(s) who performed the analysis;

    E. The analytical techniques or methods used; and

    F. The results of such analyses.

11. The Permittee shall submit to the Regional Water Board, together with the first monitoring report required by this Order, a list of all chemicals and proprietary additives which could affect the quality of the recycled water, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly. An annual summary of the quantities of all chemicals, listed by both trade and chemical names, which are used in the treatment process shall be included in the annual report.

Ordered by:

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Date: April 14, 2016

/AVCuevas

Exhibit 2

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

ORDER

Treated Waste Water Change Petition WW-19

ORDER APPROVING CHANGE IN PLACE OF USE AND PURPOSE OF USE OF TREATED WASTE WATER

WHEREAS:

1. Treated Waste Water change petition WW-19 was filed by the City of Burbank on June 29, 1992 pursuant to Sections 1210 and 1211 of the California Water Code.

2. The change petition was filed with the State Water Resources Control Board (Board) to obtain Board approval under Sections 1211 and 1700 of the California Water Code to change the Place of Use and Purpose of Use of treated waste water discharged to Burbank Western Channel in Los Angeles County.

3. The Board has determined that good cause for the changes has been shown.

4. The Board has determined that the changes do not constitute the initiation of a new right nor operate to the injury of any other lawful user of water.

NOW, THEREFORE, IT IS ORDERED THAT:

1. The source of treated waste water shall be the Burbank Water Reclamation Plant within Section 11, T1N, R14W, SBB&M: California Coordinate System: Zone 7, North 178,900, East 4,191,600. (0000001)
(0000002)

2. The Purpose of Use shall be irrigation and industrial. (0000003)

3. The Place of Use shall be described as follows:

   Eastern portion of the City of Burbank, northeast of Interstate 5. (0000004)

Dated: MARCH 04 1993

ORIGINAL SIGNED
BY ROGER JOHNS

Edward C. Anton, Chief
Division of Water Rights

SURNAME/FILES

(916) 657-1942

FAX: (916) 657-1485

In Reply Refer
To:342:BHP:WW-19

MARCH 0 4 1993

Leighton Fong, P.E.
c/o City of Burbank
P.O. Box 631
Burbank, CA 91503

Dear Mr. Fong:

WW-19 CITY OF BURBANK'S RECLAIMED WATER SYSTEM EXPANSION IN LOS ANGELES COUNTY

Your petition to change the City of Burbank's Reclaimed Water System has been approved as set forth in the enclosed order.

If you have any questions, please write or call Bert Parkinson at (916) 657-1926.

Sincerely,

IGINAL SIGNED B

Larry L. Attaway, Chief
Petition Unit

Enclosures

cc: Nick Kontos
Office of Water Recycling
P.O. Box 944212
Sacramento, CA 94244-2120

!BHParkinson:tmaxon:12-7-92
!plede300:BHP:WW-19

SURNAME DWR 540 REV. 1/86	Parkinson 12/8/92	Attaway 12-10-92		

STAFF RECOMMENDATION

PETITION FOR CHANGE

ON WATER RIGHT PERMIT OR LICENSE

Appl. No.: WW-19 Date Filed: 6-29-92 Permit No.: ________ Date Issued: ________

DESCRIPTION OF PRESENTLY AUTHORIZED PROJECT

OWNER: City of Burbank

SOURCE: City of Burbank's Water Reclamation Plant

COUNTY: Los Angeles

AMOUNT: 9 million gallons per day (capacity of plant)

PURPOSE: Industrial (Cooling Tower), and Irrigation (approximately 20%)
Discharge to Burbank Western Channel (approximately 80%)

SEASON OF DIVERSION: January 1 to December 31

EXISTING DEVELOPMENT

The City of Burbank currently utilizes less than 20 percent of the reclaimed water produced by the Burbank Water Reclamation Plant (with the balance discharged to the Los Angeles River). The reclaimed water is pressurized for distribution to CalTrans and the Media City Center via buried ductile iron pipelines. There is also a gravity feed pipeline to the cooling towers of Burbank's power generation plant.

PETITIONED CHANGE

The proposed project includes the construction of Phase A of the City of Burbank's Reclaimed Water System Expansion Project and the replacement of a portable water storage tank. Phase A is intended to provide 647 acre-feet of annual reclaimed water service to a number of users in the eastern part of the City, including McCambridge Park, John Muir Middle School, Par 3 Golf Course, DeBell Golf Course, Driving Range, Stough Park, Starlight Bowl, and Stough Landfill. The feasibility of two additional phases will be examined at a later date.

The project was last inspected on ________ **None** ________
(Date) (By)

WR 24B-1 (Rev. 1-90)

FINDINGS RELATIVE TO PROPOSED CHANGE:

1) The petitioned change(s) will not constitute the initiation of a new right nor operate to the injury of any other lawful user of water.

2) Notice, in compliance with Section 843, Title 23, CCR; resulted in no protests.

PUBLIC TRUST CONSIDERATIONS: (Effect on Public Trust Uses of a Waterway)
The change appears to have no effect on public trust considerations.

ENVIRONMENTAL ASSESSMENT:

	STAFF RECOMMENDATION		*STATUS AFTER WORKSHOP REVIEW*	
		DATE		*DATE*
EXEMPT				
NEGATIVE DECLARATION				
ENVIRONMENTAL IMPACT REPORT				

RECOMMENDATION:

APPROVE X

DISAPPROVE ___

Larry L. Attaway
SENIOR ENGINEER

DATE 12-10-92

SUPERVISING ENGINEER

DATE 12/10/92

NOTICE OF DETERMINATION

To: Office of Planning & Research
State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

From: State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

Filing of Notice of Determination in Compliance with Section 21108 of the Public Resources Code.

PROJECT TITLE: Treated Waste Water Change Petition PETITION: WW-19

PETITIONER: City of Burbank
P.O. Box 631
Burbank, CA 91503

PROJECT LOCATION:

Within City of Burbank in Los Angeles County.

PROJECT DESCRIPTION:

The City of Burbank (City) proposes to utilize up to 9 million gallons per day (plant capacity) of reclaimed water produced by the Burbank Water Reclamation for the following purposes: Industrial (Cooling Tower) and Irrigation (approximately 20%) and Discharge to Burbank Western Channel (approximately 80%). The City currently utilizes less than 20% of the reclaimed water produced by the Burbank Water Reclamation Plant (with the balance discharged to the Los Angeles River). The reclaimed water is pressurized for distribution to CalTrans and the Media City Center via buried ductile iron pipelines. There is also a gravity feed pipeline to the cooling towers of Burbank's power generation plant. In addition to these uses the proposed project will include the construction of Phase A of the City of Burbank's Reclaimed Water System Expansion Project and the replacement of a portable water storage tank. Phase A is intended to provide 647 acre-feet of annual reclaimed water service to a number of users in the eastern part of the City, including McCambridge Park, John Muir Middle School, Par 3 Golf Course, DeBell Golf Course, Driving Range, Stough Park, Starlight Bowl, and Stough Landfill. The feasibility of two additional phases will be examined at a later date.

The record of the project approval may be examined at:

State Water Resources Control Board
Division of Water Rights
901 P Street, Third Floor
Sacramento, CA 95814

Notice of Determination
Page 2

The City of Burbank is Lead Agency under the California Environmental Quality Act, Public Resources Code 21000, et seq. This is to advise that the State Water Resources Control Board as the Responsible Agency has approved the above-described project on ______________________ and has made the following determinations regarding the above-described project:

|X| A Negative Declaration was prepared for this project.

This is to certify that:

The State Water Resources Control Board has reviewed and considered the information in the Negative Declaration. (This does not certify that the Negative Declaration complies with the provisions of CEQA.)

Contact Person: Mike Falkenstein Telephone: (916) 657-1377

APPROVAL OF THE ABOVE IS RECOMMENDED BY:

Michael Falkenstein 2/24/93
Chief, Environmental Section Date

APPROVED:

Roger Johnson 2-27-93
for Chief, Division of Water Rights Date

PRELIMINARY ENVIRONMENTAL REVIEW CHECKLIST

APPLICATION: WW-19 **COUNTY:** Los Angeles (LAX) **DATE:** 01/14/93

APPLICANT: City Of Burbank

1. TYPE OF PROJECT:
    - (a) ___ Onstream Storage, Reservoir Capacity AF.
    - (b) ___ Direct Diversion to Offstream Storage: Rate: cfs/gpd, Capacity: AF
    - (c) Project size: _X_ Major ___ Minor.
    - (d) ___ Direct Diversion: cfs/gpd
    - (e) Total Annual Use: 647 AF/yr
    - (f) Use of Water: Irrigation and dust control
    - (g) Construction Status of Reservoir and/or Diversion Facilities:
      ___ Not Started _X_ In Progress ___ Completed (Date)
    - (h) Development of Place of Use:
      ___ Not Started ___ In Progress _X_ Completed, Type:

2. STREAM FLOW: Perennial (Wastewater trib to LA River)

3. LEAD AGENCY: City of Burbank

		YES	MAYBE	NO
4.	EFFECTS ON INSTREAM BENEFICIAL USES?........................			X
5.	SIGNIFICANT LAND USE CHANGE?................................			X
6.	RARE AND ENDANGERED PLANTS?..................................			X
7.	RARE AND ENDANGERED ANIMALS?................................			X
8.	AREAS OF SPECIAL BIOLOGICAL IMPORTANCE?.....................			X
9.	DESIGNATED CALIFORNIA NATURAL AREAS?........................			X
10.	WATER QUALITY PROBLEMS?.....................................			X
11.	SIGNIFICANT GROWTH INDUCING IMPACTS?........................		X	
12.	SIGNIFICANT CUMULATIVE IMPACTS?.............................		X	
13.	OTHER RESPONSIBLE OR INTERESTED AGENCIES?...................			X
14.	PREVIOUS ARCHEOLOGICAL RECORDS CHECK OR SURVEY?.............	X		
15.	ARCHEOLOGICAL SURVEY REQUIRED?..............................			X

16. RECOMMENDATION:
    - (a) If SWRCB is Lead Agency:
      Major Project: ___ An Initial Study should be prepared and either a ND or EIR.
      ___ EIR should be prepared.
      Minor Project: ___ Preliminary Finding of Minor Project Exemption
      ___ Initial Study should be prepared and either a ND or EIR.
    - (b) If SWRCB is Responsible Agency:
      _X_ If Lead Agency prepares a ND or EIR, SWRCB should prepare a COR.
      ___ If Lead Agency exempts project, SWRCB follow up with Minor Project Exemption may be acceptable.
      ___ Other:

Nick Wilcox
Signature

February 9, 1993
Date

ww-19

STATE OF CALIFORNIA
PETE WILSON, *Governor*

STATE WATER RESOURCES CONTROL BOARD
THE PAUL R. BONDERSON BUILDING
901 P STREET
SACRAMENTO, CA 95814

Mailing Address
DIVISION OF WATER RIGHTS
P.O. BOX 2000, Sacramento, CA 95812-2000

ww-19

(916) 657-1359

November 12, 1992

OCTOBER 1992
NOTICE OF PETITIONS RECEIVED

The State Water Resources Control Board (State Water Board) herein provides notice of petitions affecting water rights for the projects detailed below. Persons desiring to protest the granting of petition(s) shall, within 30 days from the date of this notice, file a written protest with the State Water Board at the above listed address. Upon request, the State Water Board will provide protest forms and related regulations. A copy of the protest must also be sent to the petitioner.

Protestant must provide facts, which explain how granting the petition(s) would adversely affect the public interest, the public trust, the environment, or would injure the protestant as a legal user of water.

****

APPLICATION 4959 LICENSE 1032 Issued on April 2, 1931.

California Department of Fish and Game
12th Floor, Resources Building
1416 - 9th Street
Sacramento, CA 95814

Source(s): 1) Hamilton Slough tributary to Biggs-West Gridley Main Drainage Canal.
2) Lateral C of Reclamation District No. 833 Canal tributary to Cherokee Canal thence Butte Creek in Butte County.

Point(s) of Diversion: 1) within the SE¼ of SE¼ of Section 3;
2) within the SW¼ of NW¼ of Section 12; and
3) within the NE¼ of SW¼ of Section 10, T17N, R1E, MDB&M.

Direct Diversion Rate: 15 cubic feet per second.

Season of Diversion: April 1 to December 15.

Purpose of Use: Irrigation

Place of Use: 1,120 acres net within a gross area of 7,520 acres within the boundaries of Gray Lodge State Wildlife area and being within T17N, R1E-2E, MDB&M; as shown on a map on file with State Water Board.

Present status of project: Water is pumped from two points of diversion located on Hamilton Slough (Reclamation District Main Drainage Canal No. 833) and two points of diversion located on the Lateral C of Reclamation District Main Drainage Canal No. 833 for wetlands management of the Gray Lodge State Wildlife Management area. Water is used to irrigate 1,120 acres of wetlands for birds and other wildlife species within the place of use. Companion water rights are related to Applications 16399, 18005 and 18014.

Correction(s): Recreation and wildlife preservation and enhancement should be added as purposes of use.

Petition for:

Change(s): 1. Delete existing points of diversion Nos. 2 & 3 located on Lateral C;
2. Add a new point of diversion located on Hamilton Slough within the NE¼ and NW¼ of Section 16; and
3. Add two points of diversion located on Lateral C within the NE¼ of SW¼ and the NW¼ of NW¼ of Section 11, T17N, R1E, MDB&M.

Extension of Time: None.

Your contact person for this petition is Ralph Gunby at (916) 657-1928.

Correction(s): Recreation and wildlife preservation and enhancement should be added as purposes of use.

Petition for:
Change(s): 1. add points of diversion as follows: Pump No. 29, located within the SE¼ of SW¼; and Pump No. 51, located within the NW¼ of NW¼; both within Section 29, T17N, R2E, MDB&M; in Sutter County.

Extension of Time: None.

Contact person for this petition is Ralph Gunby (916) 657-1938.

****
APPLICATION 26263 PERMIT 18216 Issued on April 21, 1981.

Steven I. Pankowski
32350 Annapolis Road
Annapolis, CA 95412

Source(s): Unnamed Steam tributary to Sullivan Creek thence Fuller Creek thence Wheatfield Fork Gualala River thence South Fork Gualala River thence Gualala River in Sonoma County.

Point(s) of Diversion: within the SW¼ of SW¼ of Section 21, T10N, R13W, MDB&M

Storage Collection Season: November 1 to May 1

Storage Capacity: 14 acre-feet

Maximum Annual Use: 14 acre-feet

Purpose of Use: Irrigation and Fire Protection

Place of Use: Fire Protection at the unnamed reservoir, within the SW¼ of SW¼ of Section 21, T10N, R13W, MDB&M; Irrigation of 12 acres within the SW¼ of SW¼ of Section 21, T10N, R13W, MDB&M, and 8 acres within the NW¼ of NW¼ of Section 28, T10N, R13W, MDB&M.

Present status of project: Water is to be collected behind an earthfill dam in an onstream and unnamed reservoir. Permittee has completed a topographic study for the future site of the proposed reservoir.

Petition for:

Change(s): None.

Extension of Time: Additional time is requested to complete construction and develop full beneficial use of water authorized under the permit.

Your contact person for this petition is Ralph Gunby at (916) 657-1928.

****
APPLICATION WW-19

Leighton Fong, P. E.
c/o City of Burbank
P. O. Box 631
Burbank, CA 91503

Source(s): City of Burbank's Reclaimed Water System in Los Angles County.

Points of Discharge:
1) the Reclaimed Water System, and
2) the Burbank Public Service District's powerplant; to Burbank Western Channel, within Section 11, T1N, R14W, SBB&M.

Season of Discharge: January 1 to December 31

Maximum Annual Use: 9 million gallons per day (mgd)

Purpose of Use: Industrial (Cooling Tower), and Irrigation.

Place of Use: as follow:
1) The Burbank Public Service District's Cooling Towers, within Section 11, T1N, R14W, SBB&M;
2) 40 acres of CalTrans Landscape, along I-5 Golden State Freeway, within Sections 11-13, T1N, R14W, SBB&M;
3) 5 acres of landscape, at Media City Center, within Section 11, T1N, R14W, SBB&M;
4) Less than 1 acre of street trees, watered by City water truck; and
5) Excess flows being conveyed via the Burbank West Channel thence the Los Angeles River to the City of Los Angeles' Hyperion Waste Water Treatment Plant, located to the southwest of the Los Angeles International Airport, within projected Section 14, T3S, R15W, SBB&M; thence Santa Monica Bay.

Present status of project: The City of Burbank's (Burbank) Reclaimed Water System (RWS) discharges about 9 mgd to the Burbank Western Channel. The RWS includes a pumping station adjacent to the chlorine contact tank. The reclaimed water is pressurized for distribution to CalTrans and the Media City Center via buried ductile iron pipelines. There is also a gravity feed pipeline to the cooling towers of Burbank's power generation plant.

The proposed RWS will enlarge the pumping station to 15 mgd and extend the pipeline to the DeBell Golf Course and other users. Additional pumping stations and storage facilities will also be required. The peak day demand from these new uses in estimated to be 1.54 mgd, an annual demand of 647 acre-feet of water. The additional treated effluent would also be discharged to the Western Channel. The flow in the Burbank Western Channel will not be reduced by the proposed project.

Petition for:

Change(s):
1) Modify the discharge, prior to the outfall to the Burbank Western Channel, by diverting additional water for irrigational uses;
2) Add 259 acres to the place of use as follows:
   1. McCambridge Park, 5 acres within Section 11, and
      12 acres within Section 2, T1N, R14W, SBB&M;
   2. John Muir Middle School, 4 acres within Section 2, T1N, R14W, SBB&M;
   3. Par 3 Golf Course, 1 acre within Section 2, T1N, R14W, SBB&M;
   4. DeBell Golf Course, 73 acres within Section 1, T1N, R14W, SBB&M; and
      31 acres within Section 36, T2N, R14W, SBB&M;
   5. Driving Range, 8 acres within Section 1, T1N, R14W, SBB&M, and
      3 acres within Section 36, T1N, R14W, SBB&M;
   6. Stough Park, 2 acres within Section 1, T1N, R14W, SBB&M;
   7. Starlight Bowl, 2 acres within Section 1, and
      1 acre within Section 2, T1N, R14W, SBB&M; and
   8. Stough Landfill, 15 acres within Section 1, T1N, R14W, SBB&M;
      53 acres within Section 2, T1N, R14W, SBB&M;
      35 acres within Section 35, T2N, R14W, SBB&M; and
      5 acres within Section 36, T2N, R14W, SBB&M.

Your contact person for this petition is Pert Parkinson at (916) 657-1926.

EDWARD C. ANTON, Chief
Division of Water Rights

STATE WATER RESOURCES CONTROL BOARD
1992 SEP 22 PM 4:12
DIV. OF WATER RIGHTS
SACRAMENTO

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
901 P Street, Sacramento
P. O. Box 2000, Sacramento, CA 95812-2000

PETITION FOR CHANGE ENVIRONMENTAL INFORMATION

(THIS IS NOT A CEQA DOCUMENT)

APPLICATION NO.__________ PERMIT NO.__________ LICENSE NO.__________

The following information will aid in the environmental review of your petition as required by the California Environmental Quality Act (CEQA). IN ORDER FOR YOUR PETITION TO BE ACCEPTED AS COMPLETE, ANSWERS TO THE QUESTIONS LISTED BELOW MUST BE COMPLETED TO THE BEST OF YOUR ABILITY. Failure to answer all questions may result in your petition being returned to you, causing delays in processing. If you need more space, attach additional sheets. Additional information may be required from you to amplify further or clarify the information requested in this form. If form WR 1-2 was completed during the application process describe the differences between those conditions and the present conditions.

DESCRIPTION OF CHANGES TO PROJECT

1. Provide a brief description of the proposed changes to your project (**CHANGES**), including but not limited to type of construction activity, structures existing or to be built, area to be graded or excavated and operational changes.

This project will distribute up to 647 acre-feet of reclaimed water (currently discharged into the Burbank Western Channel) to parks, golf courses, a school, and the City's landfill for landscape irrigation.

This project includes about 17,000 feet of new pipeline, two new pump stations, upgrading another pumpstation, replacing two steel tanks, and converting one pumpstation and two steel tanks from domestic to reclaimed water.

There will be approximately 5,000 c.y. of excess soil due to reservoir, pipeline, and pumpstation construction. The majority of this (4,100 c.y.) is due to re-grading the Starlight Tank site.

The pumpstation at McCambridge Park will be housed in a structure (23' x 41')

WR 1-4 (10/90)

GOVERNMENTAL REQUIREMENTS

Before a final decision can be made on your petition for change, we must consider the information contained in an environmental document prepared in compliance with the requirements of CEQA. If an environmental document has been prepared for your CHANGES by another agency, we must consider it. If one has not been prepared, a determination must be made as to who is responsible for the preparation of the environmental document for your CHANGES. The following questions are to aid us in that determination.

2. Contact your county planning or public works department for the following information:
   (a) Assessor's Parcel No. 2449-31-903,904, and 905
   (b) County Zoning Designation Industrial M-2
   (c) Will the county have to issue any permits or approvals for your CHANGES? no If yes, check appropriate spaces below: ______ Grading Permit, ________ Use Permit, ________ Watercourse Obstruction Permit, _____ Change of Zoning, _____ General Plan Change, _____ Other: ______
   (d) If any permits have been obtained list permit type and permit number: Conditional Use Permits 92-11, 92-12, and 92-13
   (e) Person contacted Diana Johnson Date of contact 7-24-92
   Department Public Works Telephone (818) 953-9536

3. Are any additional state or federal permits required for your CHANGES? (i.e., Federal Energy Regulatory Commission, U.S. Forest Service, Bureau of Land Management, Soil Conservation Service, Department of Water Resources, Division of Dam Safety, Reclamation Board, Coastal Commission, State Land Commission,etc.) For each agency from which a permit is required provide the following information:
   Permit type none
   Person(s) contacted ______ Agency ______
   Date of contact ______ Telephone ( ) ______

4. Have you (if you are a public agency) or any permitting agency prepared any environmental documents for your CHANGES? yes
   If so, you must submit a copy of the latest environmental document with this application, including a copy of the notice of determination.
   If not, will any environmental documents be prepared by any permitting agency, or will you be preparing environmental documents for your CHANGES?
   ______ If so, explain: ______

   Note: When completed, the final environmental document or notice of exemption must be submitted to the Board. Processing of your petition to change cannot proceed until such documents are submitted.

5. Will your CHANGES, during construction or operation, generate waste or wastewater containing such things as sewage, industrial chemicals, metals,or agricultural chemicals, or cause erosion, turbidity or sedimentation? No
   If so, explain: ______

   If you answered yes or you are unsure of your answer, contact your local Regional Water Quality Control Board for the following information (See attachment for address and telephone number):
   Will a waste discharge permit be required for your CHANGES? no
   Person contacted ______ Date of contact ______
   What method of treatment and disposal will be used? ______
   Water Reclamation requirements have already been determined by CRWQCB-Los Angeles Region (Order 91-101) for this project.

6. Have any archeological reports been prepared on this project, or will you be preparing an archeological report to satisfy another public agency because of the CHANGES? A records search was completed for the project site by the California Archaeological Inventory Regional Information Center
Do you know of any archeological or historic sites located within the general project area? no If so, explain:

ENVIRONMENTAL SETTING

7(a). Describe the current land use of the area at the point of water diversion, immediately downstream of the diversion, and at the place where the water is to be used. **Attach two sets of photographs of these areas. Date and label photos.**

Point of diversion: Burbank Water Reclamation Plant. A wastewater treatment facility located in an industrial area in the City of Burbank.

Downstream of diversion: Burbank Western Channel - concrete line rectangular channel.

Place of use: Parks, school, golf course, landfill.

(b) Describe the types of existing vegetation at the point of diversion, immediately downstream of the point of diversion, and at the place where the water is to be used. These vegetation types should be shown in the photographs submitted.

Point of diversion: none

Downstream of diversion: none

Place of Use: turf - poa annua, bent, bermuda

8. What changes in the project site and surrounding area will occur or are likely to occur because of the CHANGES and operation of your project? Include in your answer such things as approximate number and size/age of trees to be removed or areas of vegetation/brush removal; area or extent of streambed alteration, trenching, grading, excavation, plowing, or road, dam or building construction; etc. Consider all aspects of your project, including diversion structure, pipelines or ditches, water use,and changes at the place of use.

Some trees may be removed for the construction of the new pumpstations and the enlarged water tank.

FISH AND WILDLIFE CONCERNS

Contact your regional office of the State Department of Fish and Game (DFG) to obtain the information requested in questions 9 through 17 (see page 6 for address and telephone number):

9. Person contacted Chris Lau

Date of contact Sept. 14, 1992 Telephone (310) 590-4844

10. According to the DFG representative, when did or when will a DFG representative visit the project site area? not required.

What is the name of the DFG representative who made or will make the inspection of the project site area? N/A

11. According to the DFG representative, will your CHANGES require a Streambed Alteration Agreement? no

12. According to the DFG representative, do any resident or migratory game or non-game fish species occur in the affected stream? Wildlife Biologist

If so, what species? Linda Pardy, of F & G, said this stream has not been surveyed for quite some time and no plans to do so in the near future.

What season of the year do they occur in the stream?

13. According to the DFG representative, do any plants or animals which are (1) federally identified as candidate, threatened, or endangered; (2) state listed as rare, threatened, or endangered; or (3) listed by the DFG Natural Diversity Data Base, occur in the project area?

Will they be impacted by the CHANGES?

If so, identify the species and explain how they will be impacted:

Although not surveyed, biologist does not expect endangered species in this portion of waterway.

14. Does the DFG representative expect that your CHANGES will have an adverse effect on any resident or migratory fish populations, any wildlife populations, or any rare or endangered plant or animal species? no

If so, explain:

15. What measures relating to your CHANGES have been proposed by the DFG representative to protect fish, wildlife or endangered or rare species:

none

16. Will you make changes in your project as recommended by DFG? N/A

If not, explain: ____________________

17. If your petition lists wildlife enhancement as a proposed use, describe your wildlife enhancement plans under question one above (attach additional pages as necessary).
According to the DFG representative, do your proposed CHANGES utilize a sound technique for the purpose of wildlife enhancement? N/A

EXISTING STORAGE OR DIVERSIONS

18. If you currently have an interest in any other appropriative water projects in the same watershed as this project, answer the following additional questions for each project:
Does the project have fish and wildlife protection requirements? N/A
If so, list the permit number and specific protection requirements for each project: ____________________

CERTIFICATION

I hereby certify that the statements I have furnished above and in the attached exhibits are complete to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge.

Date 9-15-92 Signature Leighton Fong

STATE OF CALIFORNIA PETE WILSON, Governor

STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

P. O. BOX 2000, Sacramento, CA 95812-2000
901 P Street, Sacramento, CA 95814
(916) 657-1364

STATE WATER RESOURCES CONTROL BOARD
1992 JUN 29 AM 8:49
DIV. OF WATER RIGHTS
SACRAMENTO

PETITION FOR CHANGE

For owners of waste water treatment plants

(Water Code 1210)

☐ Point of Discharge ☒ Place of Use ☐ Purpose of Use

I (we) hereby petition for change(s) noted above and shown on the accompanying map and described as follows:

Point of Discharge (Give coordinate distances from section corner or other ties as allowed by Cal CR 715, and the 40 - acre subdivision in which the present & proposed points lie.)

Present Burbank Water Reclamation Plant and Burbank Power Plant (see attached)

Proposed Same as present.

Place of Use (If irrigation, then state number of acres to be irrigated within each 40 - acre tract.)

Present (see attached page)

Proposed (see attached page)

Purpose of Use

Present Power plant cooling water, landscape irrigation

Proposed Landscape irrigation

• GIVE REASON FOR PROPOSED CHANGE: To conserve potable water supply.

I have access to the proposed point of discharge or control the proposed place of use by virtue of ownership and written agreement
(ownership, lease, verbal or written agreement)

If by lease or agreement, state name and address of party(s) from whom access has been obtain.

Burbank Unified School District
330 N. Buena Vista
Burbank, CA 91506

Give name and address of any person(s) taking water from the stream between the present point of discharge and the proposed point of discharge, as well as any other person(s) known to you who may be affected by the proposed change.

None

Will this change involve water provided by a water service contract which prohibits your exclusive right to this treated water? no
(yes/no)

Will any legal user of the discharge treated waste water be affected ? no
(yes/no)

I (we) declare under penalty of perjury that the above is true and correct to the best of my (our) knowledge and belief.

Dated: June 15, 19 92 at Burbank, California

Signature(s)

(818) 953-9647
Telephone No.

nw

NOTE: A $100 filing fee made payable to the State Water Resources Control Board and an $850 fee made payable to the Department of Fish and Game must accompany a petition for change.

6/22/92
DFG fee $850.00
app fee 100.00

WR 22WW (1-92)

SUPPLEMENTAL INFORMATION - DWR PETITION FOR CHANGE

Points of Discharge (to Burbank Western Channel)

Proposed

Burbank Water Reclamation Plant; T1N/R14W Section 11 Subdivision K; 2700′E, 1850′ N of SW corner of Section 11.

Burbank PSD Power Plant; T1N/R14W Section 11 Subdivision R; 4200′E, 250′ N of SW corner of Section 11

Places of Use

Present

Burbank PSD Power Plant Cooling Towers

CalTrans Landscape Irrigation along I-5 Golden State Freeway; T1N/R14W; Sections 11, 12, 13; 40 ac

Landscape Irrigation at Media City Center; T1N/R14W-11J; 5 ac

Street tree watering using City water trucks: various, <1 ac

Proposed All Landscape Irrigation

McCambridge Park -	T1N/R14W Section	11 C	5 acres
		2 P	12 acres
John Muir Middle School-	T1N/R14W Section	2-R	4 acres
Par 3 Golf Course	T1N/R14W Section	2-L	10 acres
DeBell Golf Course	T1N/R14W Section	1-B	12 acres
		1-C	37 acres
		1-F	16 acres
		1-G	8 acres
	T2N/R14W Section	36-L	9 acres
		36-P	19 acres
		36-Q	3 acres
Driving Range	T1N/R14W Section	1-D	8 acres
	T2N/R14W Section	36-N	3 acres
Stough Park	T1N/R14W Section	1-D	2 acres
Starlight Bowl	T1N/R14W Section	1-D	2 acres
		2-A	1 acre
Stough Landfill	T1N/R14W Section	1-D	7 acres
		1-E	8 acres
		2-A	30 acres
		2-B	3 acres
		2-H	20 acres
	T2N/R14W Section	36-M	2 acres
		36-N	3 acres
		35-J	10 acres
		35-R	25 acres

LF:BD:nw
\Fong\Petition.DWR

06/11/92

Waste Water
City of Burbank #19

STATE OF CALIFORNIA-THE RESOURCES AGENCY
DEPARTMENT OF FISH AND GAME
ENVIRONMENTAL FILING FEE CASH RECEIPT
DFG 753.5a (6-91)

11829

Lead Agency: ______ Date: 7/22/92
County/State Agency of Filing: SWRCB - Water Rights Document No.: ______
Project Title: Waste Water
Project Applicant Name: City of Burbank Phone Number: ______
Project Applicant Address: P.O. Box 6459, Burbank, CA 91510-6459
Project Applicant *(check appropriate box)*: Local Public Agency ☐ School District ☐ Other Special District ☐
State Agency ☐ Private Entity ☒

CHECK APPLICABLE FEES:

( )	Environmental Impact Report	$850.00	$
( )	Negative Declaration	$1,250.00	$
( )	Application Fee Water Diversion *(State Water Resources Control Board Only)*	$850.00	$ 850.00
( )	Projects Subject to Certified Regulatory Programs	$850.00	$
( )	County Administrative Fee	$25.00	$
( )	Project that is exempt from fees		
	TOTAL RECEIVED		$ 850.00

Signature and title of person receiving payment: C. Nease

FIRST COPY-PROJECT APPLICANT SECOND COPY-DFG/FASB THIRD COPY-LEAD AGENCY FOURTH COPY-COUNTY/STATE AGENCY OF FILING

OFFICE OF
WATER RECYCLING

OFFICE OF WATER RECYCLING
State Water Resources Control Board
[redacted], P.O. Box 944212
Sacramento, CA 94244-2120

TELECOPY TRANSMITTAL FORM

Date: July 13, 1992

To: Bert Parkinson
Div. of Water Rights

1926
Telecopy No. 657-2388
Telephone No. 657-1926

From: Nick Kontos, OWR

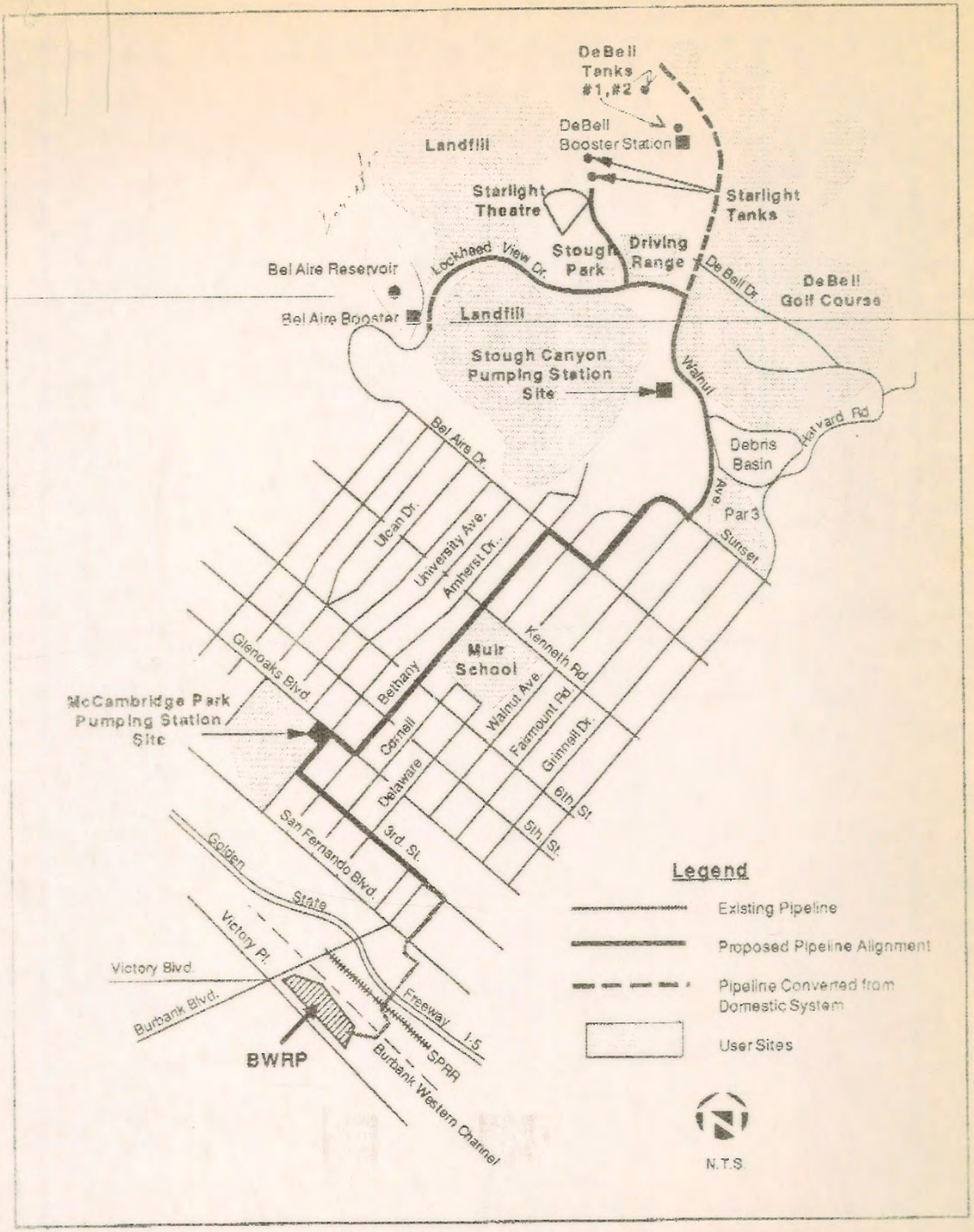
Telecopy No. (916) 323-9102
Telephone No. 327-4258

Number of pages (including this sheet): 2

Subject: CITY OF BURBANK RECLAMATION PROJECT

Remarks:
This is the map showing location of reclamation users.
Hyperion Treatment Plant is located at the beach near L.A Airport.

Nick Kontos



Proposed Project Facilities
Figure 1-2

Transmit Confirmation Report

No. : 013
Receiver : 918189539681
Transmitter : SWRCB DWQ250
Date : Jul 10,92 14:33
Time : 01'27
Mode : Norm
Pages : 02
Result : OK

BHP

CITY OF BURBANK
164 WEST MAGNOLIA BOULEVARD, P.O.BOX 631, BURBANK, CALIFORNIA 91503

PUBLIC SERVICE DEPARTMENT

July 8, 1992

State Water Resources Control Board
Division of Water Rights
901 "P" Street
Sacramento, CA 95814

Attention: Bert Parkinson

Dear Mr. Parkinson:

Burbank Reclaimed Water System Expansion

The City of Burbank is completing design for the expansion of the Water Reclamation Plant. It will have a design capacity of 15 mgd, an increase of 6 mgd from its current capacity. The additional treated effluent would also be discharged into the Burbank Western Channel unless utilized by the Reclaimed Water System.

The Reclaimed Water System currently includes a pump station adjacent to the chlorine contact tank. It pressurizes the reclaimed water for distribution to CalTrans and the Media City Center via buried ductile iron pipelines. There is also a gravity pipeline to the cooling towers of the City's power generating plant.

The proposed Reclaimed Water System Expansion will enlarge the pump station capacity and extend the pipeline to the DeBell Golf Course and other users. Additional pump stations and storage facilities will also be required. The peak day demand from these new users is estimated to be 1.54 mgd.

We have attached a map of the project plotted on the Burbank Quadrangle along with Table 2-1 and Table 2-2 from the Preliminary Engineering Report for this project. These show annual and peak user requirements.

Please call me at (818) 953-9647 if you have additional questions.

Yours Truly,

Leighton Fong

Leighton Fong, P.E.
Supervising Civil Engineer

Attachments

LF:nw
WP50\Reclaimed\LF-Ltrs.nlw

cc: Fred Lantz, Water System Manager, PSD
Dale Rohe, James M. Montgomery Consulting Engineers, Inc.

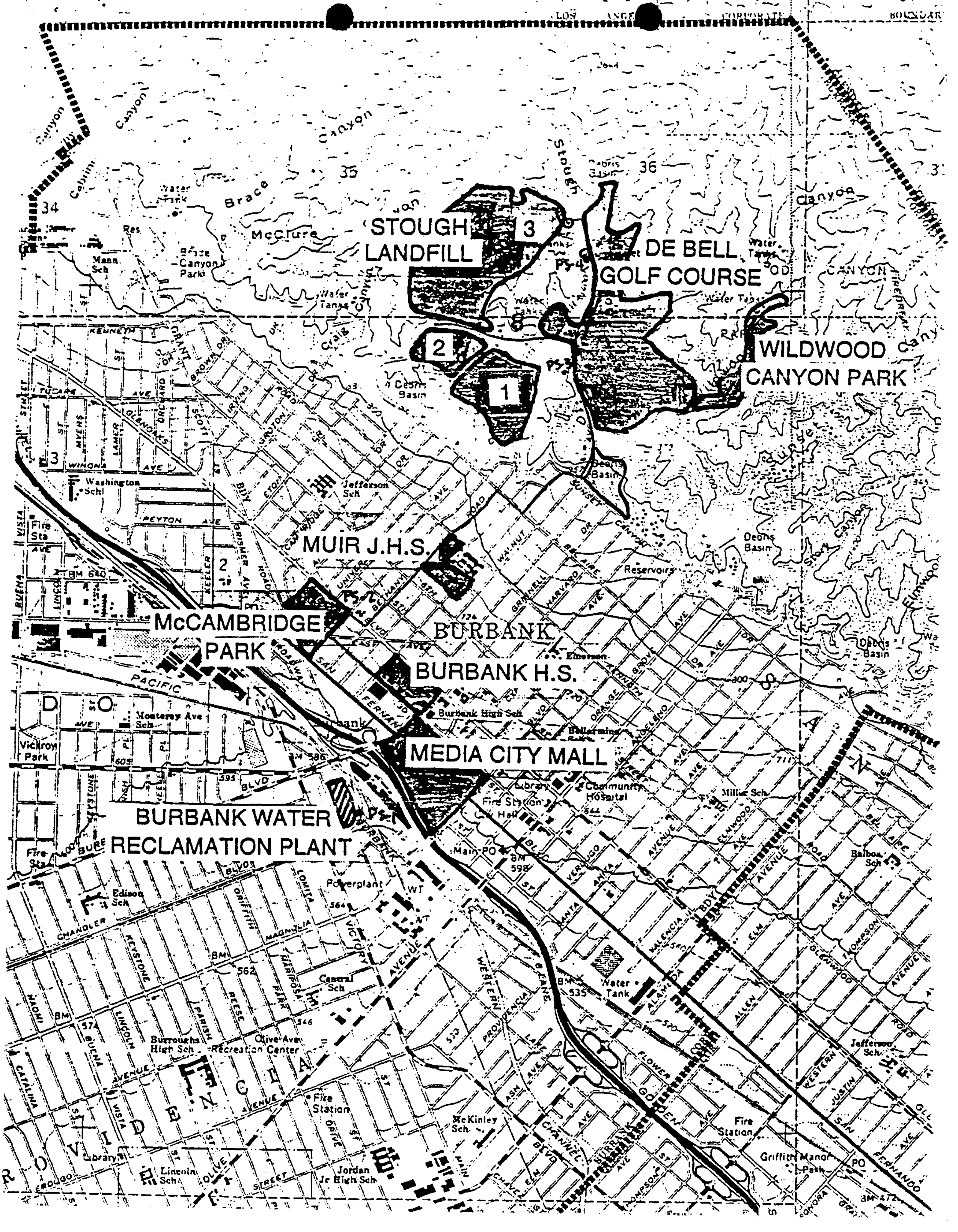

STOUGH LANDFILL
3
2
1
DE BELL GOLF COURSE
WILDWOOD CANYON PARK
MUIR J.H.S.
McCAMBRIDGE PARK
BURBANK H.S.
MEDIA CITY MALL
BURBANK WATER RECLAMATION PLANT
BURBANK
LOS ANGELES CORPORATE BOUNDARY
Stough
Brace Canyon Park
McClure
Canyon
Debris Basin
Reservoirs
Jefferson Sch
Washington Sch
Monterey Ave Sch
Vickroy Park
Burbank High Sch
Bellarmine
Community Hospital
Library
Fire Station
City Hall
Main PO
Miller Sch
Balboa Sch
Edison Sch
Powerplant
Central Sch
Burroughs High Sch
Olive Ave Recreation Center
Fire Station
McKinley Sch
Library
Lincoln Sch
Jordan Jr High Sch
Water Tank
Griffith Manor Park
Jefferson Sch
PACIFIC
SAN FERNANDO
VICTORY
GLENOAKS
OLIVE
MAGNOLIA
CHANDLER
VERDUGO
ALAMEDA
PROVIDENCIA
GOLDEN
FLOWER
WESTERN
BUENA VISTA
KEYSTONE
WINONA
PEYTON
TUJUNGA
KENNETH
BETHANY
GRINNELL
HARVARD
SUNSET CANYON
BEL AIRE
ELMWOOD
THOMPSON
GLENWOOD
JUSTIN
SONORA
LOMITA
GRIFFITH
REESE
PARISH
LINCOLN
NAOMI
CATALINA

TABLE 2-1

ANNUAL USER REQUIREMENTS

Location	Present[1] Average Demand acre-feet/year	Future Average Demand acre-feet/year
McCambridge Park	39	39
John Muir Middle School	8	8
DeBell Golf Course	257	257
Par 3 Golf Course	38	38
Driving Range	25	25
Stough Landfill	161[2]	283[3]
Stough Park	10	10
Starlight Amphitheater	1	1
Subtotal	539	661
Miscellaneous (20 percent)[4]	108	132
Total	**647**	**793**

Notes:

[1] Average actual consumption for the period 6/90 to 7/91

[2] 134 acre-feet/year actual demand plus 20 percent for Part 3 of the landfill, currently under construction.

[3] At the completion of the landfill (next 80 years)

[4] Miscellaneous small users including carwashes, industries, dust control at the landfill, and other anticipated users.

TABLE 2-2

PEAK USER REQUIREMENTS

	Present[1] Demand (mgd)	**Future Demand (mgd)**
Annual Average	0.58	0.71
Peak Month	1.28	1.57
Peak Day	1.54	1.89
Maximum Hour	4.62	5.67

Notes:

[1] Actual consumption for the period 6/90 to 7/91

experience and can be verified by existing consumption data. For example, data taken from Stough Landfill indicates average water use over 14 months of 5.85 mgd. The peak demand was recorded as 12 mgd or 2.1 times the average. Water demand for this 14 month period is shown graphically in **Figure 2-2.**

Peak Day Demand

Peak day demand can be calculated as 1.2 times the peak month demand. Again, this multiplier is based on past experience.

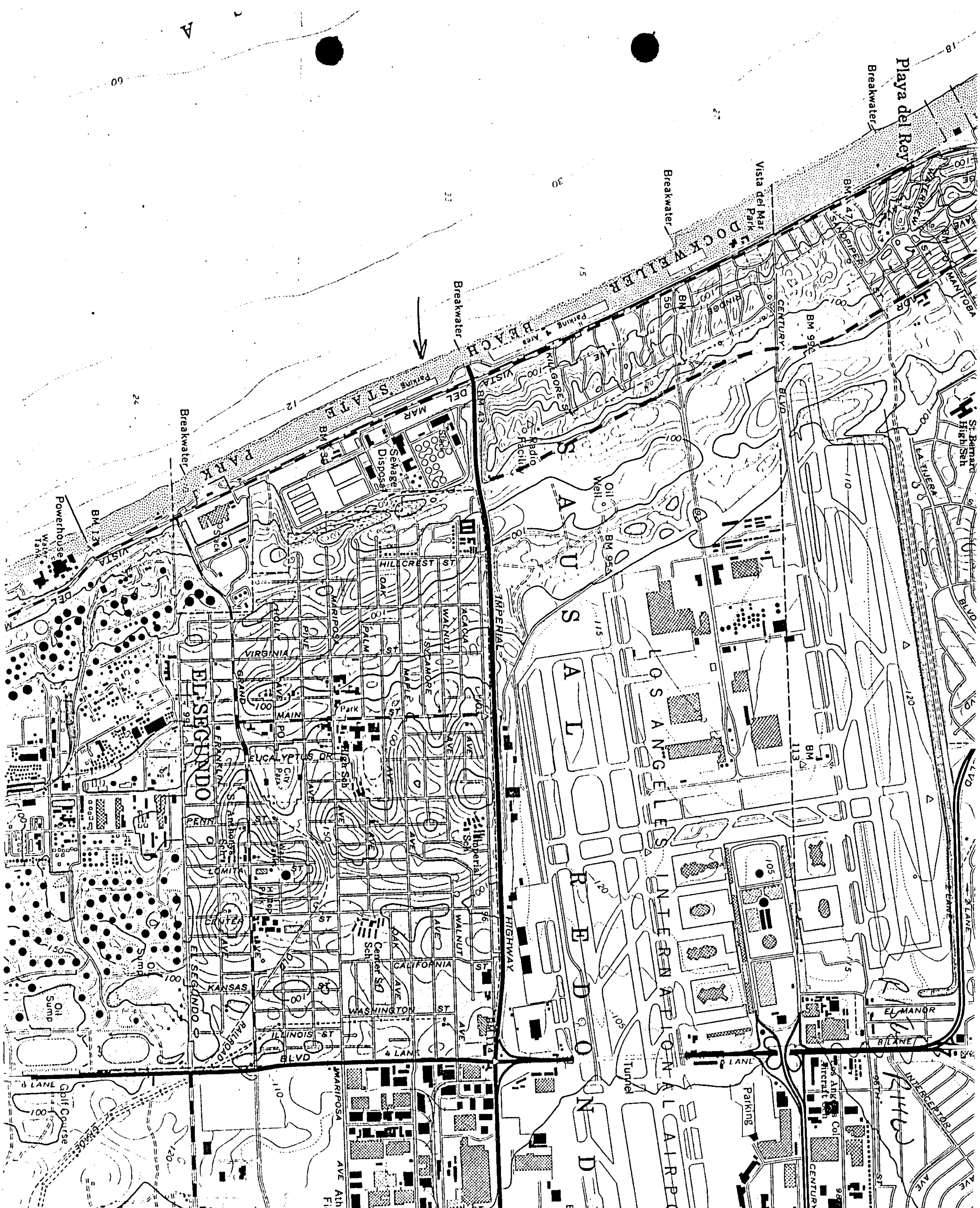
Hourly Demand

In order to calculate the maximum hourly demand, the peak day demand is multiplied by 3 and an average of nine hours of irrigation is assumed. Cumulative peak month, peak day, and maximum hourly demand are described for all eight targeted users in **Table 2-2.**

Storage/Pumping Capacities

The BWRP low flow period coincides with the project's peak demand hours, necessitating additional storage facilities. This storage would be replenished during the off-peak fill period.

Pumping capacity will be based upon the fill requirement for the storage facilities. Due to the configuration of the system, a 15 hour fill period (approximately 7 a.m. to 10 p.m.)


Playa del Rey
Breakwater
Breakwater
Breakwater
Breakwater
Vista del Mar Park
DOCKWEILER STATE BEACH PARK
Parking Area
Parking
Powerhouse
Water Tank
Sewage Disposal
Radio Facility
Oil Well
VISTA DEL MAR
IMPERIAL HIGHWAY
KILGORE ST
CENTURY BLVD
LA TIJERA BLVD
MANITOBA
SANDPIPER ST
St Bernard High Sch
EL SEGUNDO
HILLCREST ST
VIRGINIA
MAIN
EUCALYPTUS DR
PENN ST
LOMITA ST
CENTER ST
KANSAS
CALIFORNIA
WASHINGTON ST
ILLINOIS ST
EL SEGUNDO BLVD
GRAND AVE
MARIPOSA
PALM
SYCAMORE
MAPLE
WALNUT
ACACIA
OAK
PINE
HOLLY
FRANKLIN
City Park
Park
High Sch
St Anthony Sch
Imperial Sch
Center St Sch
RAILROAD
Oil Sump
Oil Sump
Golf Course
Oil Wells
LOS ANGELES AIR FORCE STA
Athletic Field
NASH ST
DOUGLAS ST
Beacon
LOS ANGELES INTERNATIONAL AIRPORT
SAUSAL REDONDO
Tunnel
Parking
Los Angeles Col Aircraft Sch
EL MANOR
INTERCEPTOR
AIRPORT
ARBOR VITAE
LOS ANGELES AIR FORCE STA
ISIS AVE
96th St Sch
ATCHISON TOPEKA AND SANTA FE
S P
Airport
Parking Area
Dana Sch
135TH ST
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(INGLEWOOD) 2351 IV NE
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55′
3754
3757
T. 3 S.
T. 2 S.
BM 43
BM 56
BM 95
BM 99
BM 113
BM 114
8 LANE
4 LANE
2 LANE

Exhibit 3

PHOTOGRAPH 1. BWRP Discharge Point 002 into a concrete-lined rectangular open channel looking downstream to the southeast.

PHOTOGRAPH 2. Concrete-lined rectangular open channel upstream of Discharge Point 002 looking upstream toward the northwest.

SOURCE: City of Burbank 2016; ESA PCR 2016

Burbank Wastewater Change Petition

Exhibit 3

Photographs

Exhibit 4

SOURCE: USGS Topographic Series (Burbank, CA).

Burbank Wastewater Change Petition

Exhibit 4

BWRP Location Map

Exhibit 5

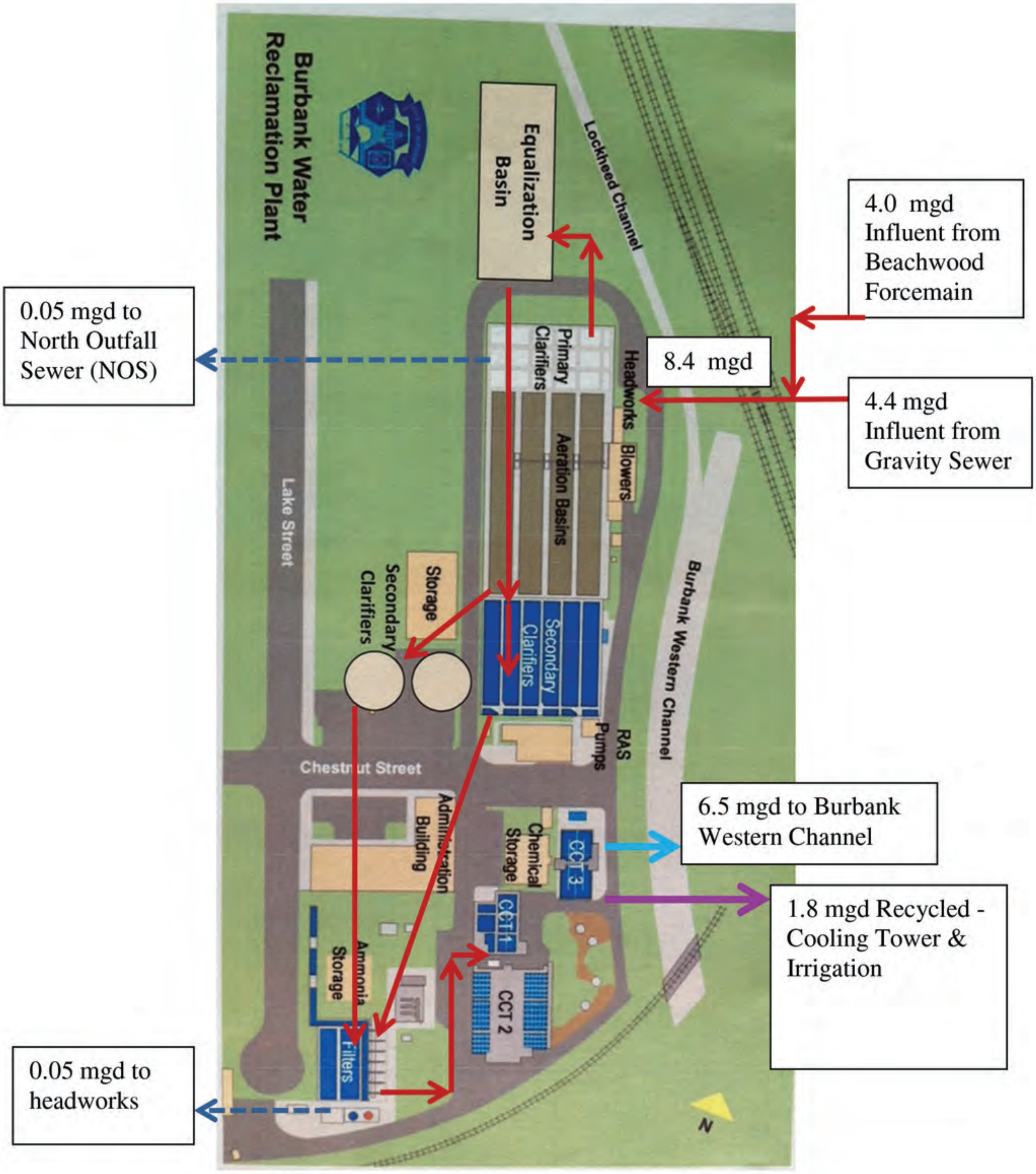
SOURCE: Google Maps, 2015 (Aerial).

Burbank Wastewater Change Petition

Exhibit 5

BWRP Effluent Exhibit

Exhibit 6



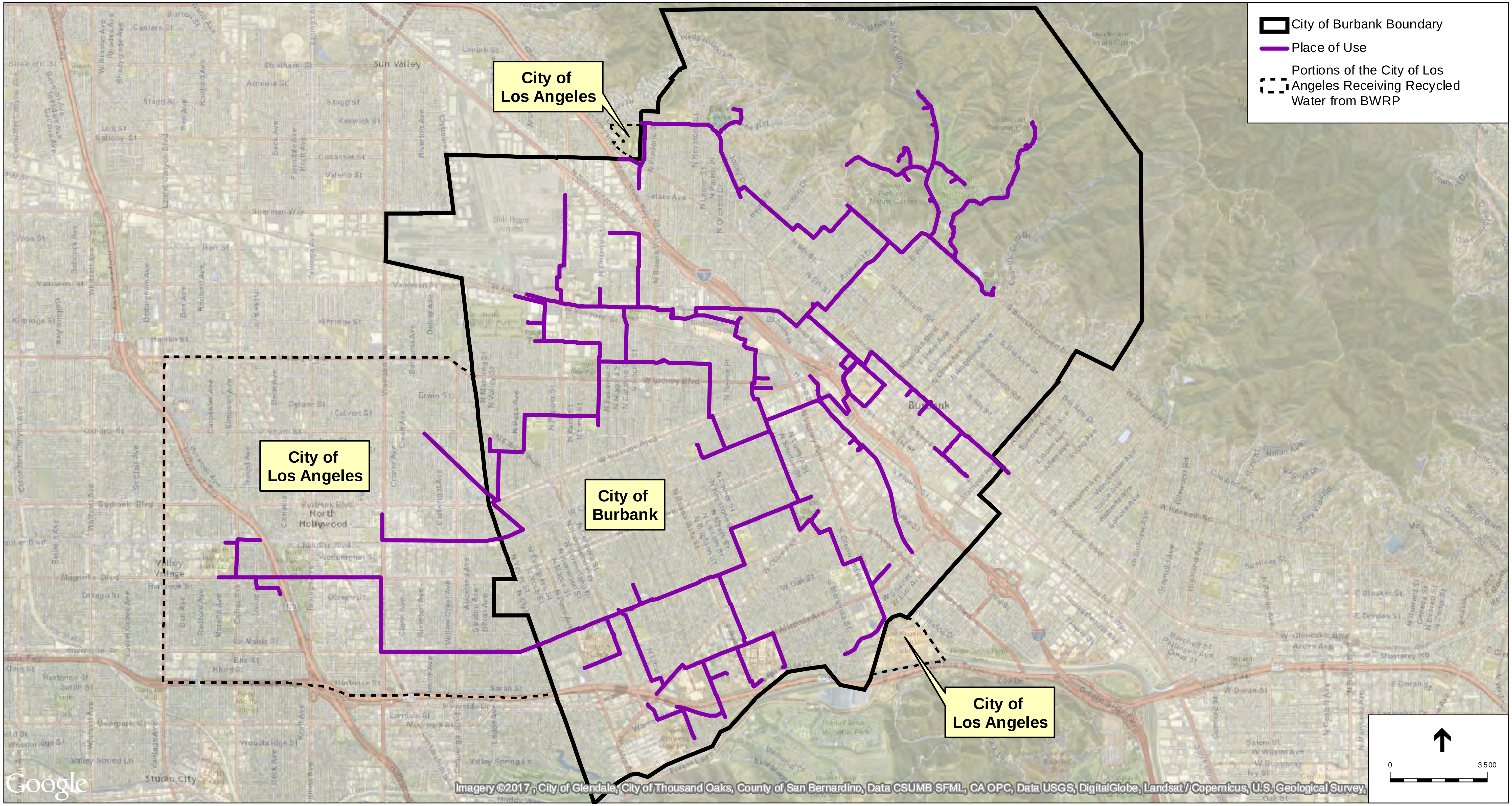
SOURCE: City of Burbank 2012; ESA PCR 2016

Burbank Wastewater Change Petition

Exhibit 6

BWRP Flow Schematic

Exhibit 7



Imagery ©2017 , City of Glendale, City of Thousand Oaks, County of San Bernardino, Data CSUMB SFML, CA OPC, Data USGS, DigitalGlobe, Landsat / Copernicus, U.S. Geological Survey,

SOURCE: City of Burbank, 2016.

Burbank Wastewater Change Petition

Exhibit 7

Place of Use

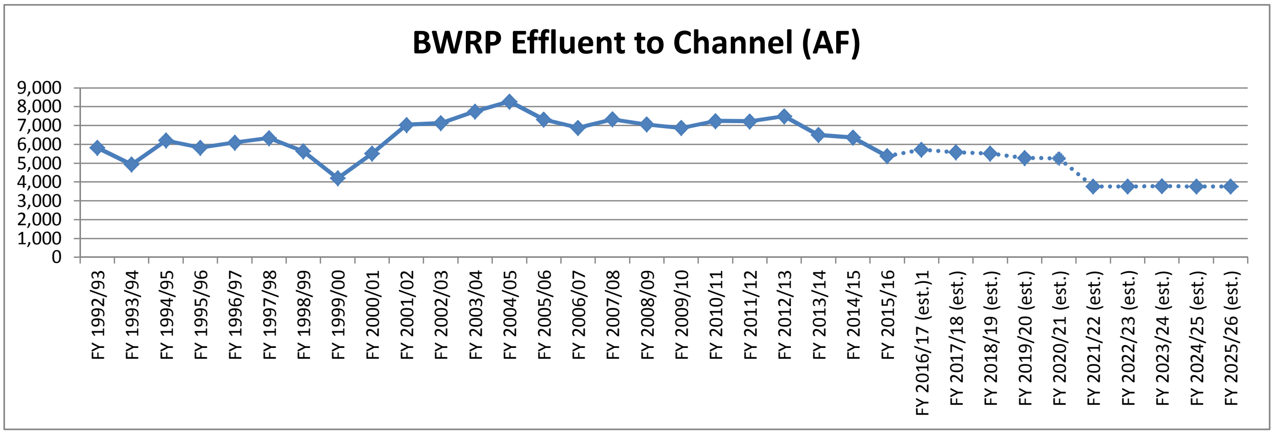
ESA PCR

Exhibit 8

BWRP Discharge Chart (1991 - 2025)

Year	Total Quantity of Water Treated by BWP (AF)	Total Quantity of Recycled Water Delivered to Customers (both inside and outside BWP) (AF)	Discharge 002 (at BWRP) to Channel (AF)	Discharge 001 (at BWP) to Channel (AF)	Total Discharged
FY 1991/92		415	970	4,744	5,714
FY 1992/93		618	724	5,095	5,819
FY 1993/94	8,640	755	256	4,672	4,928
FY 1994/95	9,162	667	645	5,565	6,210
FY 1995/96	8,268	509	1,011	4,814	5,824
FY 1996/97	9,118	957	1,450	4,648	6,098
FY 1997/98	8,486	730	1,971	4,365	6,336
FY 1998/99	7,801	677	1,077	4,554	5,630
FY 1999/00	7,492	863	2,069	2,129	4,198
FY 2000/01	8,925	1,004	2,635	2,873	5,507
FY 2001/02	8,911	807	3,083	3,949	7,032
FY 2002/03	8,908	570	2,371	4,756	7,127
FY 2003/04	9,200	537	4,259	3,485	7,744
FY 2004/05	9,662	556	5,343	2,934	8,277
FY 2005/06	9,706	1,317	7,318	0	7,318
FY 2006/07	10,060	2,184	6,877	0	6,877
FY 2007/08	10,296	2,165	7,329	0	7,329
FY 2008/09	9,897	1,975	7,055	0	7,055
FY 2009/10	9,315	2,069	6,868	0	6,868
FY 2010/11	9,147	1,717	7,237	0	7,237
FY 2011/12	9,237	1,924	7,215	0	7,215
FY 2012/13	9,364	1,614	7,491	0	7,491
FY 2013/14	8,997	2,370	6,497	0	6,497
FY 2014/15	8,388	2,261	6,361	0	6,361
FY 2015/16	8,009	2,705	5,376	0	5,376
FY 2016/17 (est.)[1]	8,790	3,047	5,709	0	5,709
FY 2017/18 (est.)	8,790	3,172	5,586	0	5,586
FY 2018/19 (est.)	8,790	3,242	5,517	0	5,517
FY 2019/20 (est.)	8,814	3,502	5,277	0	5,277
FY 2020/21 (est.)	8,790	3,512	5,252	0	5,252
FY 2021/22 (est.)	8,790	5,027	3,766	0	3,766
FY 2022/23 (est.)	8,790	5,027	3,766	0	3,766
FY 2023/24 (est.)	8,814	5,027	3,776	0	3,776
FY 2024/25 (est.)	8,790	5,027	3,766	0	3,766
FY 2025/26 (est.)	8,790	5,027	3,766	0	3,766

[1] In order to calculate future discharges, we used FY 2015/16 as the baseline. Therefore, estimated future discharge amounts are based on the amount of water treated by the BWRP in FY 2015/16 (9,026 AF). We also assumed that the amount of water lost to sludge removal and/or evaporation would be an average of 0.25AF/day.



MONTHLY BWRP AND RECYCLED WATER FLOWS

	Influent		Discharge 001		Discharge 002		Total Discharge		RW Deliveries			Sludge/Bypass	
Month	MGD	AF/day	MGD	AF/day	MGD	AF/day	MGD	AF/day	AF	MGD	AF/day	MGD	AF/day
Jan-90	n/a	n/a	4.027	12.353	0.984	3.018	5.011	15.371	n/a	n/a	n/a	n/a	n/a
Feb-90	n/a	n/a	4.393	13.475	0.459	1.409	4.852	14.884	n/a	n/a	n/a	n/a	n/a
Mar-90	n/a	n/a	3.406	10.449	0.185	0.566	3.591	11.015	n/a	n/a	n/a	n/a	n/a
Apr-90	n/a	n/a	2.924	8.971	0.375	1.151	3.300	10.121	n/a	n/a	n/a	n/a	n/a
May-90	n/a	n/a	3.045	9.340	0.137	0.420	3.182	9.760	n/a	n/a	n/a	n/a	n/a
Jun-90	n/a	n/a	2.677	8.211	0.000	0.000	2.677	8.211	n/a	n/a	n/a	n/a	n/a
Jul-90	n/a	n/a	0.000	0.000	0.000	0.000	0.000	0.000	61.350	0.645	1.979	n/a	n/a
Aug-90	n/a	n/a	2.788	8.551	0.191	0.586	2.979	9.138	54.590	0.574	1.761	n/a	n/a
Sep-90	n/a	n/a	2.547	7.812	0.029	0.090	2.576	7.903	71.150	0.773	2.372	n/a	n/a
Oct-90	n/a	n/a	2.916	8.945	0.025	0.078	2.941	9.023	25.590	0.269	0.825	n/a	n/a
Nov-90	n/a	n/a	2.833	8.691	0.057	0.175	2.891	8.867	25.010	0.272	0.834	n/a	n/a
Dec-90	n/a	n/a	2.139	6.560	0.025	0.077	2.164	6.638	23.620	0.248	0.762	n/a	n/a
Jan-91	n/a	n/a	2.616	8.025	0.034	0.104	2.650	8.128	8.380	0.088	0.270	n/a	n/a
Feb-91	n/a	n/a	2.643	8.107	0.004	0.013	2.647	8.120	5.010	0.058	0.179	n/a	n/a
Mar-91	n/a	n/a	2.101	6.445	0.003	0.008	2.104	6.453	14.370	0.151	0.464	n/a	n/a
Apr-91	n/a	n/a	2.164	6.638	0.003	0.009	2.167	6.647	23.180	0.252	0.773	n/a	n/a
May-91	n/a	n/a	2.005	6.151	0.019	0.058	2.024	6.209	28.930	0.304	0.933	n/a	n/a
Jun-91	n/a	n/a	1.443	4.426	0.058	0.176	1.501	4.603	31.660	0.344	1.055	n/a	n/a
Jul-91	n/a	n/a	2.507	7.691	0.027	0.083	2.534	7.774	32.370	0.340	1.044	n/a	n/a
Aug-91	n/a	n/a	3.310	10.154	0.280	0.859	3.590	11.013	64.700	0.680	2.087	n/a	n/a
Sep-91	n/a	n/a	2.581	7.916	0.440	1.349	3.021	9.266	44.670	0.485	1.489	n/a	n/a
Oct-91	n/a	n/a	2.066	6.339	0.594	1.822	2.660	8.161	65.420	0.688	2.110	n/a	n/a
Nov-91	n/a	n/a	3.410	10.461	1.110	3.405	4.520	13.866	82.700	0.899	2.757	n/a	n/a
Dec-91	n/a	n/a	4.709	14.445	0.897	2.751	5.606	17.196	21.800	0.229	0.703	n/a	n/a
Jan-92	n/a	n/a	5.575	17.101	0.871	2.672	6.446	19.772	17.070	0.180	0.551	n/a	n/a
Feb-92	n/a	n/a	6.004	18.417	0.300	0.921	6.304	19.338	16.420	0.185	0.566	n/a	n/a
Mar-92	n/a	n/a	5.068	15.547	0.349	1.069	5.417	16.617	14.860	0.156	0.479	n/a	n/a
Apr-92	n/a	n/a	5.271	16.170	0.442	1.357	5.714	17.527	14.390	0.156	0.480	n/a	n/a
May-92	n/a	n/a	5.415	16.612	1.160	3.557	6.575	20.169	28.240	0.297	0.911	n/a	n/a
Jun-92	n/a	n/a	4.786	14.682	3.898	11.957	8.684	26.639	12.600	0.137	0.420	n/a	n/a
Jul-92	n/a	n/a	5.161	15.831	1.569	4.812	6.730	20.643	54.990	0.578	1.774	n/a	n/a
Aug-92	n/a	n/a	5.187	15.911	0.978	2.999	6.165	18.910	64.020	0.673	2.065	n/a	n/a
Sep-92	n/a	n/a	4.800	14.725	0.630	1.932	5.430	16.657	64.580	0.702	2.153	n/a	n/a
Oct-92	n/a	n/a	3.958	12.142	0.604	1.853	4.562	13.995	57.790	0.608	1.864	n/a	n/a
Nov-92	n/a	n/a	4.156	12.748	0.770	2.363	4.926	15.111	67.230	0.731	2.241	n/a	n/a
Dec-92	n/a	n/a	4.349	13.340	0.524	1.606	4.872	14.946	45.000	0.473	1.452	n/a	n/a
Jan-93	7.160	21.963	5.657	17.354	0.692	2.124	6.350	19.477	43.430	0.457	1.401	0.354	1.085
Feb-93	7.210	22.117	5.231	16.046	0.794	2.435	6.025	18.481	43.210	0.503	1.543	0.682	2.092
Mar-93	7.350	22.546	4.871	14.943	0.589	1.808	5.461	16.751	46.240	0.486	1.492	1.403	4.304
Apr-93	7.550	23.160	3.891	11.936	0.227	0.696	4.118	12.632	20.060	0.218	0.669	3.214	9.859
May-93	7.590	23.282	3.271	10.035	0.155	0.475	3.426	10.509	49.630	0.522	1.601	3.642	11.172
Jun-93	7.500	23.006	4.072	12.492	0.232	0.711	4.304	13.203	61.420	0.667	2.047	2.529	7.756
Jul-93	8.160	25.031	4.911	15.064	0.314	0.964	5.225	16.028	61.420	0.646	1.981	2.289	7.021
Aug-93	7.750	23.773	4.377	13.427	0.212	0.651	4.589	14.078	61.900	0.651	1.997	2.510	7.698
Sep-93	7.560	23.190	3.845	11.796	0.146	0.448	3.991	12.243	59.080	0.642	1.969	2.927	8.977
Oct-93	8.320	25.521	3.850	11.809	0.133	0.408	3.983	12.217	57.430	0.604	1.853	3.733	11.452
Nov-93	8.130	24.939	3.248	9.963	0.147	0.452	3.395	10.415	60.840	0.661	2.028	4.074	12.496
Dec-93	6.800	20.859	4.364	13.385	0.171	0.525	4.535	13.910	49.250	0.518	1.589	1.748	5.361
Jan-94	7.090	21.748	4.362	13.381	0.237	0.728	4.600	14.110	56.150	0.590	1.811	1.900	5.828
Feb-94	7.440	22.822	4.042	12.398	0.078	0.238	4.119	12.636	54.450	0.634	1.945	2.687	8.241
Mar-94	7.390	22.669	4.452	13.655	0.279	0.857	4.731	14.512	95.990	1.009	3.096	1.650	5.060
Apr-94	7.860	24.110	4.135	12.684	0.265	0.812	4.400	13.496	63.170	0.686	2.106	2.774	8.508
May-94	8.000	24.540	3.922	12.029	0.182	0.558	4.103	12.587	60.080	0.632	1.938	3.265	10.014
Jun-94	8.100	24.847	4.567	14.008	0.580	1.780	5.147	15.789	75.380	0.819	2.513	2.134	6.545
Jul-94	8.060	24.724	5.019	15.395	0.872	2.676	5.891	18.071	77.830	0.818	2.511	1.350	4.142
Aug-94	8.250	25.307	5.261	16.139	0.821	2.519	6.082	18.658	91.730	0.965	2.959	1.203	3.690
Sep-94	8.420	25.828	5.093	15.624	0.840	2.575	5.933	18.199	73.720	0.801	2.457	1.686	5.172
Oct-94	8.130	24.939	4.954	15.196	0.737	2.260	5.691	17.456	65.020	0.684	2.097	1.755	5.385
Nov-94	7.730	23.712	4.890	15.000	0.463	1.419	5.353	16.419	109.090	1.185	3.636	1.192	3.656
Dec-94	7.990	24.509	4.983	15.285	0.430	1.319	5.413	16.604	43.260	0.455	1.395	2.122	6.510
Jan-95	8.250	25.307	4.857	14.899	0.377	1.155	5.234	16.054	18.000	0.189	0.581	2.827	8.672
Feb-95	8.393	25.745	4.993	15.316	0.423	1.298	5.416	16.613	48.930	0.570	1.748	2.407	7.385
Mar-95	8.661	26.567	5.252	16.111	0.674	2.069	5.927	18.180	38.460	0.404	1.241	2.330	7.147
Apr-95	8.236	25.264	5.250	16.103	0.447	1.371	5.697	17.474	29.320	0.319	0.977	2.221	6.812
May-95	8.122	24.914	4.396	13.484	0.314	0.963	4.710	14.447	26.880	0.283	0.867	3.130	9.600
Jun-95	7.954	24.399	4.696	14.404	0.512	1.572	5.208	15.975	45.100	0.490	1.503	2.256	6.920
Jul-95	8.382	25.712	4.992	15.313	0.741	2.273	5.733	17.585	68.850	0.724	2.221	1.925	5.905
Aug-95	8.378	25.699	5.025	15.414	0.802	2.460	5.827	17.873	58.500	0.615	1.887	1.936	5.939
Sep-95	7.539	23.126	5.015	15.384	0.426	1.307	5.442	16.692	57.900	0.629	1.930	1.468	4.504
Oct-95	7.189	22.052	4.905	15.047	0.582	1.785	5.487	16.832	41.020	0.431	1.323	1.270	3.897
Nov-95	6.701	20.555	4.495	13.787	0.591	1.811	5.085	15.599	44.260	0.481	1.475	1.135	3.481
Dec-95	6.330	19.417	3.901	11.967	0.809	2.482	4.711	14.450	28.980	0.305	0.935	1.315	4.033
Jan-96	7.156	21.951	3.758	11.526	1.074	3.293	4.831	14.820	13.840	0.146	0.446	2.179	6.685
Feb-96	6.608	20.270	3.822	11.725	0.924	2.836	4.747	14.560	16.760	0.188	0.578	1.673	5.132
Mar-96	6.436	19.742	3.542	10.866	0.966	2.964	4.509	13.830	31.450	0.331	1.015	1.597	4.898
Apr-96	8.050	24.693	3.883	11.912	1.181	3.623	5.065	15.535	32.260	0.351	1.075	2.635	8.083
May-96	7.922	24.301	4.085	12.529	1.414	4.338	5.499	16.868	42.310	0.445	1.365	1.978	6.068
Jun-96	7.682	23.564	4.027	12.354	1.291	3.960	5.318	16.314	73.310	0.797	2.444	1.567	4.807
Jul-96	7.780	23.865	3.853	11.820	1.464	4.490	5.317	16.309	91.670	0.964	2.957	1.499	4.599
Aug-96	7.366	22.595	3.249	9.965	1.167	3.580	4.416	13.545	129.520	1.362	4.178	1.588	4.872
Sep-96	7.703	23.629	3.253	9.979	1.438	4.410	4.691	14.389	117.610	1.278	3.920	1.734	5.320
Oct-96	8.297	25.451	3.671	11.261	1.702	5.222	5.373	16.483	100.770	1.060	3.251	1.864	5.718
Nov-96	8.480	26.012	4.102	12.582	1.787	5.482	5.889	18.065	48.420	0.526	1.614	2.065	6.334
Dec-96	8.357	25.635	4.204	12.896	1.787	5.480	5.991	18.376	41.420	0.436	1.336	1.931	5.923

MONTHLY BWRP AND RECYCLED WATER FLOWS

	Influent		Discharge 001		Discharge 002		Total Discharge		RW Deliveries			Sludge/Bypass	
Month	MGD	AF/day	MGD	AF/day	MGD	AF/day	MGD	AF/day	AF	MGD	AF/day	MGD	AF/day
Jan-97	8.590	26.350	4.121	12.642	1.742	5.344	5.864	17.986	22.720	0.239	0.733	2.488	7.630
Feb-97	8.303	25.469	4.913	15.070	1.127	3.457	6.040	18.527	24.220	0.282	0.865	1.981	6.078
Mar-97	8.439	25.887	4.802	14.732	0.937	2.875	5.740	17.606	57.230	0.602	1.846	2.098	6.434
Apr-97	8.215	25.199	4.692	14.394	0.695	2.133	5.388	16.527	65.270	0.709	2.176	2.118	6.497
May-97	8.058	24.718	4.239	13.002	0.758	2.325	4.997	15.328	132.900	1.398	4.287	1.664	5.103
Jun-97	8.140	24.969	4.713	14.457	0.940	2.882	5.653	17.340	125.270	1.361	4.176	1.126	3.454
Jul-97	7.920	24.294	4.203	12.894	0.822	2.523	5.026	15.417	135.590	1.426	4.374	1.468	4.504
Aug-97	8.017	24.592	4.214	12.926	0.811	2.488	5.025	15.414	147.950	1.556	4.773	1.436	4.405
Sep-97	7.975	24.463	4.124	12.651	0.831	2.550	4.956	15.201	158.000	1.717	5.267	1.302	3.995
Oct-97	7.860	24.110	4.257	13.058	0.788	2.416	5.044	15.474	113.760	1.196	3.670	1.619	4.967
Nov-97	7.571	23.224	4.635	14.218	0.817	2.507	5.452	16.725	32.480	0.353	1.083	1.766	5.417
Dec-97	6.534	20.043	4.390	13.466	0.817	2.507	5.207	15.973	29.440	0.310	0.950	1.017	3.120
Jan-98	6.739	20.672	3.821	11.720	1.081	3.316	4.902	15.036	9.310	0.098	0.300	1.739	5.335
Feb-98	7.712	23.656	3.898	11.958	3.104	9.522	7.003	21.480	2.300	0.027	0.082	0.683	2.094
Mar-98	7.794	23.908	3.526	10.816	2.891	8.869	6.417	19.685	15.850	0.167	0.511	1.210	3.711
Apr-98	7.552	23.166	3.465	10.630	3.022	9.270	6.487	19.900	19.060	0.207	0.635	0.857	2.630
May-98	7.693	23.598	2.652	8.136	4.259	13.066	6.912	21.202	23.590	0.248	0.761	0.533	1.635
Jun-98	7.588	23.276	3.599	11.041	1.880	5.767	5.479	16.808	42.680	0.464	1.423	1.645	5.046
Jul-98	7.411	22.733	3.918	12.017	1.110	3.405	5.027	15.422	114.110	1.200	3.681	1.184	3.631
Aug-98	7.686	23.577	4.095	12.561	1.330	4.078	5.425	16.640	140.160	1.474	4.521	0.787	2.416
Sep-98	7.555	23.175	4.399	13.494	1.296	3.974	5.695	17.468	119.740	1.301	3.991	0.559	1.715
Oct-98	7.252	22.245	3.930	12.055	1.113	3.415	5.043	15.470	72.460	0.762	2.337	1.447	4.438
Nov-98	6.681	20.494	3.932	12.062	0.887	2.722	4.819	14.783	31.949	0.347	1.065	1.514	4.646
Dec-98	6.622	20.313	4.083	12.524	0.822	2.522	4.905	15.046	32.906	0.346	1.061	1.371	4.205
Jan-99	6.746	20.693	4.102	12.582	0.764	2.344	4.866	14.926	27.250	0.287	0.879	1.594	4.888
Feb-99	6.625	20.322	4.366	13.392	0.624	1.915	4.990	15.307	9.820	0.114	0.351	1.521	4.664
Mar-99	7.319	22.451	4.810	14.754	0.532	1.632	5.342	16.386	21.714	0.228	0.700	1.749	5.365
Apr-99	7.238	22.202	5.733	17.587	0.541	1.661	6.275	19.247	20.516	0.223	0.684	0.740	2.271
May-99	7.244	22.221	3.701	11.352	1.257	3.855	4.957	15.207	40.152	0.422	1.295	1.864	5.719
Jun-99	5.231	16.046	1.737	5.328	1.264	3.878	3.001	9.207	46.163	0.502	1.539	1.728	5.300
Jul-99	7.353	22.555	1.740	5.336	2.497	7.659	4.236	12.995	94.820	0.997	3.059	2.119	6.501
Aug-99	7.071	21.690	1.986	6.092	1.946	5.970	3.932	12.061	117.330	1.234	3.785	1.905	5.844
Sep-99	5.720	17.546	1.109	3.402	1.400	4.294	2.509	7.695	79.440	0.863	2.648	2.348	7.203
Oct-99	6.817	20.911	1.742	5.343	1.937	5.941	3.679	11.284	89.740	0.944	2.895	2.195	6.732
Nov-99	6.700	20.552	1.056	3.239	2.704	8.295	3.760	11.533	58.260	0.633	1.942	2.307	7.077
Dec-99	5.693	17.463	1.118	3.429	1.439	4.413	2.556	7.842	49.900	0.525	1.610	2.612	8.012
Jan-00	6.001	18.408	1.119	3.433	1.834	5.625	2.953	9.058	41.140	0.433	1.327	2.615	8.023
Feb-00	5.779	17.727	1.591	4.882	1.648	5.055	3.240	9.937	17.830	0.200	0.615	2.339	7.175
Mar-00	5.877	18.028	2.016	6.184	0.610	1.870	2.626	8.054	23.130	0.243	0.746	3.008	9.228
Apr-00	7.080	21.718	1.853	5.684	1.004	3.080	2.857	8.765	46.140	0.501	1.538	3.721	11.415
May-00	7.850	24.080	3.204	9.828	2.606	7.994	5.810	17.823	99.780	1.049	3.219	0.991	3.038
Jun-00	8.140	24.969	4.221	12.948	2.489	7.636	6.710	20.584	145.720	1.583	4.857	-0.154	-0.472
Jul-00	7.860	24.110	3.276	10.048	2.092	6.418	5.368	16.466	142.567	1.499	4.599	0.993	3.045
Aug-00	6.950	21.319	2.568	7.877	3.330	10.215	5.898	18.093	175.116	1.842	5.649	-0.790	-2.422
Sep-00	7.260	22.270	2.110	6.471	3.516	10.784	5.625	17.255	134.729	1.464	4.491	0.171	0.524
Oct-00	7.310	22.423	2.881	8.837	3.152	9.669	6.033	18.505	84.263	0.886	2.718	0.391	1.200
Nov-00	7.180	22.025	2.938	9.011	2.730	8.374	5.667	17.385	64.097	0.697	2.137	0.816	2.503
Dec-00	7.400	22.699	1.867	5.726	2.677	8.213	4.544	13.939	60.680	0.638	1.957	2.218	6.803
Jan-01	7.736	23.730	1.909	5.855	3.741	11.475	5.649	17.330	44.547	0.468	1.437	1.618	4.964
Feb-01	9.153	28.077	2.913	8.936	4.160	12.760	7.073	21.696	42.236	0.492	1.508	1.588	4.872
Mar-01	9.316	28.577	3.375	10.352	3.785	11.612	7.160	21.964	56.188	0.591	1.813	1.565	4.800
Apr-01	8.940	27.423	1.849	5.671	4.840	14.846	6.689	20.517	26.440	0.287	0.881	1.964	6.025
May-01	8.365	25.660	2.282	7.000	3.357	10.296	5.639	17.296	78.623	0.827	2.536	1.900	5.827
Jun-01	8.188	25.117	2.825	8.665	3.285	10.078	6.110	18.743	94.997	1.032	3.167	1.045	3.207
Jul-01	7.798	23.920	3.553	10.900	2.259	6.929	5.812	17.828	123.172	1.295	3.973	0.691	2.119
Aug-01	7.922	24.301	3.964	12.160	2.414	7.404	6.378	19.565	127.714	1.343	4.120	0.201	0.616
Sep-01	8.240	25.276	3.688	11.313	3.060	9.386	6.748	20.699	106.321	1.155	3.544	0.337	1.033
Oct-01	7.943	24.365	3.060	9.387	3.089	9.474	6.149	18.861	119.044	1.252	3.840	0.542	1.664
Nov-01	7.015	21.518	2.331	7.151	3.851	11.812	6.182	18.963	45.098	0.490	1.503	0.343	1.052
Dec-01	7.297	22.383	2.762	8.473	3.202	9.821	5.964	18.294	15.143	0.159	0.488	1.174	3.601
Jan-02	7.862	24.117	3.505	10.751	3.139	9.628	6.644	20.379	22.467	0.236	0.725	0.982	3.013
Feb-02	8.187	25.113	3.501	10.739	3.331	10.218	6.832	20.957	27.387	0.319	0.978	1.036	3.178
Mar-02	8.168	25.055	3.334	10.227	2.817	8.640	6.151	18.867	35.066	0.369	1.131	1.649	5.057
Apr-02	8.356	25.632	4.007	12.291	2.363	7.249	6.370	19.539	39.852	0.433	1.328	1.553	4.764
May-02	8.293	25.439	4.287	13.150	1.711	5.250	5.998	18.399	93.879	0.987	3.028	1.308	4.011
Jun-02	8.429	25.856	4.337	13.305	1.804	5.533	6.141	18.838	51.858	0.564	1.729	1.724	5.289
Jul-02	8.514	26.117	4.189	12.850	2.040	6.256	6.229	19.106	131.903	1.387	4.255	0.898	2.755
Aug-02	8.520	26.135	4.428	13.584	2.054	6.300	6.482	19.884	133.016	1.399	4.291	0.639	1.960
Sep-02	8.610	26.411	4.393	13.474	1.976	6.060	6.368	19.535	93.673	1.018	3.122	1.224	3.754
Oct-02	8.550	26.227	4.605	14.125	2.088	6.405	6.693	20.530	36.215	0.381	1.168	1.476	4.528
Nov-02	8.350	25.613	4.666	14.313	1.934	5.933	6.600	20.245	26.412	0.287	0.880	1.463	4.488
Dec-02	8.290	25.429	4.225	12.960	2.421	7.426	6.646	20.386	12.884	0.135	0.416	1.509	4.628
Jan-03	8.560	26.258	4.518	13.860	2.361	7.242	6.879	21.102	25.150	0.264	0.811	1.416	4.344
Feb-03	8.760	26.871	4.758	14.596	2.895	8.880	7.653	23.476	17.188	0.200	0.614	0.907	2.781
Mar-03	8.350	25.613	4.286	13.147	2.781	8.530	7.066	21.676	27.087	0.285	0.874	0.999	3.063
Apr-03	5.750	17.638	3.532	10.833	0.711	2.180	4.242	13.013	2.459	0.027	0.082	1.481	4.543
May-03	6.140	18.834	3.325	10.198	1.780	5.459	5.104	15.657	26.736	0.281	0.862	0.755	2.315
Jun-03	7.080	21.718	4.048	12.416	2.375	7.284	6.422	19.700	37.411	0.407	1.247	0.251	0.770
Jul-03	7.670	23.528	2.309	7.082	3.869	11.869	6.178	18.951	45.799	0.482	1.477	1.010	3.099
Aug-03	8.160	25.031	3.155	9.677	3.220	9.876	6.375	19.554	67.120	0.706	2.165	1.080	3.312
Sep-03	8.370	25.675	3.200	9.815	3.614	11.087	6.814	20.902	75.020	0.815	2.501	0.741	2.272
Oct-03	7.700	23.620	3.101	9.513	3.146	9.650	6.247	19.163	92.945	0.977	2.998	0.475	1.459
Nov-03	6.750	20.706	3.414	10.473	2.590	7.944	6.004	18.417	46.764	0.508	1.559	0.238	0.730
Dec-03	7.550	23.160	3.372	10.343	3.368	10.332	6.740	20.676	25.105	0.264	0.810	0.546	1.674

MONTHLY BWRP AND RECYCLED WATER FLOWS

Month	Influent		Discharge 001		Discharge 002		Total Discharge		RW Deliveries			Sludge/Bypass	
	MGD	AF/day	MGD	AF/day	MGD	AF/day	MGD	AF/day	AF	MGD	AF/day	MGD	AF/day
Jan-04	7.986	24.496	3.386	10.386	3.749	11.499	7.135	21.885	15.122	0.159	0.488	0.692	2.124
Feb-04	8.264	25.349	2.617	8.027	4.958	15.209	7.575	23.237	13.773	0.155	0.475	0.534	1.637
Mar-04	8.474	25.993	2.777	8.518	4.870	14.939	7.647	23.456	9.185	0.097	0.296	0.730	2.241
Apr-04	9.097	27.905	3.378	10.363	4.173	12.802	7.552	23.165	26.870	0.292	0.896	1.253	3.845
May-04	9.145	28.054	3.216	9.864	3.920	12.024	7.135	21.888	55.400	0.583	1.787	1.427	4.379
Jun-04	9.164	28.109	3.326	10.201	4.047	12.414	7.373	22.616	63.650	0.692	2.122	1.099	3.372
Jul-04	9.266	28.424	2.936	9.007	3.963	12.155	6.899	21.162	74.350	0.782	2.398	1.586	4.864
Aug-04	8.571	26.291	2.898	8.891	3.659	11.225	6.558	20.116	68.340	0.719	2.205	1.295	3.971
Sep-04	8.599	26.376	2.691	8.254	3.766	11.551	6.456	19.805	57.244	0.622	1.908	1.520	4.663
Oct-04	8.758	26.865	2.991	9.175	4.814	14.765	7.805	23.940	72.390	0.761	2.335	0.192	0.590
Nov-04	8.753	26.849	3.152	9.670	4.468	13.704	7.620	23.374	21.613	0.235	0.720	0.898	2.754
Dec-04	8.915	27.345	2.567	7.875	5.223	16.020	7.790	23.895	27.292	0.287	0.880	0.838	2.570
Jan-05	9.106	27.932	2.454	7.527	6.252	19.177	8.705	26.704	20.556	0.216	0.663	0.184	0.565
Feb-05	9.015	27.654	2.511	7.702	6.235	19.127	8.746	26.828	13.660	0.159	0.488	0.110	0.338
Mar-05	8.470	25.981	2.462	7.551	4.714	14.461	7.176	22.012	33.737	0.355	1.088	0.939	2.881
Apr-05	8.129	24.936	2.577	7.905	4.635	14.217	7.212	22.122	25.525	0.277	0.851	0.640	1.962
May-05	7.835	24.035	2.770	8.497	4.232	12.982	7.002	21.479	63.241	0.665	2.040	0.168	0.516
Jun-05	8.144	24.982	1.441	4.420	5.304	16.271	6.745	20.691	77.607	0.843	2.587	0.555	1.703
Jul-05	8.374	25.687	0.000	0.000	6.049	18.554	6.049	18.554	101.652	1.069	3.279	1.256	3.853
Aug-05	8.675	26.612	0.000	0.000	6.159	18.892	6.159	18.892	115.688	1.217	3.732	1.300	3.988
Sep-05	8.858	27.173	0.000	0.000	6.071	18.622	6.071	18.622	110.732	1.203	3.691	1.584	4.860
Oct-05	8.803	27.004	0.000	0.000	6.239	19.139	6.239	19.139	215.284	2.264	6.945	0.300	0.920
Nov-05	8.670	26.595	0.000	0.000	6.772	20.773	6.772	20.773	99.868	1.085	3.329	0.813	2.493
Dec-05	8.524	26.148	0.000	0.000	6.473	19.855	6.473	19.855	124.454	1.309	4.015	0.743	2.279
Jan-06	8.749	26.838	0.000	0.000	6.412	19.670	6.412	19.670	148.391	1.560	4.787	0.776	2.381
Feb-06	8.715	26.732	0.000	0.000	7.131	21.873	7.131	21.873	34.610	0.403	1.236	1.181	3.623
Mar-06	8.644	26.516	0.000	0.000	7.289	22.359	7.289	22.359	27.399	0.288	0.884	1.067	3.273
Apr-06	8.528	26.158	0.000	0.000	7.243	22.217	7.243	22.217	20.882	0.227	0.696	1.058	3.246
May-06	8.877	27.231	0.000	0.000	6.998	21.466	6.998	21.466	84.061	0.884	2.712	0.995	3.053
Jun-06	8.604	26.394	0.000	0.000	5.602	17.185	5.602	17.185	234.178	2.545	7.806	0.457	1.403
Jul-06	8.875	27.223	0.000	0.000	5.225	16.029	5.225	16.029	244.697	2.573	7.893	1.076	3.301
Aug-06	9.108	27.940	0.000	0.000	6.008	18.430	6.008	18.430	225.381	2.370	7.270	0.730	2.240
Sep-06	8.739	26.808	0.000	0.000	5.651	17.334	5.651	17.334	218.489	2.374	7.283	0.714	2.190
Oct-06	8.686	26.644	0.000	0.000	6.052	18.565	6.052	18.565	164.215	1.727	5.297	0.907	2.781
Nov-06	8.961	27.487	0.000	0.000	6.272	19.238	6.272	19.238	164.105	1.783	5.470	0.906	2.778
Dec-06	8.836	27.104	0.000	0.000	7.354	22.557	7.354	22.557	51.449	0.541	1.660	0.941	2.887
Jan-07	8.949	27.450	0.000	0.000	6.605	20.260	6.605	20.260	149.846	1.576	4.834	0.768	2.356
Feb-07	9.056	27.778	0.000	0.000	6.544	20.072	6.544	20.072	153.876	1.792	5.496	0.721	2.210
Mar-07	9.056	27.778	0.000	0.000	6.373	19.549	6.373	19.549	198.425	2.087	6.401	0.596	1.829
Apr-07	9.336	28.639	0.000	0.000	5.898	18.091	5.898	18.091	201.369	2.188	6.712	1.250	3.836
May-07	9.106	27.934	0.000	0.000	5.458	16.742	5.458	16.742	249.470	2.623	8.047	1.025	3.145
Jun-07	9.112	27.951	0.000	0.000	6.268	19.227	6.268	19.227	162.725	1.768	5.424	1.076	3.300
Jul-07	9.192	28.197	0.000	0.000	5.817	17.843	5.817	17.843	235.979	2.482	7.612	0.894	2.742
Aug-07	9.300	28.527	0.000	0.000	5.878	18.032	5.878	18.032	263.120	2.767	8.488	0.654	2.007
Sep-07	9.133	28.016	0.000	0.000	6.872	21.081	6.872	21.081	124.689	1.355	4.156	0.906	2.779
Oct-07	9.051	27.764	0.000	0.000	6.537	20.052	6.537	20.052	161.477	1.698	5.209	0.816	2.502
Nov-07	9.020	27.669	0.000	0.000	6.572	20.158	6.572	20.158	192.870	2.096	6.429	0.352	1.081
Dec-07	8.972	27.520	0.000	0.000	6.950	21.318	6.950	21.318	150.770	1.586	4.864	0.436	1.339
Jan-08	9.371	28.746	0.000	0.000	7.276	22.319	7.276	22.319	145.096	1.526	4.681	0.569	1.746
Feb-08	9.208	28.246	0.000	0.000	7.058	21.651	7.058	21.651	141.936	1.596	4.894	0.554	1.701
Mar-08	9.092	27.890	0.000	0.000	6.952	21.324	6.952	21.324	126.763	1.333	4.089	0.808	2.477
Apr-08	9.256	28.392	0.000	0.000	5.994	18.387	5.994	18.387	221.758	2.410	7.392	0.852	2.613
May-08	9.193	28.198	0.000	0.000	6.365	19.525	6.365	19.525	215.001	2.261	6.936	0.566	1.738
Jun-08	9.261	28.409	0.000	0.000	6.068	18.615	6.068	18.615	185.926	2.020	6.198	1.173	3.597
Jul-08	9.202	28.226	0.000	0.000	5.777	17.720	5.777	17.720	266.901	2.807	8.610	0.618	1.896
Aug-08	9.147	28.059	0.000	0.000	5.825	17.870	5.825	17.870	252.853	2.659	8.157	0.663	2.032
Sep-08	9.141	28.039	0.000	0.000	6.207	19.041	6.207	19.041	201.020	2.184	6.701	0.749	2.297
Oct-08	8.985	27.563	0.000	0.000	6.043	18.536	6.043	18.536	204.040	2.146	6.582	0.797	2.445
Nov-08	9.133	28.014	0.000	0.000	7.410	22.729	7.410	22.729	76.955	0.836	2.565	0.887	2.720
Dec-08	8.955	27.469	0.000	0.000	7.427	22.782	7.427	22.782	90.802	0.955	2.929	0.573	1.758
Jan-09	8.693	26.666	0.000	0.000	6.383	19.579	6.383	19.579	131.712	1.385	4.249	0.925	2.838
Feb-09	8.525	26.149	0.000	0.000	6.390	19.602	6.390	19.602	124.404	1.448	4.443	0.686	2.104
Mar-09	8.242	25.283	0.000	0.000	6.469	19.843	6.469	19.843	94.249	0.991	3.040	0.782	2.400
Apr-09	8.674	26.606	0.000	0.000	5.701	17.488	5.701	17.488	172.269	1.872	5.742	1.101	3.376
May-09	8.711	26.722	0.000	0.000	5.775	17.715	5.775	17.715	207.018	2.177	6.678	0.759	2.329
Jun-09	8.665	26.580	0.000	0.000	6.206	19.036	6.206	19.036	152.717	1.660	5.091	0.800	2.453
Jul-09	8.746	26.828	0.000	0.000	5.213	15.991	5.213	15.991	272.231	2.863	8.782	0.670	2.055
Aug-09	8.151	25.004	0.000	0.000	5.137	15.759	5.137	15.759	249.759	2.626	8.057	0.387	1.188
Sep-09	7.848	24.074	0.000	0.000	5.055	15.506	5.055	15.506	235.948	2.564	7.865	0.229	0.703
Oct-09	8.693	26.664	0.000	0.000	6.669	20.458	6.669	20.458	152.199	1.601	4.910	0.423	1.297
Nov-09	7.746	23.762	0.000	0.000	5.687	17.446	5.687	17.446	161.196	1.752	5.373	0.307	0.943
Dec-09	8.523	26.144	0.000	0.000	6.709	20.581	6.709	20.581	133.708	1.406	4.313	0.407	1.250
Jan-10	8.309	25.487	0.000	0.000	6.497	19.929	6.497	19.929	95.551	1.005	3.082	0.807	2.476
Feb-10	8.103	24.855	0.000	0.000	6.480	19.876	6.480	19.876	100.898	1.175	3.604	0.448	1.376
Mar-10	8.037	24.655	0.000	0.000	6.000	18.404	6.000	18.404	177.698	1.869	5.732	0.169	0.519
Apr-10	8.314	25.502	0.000	0.000	6.778	20.790	6.778	20.790	141.348	1.536	4.712	0.000	0.000
May-10	8.785	26.949	0.000	0.000	6.552	20.097	6.552	20.097	198.751	2.090	6.411	0.144	0.441
Jun-10	8.576	26.308	0.000	0.000	6.838	20.975	6.838	20.975	149.281	1.622	4.976	0.116	0.356
Jul-10	8.647	26.526	0.000	0.000	6.205	19.034	6.205	19.034	289.550	3.045	9.340	-0.603	-1.849
Aug-10	8.827	27.078	0.000	0.000	6.294	19.307	6.294	19.307	244.674	2.573	7.893	-0.040	-0.122
Sep-10	8.493	26.053	0.000	0.000	5.936	18.209	5.936	18.209	238.060	2.587	7.935	-0.030	-0.091
Oct-10	8.616	26.429	0.000	0.000	6.840	20.982	6.840	20.982	148.844	1.565	4.801	0.211	0.646
Nov-10	7.517	23.058	0.000	0.000	7.030	21.564	7.030	21.564	148.924	1.618	4.964	-1.131	-3.470
Dec-10	8.395	25.752	0.000	0.000	6.760	20.736	6.760	20.736	82.472	0.867	2.660	0.768	2.355

MONTHLY BWRP AND RECYCLED WATER FLOWS

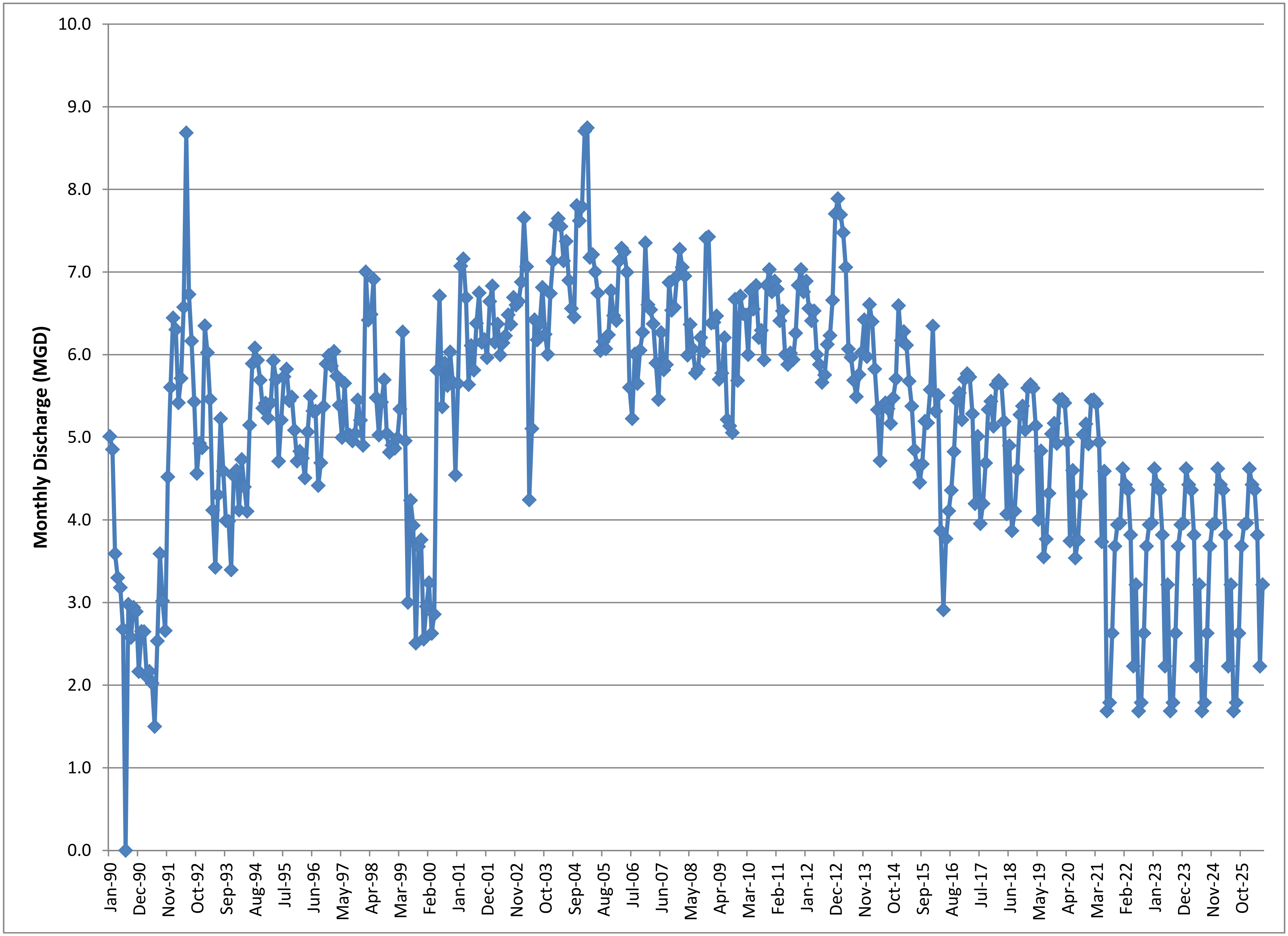
	Influent		Discharge 001		Discharge 002		Total Discharge		RW Deliveries			Sludge/Bypass	
Month	MGD	AF/day	MGD	AF/day	MGD	AF/day	MGD	AF/day	AF	MGD	AF/day	MGD	AF/day
Jan-11	8.020	24.601	0.000	0.000	6.890	21.135	6.890	21.135	68.077	0.716	2.196	0.414	1.270
Feb-11	8.206	25.172	0.000	0.000	6.794	20.841	6.794	20.841	103.113	1.201	3.683	0.211	0.648
Mar-11	8.014	24.583	0.000	0.000	6.410	19.663	6.410	19.663	72.002	0.757	2.323	0.847	2.598
Apr-11	7.553	23.169	0.000	0.000	6.530	20.031	6.530	20.031	80.558	0.875	2.685	0.148	0.453
May-11	7.653	23.476	0.000	0.000	6.000	18.405	6.000	18.405	118.535	1.247	3.824	0.407	1.248
Jun-11	8.089	24.814	0.000	0.000	5.880	18.037	5.880	18.037	121.814	1.324	4.060	0.886	2.717
Jul-11	8.218	25.210	0.000	0.000	6.020	18.466	6.020	18.466	186.086	1.957	6.003	0.241	0.741
Aug-11	8.400	25.767	0.000	0.000	5.940	18.221	5.940	18.221	250.184	2.631	8.070	-0.171	-0.524
Sep-11	8.311	25.494	0.000	0.000	6.260	19.202	6.260	19.202	188.510	2.048	6.284	0.003	0.008
Oct-11	8.286	25.419	0.000	0.000	6.840	20.982	6.840	20.982	125.494	1.320	4.048	0.127	0.389
Nov-11	8.171	25.063	0.000	0.000	7.030	21.564	7.030	21.564	119.784	1.302	3.993	-0.161	-0.494
Dec-11	8.260	25.337	0.000	0.000	6.760	20.736	6.760	20.736	138.281	1.454	4.461	0.046	0.141
Jan-12	8.364	25.657	0.000	0.000	6.890	21.135	6.890	21.135	89.826	0.945	2.898	0.530	1.624
Feb-12	8.219	25.210	0.000	0.000	6.560	20.123	6.560	20.123	144.405	1.623	4.979	0.035	0.108
Mar-12	7.985	24.495	0.000	0.000	6.410	19.663	6.410	19.663	152.576	1.605	4.922	-0.029	-0.089
Apr-12	8.280	25.399	0.000	0.000	6.530	20.031	6.530	20.031	125.684	1.366	4.189	0.384	1.179
May-12	8.082	24.791	0.000	0.000	6.000	18.405	6.000	18.405	221.779	2.332	7.154	-0.250	-0.768
Jun-12	8.154	25.013	0.000	0.000	5.880	18.037	5.880	18.037	181.187	1.969	6.040	0.305	0.937
Jul-12	8.221	25.217	0.000	0.000	5.664	17.373	5.664	17.373	244.774	2.574	7.896	-0.017	-0.052
Aug-12	8.511	26.108	0.000	0.000	5.754	17.651	5.754	17.651	266.662	2.804	8.602	-0.047	-0.145
Sep-12	8.462	25.957	0.000	0.000	6.125	18.787	6.125	18.787	191.543	2.081	6.385	0.256	0.785
Oct-12	8.485	26.026	0.000	0.000	6.231	19.114	6.231	19.114	194.011	2.040	6.258	0.213	0.653
Nov-12	8.312	25.496	0.000	0.000	6.659	20.426	6.659	20.426	80.585	0.876	2.686	0.777	2.383
Dec-12	8.192	25.130	0.000	0.000	7.705	23.634	7.705	23.634	10.039	0.106	0.324	0.382	1.171
Jan-13	8.390	25.736	0.000	0.000	7.889	24.198	7.889	24.198	24.705	0.260	0.797	0.241	0.741
Feb-13	8.340	25.583	0.000	0.000	7.694	23.601	7.694	23.601	32.052	0.373	1.145	0.273	0.837
Mar-13	8.350	25.613	0.000	0.000	7.477	22.935	7.477	22.935	45.944	0.483	1.482	0.390	1.197
Apr-13	8.320	25.521	0.000	0.000	7.057	21.648	7.057	21.648	94.619	1.028	3.154	0.234	0.719
May-13	8.380	25.706	0.000	0.000	6.068	18.615	6.068	18.615	223.675	2.352	7.215	-0.041	-0.124
Jun-13	8.400	25.767	0.000	0.000	5.968	18.306	5.968	18.306	205.193	2.230	6.840	0.203	0.621
Jul-13	8.490	26.043	0.000	0.000	5.690	17.453	5.690	17.453	237.273	2.495	7.654	0.305	0.936
Aug-13	8.520	26.135	0.000	0.000	5.491	16.843	5.491	16.843	262.314	2.759	8.462	0.271	0.830
Sep-13	8.380	25.706	0.000	0.000	5.759	17.665	5.759	17.665	197.911	2.151	6.597	0.471	1.444
Oct-13	8.110	24.877	0.000	0.000	6.026	18.484	6.026	18.484	198.721	2.090	6.410	-0.006	-0.017
Nov-13	8.220	25.215	0.000	0.000	6.422	19.698	6.422	19.698	182.243	1.980	6.075	-0.182	-0.558
Dec-13	7.620	23.374	0.000	0.000	5.976	18.331	5.976	18.331	154.449	1.624	4.982	0.020	0.061
Jan-14	8.290	25.429	0.000	0.000	6.607	20.268	6.607	20.268	158.143	1.663	5.101	0.020	0.060
Feb-14	8.020	24.601	0.000	0.000	6.401	19.635	6.401	19.635	145.686	1.696	5.203	-0.077	-0.237
Mar-14	7.987	24.499	0.000	0.000	5.825	17.870	5.825	17.870	158.177	1.663	5.102	0.498	1.527
Apr-14	7.501	23.010	0.000	0.000	5.333	16.358	5.333	16.358	188.088	2.044	6.270	0.125	0.383
May-14	7.180	22.024	0.000	0.000	4.717	14.469	4.717	14.469	252.250	2.653	8.137	-0.190	-0.582
Jun-14	8.106	24.865	0.000	0.000	5.385	16.517	5.385	16.517	234.982	2.553	7.833	0.168	0.515
Jul-14	7.216	22.134	0.000	0.000	5.416	16.614	5.416	16.614	260.985	2.745	8.419	-0.945	-2.898
Aug-14	9.049	27.757	0.000	0.000	5.346	16.398	5.346	16.398	270.599	2.846	8.729	0.857	2.630
Sep-14	8.746	26.828	0.000	0.000	5.167	15.850	5.167	15.850	234.952	2.553	7.832	1.026	3.147
Oct-14	8.881	27.242	0.000	0.000	5.476	16.798	5.476	16.798	199.036	2.093	6.421	1.312	4.024
Nov-14	8.244	25.288	0.000	0.000	5.707	17.507	5.707	17.507	171.651	1.865	5.722	0.671	2.059
Dec-14	4.653	14.272	0.000	0.000	6.594	20.227	6.594	20.227	98.430	1.035	3.175	-2.976	-9.130
Jan-15	4.738	14.535	0.000	0.000	6.172	18.931	6.172	18.931	126.584	1.331	4.083	-2.764	-8.480
Feb-15	7.802	23.932	0.000	0.000	6.279	19.262	6.279	19.262	128.019	1.491	4.572	0.032	0.098
Mar-15	7.885	24.188	0.000	0.000	6.115	18.757	6.115	18.757	155.859	1.639	5.028	0.131	0.403
Apr-15	7.651	23.468	0.000	0.000	5.679	17.420	5.679	17.420	176.019	1.913	5.867	0.059	0.181
May-15	7.553	23.168	0.000	0.000	5.376	16.490	5.376	16.490	200.350	2.107	6.463	0.070	0.215
Jun-15	7.488	22.968	0.000	0.000	4.847	14.867	4.847	14.867	238.182	2.588	7.939	0.053	0.162
Jul-15	7.434	22.802	0.000	0.000	4.666	14.312	4.666	14.312	259.197	2.726	8.361	0.042	0.129
Aug-15	7.501	23.009	0.000	0.000	4.453	13.660	4.453	13.660	289.803	3.048	9.348	0.000	0.000
Sep-15	7.543	23.139	0.000	0.000	4.675	14.342	4.675	14.342	265.699	2.887	8.857	-0.019	-0.059
Oct-15	7.470	22.915	0.000	0.000	5.194	15.933	5.194	15.933	233.206	2.452	7.523	-0.176	-0.541
Nov-15	7.406	22.718	0.000	0.000	5.174	15.872	5.174	15.872	209.760	2.279	6.992	-0.048	-0.146
Dec-15	7.366	22.595	0.000	0.000	5.576	17.104	5.576	17.104	181.005	1.903	5.839	-0.113	-0.347
Jan-16	7.480	22.945	0.000	0.000	6.346	19.467	6.346	19.467	129.834	1.365	4.188	-0.231	-0.710
Feb-16	7.220	22.147	0.000	0.000	5.316	16.307	5.316	16.307	178.095	2.002	6.141	-0.098	-0.301
Mar-16	7.370	22.607	0.000	0.000	5.507	16.894	5.507	16.894	182.174	1.916	5.877	-0.053	-0.163
Apr-16	6.350	19.479	0.000	0.000	3.866	11.859	3.866	11.859	214.275	2.328	7.142	0.156	0.477
May-16	5.330	16.350	0.000	0.000	2.911	8.930	2.911	8.930	244.038	2.566	7.872	-0.148	-0.453
Jun-16	7.130	21.871	0.000	0.000	3.773	11.574	3.773	11.574	317.548	3.451	10.585	-0.094	-0.287
Jul-16	7.916	24.281	0.000	0.000	4.108	12.600	4.108	12.600	354.357	3.726	11.431	0.082	0.250
Aug-16	8.396	25.755	0.000	0.000	4.359	13.371	4.359	13.371	376.174	3.956	12.135	0.082	0.250
Sep-16	8.288	25.425	0.000	0.000	4.826	14.804	4.826	14.804	321.492	3.381	10.371	0.082	0.250
Oct-16	8.246	25.296	0.000	0.000	5.447	16.710	5.447	16.710	258.412	2.717	8.336	0.082	0.250
Nov-16	8.070	24.756	0.000	0.000	5.536	16.981	5.536	16.981	233.276	2.453	7.525	0.082	0.250
Dec-16	7.218	22.142	0.000	0.000	5.213	15.989	5.213	15.989	182.969	1.924	5.902	0.082	0.250
Jan-17	7.453	22.860	0.000	0.000	5.703	17.494	5.703	17.494	158.599	1.668	5.116	0.082	0.250
Feb-17	7.920	24.295	0.000	0.000	5.771	17.701	5.771	17.701	196.646	2.068	6.343	0.082	0.250
Mar-17	7.916	24.281	0.000	0.000	5.729	17.573	5.729	17.573	200.188	2.105	6.458	0.082	0.250
Apr-17	7.620	23.375	0.000	0.000	5.284	16.209	5.284	16.209	214.423	2.255	6.917	0.082	0.250
May-17	7.305	22.408	0.000	0.000	4.197	12.874	4.197	12.874	287.796	3.026	9.284	0.082	0.250
Jun-17	7.856	24.097	0.000	0.000	5.012	15.374	5.012	15.374	262.668	2.762	8.473	0.082	0.250
Jul-17	7.916	24.281	0.000	0.000	3.955	12.131	3.955	12.131	368.894	3.879	11.900	0.082	0.250
Aug-17	8.396	25.755	0.000	0.000	4.197	12.873	4.197	12.873	391.606	4.118	12.632	0.082	0.250
Sep-17	8.288	25.425	0.000	0.000	4.687	14.379	4.687	14.379	334.681	3.520	10.796	0.082	0.250
Oct-17	8.246	25.296	0.000	0.000	5.336	16.368	5.336	16.368	269.013	2.829	8.678	0.082	0.250
Nov-17	8.070	24.756	0.000	0.000	5.435	16.672	5.435	16.672	242.846	2.554	7.834	0.082	0.250
Dec-17	7.218	22.142	0.000	0.000	5.134	15.747	5.134	15.747	190.476	2.003	6.144	0.082	0.250
Jan-18	7.453	22.860	0.000	0.000	5.635	17.284	5.635	17.284	165.105	1.736	5.326	0.082	0.250
Feb-18	7.920	24.295	0.000	0.000	5.686	17.441	5.686	17.441	204.713	2.153	6.604	0.082	0.250
Mar-18	7.916	24.281	0.000	0.000	5.642	17.308	5.642	17.308	208.401	2.192	6.723	0.082	0.250
Apr-18	7.620	23.375	0.000	0.000	5.191	15.925	5.191	15.925	223.220	2.347	7.201	0.082	0.250

MONTHLY BWRP AND RECYCLED WATER FLOWS

Month	Influent		Discharge 001		Discharge 002		Total Discharge		RW Deliveries			Sludge/Bypass	
	MGD	AF/day	MGD	AF/day	MGD	AF/day	MGD	AF/day	AF	MGD	AF/day	MGD	AF/day
May-18	7.305	22.408	0.000	0.000	4.073	12.493	4.073	12.493	299.602	3.151	9.665	0.082	0.250
Jun-18	7.856	24.097	0.000	0.000	4.899	15.026	4.899	15.026	273.443	2.876	8.821	0.082	0.250
Jul-18	7.916	24.281	0.000	0.000	3.869	11.869	3.869	11.869	377.035	3.965	12.162	0.082	0.250
Aug-18	8.396	25.755	0.000	0.000	4.106	12.594	4.106	12.594	400.248	4.209	12.911	0.082	0.250
Sep-18	8.288	25.425	0.000	0.000	4.610	14.140	4.610	14.140	342.067	3.597	11.034	0.082	0.250
Oct-18	8.246	25.296	0.000	0.000	5.274	16.177	5.274	16.177	274.950	2.891	8.869	0.082	0.250
Nov-18	8.070	24.756	0.000	0.000	5.379	16.499	5.379	16.499	248.205	2.610	8.007	0.082	0.250
Dec-18	7.218	22.142	0.000	0.000	5.089	15.612	5.089	15.612	194.679	2.047	6.280	0.082	0.250
Jan-19	7.453	22.860	0.000	0.000	5.596	17.167	5.596	17.167	168.749	1.775	5.444	0.082	0.250
Feb-19	7.920	24.295	0.000	0.000	5.638	17.295	5.638	17.295	209.230	2.200	6.749	0.082	0.250
Mar-19	7.916	24.281	0.000	0.000	5.594	17.160	5.594	17.160	213.000	2.240	6.871	0.082	0.250
Apr-19	7.620	23.375	0.000	0.000	5.140	15.766	5.140	15.766	228.146	2.399	7.360	0.082	0.250
May-19	7.305	22.408	0.000	0.000	4.003	12.280	4.003	12.280	306.214	3.220	9.878	0.082	0.250
Jun-19	7.856	24.097	0.000	0.000	4.835	14.832	4.835	14.832	279.478	2.939	9.015	0.082	0.250
Jul-19	7.916	24.281	0.000	0.000	3.551	10.893	3.551	10.893	407.272	4.283	13.138	0.082	0.250
Aug-19	8.396	25.755	0.000	0.000	3.768	11.559	3.768	11.559	432.347	4.547	13.947	0.082	0.250
Sep-19	8.288	25.425	0.000	0.000	4.321	13.255	4.321	13.255	369.500	3.886	11.919	0.082	0.250
Oct-19	8.246	25.296	0.000	0.000	5.042	15.465	5.042	15.465	297.000	3.123	9.581	0.082	0.250
Nov-19	8.070	24.756	0.000	0.000	5.169	15.857	5.169	15.857	268.111	2.819	8.649	0.082	0.250
Dec-19	7.218	22.142	0.000	0.000	4.925	15.108	4.925	15.108	210.292	2.211	6.784	0.082	0.250
Jan-20	7.453	22.860	0.000	0.000	5.454	16.730	5.454	16.730	182.282	1.917	5.880	0.082	0.250
Feb-20	7.920	24.295	0.000	0.000	5.462	16.754	5.462	16.754	226.010	2.377	7.291	0.082	0.250
Mar-20	7.916	24.281	0.000	0.000	5.414	16.609	5.414	16.609	230.082	2.420	7.422	0.082	0.250
Apr-20	7.620	23.375	0.000	0.000	4.947	15.176	4.947	15.176	246.442	2.592	7.950	0.082	0.250
May-20	7.305	22.408	0.000	0.000	3.745	11.488	3.745	11.488	330.772	3.478	10.670	0.082	0.250
Jun-20	7.856	24.097	0.000	0.000	4.599	14.109	4.599	14.109	301.891	3.175	9.738	0.082	0.250
Jul-20	7.916	24.281	0.000	0.000	3.539	10.856	3.539	10.856	408.435	4.295	13.175	0.082	0.250
Aug-20	8.396	25.755	0.000	0.000	3.755	11.519	3.755	11.519	433.581	4.560	13.986	0.082	0.250
Sep-20	8.288	25.425	0.000	0.000	4.310	13.221	4.310	13.221	370.555	3.897	11.953	0.082	0.250
Oct-20	8.246	25.296	0.000	0.000	5.033	15.438	5.033	15.438	297.848	3.132	9.608	0.082	0.250
Nov-20	8.070	24.756	0.000	0.000	5.161	15.833	5.161	15.833	268.876	2.828	8.673	0.082	0.250
Dec-20	7.218	22.142	0.000	0.000	4.919	15.089	4.919	15.089	210.892	2.218	6.803	0.082	0.250
Jan-21	7.453	22.860	0.000	0.000	5.449	16.714	5.449	16.714	182.803	1.922	5.897	0.082	0.250
Feb-21	7.920	24.295	0.000	0.000	5.455	16.733	5.455	16.733	226.655	2.384	7.311	0.082	0.250
Mar-21	7.916	24.281	0.000	0.000	5.408	16.588	5.408	16.588	230.739	2.426	7.443	0.082	0.250
Apr-21	7.620	23.375	0.000	0.000	4.940	15.153	4.940	15.153	247.146	2.599	7.972	0.082	0.250
May-21	7.305	22.408	0.000	0.000	3.735	11.457	3.735	11.457	331.716	3.488	10.701	0.082	0.250
Jun-21	7.856	24.097	0.000	0.000	4.590	14.081	4.590	14.081	302.753	3.184	9.766	0.082	0.250
Jul-21	7.916	24.281	0.000	0.000	1.686	5.172	1.686	5.172	584.625	6.148	18.859	0.082	0.250
Aug-21	8.396	25.755	0.000	0.000	1.788	5.485	1.788	5.485	620.619	6.527	20.020	0.082	0.250
Sep-21	8.288	25.425	0.000	0.000	2.629	8.065	2.629	8.065	530.404	5.578	17.110	0.082	0.250
Oct-21	8.246	25.296	0.000	0.000	3.682	11.293	3.682	11.293	426.333	4.483	13.753	0.082	0.250
Nov-21	8.070	24.756	0.000	0.000	3.942	12.091	3.942	12.091	384.864	4.047	12.415	0.082	0.250
Dec-21	7.218	22.142	0.000	0.000	3.962	12.154	3.962	12.154	301.866	3.174	9.738	0.082	0.250
Jan-22	7.453	22.860	0.000	0.000	4.619	14.170	4.619	14.170	261.660	2.752	8.441	0.082	0.250
Feb-22	7.920	24.295	0.000	0.000	4.427	13.579	4.427	13.579	324.430	3.412	10.465	0.082	0.250
Mar-22	7.916	24.281	0.000	0.000	4.361	13.377	4.361	13.377	330.275	3.473	10.654	0.082	0.250
Apr-22	7.620	23.375	0.000	0.000	3.819	11.714	3.819	11.714	353.759	3.720	11.412	0.082	0.250
May-22	7.305	22.408	0.000	0.000	2.230	6.841	2.230	6.841	474.811	4.993	15.316	0.082	0.250
Jun-22	7.856	24.097	0.000	0.000	3.217	9.868	3.217	9.868	433.354	4.557	13.979	0.082	0.250
Jul-22	7.916	24.281	0.000	0.000	1.686	5.172	1.686	5.172	584.625	6.148	18.859	0.082	0.250
Aug-22	8.396	25.755	0.000	0.000	1.788	5.485	1.788	5.485	620.619	6.527	20.020	0.082	0.250
Sep-22	8.288	25.425	0.000	0.000	2.629	8.065	2.629	8.065	530.404	5.578	17.110	0.082	0.250
Oct-22	8.246	25.296	0.000	0.000	3.682	11.293	3.682	11.293	426.333	4.483	13.753	0.082	0.250
Nov-22	8.070	24.756	0.000	0.000	3.942	12.091	3.942	12.091	384.864	4.047	12.415	0.082	0.250
Dec-22	7.218	22.142	0.000	0.000	3.962	12.154	3.962	12.154	301.866	3.174	9.738	0.082	0.250
Jan-23	7.453	22.860	0.000	0.000	4.619	14.170	4.619	14.170	261.660	2.752	8.441	0.082	0.250
Feb-23	7.920	24.295	0.000	0.000	4.427	13.579	4.427	13.579	324.430	3.412	10.465	0.082	0.250
Mar-23	7.916	24.281	0.000	0.000	4.361	13.377	4.361	13.377	330.275	3.473	10.654	0.082	0.250
Apr-23	7.620	23.375	0.000	0.000	3.819	11.714	3.819	11.714	353.759	3.720	11.412	0.082	0.250
May-23	7.305	22.408	0.000	0.000	2.230	6.841	2.230	6.841	474.811	4.993	15.316	0.082	0.250
Jun-23	7.856	24.097	0.000	0.000	3.217	9.868	3.217	9.868	433.354	4.557	13.979	0.082	0.250
Jul-23	7.916	24.281	0.000	0.000	1.686	5.172	1.686	5.172	584.625	6.148	18.859	0.082	0.250
Aug-23	8.396	25.755	0.000	0.000	1.788	5.485	1.788	5.485	620.619	6.527	20.020	0.082	0.250
Sep-23	8.288	25.425	0.000	0.000	2.629	8.065	2.629	8.065	530.404	5.578	17.110	0.082	0.250
Oct-23	8.246	25.296	0.000	0.000	3.682	11.293	3.682	11.293	426.333	4.483	13.753	0.082	0.250
Nov-23	8.070	24.756	0.000	0.000	3.942	12.091	3.942	12.091	384.864	4.047	12.415	0.082	0.250
Dec-23	7.218	22.142	0.000	0.000	3.962	12.154	3.962	12.154	301.866	3.174	9.738	0.082	0.250
Jan-24	7.453	22.860	0.000	0.000	4.619	14.170	4.619	14.170	261.660	2.752	8.441	0.082	0.250
Feb-24	7.920	24.295	0.000	0.000	4.427	13.579	4.427	13.579	324.430	3.412	10.465	0.082	0.250
Mar-24	7.916	24.281	0.000	0.000	4.361	13.377	4.361	13.377	330.275	3.473	10.654	0.082	0.250
Apr-24	7.620	23.375	0.000	0.000	3.819	11.714	3.819	11.714	353.759	3.720	11.412	0.082	0.250
May-24	7.305	22.408	0.000	0.000	2.230	6.841	2.230	6.841	474.811	4.993	15.316	0.082	0.250
Jun-24	7.856	24.097	0.000	0.000	3.217	9.868	3.217	9.868	433.354	4.557	13.979	0.082	0.250
Jul-24	7.916	24.281	0.000	0.000	1.686	5.172	1.686	5.172	584.625	6.148	18.859	0.082	0.250
Aug-24	8.396	25.755	0.000	0.000	1.788	5.485	1.788	5.485	620.619	6.527	20.020	0.082	0.250
Sep-24	8.288	25.425	0.000	0.000	2.629	8.065	2.629	8.065	530.404	5.578	17.110	0.082	0.250
Oct-24	8.246	25.296	0.000	0.000	3.682	11.293	3.682	11.293	426.333	4.483	13.753	0.082	0.250
Nov-24	8.070	24.756	0.000	0.000	3.942	12.091	3.942	12.091	384.864	4.047	12.415	0.082	0.250
Dec-24	7.218	22.142	0.000	0.000	3.962	12.154	3.962	12.154	301.866	3.174	9.738	0.082	0.250
Jan-25	7.453	22.860	0.000	0.000	4.619	14.170	4.619	14.170	261.660	2.752	8.441	0.082	0.250
Feb-25	7.920	24.295	0.000	0.000	4.427	13.579	4.427	13.579	324.430	3.412	10.465	0.082	0.250
Mar-25	7.916	24.281	0.000	0.000	4.361	13.377	4.361	13.377	330.275	3.473	10.654	0.082	0.250
Apr-25	7.620	23.375	0.000	0.000	3.819	11.714	3.819	11.714	353.759	3.720	11.412	0.082	0.250
May-25	7.305	22.408	0.000	0.000	2.230	6.841	2.230	6.841	474.811	4.993	15.316	0.082	0.250
Jun-25	7.856	24.097	0.000	0.000	3.217	9.868	3.217	9.868	433.354	4.557	13.979	0.082	0.250
Jul-25	7.916	24.281	0.000	0.000	1.686	5.172	1.686	5.172	584.625	6.148	18.859	0.082	0.250
Aug-25	8.396	25.755	0.000	0.000	1.788	5.485	1.788	5.485	620.619	6.527	20.020	0.082	0.250

MONTHLY BWRP AND RECYCLED WATER FLOWS

Month	Influent		Discharge 001		Discharge 002		Total Discharge		RW Deliveries			Sludge/Bypass	
	MGD	AF/day	MGD	AF/day	MGD	AF/day	MGD	AF/day	AF	MGD	AF/day	MGD	AF/day
Sep-25	8.288	25.425	0.000	0.000	2.629	8.065	2.629	8.065	530.404	5.578	17.110	0.082	0.250
Oct-25	8.246	25.296	0.000	0.000	3.682	11.293	3.682	11.293	426.333	4.483	13.753	0.082	0.250
Nov-25	8.070	24.756	0.000	0.000	3.942	12.091	3.942	12.091	384.864	4.047	12.415	0.082	0.250
Dec-25	7.218	22.142	0.000	0.000	3.962	12.154	3.962	12.154	301.866	3.174	9.738	0.082	0.250
Jan-26	7.453	22.860	0.000	0.000	4.619	14.170	4.619	14.170	261.660	2.752	8.441	0.082	0.250
Feb-26	7.920	24.295	0.000	0.000	4.427	13.579	4.427	13.579	324.430	3.412	10.465	0.082	0.250
Mar-26	7.916	24.281	0.000	0.000	4.361	13.377	4.361	13.377	330.275	3.473	10.654	0.082	0.250
Apr-26	7.620	23.375	0.000	0.000	3.819	11.714	3.819	11.714	353.759	3.720	11.412	0.082	0.250
May-26	7.305	22.408	0.000	0.000	2.230	6.841	2.230	6.841	474.811	4.993	15.316	0.082	0.250
Jun-26	7.856	24.097	0.000	0.000	3.217	9.868	3.217	9.868	433.354	4.557	13.979	0.082	0.250

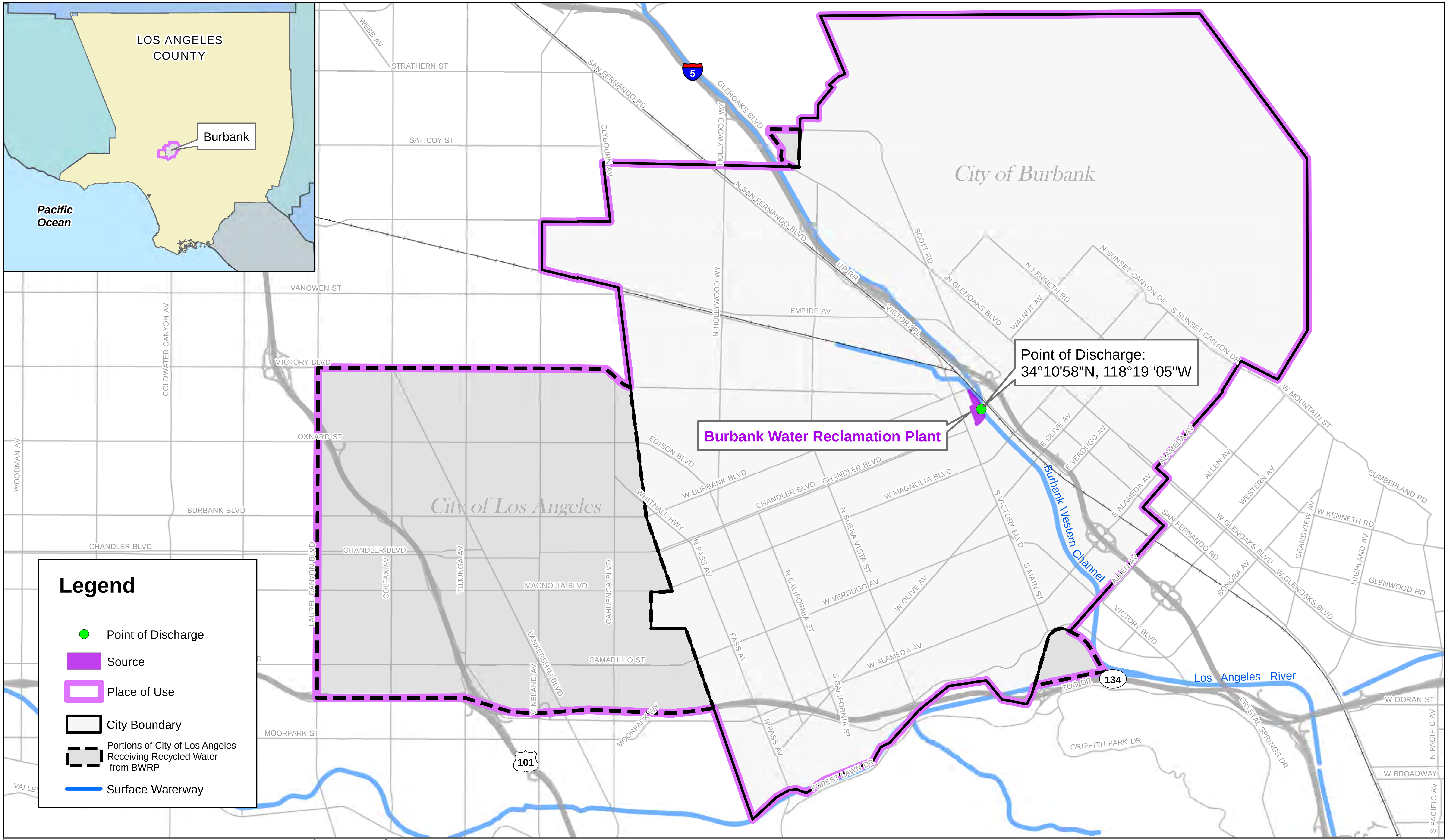

Monthly Discharge (MGD)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Jan-90
Dec-90
Nov-91
Oct-92
Sep-93
Aug-94
Jul-95
Jun-96
May-97
Apr-98
Mar-99
Feb-00
Jan-01
Dec-01
Nov-02
Oct-03
Sep-04
Aug-05
Jul-06
Jun-07
May-08
Apr-09
Mar-10
Feb-11
Jan-12
Dec-12
Nov-13
Oct-14
Sep-15
Aug-16
Jul-17
Jun-18
May-19
Apr-20
Mar-21
Feb-22
Jan-23
Dec-23
Nov-24
Oct-25

RW Sales Factors	
Month	**Factor**
July	0.116296994
August	0.12345712
September	0.105511021
October	0.084808613
November	0.076559342
December	0.060049034
January	0.052050903
February	0.064537442
March	0.065700154
April	0.070371851
May	0.094452176
June	0.08620535

RW Sales Totals	
Year	**Sales (AF)**
16/17	2947
17/18	2972
18/19	2892
19/20	3002
20/21	3012
21/22	3027
22/23	3027
23/24	3027
24/25	3027

Exhibit 9

Exhibit 9



Burbank Water and Power Since 1913

Place of Use: Recycled Water User Sites

Recycled Water User Sites 2017-03-15 Rev03 TL/CB

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** Change to WW0019 (1993 Order)

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: See Attachments to Wastewater Change Petition (WW0091), filed concurrently

Proposed: See Attachments to Wastewater Change Petition (WW0091), filed concurrently

Place of Use – Identify area using Public Land Survey System descriptions to ¼-¼ level; for irrigation, list number of acres irrigated.

Present: See Attachments to Wastewater Change Petition (WW0091), filed concurrently

Proposed: SSee Attachments to Wastewater Change Petition (WW0091), filed concurrently

Purpose of Use

Present:

Proposed:

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:

Proposed:

Temporary Urgency

This temporary urgency change will be effective from ______ to ______ .

Include an attachment that describes the urgent need that is the basis of the temporary urgency change and whether the change 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:

Downstream Location:

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.

The BWRP provides recycled water subject to BWP's Rules and Regulations for Utility Service.

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.

See Attachments to Wastewater Change Petition (WW0091), filed concurrently

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 March 15, 2017 at Burbank, California .

William S. Moore J.

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)

Appendix B

LA River Reduced Discharge Study: Hydraulic Modeling Report (March, 2017) (Hydraulic Modeling Report I)

LOS ANGELES RIVER REDUCED DISCHARGE STUDY

Hydraulic Modeling Report I

Prepared for
City of Burbank Department of Water and Power

March 6th, 2017

LOS ANGELES RIVER REDUCED DISCHARGE STUDY

Hydraulic Modeling Report I

Prepared for
City of Burbank Department of Water and Power

March 6th, 2017

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1 INTRODUCTION

1.1 Purpose of Study

The City of Burbank Department of Water and Power (City) currently provides tertiary treatment of sanitary wastewater at the Burbank Water Reclamation Plant (WRP). Treated water is either recycled and reused, or discharged into the Burbank Western Channel, a tributary of the Los Angeles River. The study area is shown in Figure 1. Between 1993 and 2015-16 the volume of treated wastewater discharged in the Burbank Western Channel has fluctuated between 4,198 and 8,277 acre-feet per year (AF) or 5.8 and 11.4 cubic feet per second (cfs) as shown in Figure 2. The City proposes to gradually increase its use of recycled water, reducing flows via the Burbank Western Channel into the Los Angeles River to 3,979 AF (5.5 cfs) over ten years. For context, average daily flows in the Los Angeles River within the study reach between 1985 and 2012, excluding flows from Burbank WRP, were 284 cfs, with average dry season flows of 127 cfs. In 2016 dry season base flows at Sepulveda Dam were approximately 50 cfs, reflecting recent drought conditions and water conservation measures.

The Burbank Western Channel is a fully concrete-lined channel that flows for approximately 12,000 feet until discharging into the Los Angeles River at the Los Angeles Equestrian Center near Riverside Drive. The 7.8 miles of Los Angeles River channel from the Burbank Western Channel confluence to the confluence with Arroyo Seco 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. Parts of these reaches support riparian and aquatic habitat, and recreation including kayaking and canoeing.

The purpose of the Los Angeles River Reduced Discharge study is to assess the effects of the proposed discharge reduction from the Burbank WRP on flows in the Los Angeles River with respect to in-channel habitat and recreational uses.

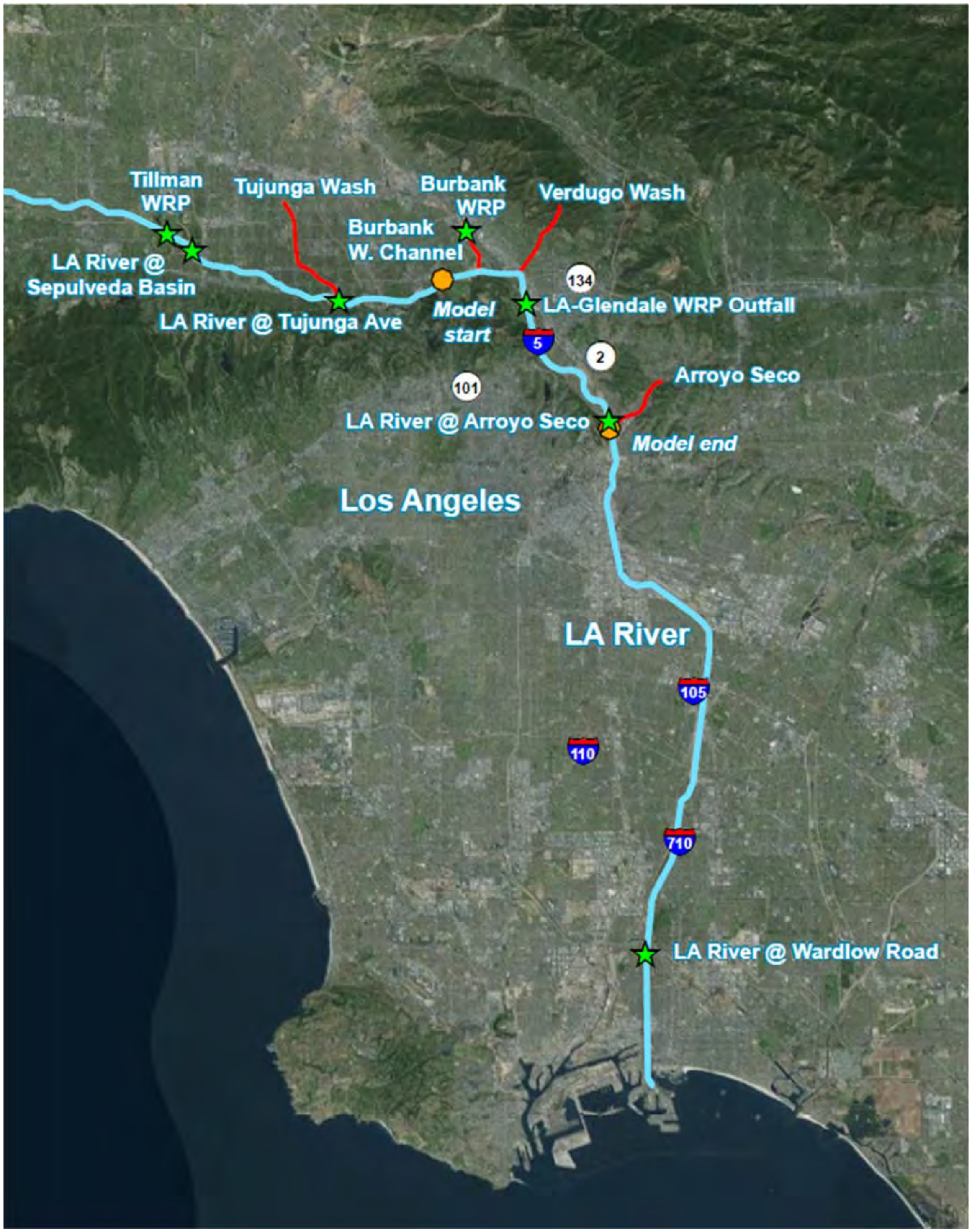


Figure 1. Study area

1.2 Study Area

The limits of the study area extend from the confluence of the Burbank Western Channel and the Los Angeles River at the Los Angeles Equestrian Center near Riverside Drive, downstream to the Arroyo Seco confluence near Highway 110 (Figure 1). The Arroyo Seco confluence was selected as the downstream limit because the Los Angeles River downstream of this point is a completely concrete lined channel with no soft bottom or vegetation until the estuary, at which point low flow water levels are tidally controlled. Of the 7.8 miles of channel in the study reach, approximately 6.5 miles is soft bottomed, with 1.3 miles of fully hardened channel around bridges and hydraulic structures. The study reach is a subset of the Alternatives with Restoration Benefits and Opportunities for Restoration (ARBOR) reach that was evaluated by the USACE Los Angeles River Ecosystem Restoration Feasibility Study (LAREFS) (USACE 2013). The study described in this report covers reaches 2-6 of the ARBOR study area.

1.3 Summary of Modeling Approach

The study approach was to use a one-dimensional hydraulic model of the Los Angeles River between the confluence with the Burbank Western Channel and the confluence with Arroyo Seco to assess the effects of reduced flow from Burbank WRP on the velocity, depth of flow and wetted channel area within the Los Angeles 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 Burbank WRP and combining them with background flows in the Los Angeles River, the degree to which potential project flow changes are likely to affect water depths, velocities and wetted channel areas in the Los Angeles River can be estimated.

The study used the recently-developed existing conditions HEC RAS model of the study reach developed by the Los Angeles District US Army Corps of Engineers for the Flood Plain Management Services (FPMS) Special Study of the Los Angeles River (LAR) (USACE, 2016). Historic and proposed discharges from Burbank WRP and the Los Angeles River were analyzed to develop the project and background flows.

2 METHODS

2.1 Characterize Project and Background Flows

Two sources of flow were considered in this assessment: flows from Burbank WRP (including existing, proposed and hypothetical flows), and flows in the Los Angeles River that are independent of the Burbank WRP flows.

2.1.1 Burbank WRP flows (Project flows)

Existing and proposed flows from Burbank WRP were taken from the project description (Attachment A – Project Description, ESA, 2017a). During Financial Year 2015/16 5,376 AF of tertiary treated effluent was discharged into the Burbank Western Channel (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) as shown in Figure 2. A flow at Burbank WRP of 6.3 cfs was also modeled to represent the interim condition between existing and with-project conditions, and a flow of 2.6 cfs (half the proposed project flow) was modeled to bookend the proposed flow range. Note that the lowest flow is not proposed by the project.

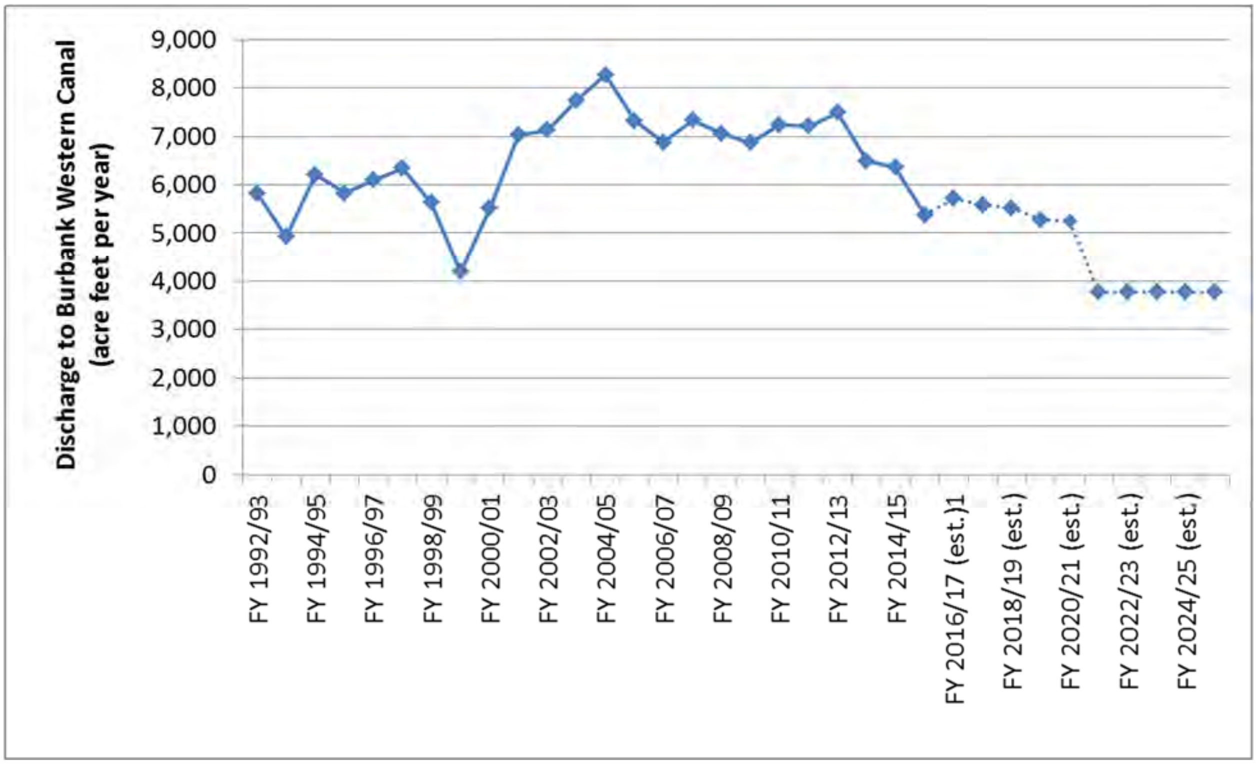


Figure 2. Past and projected future discharges from Burbank WRP to the Burbank Western Channel (Source: ESA 2017a)

2.1.2 Los Angeles River Flows (Background Flows)

Background flows were assumed to be present in the Los Angeles River independent of flows from Burbank WRP. Flows in the study reach were characterized using two scenarios:

- Baseline summer low flow conditions: USGS flow data for the Los Angeles River from the Sepulveda Basin (USGS gauge 11092450) was analyzed for the 2016 dry season (April to September). This data was analyzed by ESA for this study.
- Long term summer low flow conditions: Flows for the Los Angeles River upstream of Arroyo Seco (Flow Gage F57C-R operated by Los Angeles County Department of Public Works (LACDPW) for dry seasons from 1985 to 2012. This data was developed by the USACE to represent summer conditions for the ARBOR reach for the LAREFS study (USACE 2013).

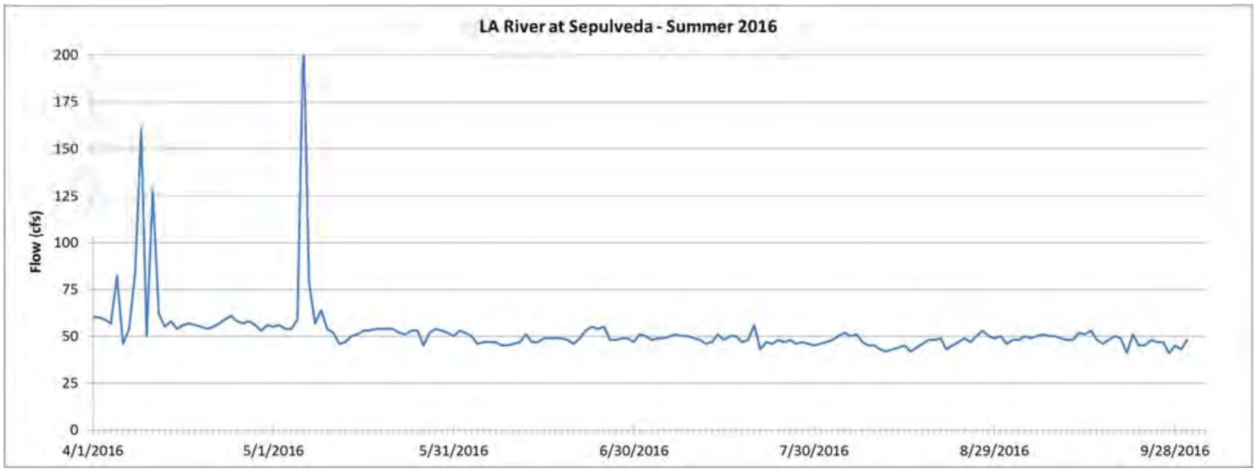


Figure 3. Daily flow in the Los Angeles River at Sepulveda Basin (USGS gauge 11092450) for April to September 2016.

With the exception of two higher flow events in April and May, baseline flow below Sepulveda Basin was around 50 cfs during the summer of 2016. A flow of 50 cfs was adopted as the baseline background flow for the study. This value is considered conservative (makes flow reductions from Burbank WRP appear to have a greater effect on the Los Angeles River than they actually have) because additional flows join the Los Angeles River between Sepulveda Basin and the Burbank Western Channel (e.g. via Tujunga Wash and local stormdrains) and releases from the Los Angeles – Glendale Water Reclamation Plant (LAG WRP) join the river between ARBOR reaches 3 and 4. In addition, groundwater upwelling is believed to contribute to flows in the study area. A review of the LACDPW annual Hydrologic Reports for the last 10 water years prior to 2015-16 showed that the Los Angeles River gained significant volumes of flow (at least 15 cfs and as much as 30 cfs in addition to flows from the Burbank Western Channel) between the confluence with Tujunga Wash and the confluence with Arroyo Seco in all summers (data for water year 2015-16 were not available at the time this report was written).

Longer term summer flows were simulated using the values presented in the LAREFS: Appendix F5 – Hydrology and Hydraulics (USACE 2013). For this study flows since 1985 were used as background flows, since this captures the period since Tillman WRP has been treating and releasing flows near Sepulveda Dam, greatly changing the flow regime during the summer dry period. The long term flows are considered representative of average conditions over the last 25 years, but may be under-conservative with respect to the recent drought and water conservation measures.

Per Table 9 of USACE 2013, average daily flows in the study reach between 1985 and 2012 are 134 cfs for the dry season (April through September). Since these flows include flow from the Burbank Western Channel, the existing flows from Burbank WRP (7.4 cfs) were deducted from 134 cfs to provide a modeled background flow of 126.6 cfs for this study.

2.1.3 Flow Scenarios Assessed

The range of background and project flows described above was combined to provide 15 potential scenarios (3 background flows x 5 project flows). For this study the average daily flows were not modeled since they were considered unrepresentative of summer conditions when the Los Angeles River is most sensitive to potential flow reductions, but they are included in Table 1 below to provide context on potential project effects outside the dry season. Scenarios 1a-d represent long term average conditions during the summer dry season, while Scenarios 2a-d represent the recent baseline conditions.

Scenario	Background flow (LA River excluding Burbank inputs) cfs	LA River condition	Project flow (Burbank inputs) cfs	Flow change in LA River	Burbank WRP condition
1a	126.6	Long term average dry season flow (April – Sept, 1985-2012)	8.8	0%	Existing effluent
1b			7.2	-1%	Interim effluent (existing effluent minus half proposed reduction)
1c			**5.5**	**-2%**	**Proposed effluent in 10 years**
1d			2.8	-4%	Half proposed effluent
2a	50	Baseline dry season flow (April – Sept 2016)	8.8	0%	Existing effluent
2b			7.2	-2%	Interim effluent (existing effluent minus half proposed reduction)
2c			**5.5**	**-4%**	**Proposed effluent in 10 years**
2d			2.8	-8%	Half proposed effluent
not modeled	283.6	Average year (Jan – Dec, 1985-2012)	8.8	0%	Existing effluent
			7.2	-1%	Interim effluent (existing effluent minus half proposed reduction)
			5.5	-1%	Proposed effluent in 10 years
			2.8	-2%	Half proposed effluent

Table 1. Flow conditions assessed and modeled for the study

Note: proposed project conditions in bold

2.1.4 Assumptions Regarding Existing Inflows to the LA River and Potential Cumulative Effects from Future Flow Reductions

The existing background flow condition assumed for the Los Angeles River is based on summer 2016 flow measurements in the Los Angeles River downstream of Sepulveda Dam, and ignores the contributions of several tributaries and discharges from the LAG WRP. Several proposed water recycling projects including the Tujunga Spreading Grounds Enhancement Project and the Glendale Water and Power (LAG) Recycled Water Diversion have the potential to reduce discharges to the Los Angeles River in future, but these inputs were not assumed to contribute anything to the background flow because they enter the river downstream of the USGS Sepulveda Basin flow gage, and because the LAG WRP flows don't apply to ARBOR reaches 2 and 3. The impact analysis is therefore considered to be conservative, in that it does not rely on inputs that are currently augmenting river flows, but that may be reduced as a result of future projects. In other words, the analysis exaggerates the effect of the project flow reduction by underestimating the current background flow.

The proposed State Historic Park diversion will divert 106 acre feet per year from the Los Angeles River and was not accounted for in the analysis, which stops just upstream at the Arroyo Seco confluence (the downstream limit of this study reach). The proposed State Historic Park diversion represents a 0.1 cfs flow reduction against an assumed background flow of 50 cfs at Sepulveda Basin, and based on the modeled effects of the Burbank WRP flow reduction would have undetectable effects on water depth, velocity and wetted area. The effects of the diversion would be much less than the hypothetical bookend scenarios 1d and 2d, which went beyond any proposed flow reduction scenario.

2.2 Hydraulic Model Setup

2.2.1 Selection of a Representative Model

This study employed a HEC RAS hydraulic model developed by the Los Angeles District USACE that simulates the Los Angeles River between Barham Boulevard and First Street, encompassing the study reach. The model was developed for a Flood Plain Management Services (FPMS) Special Study of the Los Angeles River (LAR), and is referred to as the 2016 LAR FPMS 1D/2D hydraulic model (USACE, 2016). This model is believed to be the most up to date and accurate model of the Los Angeles 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.

2.2.2 Model Topography

The existing conditions geometry for the channel is based on as-built construction plans for concrete reaches and bridges, and a 2008 survey for soft-bottomed and vegetated reaches. A total of 359 channel cross sections cover the five ARBOR reaches that make up the study area.

2.2.3 Model Roughness and Hydraulic Parameters

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 Manning's n 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

Roughness was varied by the USACE across and between individual cross sections based on visual observation of channel and vegetation conditions (USACE, 2016). ESA also used the same hydraulic parameters for bridge approaches and ineffective flow areas as provided in the existing conditions HEC RAS model.

2.2.4 Model Output

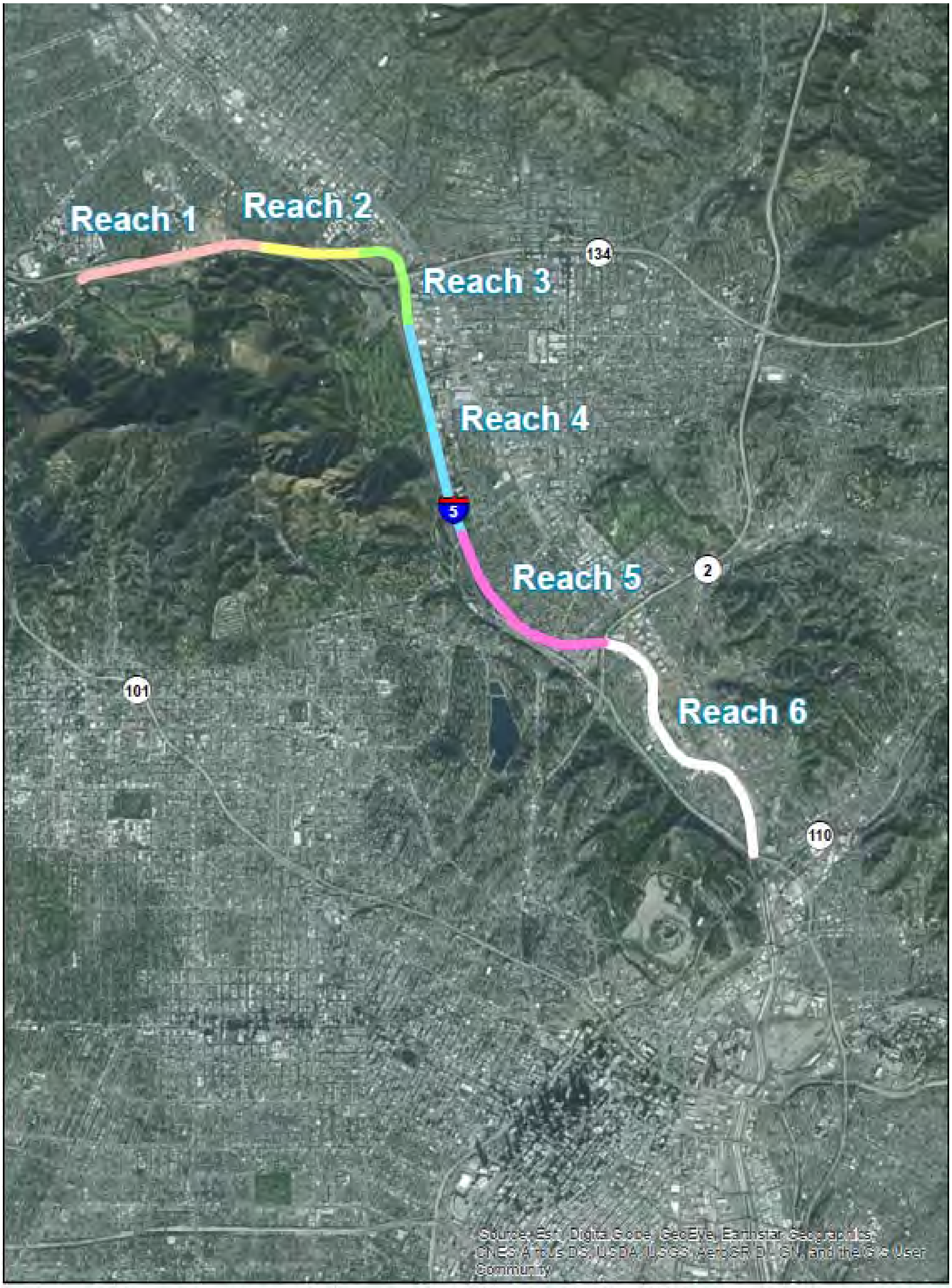
For each of the 359 cross sections within the study area the maximum flow depth (flow elevation minus channel invert elevation) and the channel velocity were exported under each flow scenario. Cross section results were averaged to the reach scale. The water surface (representing the wetted channel area) 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.

3 RESULTS

3.1 Organization of Results

For consistency with the USACE LAREFS study, the model was divided into the five reaches of the ARBOR project area. These reaches are labelled 2-6 from upstream to downstream, as shown in Figure 4 (Reach 1 is upstream of the Burbank Western Channel confluence and was not assessed in this report). 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. Note that because the proposed flow reduction has such a small effect on estimated velocity, depth and wetted channel area, only the proposed project flow reductions (scenarios 1c and 2c) are described in the following narrative, but the interim scenarios (scenarios 1b and 2b) and beyond project scenario (scenarios 1d and 2d) are shown in the associated tables and figures. The effects of the proposed interim flow scenarios are essentially half the effects of the proposed flow scenarios.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 4. ARBOR reach locations referred to in report

3.2 Changes to Velocity, Depth and Wetted Channel Area

As shown in Table 1, the proposed flow reduction from Burbank WRP is a very small proportion of the total dry season flow in the Los Angeles River between the confluence with the Burbank Western Channel and Arroyo Seco. The proposed project flow reduction from 5,376 AF to 3,766 AF (7.4 cfs to 5.2 cfs) represents a 1% reduction in average year-round flows within the study reach, a 2% flow reduction during the long-term average dry season (April to September, 1985-2012), and a 4% flow reduction in baseline flows (April – September, 2016). These results somewhat overstate the impact of the proposed flow reduction, since additional flows enter the river downstream of Sepulveda Dam from groundwater upwelling, the Los Angeles – Glendale Water Reclamation Plant, local stormdrains and Tujunga Wash. These flows would somewhat 'dampen' the effects of the proposed project on the study area.

3.2.1 Overall Study Area Results

The hydraulic model results show that under proposed project conditions the average velocity within the entire study area would be slightly reduced, from 1.38 to 1.36 feet/sec (-1.4%) under the 2016 baseline dry season flow, and that average depth in the deepest part of the channel would be slightly reduced from 0.65 to 0.64 feet (-1.3%) as shown in Table 2. The proposed project would slightly reduce the total wetted area of channel from 132.89 to 132.20 acres (0.69 acres, -0.5% of existing condition) during the 2016 dry season baseline condition, as shown in Table 3. 26% of the reduction in wetted area occurs on concrete banks or bed and 74% on soft channel materials, so the reduction in wetted earthen channel is 0.51 acres or 0.39% of the existing wetted channel area.

During long-term average dry season conditions the average velocity under the proposed project condition would be reduced from 1.83 to 1.82 feet/sec (-0.6%), the average depth in the deepest part of the channel reduced from 0.92 to 0.92 feet (-0.6%) and total wetted area from 150.74 to 150.49 acres (0.25 acres, -0.2% of existing conditions). The proportion of natural channel affected by the reduction in wetted area is 58% for the long term average summer condition, so 0.15 acres of earthen channel are dewatered by the proposed flow condition. Results from all the scenarios are shown averaged for the entire study reach in Tables 2 and 3, with reach-by-reach results in Tables 4 and 5.

For both sets of background flows (2016 dry season baseline and long term dry season average), the modeled project effects are very minor, fall well within the range of data collection and hydraulic model uncertainty and error, and would likely be undetectable in the field.

Scenario	Background flow (LA River) cfs	Existing flow depth and velocity	Project flow from Burbank WRP (cfs)	Flow depth with Burbank inputs (ft)	Change in flow depth (inches)	Flow velocity with Burbank inputs (ft/sec)	Change in flow velocity (ft/sec)
1a	126.6 cfs (Average dry season)	0.92 ft	7.4	0.92	0.00	1.83	0.00
1b			6.3	0.92	-0.04	1.88	0.05
1c			**5.2**	**0.92**	**-0.07**	**1.82**	**-0.01**
1d		1.83 ft/s	2.6	0.91	-0.15	1.80	-0.02
2a	50 cfs (2016 baseline)	0.65 ft	7.4	0.65	0.00	1.38	0.00
2b			6.3	0.65	-0.06	1.37	-0.01
2c			**5.2**	**0.64**	**-0.10**	**1.36**	**-0.02**
2d		1.38 ft/s	2.6	0.63	-0.24	1.34	-0.04

Table 2. Summary of average velocity and depth changes under different flows from Burbank WRP (average of all LAR study reaches). Project scenario highlighted in bold.

Scenario	Background flow (LA River excluding Burbank inputs) cfs	Existing wetted channel area (acres)	Project flow input from Burbank WRP (cfs)	Average wetted channel area with Burbank inputs (acres)	Change in wetted area (acres)
1a	126.6 cfs (Average dry season)	150.74 acres	7.4	150.74	0.00
1b			6.3	150.61	-0.14
1c			**5.2**	**150.49**	**-0.25 (-0.15 earth)**
1d			2.6	150.11	-0.63
2a	50 cfs (2016 baseline)	132.89 acres	7.4	132.89	0.00
2b			6.3	132.49	-0.40
2c			**5.2**	**132.20**	**-0.69 (-0.51 earth)**
2d			2.6	131.46	-1.43

Table 3. Summary of wetted channel area changes under different flows from Burbank WRP (average of all LAR study reaches). Note wetted area includes concrete channel and banks.

3.2.2 Reach-Specific Results

Within the study area, individual reaches are more or less sensitive to the proposed flow reduction than the average values shown in Tables 2 and 3, but the magnitude of change remains very small throughout the study area. The largest change in velocity predicted at the reach scale under the 2016 dry season baseline condition was -1.6% (in reaches 3 and 5), and the largest reduction in depth was -2.2% (in reach 3). The largest reduction in wetted channel area was -0.9% (in reach 6).

The largest change in velocity predicted at the reach scale under the long term summer dry season condition was -0.7% (in ARBOR reach 3), and the largest reduction in depth was -1.3% (in reach 3). The largest reduction in wetted channel area was -0.2% (in ARBOR reaches 4, 5 and 6).

As with the study area averages, the largest reach-scale modeled project effects are very minor, fall within the range of data collection and hydraulic model uncertainty and error, and would likely be undetectable in the field.

Scenario	Background flow (LA River) cfs	Existing flow depth and velocity	Project flow from Burbank WRP (cfs)	Flow depth with Burbank inputs (ft)	Change in flow depth (inches)	Flow velocity with Burbank inputs (ft/sec)	Change in flow velocity (ft/sec)
1a	126.6 cfs (Average dry season)	1.08 ft	7.4	1.08	0.0	1.64	0.00
1b			6.3	1.08	0.0	1.91	0.27
1c			**5.2**	**1.08**	**-0.1**	**1.63**	**-0.01**
1d		1.64	2.6	1.07	-0.2	1.62	-0.02
2a	50 cfs (2016 baseline)	0.78 ft	7.4	0.78	0.0	1.29	0.00
2b			6.3	0.77	-0.1	1.28	-0.01
2c			**5.2**	**0.77**	**-0.1**	**1.27**	**-0.02**
2d		1.29	2.6	0.76	-0.3	1.25	-0.04

Table 4. Summary of average velocity and depth changes under different flows from Burbank WRP for Reach 2.

Scenario	Background flow (LA River) cfs	Existing flow depth and velocity	Project flow from Burbank WRP (cfs)	Flow depth with Burbank inputs (ft)	Change in flow depth (inches)	Flow velocity with Burbank inputs (ft/sec)	Change in flow velocity (ft/sec)
1a	126.6 cfs (Average dry season)	0.23 ft 2.47	7.4	0.23	0.00	2.47	0.00
1b			6.3	0.23	-0.02	2.46	-0.01
1c			**5.2**	**0.23**	**-0.04**	**2.45**	**-0.02**
1d			2.6	0.23	-0.06	2.43	-0.04
2a	50 cfs (2016 baseline)	0.14 ft 1.76	7.4	0.14	0.00	1.76	0.00
2b			6.3	0.14	-0.02	1.74	-0.01
2c			**5.2**	**0.14**	**-0.04**	**1.73**	**-0.03**
2d			2.6	0.13	-0.09	1.69	-0.06

Table 5. Summary of average velocity and depth changes under different flows from Burbank WRP for Reach 3.

Scenario	Background flow (LA River) cfs	Existing flow depth and velocity	Project flow from Burbank WRP (cfs)	Flow depth with Burbank inputs (ft)	Change in flow depth (inches)	Flow velocity with Burbank inputs (ft/sec)	Change in flow velocity (ft/sec)
1a	126.6 cfs (Average dry season)	0.95 ft 1.70	7.4	0.95	0.00	1.70	0.00
1b			6.3	0.95	-0.05	1.70	0.00
1c			**5.2**	**0.95**	**-0.08**	**1.69**	**-0.01**
1d			2.6	0.94	-0.18	1.68	-0.02
2a	50 cfs (2016 baseline)	0.66 ft 1.27	7.4	0.66	0.00	1.27	0.00
2b			6.3	0.66	-0.07	1.26	-0.01
2c			**5.2**	**0.65**	**-0.11**	**1.26**	**-0.02**
2d			2.6	0.64	-0.26	1.23	-0.04

Table 6. Summary of average velocity and depth changes under different flows from Burbank WRP for Reach 4

Scenario	Background flow (LA River) cfs	Existing flow depth and velocity	Project flow from Burbank WRP (cfs)	Flow depth with Burbank inputs (ft)	Change in flow depth (inches)	Flow velocity with Burbank inputs (ft/sec)	Change in flow velocity (ft/sec)
1a	126.6 cfs (Average dry season)	0.8 ft 2.0	7.4	0.77	0.00	1.97	0.00
1b			6.3	0.77	-0.03	1.97	-0.01
1c			**5.2**	**0.76**	**-0.06**	**1.96**	**-0.01**
1d			2.6	0.76	-0.13	1.95	-0.03
2a	50 cfs (2016 baseline)	0.5 ft 1.4	7.4	0.55	0.00	1.43	0.00
2b			6.3	0.54	-0.04	1.42	-0.01
2c			**5.2**	**0.54**	**-0.08**	**1.41**	**-0.02**
2d			2.6	0.53	-0.19	1.38	-0.05

Table 7. Summary of average velocity and depth changes under different flows from Burbank WRP for Reach 5.

Scenario	Background flow (LA River) cfs	Existing flow depth and velocity	Project flow from Burbank WRP (cfs)	Flow depth with Burbank inputs (ft)	Change in flow depth (inches)	Flow velocity with Burbank inputs (ft/sec)	Change in flow velocity (ft/sec)
1a	126.6 cfs (Average dry season)	1.57 ft 1.35	7.4	1.57	0.00	1.35	0.00
1b			6.3	1.57	-0.05	1.35	0.00
1c			**5.2**	**1.56**	**-0.11**	**1.34**	**-0.01**
1d			2.6	1.55	-0.24	1.34	-0.01
2a	50 cfs (2016 baseline)	1.13 ft 1.16	7.4	1.13	0.00	1.16	0.00
2b			6.3	1.12	-0.09	1.15	-0.01
2c			**5.2**	**1.12**	**-0.17**	**1.14**	**-0.02**
2d			2.6	1.10	-0.40	1.12	-0.03

Table 8. Summary of average velocity and depth changes under different flows from Burbank WRP for Reach 6.

Scenario	**Background flow (LA River excluding Burbank inputs) cfs**	**Background wetted channel area (acres)**	**Project flow input from Burbank WRP (cfs)**	**Average wetted channel area with Burbank inputs (acres)**	**Change in wetted area (acres)**
1a	126.6 cfs (Average dry season)	17.19	7.4	17.19	0.00
1b			6.3	17.18	-0.01
1c			**5.2**	**17.17**	**-0.03**
1d			2.6	17.14	-0.06
2a	50 cfs (2016 baseline)	15.05	7.4	15.05	0.00
2b			6.3	15.00	-0.04
2c			**5.2**	**14.96**	**-0.09**
2d			2.6	14.86	-0.19

Table 9. Summary of wetted channel area changes under different flows from Burbank WRP for Reach 2. Note wetted area includes concrete channel and banks.

Scenario	**Background flow (LA River excluding Burbank inputs) cfs**	**Background wetted channel area (acres)**	**Project flow input from Burbank WRP (cfs)**	**Average wetted channel area with Burbank inputs (acres)**	**Change in wetted area (acres)**
1a	126.6 cfs (Average dry season)	29.55	7.4	29.55	0.00
1b			6.3	29.55	0.00
1c			**5.2**	**29.55**	**0.00**
1d			2.6	29.54	0.00
2a	50 cfs (2016 baseline)	29.46	7.4	29.46	0.00
2b			6.3	29.46	0.00
2c			**5.2**	**29.46**	**0.00**
2d			2.6	29.46	-0.01

Table 10. Summary of wetted channel area changes under different flows from Burbank WRP for Reach 3. Note wetted area includes concrete channel and banks.

Scenario	Background flow (LA River excluding Burbank inputs) cfs	Background wetted channel area (acres)	Project flow input from Burbank WRP (cfs)	Average wetted channel area with Burbank inputs (acres)	Change in wetted area (acres)
1a	126.6 cfs (Average dry season)	33.62	7.4	33.62	0.00
1b			6.3	33.58	-0.04
1c			**5.2**	**33.54**	**-0.07**
1d			2.6	33.45	-0.17
2a	50 cfs (2016 baseline)	29.45	7.4	29.45	0.00
2b			6.3	29.34	-0.11
2c			**5.2**	**29.28**	**-0.17**
2d			2.6	29.14	-0.31

Table 11. Summary of wetted channel area changes under different flows from Burbank WRP for Reach 4. Note wetted area includes concrete channel and banks.

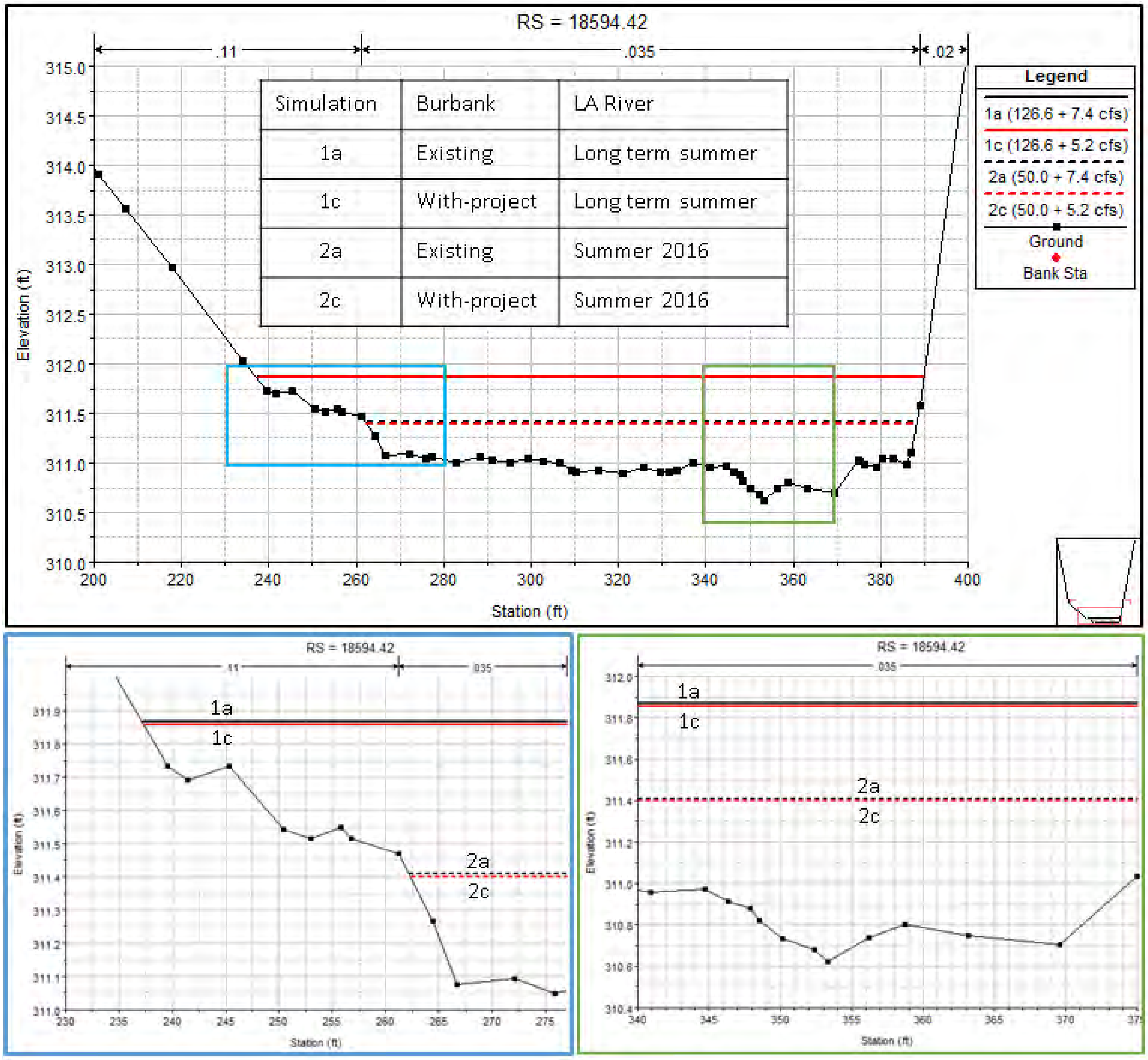
Scenario	Background flow (LA River excluding Burbank inputs) cfs	Background wetted channel area (acres)	Project flow input from Burbank WRP (cfs)	Average wetted channel area with Burbank inputs (acres)	Change in wetted area (acres)
1a	126.6 cfs (Average dry season)	33.67	7.4	33.67	0.00
1b			6.3	33.64	-0.03
1c			**5.2**	**33.60**	**-0.07**
1d			2.6	33.51	-0.16
2a	50 cfs (2016 baseline)	29.70	7.4	29.70	0.00
2b			6.3	29.58	-0.12
2c			**5.2**	**29.51**	**-0.19**
2d			2.6	29.29	-0.40

Table 12. Summary of wetted channel area changes under different flows from Burbank WRP for Reach 5. Note wetted area includes concrete channel and banks.

Scenario	Background flow (LA River excluding Burbank inputs) cfs	Background wetted channel area (acres)	Project flow input from Burbank WRP (cfs)	Average wetted channel area with Burbank inputs (acres)	Change in wetted area (acres)
1a	126.6 cfs (Average dry season)	36.72	7.4	36.72	0.00
1b			6.3	36.67	-0.05
1c			**5.2**	**36.63**	**-0.09**
1d			2.6	36.48	-0.24
2a	50 cfs (2016 baseline)	29.23	7.4	29.23	0.00
2b			6.3	29.10	-0.13
2c			**5.2**	**28.98**	**-0.25**
2d			2.6	28.72	-0.51

Table 13. Summary of wetted channel area changes under different flows from Burbank WRP for Reach 6. Note wetted area includes concrete channel and banks.

These results are shown graphically in Figure 5, which shows a representative cross section within ARBOR reach 6 with the existing and with-project modeled water surface elevations. (Only existing and with-project water surfaces shown for clarity due to the closeness of the lines.) Figure 6 shows a typical cross section used to estimate the proportion of concrete and earthen bank and bed material.



Simulation	Burbank	LA River
1a	Existing	Long term summer
1c	With-project	Long term summer
2a	Existing	Summer 2016
2c	With-project	Summer 2016

Figure 5. Modeled water surface elevations for ARBOR reach 6 under existing and with-project conditions, for long-term summer and 2016 baseline condition Los Angeles River flows

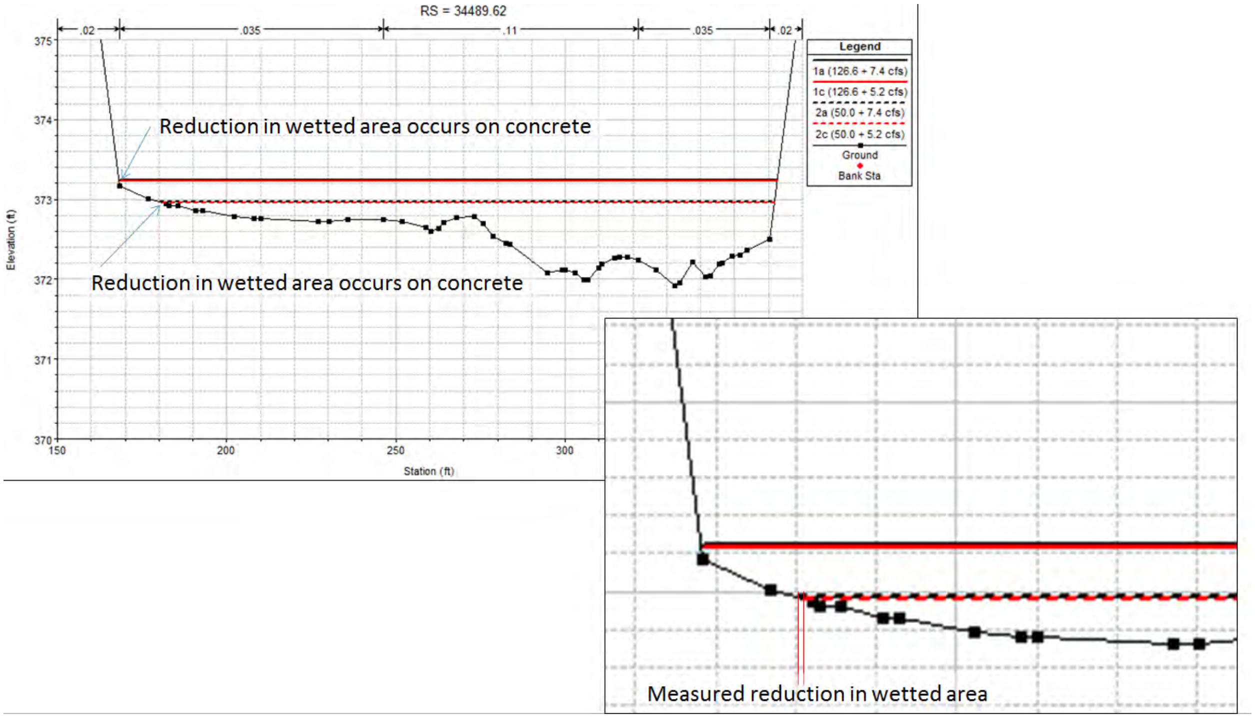


Figure 6 Example cross section used to estimate change in wetted area

3.2.3 Potential Impacts to Recreation

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. 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 Los Angeles River.

In ARBOR reach 6, average flow depth in the center of the channel is 1.13 feet under 2016 dry season baseline conditions, and is predicted to fall to 1.12 feet under the with-project condition, a decline of 0.17 inches or -1.2%. The change in wetted channel area within reach 6 is 0.25 acres (0.9% of the existing wetted area) of which 81% is concrete channel. Under the long term dry season condition, the deepest part of the channel would be 1.57 feet, and is predicted to fall to 1.56 feet under the with-project condition, a decline of 0.11 inches or 0.6%. The reduction in wetted channel area would be 0.1 acres, or 0.23%, and includes areas of hardened bank as well as channel bed.

The effects of flow reduction under both background flow scenarios are considered negligible and likely undetectable, and are not expected to impact recreation.

3.2.4 Potential Impacts to Aquatic and Riparian Habitat

The 6.5 mile reach of the study area which has a soft-bottomed channel supports in-channel riparian vegetation as well as aquatic habitat for fish, amphibian, reptiles and other organisms. Species and ecological communities potentially sensitive to changes in channel hydrology and known to be in the study reach (ESA, 2017b) include:

- Black willow thicket communities and associated birds
- Western mosquitofish (the only native fish species present in the reach)

Willow communities are typically sensitive to inundation frequency and depth to the water table. Willow habitat inundation frequency is typically important during winter high flows that will not be affected by the proposed project, and therefore have not been assessed in this study. Depth to the water table can be strongly influenced by the elevation of the prevailing low flow water surface elevation during the dry season, and this was assessed. Aquatic habitat for species such as western mosquitofish is influenced by the depth and velocity of flow, and the wetted channel area. In addition to these species specific water needs, wetted channel area directly affects the area of aquatic habitat.

The model results show changes in water depth (and so water table for vegetated areas of sediment within the channel) and velocity that are considered undetectable, and are very unlikely to affect habitat conditions. The largest reach-scale water depth reduction is less than 0.2 inches for the 2016 dry season baseline condition, and the largest change in velocity is 1.6%, with smaller changes in the long term average background flow condition. The reduction in wetted channel area is 0.69 acres (0.5% of the existing condition wetted channel area) under 2016 dry season baseline conditions, and 0.25 acres (0.2% of the total area) under long term dry season conditions. Note that under the 2016 baseline condition 26% of the reduction in wetted area occurs in areas of concrete bank or bed protection, reducing the area of earthen channel affected to 0.51 acres. Under long term summer conditions 42% of the reduction is in concrete areas, reducing the reduction in earthen wetted channel area to 0.15 acres.

4 SUMMARY AND CONCLUSIONS

The proposed reductions in flow to the Los Angeles River as a result of increased reuse of waste water from the Burbank WRP constitute a 4% reduction in baseline 2016 dry season flow downstream of Sepulveda Dam, and a 2% reduction in long term dry season flow just upstream of the Arroyo Seco flow gage. These results somewhat overstate the impact, since additional baseflows enter the river downstream of Sepulveda Dam from the Los Angeles – Glendale Water Reclamation Plant, stormdrains, tributaries and groundwater upwelling. The proposed project flow reduction translates to an average reduction in flow depth of a tenth of an inch under the 2016 baseline condition (1.3% of flow depth in the center of the channel), and less under long term average dry season conditions. Reductions in velocity are similarly less than 2% under both background flow conditions. 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 undetectable in the field. The changes in estimated channel wetted area are 0.69 acre including concrete channel sections (0.51 acres of earthen channel) in the 2016 baseline condition and 0.25 of an acre (0.15 acres earthen channel) in the long term dry season flow, or 0.5% and 0.2% of the existing wetted area respectively. This also lies within the error range of the hydraulic model.

Reviewing the flow conditions relative to the needs of recreational users and riparian and aquatic species, changes are considered undetectable and unlikely to have an impact.

5 REFERENCES

County of Los Angeles Department of Public Works, Hydrologic Report for the years 2005-06 to 2014-2015.

ESA 2017a Burbank Waterwater Change Petition, Initial Study/Mitigated Negative Declaration: Attachment A - Project description

ESA 2017b City of Burbank Recycled Wastewater Project Biological Resources Assessment of the Los Angeles River

USACE 2013. Los Angeles 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.

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Appendix C

LA River Reduced Discharge Study: Hydraulic Modeling Report (August, 2017) (Hydraulic Modeling Report II)

LA RIVER REDUCED DISCHARGE STUDY

Hydraulic Modeling Report II

Prepared for
City of Burbank Department of Water and Power

August 21st, 2017

LA RIVER REDUCED DISCHARGE STUDY

Hydraulic Modeling Report II

Prepared for
City of Burbank Department of Water and Power

August 21st, 2017

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1 INTRODUCTION

1.1 Purpose of Study

The City of Burbank Department of Water and Power (Burbank) currently provides tertiary treatment of sanitary wastewater at the Burbank Water Reclamation Plant (WRP). Treated water is either recycled and reused by Burbank and its customers, or discharged into the Burbank Western Channel, a tributary of the Los Angeles River (LA River). The study area is described below and shown in Figure 1. Between 1993 and 2015-16, the volume of treated wastewater discharged to the Burbank Western Channel by Burbank fluctuated between 4,198 and 8,277 acre-feet per year (AFY) or 5.8 and 11.4 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.

Burbank proposes to increase its use of recycled water, which will reduce annual average wastewater discharged to the Burbank Western Channel to 3,766 AF (5.2 cfs) by 2021-22 (proposed Project). As a result, wastewater flows into the LA River will also be decreased. Assuming baseline flow conditions equal to the driest/lowest flow conditions in the LA River over the last 10 years (2008), and during August, which is the month in which the lowest flows occur in the LA River every year – e.g., the worst case scenario, flows will be reduced from 4.45 to 1.79 million gallons per day (MGD) or 6.9 to 2.8 cfs, a 4.1 cfs reduction. For context, average August flows in the LA River between 2005 and 2015 ranged from 58.2 cfs at Tujunga Avenue (the gauge closest to the confluence with Burbank Western Channel – the upper end of the study area) to 92.9 cfs above the confluence with Arroyo Seco (the lower end of the study area).

The Burbank Western Channel is a fully concrete-lined channel that flows for approximately 12,000 feet until discharging into the LA River at the Los Angeles Equestrian Center near Riverside Drive. The 7.8 miles of LA River channel from the Burbank Western Channel confluence to the confluence with Arroyo Seco 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. Parts of these reaches support riparian and aquatic habitat, and recreation including kayaking and canoeing.

The purpose of this report is to assess the effects of the proposed Project on flows in the LA River with respect to in-channel biological habitat and recreational uses.

In response to comments received from Los Angeles Department of Water and Power (LADWP) and Los Angeles Sanitation District (LASAN) (collectively, “LA”), this report includes a detailed analysis of background flows in the LA River as they change downstream and analyzes the cumulative effects of the proposed Project and other projects with related impacts. In response to LA’s comments, this report amplifies the analysis contained in an earlier Hydraulic Modeling Report, dated March 6, 2017 and referred to as Hydraulic Modeling Report I. This report (Hydraulic Modeling Report II), and the earlier version, are based on the same flow model, but use different baseline conditions and flow inputs, and reach the same conclusion—that the combined cumulative impact associated with the Project’s incremental effect and the effects of other projects on LA River flows is not significant.

1.2 Study Area

The study area extends from the confluence of the Burbank Western Channel and the LA River at the Los Angeles Equestrian Center near Riverside Drive, downstream to the Arroyo Seco confluence near Highway 110 (Figure 1). The Arroyo Seco confluence was selected as the downstream limit because: (1) the LA River downstream of this point is a completely concrete lined channel with no soft bottom or habitat until the estuary at the mouth of the Pacific Ocean, at which point low flow water levels are tidally controlled; and (2) the concrete reaches downstream of the Arroyo Seco confluence are not used for recreation. Of the 7.8 miles of channel in the study area, approximately 6.5 miles is soft bottomed, with 1.3 miles of fully hardened channel around bridges and hydraulic structures.

To orient readers with other studies of the LA River, the study area 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 (LAREFS) (USACE 2013). The study area employed for analysis of the Project, as described in this report, covers reaches 2-6 of the ARBOR study area (ARBOR reach 1 is upstream of the confluence with the Burbank Western Channel and thus unaffected by the Project).

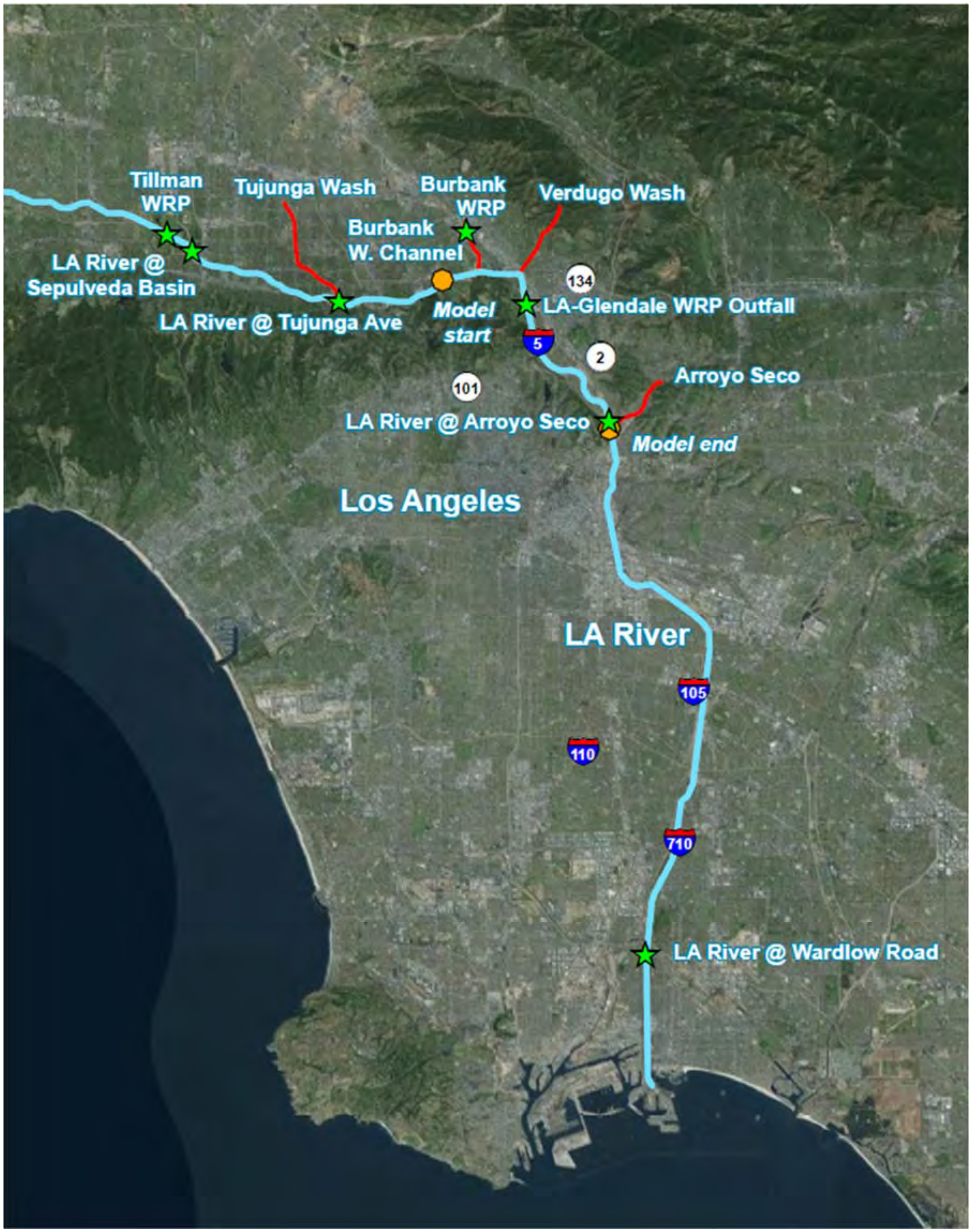


Figure 1. Study area. Study area is between the model start and model end points.

1.3 Summary of Modeling Approach

The study approach used a one-dimensional hydraulic model of the LA River between the confluence with the Burbank Western Channel and the confluence with Arroyo Seco to assess the effects of reduced flow from Burbank 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 Burbank 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, encompassing the study reach. 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 Burbank WRP and the LA River were analyzed to develop the Project flows and background flows.

2 METHODS

2.1 Characterize Project and Background Flows

2.1.1 Potential cumulative flow reductions considered

In their comment letter, LADWP and LASAN listed several activities that have the potential to cumulatively reduce flows in the LA River, specifically:

1. City of Glendale, Wastewater Change Petition (WW0097)
2. Lower Los Angeles River Revitalization Master Plan
3. City of Los Angeles' River Revitalization Master Plan
4. USACE Los Angeles River Ecosystem Restoration Feasibility Study
5. City of Los Angeles 2012 Recycled Water Master Planning Documents
6. LADWP 2015 Stormwater Capture Master Plan
7. City of Los Angeles Enhanced Watershed Management Plan
8. Water Integrated Resources Plan and One Water LA 2040
9. Projected reduction of groundwater upwelling
10. Future revitalization efforts along Arroyo Seco

ESA conducted a review of publically-available reports and information on each of the activities listed above, along with three other activities that were not included in LA's Comment Letter. (See Exhibit 1 attached hereto). With the exception of two pending wastewater change petitions, one of which was not included in LA's comment letter (see further discussion below), none of the actions identified in LA's comments 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 proposed 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 1).

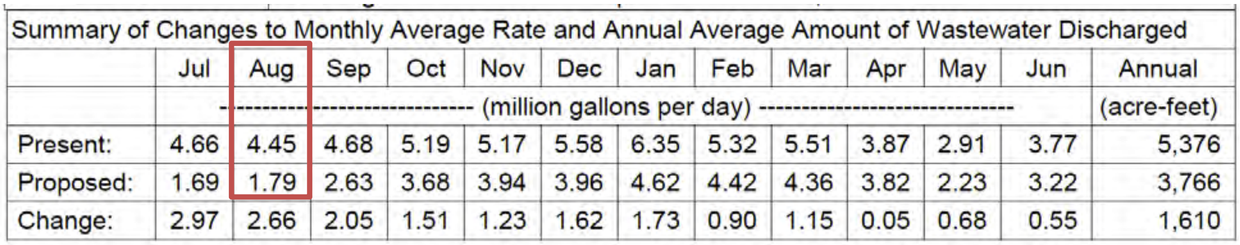
The two pending wastewater change petitions (see Water Code § 1211), include:

1. The City of Glendale's wastewater change petition (WW0097), noticed April 20, 2017 (Glendale Petition), for proposed reductions in wastewater to the LA River from the Los Angeles-Glendale Water Reclamation Plant (LAGWRP). The Glendale Petition proposes to reduce flow from 8.08 to 2.85 MGD in August, or 12.5 to 4.4 cfs and is considered in the cumulative impacts analysis for the proposed Project.
2. The Sanitation Districts of Los Angeles County's wastewater change petition (WW0098). However, because 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 the study area, it was not considered in the cumulative impacts analysis for the proposed Project.

As a result of this review, only the Glendale Petition 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 Burbank WRP (including existing and proposed Project flows), flows from LAGWRP (existing and proposed by the Glendale Petition) and flows in the LA River that are independent of the Project and Glendale Petition flows.

2.1.2 Burbank WRP flows (Project flows)

Existing and proposed flows from Burbank WRP were taken from the proposed Project (Wastewater Change Petition WW0019).



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

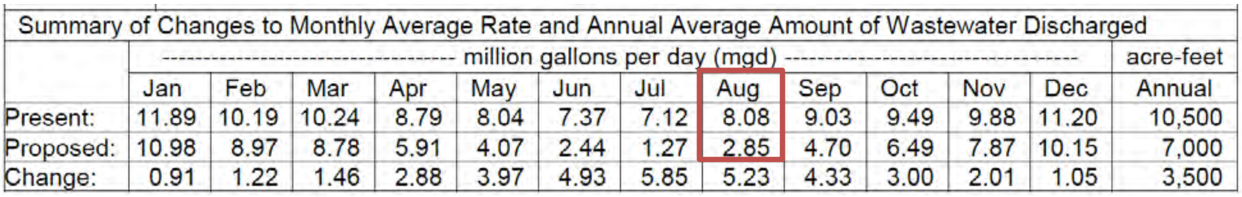
Table 1. Wastewater change petition for Burbank WRP

As shown in Table 1, 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), on average.

2.1.3 Glendale Petition flows (Cumulative Flows)

Existing and proposed flows from Glendale Petition were taken from the Wastewater Change Petition WW0097.

As shown in Table 2, flows from Glendale Petition in August will be reduced from 8.08 to 2.85 MGD (12.5 to 4.4 cfs), on average.



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

Table 2. Glendale Petition (WW0097)

2.1.4 LA River Flows (Background Flows)

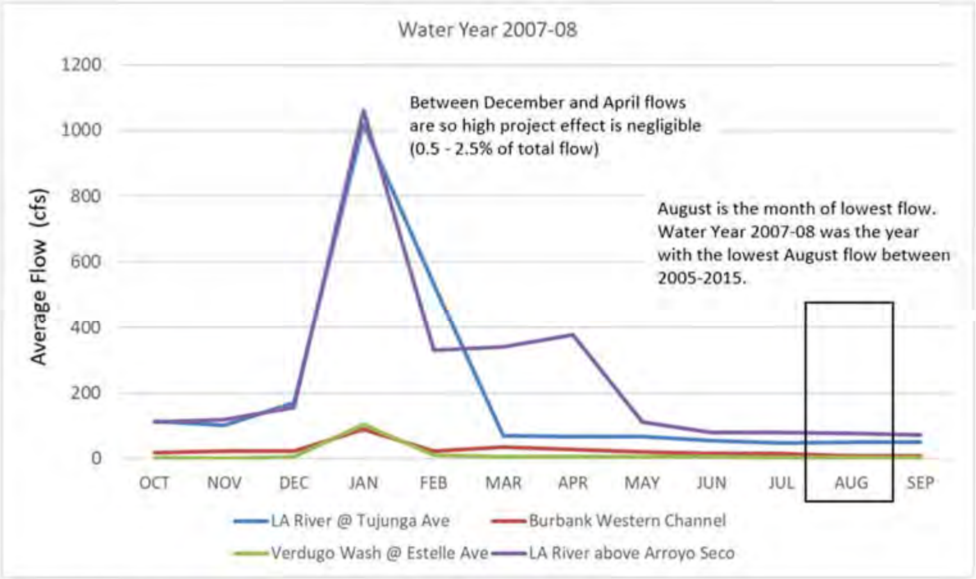
In contrast to the Hydraulic Modeling Report I which assumed a single flow value throughout the study reach and did not include inflows from other water sources downstream of Sepulveda Basin, this report does account for inflows to the LA River that occur downstream of Sepulveda Basin. The increases downstream of Sepulveda Basin in the study reach were characterized using ten years of data from the Los Angeles County Department of Public Works Annual Hydrologic Reports. Note that Water Year 2015-16 was not available at the time this analysis was performed, so the analysis covers Water Years 2005-06 to 2014-15. A Water Year extends from October 1st to September 30th. 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 2) 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 the Project flow reduction is negligible (0.5 – 2.5% of flow in the LA River for 2007-8, which was the year of lowest flow within the ten-year record reviewed.) For the ten 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 3):

- Dividing the contribution from Burbank Western Channel into discharges that would be unaffected by the proposed Project (August flow in Burbank Western Channel minus proposed August flow reduction per Table 1) and discharges that would be eliminated due to the proposed Project (proposed August flow reduction per Table 1).
- Dividing the contribution from LAGWRP into discharges that would not be affected by the Glendale Petition (August flow minus proposed flow reduction per Table 2) and discharges that would be eliminated by the Glendale Petition (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 2) 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 LAGWRP. This can be represented in the following equation:
  Other flows = LA River @ Arroyo Seco – (LA River @ Tujunga Ave + Burbank Channel + Verdugo Wash + LAGWRP 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 ten-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 a ten-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 Glendale Petition, would be proportionately less than reported here.



Data source: Los Angeles County Department of Public Works Annual Hydrologic Reports

Figure 2. Average monthly flow in the LA River

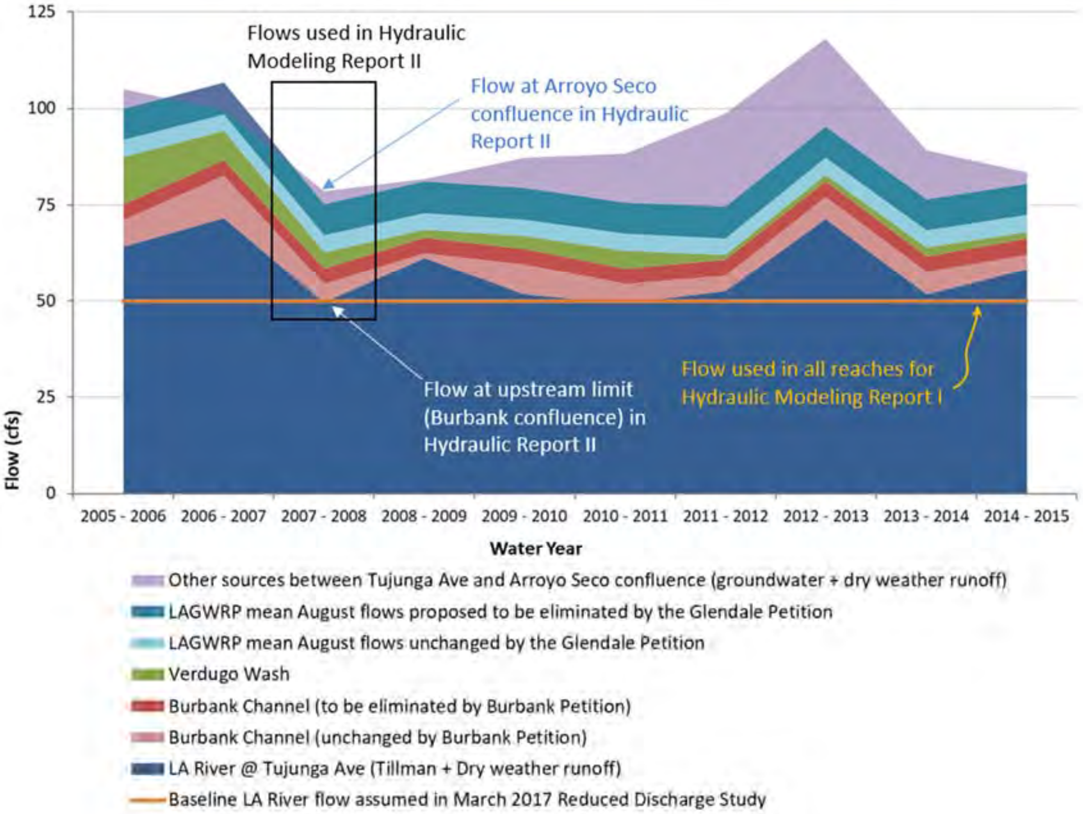


Figure 3. Sources of water in the LA River during August, Water Years 2005-2015

2.1.5 Flow Scenarios Assessed

Three flow scenarios were evaluated:

1. Existing conditions (Worse Case Condition): August 2008 Condition with existing August discharge levels from Burbank and Glendale Petitions as described in their respective change petitions (Tables 1 and 2)
2. Project effects: August 2008 Condition with discharge from Burbank WRP reduced from 6.9 to 2.8 cfs (Table 1) (proposed Project)
3. Cumulative effects: August 2008 Condition with discharge from Burbank WRP reduced from 6.9 to 2.8 cfs per Table 1 (proposed Project) and discharge from LAGWRP reduced from 12.5 to 4.4 cfs per Table 2 (Glendale Petition).

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 4. It was assumed that flow in the LA River at the confluence with the Burbank Western Channel was the same as flow in the LA River at Tujunga Avenue. 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 study area limit 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 (3.2 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 stormdrains along the LA River and the observation that groundwater upwelling to the LA River is focused in the Glendale Narrows (Reaches 2-6).

August flow WY2007-2008	**Existing Conditions flow (cfs)**	**With Project flow (Existing minus 4.1 cfs Burbank Petition) (cfs)**	**Cumulative Effects flow (Existing minus 4.1 cfs Burbank Petition and 8.1 cfs Glendale Petition) (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*	*4.7*	*4.7*
LA River Reach 2	58.8	54.7	54.7
LA River Reach 3 above Verdugo Wash confluence	59.0	54.9	54.9
LA River Reach 3 below Verdugo Wash confluence	63.4	59.3	59.3
LA River Reach 4 above LAGWRP discharge point	64.0	59.9	59.9
→ LAGWRP inflow	*12.5*	*12.5*	*4.4*
LA River Reach 4 below LAGWRP discharge point	76.5	72.4	64.3
LA River Reach 5	77.0	72.9	64.8
LA River Reach 6	78.6	74.5	66.4
→ Other sources between Tujunga Ave & Arroyo Seco (added proportionately to each reach based on length)	*3.2*	*3.2*	*3.2*

Table 3. Flows used in the hydraulic model

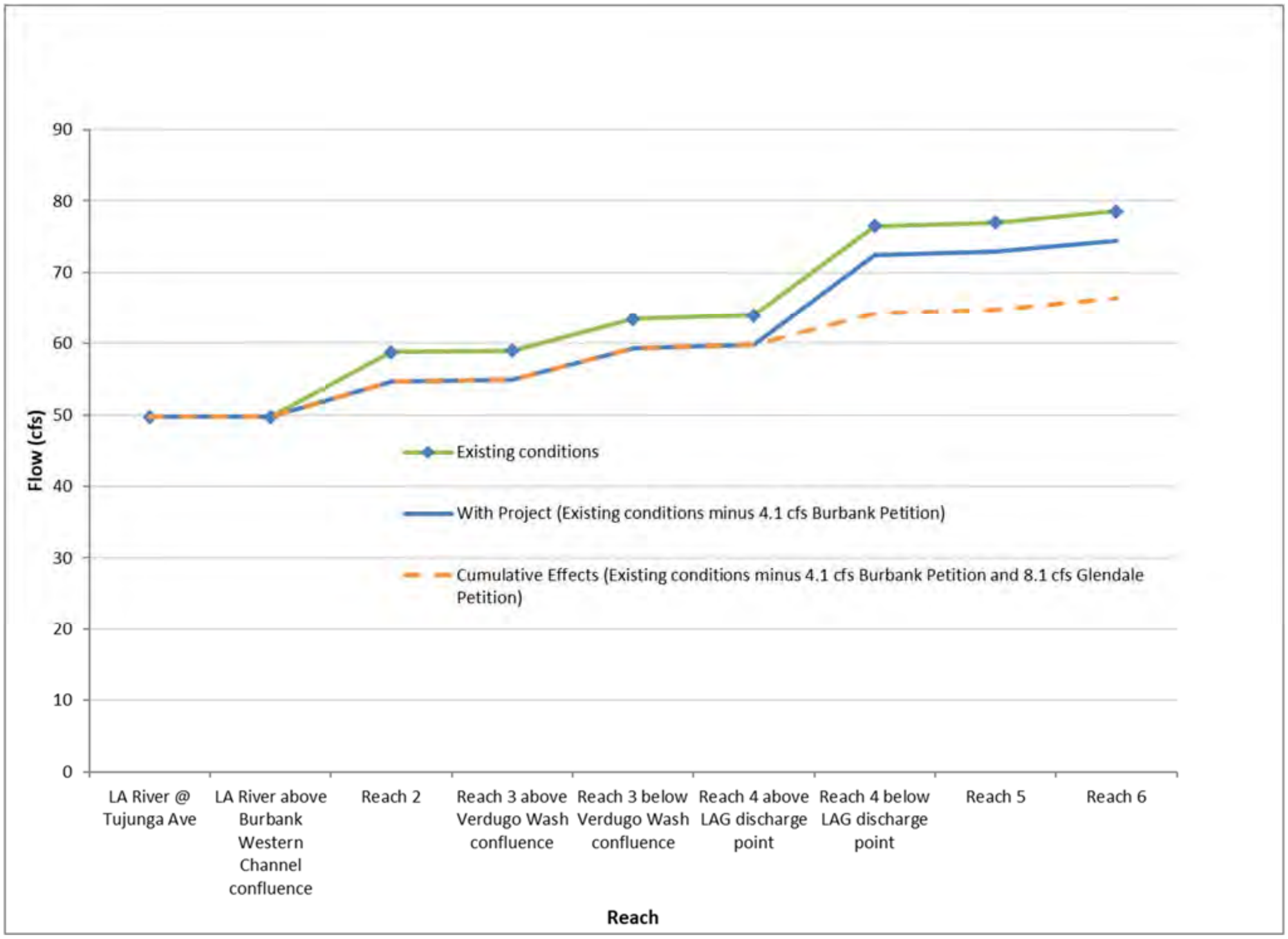


Figure 4. Schematic of flow for each reach in the study area under existing, with-Project and cumulative effects scenarios

2.2 Hydraulic Model Setup

2.2.1 Model Topography

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 359 channel cross sections cover the five ARBOR reaches that make up the study area.

2.2.2 Model Roughness and Hydraulic Parameters

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

Roughness was varied by the USACE across and between individual cross sections based on visual observation of channel and vegetation conditions (USACE, 2016). ESA also used the same hydraulic parameters for bridge approaches and ineffective flow areas as provided in the existing conditions HEC RAS model.

2.2.3 Model Output

For each of the 359 cross sections within the study area 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.

3 RESULTS

3.1 Organization of Results

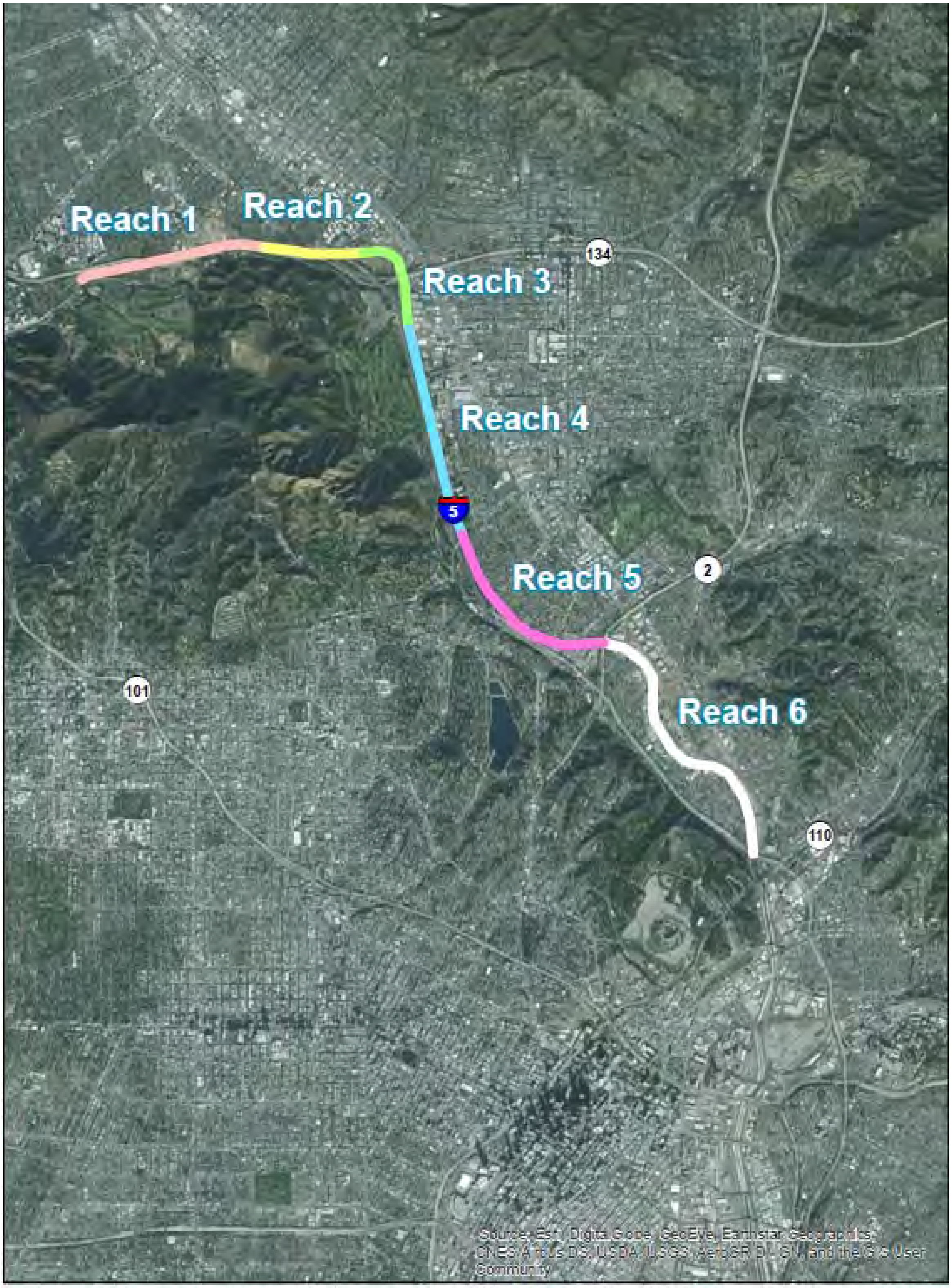
For consistency with the USACE LAREFS study, the model was divided into the five reaches of the ARBOR project area. These reaches are labelled 2-6 from upstream to downstream, as shown in Figure 5 (Reach 1 is upstream of the Burbank Western Channel confluence and was not assessed in this report). For 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.

3.2 Changes to Flow in the LA River

The change in flow at each reach is shown as a percentage of existing conditions in Table 4.

August flow WY2007-2008	**With-Project % change in flows**	**Cumulative % change in flows (Project + Glendale Petition)**
LA River @ Tujunga Ave	0%	0%
LA River above Burbank Western Channel confluence	0%	0%
→ Burbank Western Channel inflow	*-47%*	*-47%*
LA River Reach 2	-7%	-7%
LA River Reach 3 above Verdugo Wash confluence	-7%	-7%
LA River Reach 3 below Verdugo Wash confluence	-6%	-6%
LA River Reach 4 above LAGWRP discharge point	-6%	-6%
→ LAGWRP discharge	*0%*	*-65%*
LA River Reach 4 below LAGWRP discharge point	-5%	-16%
LA River Reach 5	-5%	-16%
LA River Reach 6	-5%	-16%
Other sources Tujunga Ave to Arroyo Seco	0%	0%

Table 4. Change in flow along LA River and at key inputs under with-Project and cumulative effects



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 5. ARBOR reach locations referred to in report

As shown in Tables 3 and 4, the proposed flow reduction from the proposed Project is a very small proportion of the total August flow in the LA River between the confluence with the Burbank Western Channel and Arroyo Seco. Although the proposed project flow reduction of 4.1 cfs represents a 47% reduction in flow from the Burbank Western Channel during the August 2008 Condition, it only constitutes a 7% reduction in flows at the start of Reach 2 and a 5% reduction at the Arroyo Seco confluence. During higher flow months of the year than August, or during years when flows were higher than 2007-08, these percentages would be slightly smaller. For example, using the average August flow for the ten-year period analyzed above, the Project would reduce flows at the confluence with Burbank Western Channel by 6% and at the Arroyo Seco confluence by 4%. Using the August with the highest flows during the ten-year period, the corresponding reductions would be 5% and 3% respectively.

The cumulative effect of recycling more water at both Burbank and LAGWRP shows a larger effect downstream of the LAGWRP discharge point in Reach 4. The proposed August discharge reduction at LAGWRP is larger than Burbank in both absolute and proportional terms (8.1 cfs compared with 4.2 cfs at Burbank, and a 65% reduction in LAGWRP discharges). The cumulative effect is a reduction in flows within the LA River that varies from 7% at the start of Reach 2 to a 16% reduction above the confluence with Arroyo Seco. Using the average August flows rather than August 2008 Condition, the cumulative effect is a 6% flow reduction at the start of reach 2 and 13% reduction above the Arroyo Seco confluence, while using the highest August flows the cumulative reduction is 5% at reach 2 and 9% above Arroyo Seco.

3.3 Relative Contributions of the Proposed Project and Glendale Petition to Changes in Flow

A potential basis for determining the relative contributions of the proposed Project and the flow reductions proposed by the Glendale Petition to hydrologic changes in the LA River between Burbank Western Channel and Arroyo Seco is as follows:

- All changes in flow between Burbank Western Channel and the LAGWRP discharge point (19,429 linear feet of channel) are due to the proposed Project.
- Between the LAGWRP discharge point and the confluence with Arroyo Seco (21,174 linear feet of channel), approximately one third of the changes are due to the proposed Project flow reductions and two thirds are due to the flow reductions proposed by the Glendale Petition (based on the fact that the

proposed Project reduction is 4.1 cfs and the Glendale Petition reduction is 8.1 cfs).

- Multiplying the flow reduction from each project by the linear feet affected results in an almost even split in causality (proposed Project 49% and Glendale Petition 51% of the respective change in discharge multiplied by the length of channel).

3.4 Changes to Velocity, Depth and Wetted Channel Area

3.4.1 Overall Study Area Results

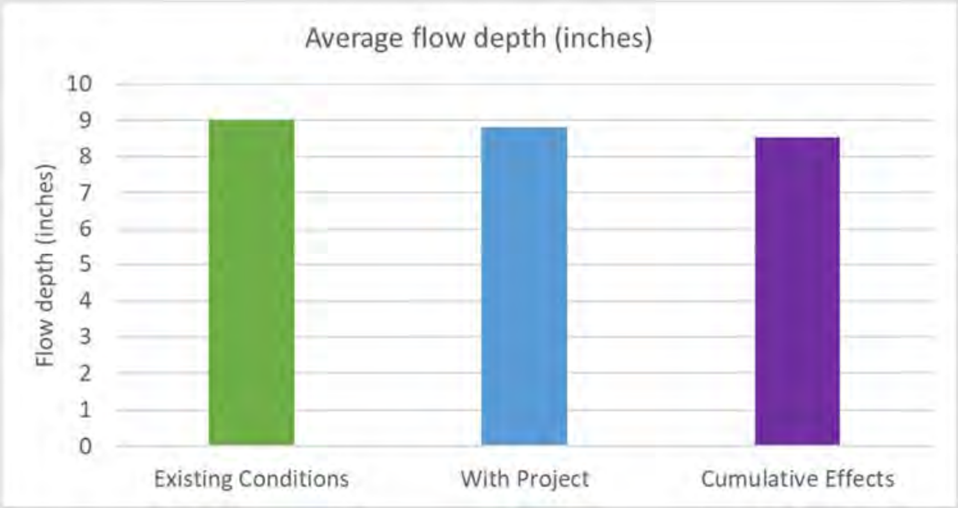
The hydraulic model results for the proposed Project show that under the August 2008 Conditions: (1) the average velocity within the entire study area would be slightly reduced, from 1.45 to 1.42 feet/sec (-2% change), and (2) the average depth in the deepest part of the channel would be slightly reduced from 9 to 8.88 inches (0.2 inches, or -2.2%), as shown in Figure 6 and Table 5.

Under August 2008 Conditions, the hydraulic model results for the proposed Project and Glendale Petition (cumulative effects) are: (1) the average velocity within the study area would be reduced from 1.45 feet/sec to 1.37 feet/sec (-5.6%), and (2) the average depth would be reduced from 9 to 8.52 inches (0.48 inches, or 5.3%).

The proposed Project would slightly reduce the total wetted area of channel from 136.96 to 135.82 acres (1.14 acres, -0.83% of existing condition) during the August 2008 Condition, as shown in Figure 7 and Table 6. This represents an average 7-inch-wide strip along both edges of the channel throughout the study reach. 27% of the reduction in wetted area occurs on concrete banks or bed and 73% on soft channel materials, so the reduction in wetted soft channel is 0.83 acres.

Under cumulative effects, an additional 1.63 acres of channel would not be wetted during the August 2008 Condition, for a cumulative loss of 2.77 acres, or 2.02% of the total wetted channel area. This could be represented by a strip 18 inches wide on both sides of the channel through the study reach. With a 36:64 ratio of concrete to earth, there will be a temporary (during the lowest flow months) dewetting of 1.77 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.



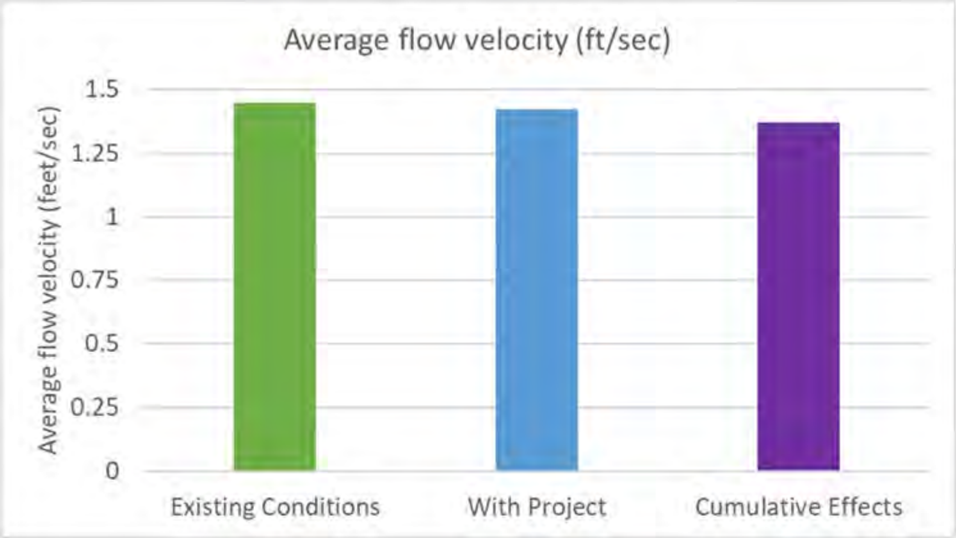


Figure 6. Average flow depth and velocity under Project and Cumulative effects

Scenario	Background flow (LA River) cfs	Flow from Project (cfs)	Flow from Glendale Petition (cfs)	Flow depth (inches)	Change in flow depth (inches)	Flow velocity (ft/sec)	Change in flow velocity (ft/sec)
Existing Conditions	49.7 cfs upstream - 78.5 cfs downstream	8.8	12.5	9.00	0.00	1.45	0.00
With Project		4.7	12.5	8.80	-0.20	1.42	-0.02
Cumulative Effects		4.7	4.4	8.52	-0.48	1.37	-0.08

Table 5. Summary of average velocity and depth changes under different flows from proposed Project and Cumulative effects (average of all LA River study reaches).

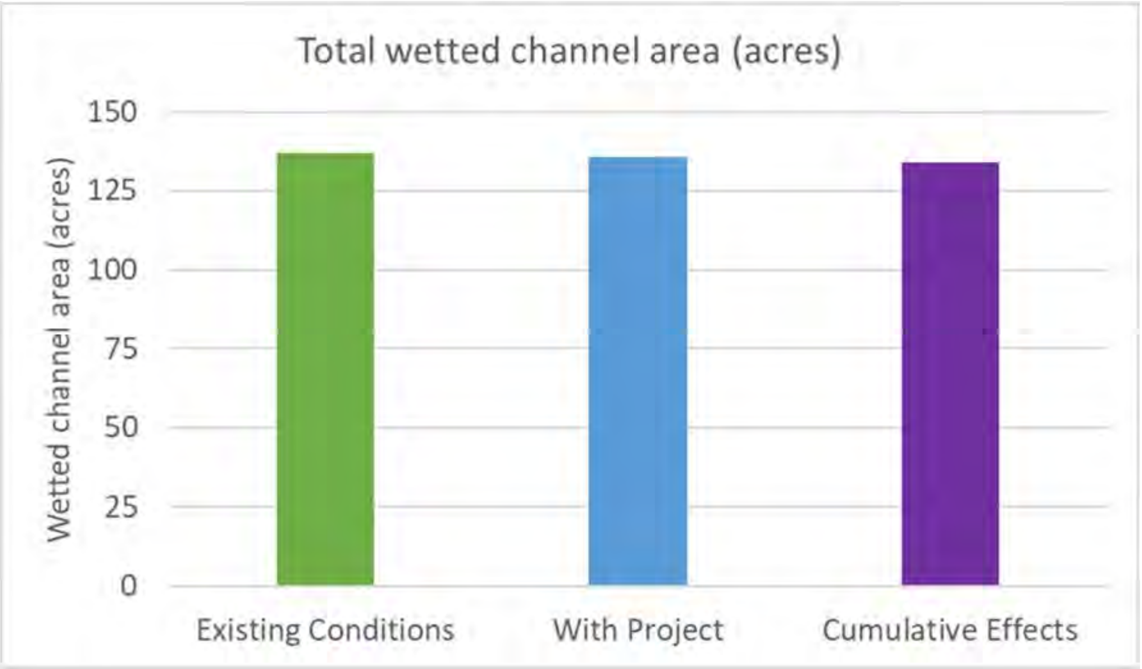


Figure 7. Average wetted area under Project and Cumulative effects

Scenario	Background flow (LA River excluding Burbank WRP inputs) cfs	Flow input from Burbank WRP (cfs)	Flow input from LAGWRP WRP (cfs)	Total wetted channel area with Burbank WRP inputs (acres)	Change in dry weather wetted area (acres)
Existing Conditions	49.7 cfs upstream - 78.5 cfs downstream	8.8	12.5	136.96	0.00
With Project		4.7	12.5	135.82	-1.14
Cumulative Effects (proposed Project + Glendale Petition)		4.7	4.4	134.19	-2.77

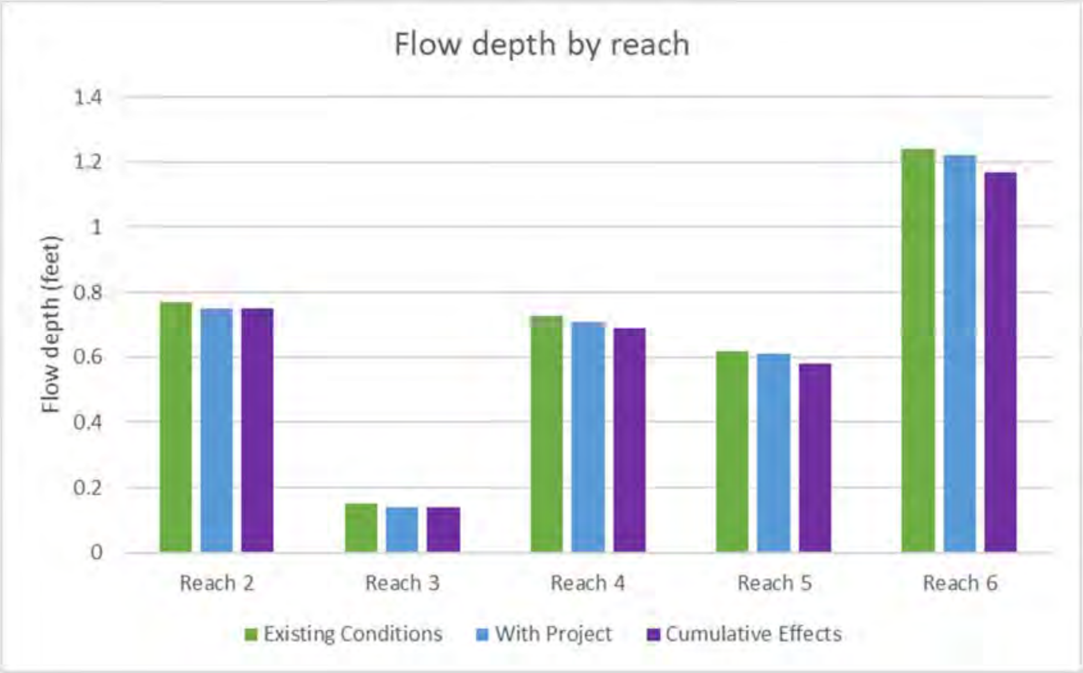
Table 6. Summary of wetted channel area dry weather changes under different flows from Burbank WRP (average of all LA River study reaches). Note wetted area includes concrete channel and banks.

3.4.2 Reach-Specific Results

Reach-scale results are shown in Figures 8 and 9, and Tables 7 and 8. Within the study area, individual reaches are more or less sensitive to the proposed Project flow reduction than the average values shown in Tables 5 and 6, but the magnitude of change remains very small throughout the study area. The largest reach-scale change in velocity due to project conditions under the August 2008 Condition was -0.05 feet/sec (in Reach 3), and the largest reduction in depth was 0.29 inches (in Reach 6). The largest reduction in wetted channel area was 0.42 acres (in Reach 6) under Project conditions. As with the study area averages, the largest reach-scale modeled Project effects are very minor, fall within the range of data collection and hydraulic model uncertainty and error, and would likely be undetectable to barely detectable in the field.

For cumulative effects the larger effects are naturally focused on Reaches 4, 5 and 6 (downstream of the LAG discharge point) where the reductions in flow are largest. The largest reduction in flow depth is 0.86 inches (in Reach 6) and the largest reduction in velocity is 0.09% (Reach 4). The largest reduction in dry weather wetted area is 1.21 acres (3.9% of the wetted channel area within the reach) in Reach 6. Though larger than the Project effects, these are still considered to be relatively minor effects.

The results are shown graphically in Figure 10, which shows a representative cross section within ARBOR Reach 6 with the existing, with-Project and cumulative effects modeled water surface elevations. Figure 11 shows a typical cross section used to estimate the proportion of concrete and earthen bank and bed material.



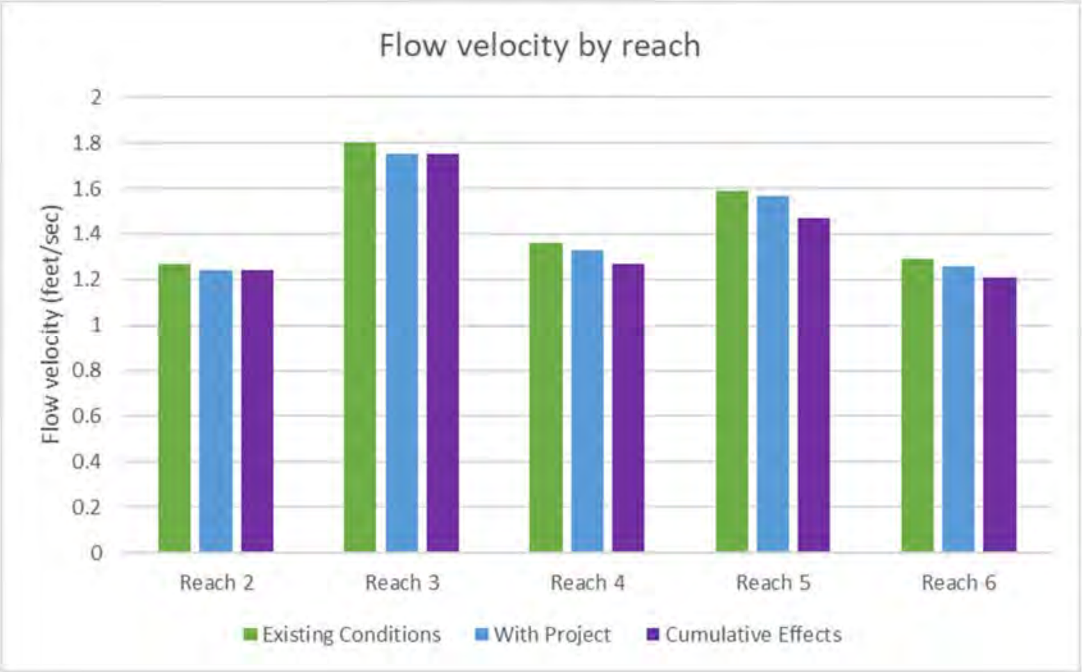


Figure 8. Reach by reach flow depth and velocity under Project and Cumulative effects

	Scenario	Reach flow (cfs)	Flow from Burbank WRP (cfs)	Flow from LAGWRP (cfs)	Flow depth with Burbank WRP inputs (feet)	Change in flow depth (inches)	Flow velocity with Burbank WRP inputs (feet/sec)	Change in flow velocity (feet/sec)
Reach 2	Existing Conditions	58.8	8.8	na	0.77	0.00	1.27	0.00
	With Project	54.7	4.7	na	0.75	-0.21	1.24	-0.03
	Cumulative Effects	54.7	4.7	na	0.75	-0.21	1.24	-0.03
Reach 3	Existing Conditions	59.0 - 63.4	8.8	na	0.15	0.00	1.80	0.00
	With Project	54.9 - 59.3	4.7	na	0.14	-0.05	1.75	-0.05
	Cumulative Effects	54.9 - 59.3	4.7	na	0.14	-0.05	1.75	-0.05
Reach 4	Existing Conditions	64.0 - 76.5	8.8	12.5	0.73	0.00	1.36	0.00
	With Project	59.9 - 72.4	4.7	12.5	0.71	-0.20	1.33	-0.03
	Cumulative Effects	59.9 - 64.3	4.7	4.4	0.69	-0.44	1.27	-0.09
Reach 5	Existing Conditions	77.0	8.8	12.5	0.62	0.00	1.59	0.00
	With Project	72.9	4.7	12.5	0.61	-0.17	1.57	-0.01
	Cumulative Effects	64.8	4.7	4.4	0.58	-0.47	1.47	-0.11
Reach 6	Existing Conditions	78.6	8.8	12.5	1.24	0.00	1.29	0.00
	With Project	74.5	4.7	12.5	1.22	-0.29	1.26	-0.02
	Cumulative Effects	66.4	4.7	4.4	1.17	-0.86	1.21	-0.07

Table 7. Change in flow depth and velocity with Project and cumulative effects

Note: Reach flows include flows from Burbank WRP and LAGWRP where applicable
Multiple reach flows reflect additional flow inputs within the reach

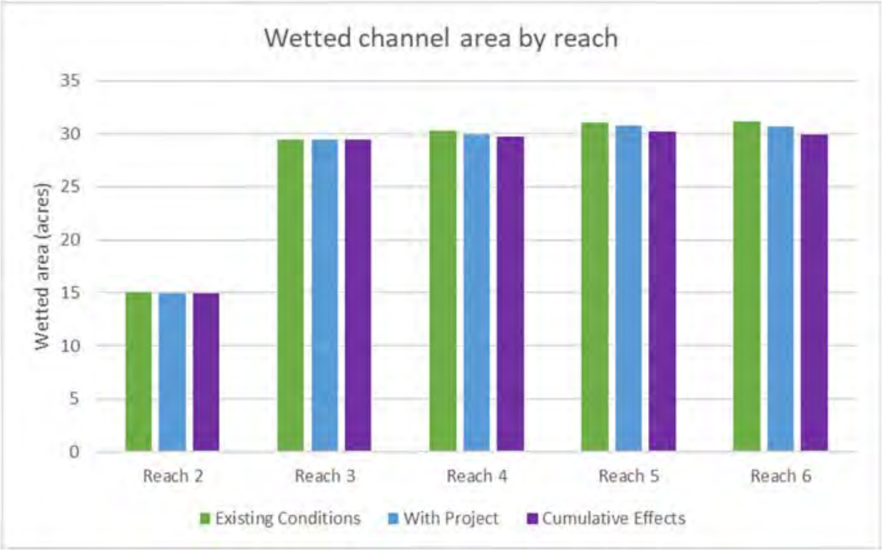
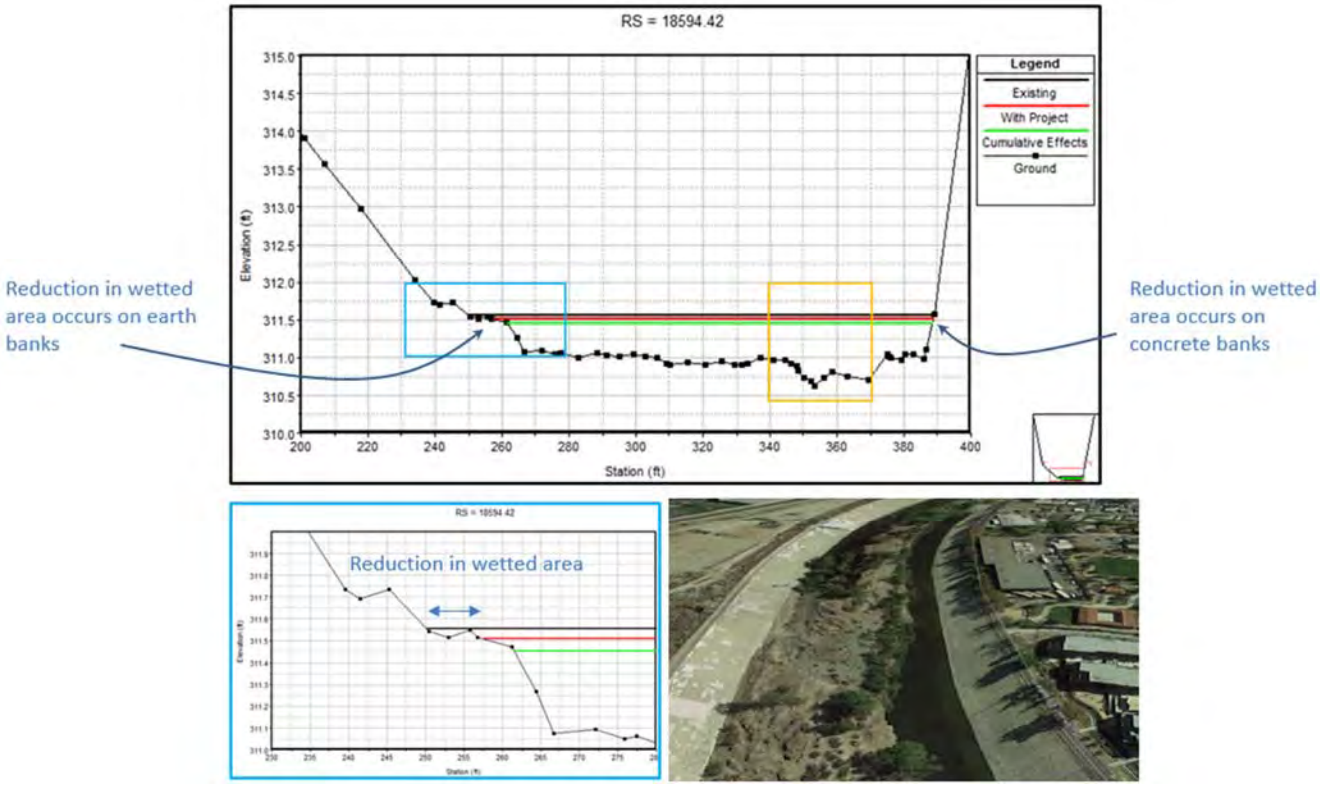


Figure 9. Reach by reach flow depth and velocity under Project and Cumulative effects

	Scenario	Reach flow (cfs)	Flow from Burbank WRP (cfs)	Flow from LAGWRP (cfs)	Wetted channel area (acres)	Change in wetted area (acres)	% change
Reach 2	Existing Conditions	58.8	8.8	12.5	15.06	0.00	0.00%
	With Project	54.7	4.7	12.5	14.90	-0.15	-1.00%
	Cumulative Effects	54.7	4.7	4.4	14.90	-0.15	-1.00%
Reach 3	Existing Conditions	59.0 - 63.4	8.8	12.5	29.46	0.00	0.00%
	With Project	54.9 - 59.3	4.7	12.5	29.46	-0.01	-0.02%
	Cumulative Effects	54.9 - 59.3	4.7	4.4	29.46	-0.01	-0.02%
Reach 4	Existing Conditions	64.0 - 76.5	8.8	12.5	30.27	0.00	0.00%
	With Project	59.9 - 72.4	4.7	12.5	29.97	-0.29	-0.97%
	Cumulative Effects	59.9 - 64.3	4.7	4.4	29.72	-0.55	-1.81%
Reach 5	Existing Conditions	77.0	8.8	12.5	31.06	0.00	0.00%
	With Project	72.9	4.7	12.5	30.78	-0.27	-0.88%
	Cumulative Effects	64.8	4.7	4.4	30.20	-0.85	-2.75%
Reach 6	Existing Conditions	78.6	8.8	12.5	31.12	0.00	0.00%
	With Project	74.5	4.7	12.5	30.70	-0.42	-1.35%
	Cumulative Effects	66.4	4.7	4.4	29.90	-1.21	-3.90%

Table 8. Change in wetted channel area during August with Project and cumulative effects (Note: Reach flows include flows from Burbank WRP and LAGWRP where applicable Multiple reach flows reflect additional flow inputs within the reach)



Reduction in wetted area occurs on earth banks

Reduction in wetted area occurs on concrete banks

Figure 10. Modeled water surface elevations for ARBOR reach 6 under existing, with-project and cumulative effects conditions, for August 2008 Condition

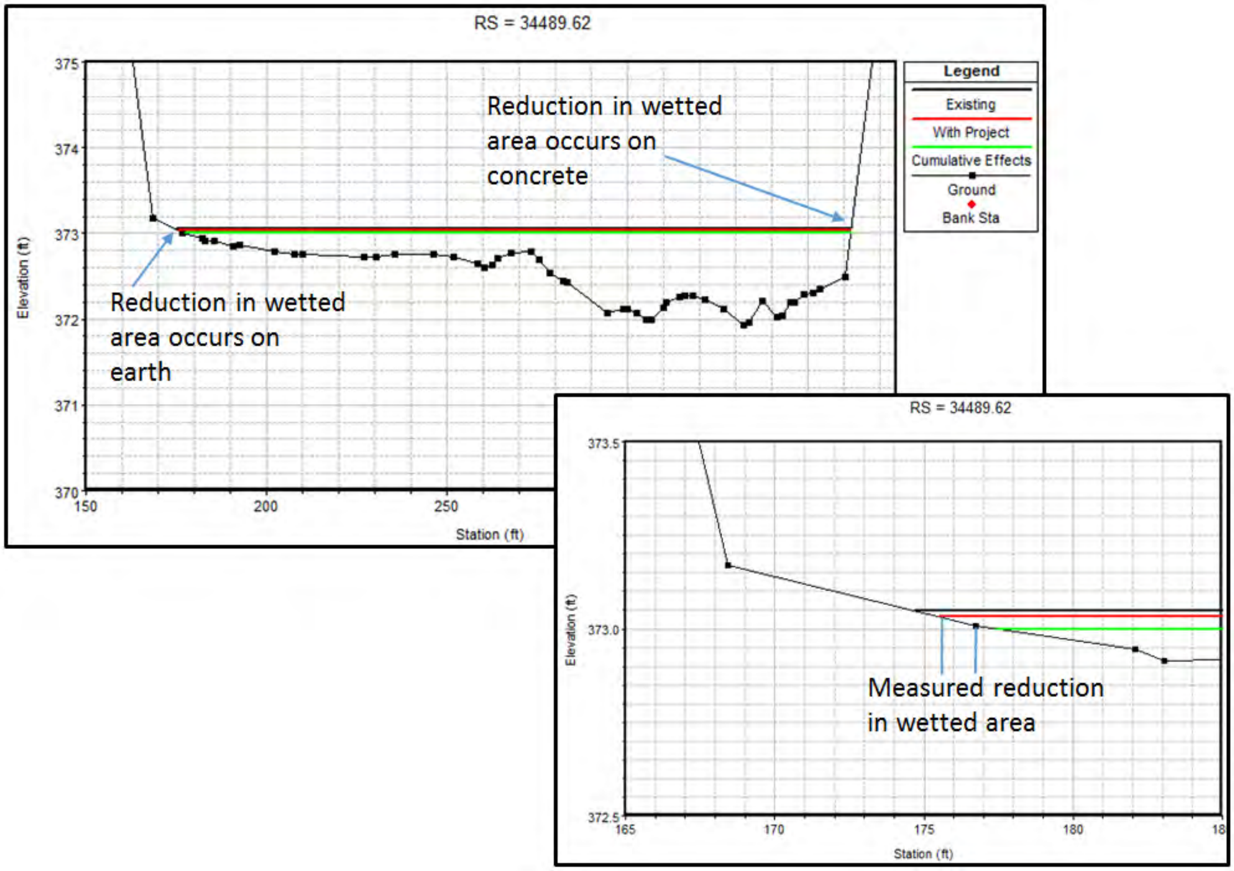


Figure 11. Example cross section used to estimate change in wetted area

3.4.3 Potential Impacts to Recreation

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. 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.

Effects of Burbank WRP Reductions

In ARBOR reach 6, average flow depth in the center of the channel is 1.24 feet under the August 2008 Condition, and is predicted to fall to 1.22 feet under the with-Project condition, a decline of 0.29 inches or -1.9%. The reduction in wetted channel area within reach 6 is 0.42 acres (1.35% of the existing wetted area) of which 36% is concrete channel. The proposed project is not likely to have a noticeable effect on recreation within Reach 6, or elsewhere.

Cumulative Effects of Proposed Project Plus Glendale Petition Reductions

Under the cumulative effects scenario average flow depth in the center of the channel is predicted to fall from 1.24 feet to 1.17 feet, a decline of 0.86 inches or -5.8%. The reduction in wetted channel area within reach 6 is 1.21 acres (3.9% of the existing wetted area) of which 55% is concrete channel. Given that the reduction in flow resulting from the proposed Project and Glendale Petition, under the worst-case scenario, 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.

3.4.4 Potential Impacts to Aquatic and Riparian Habitat

Potential impacts to aquatic and riparian habitat are discussed in the Supplement to Biological Resources Assessment of the LA River (August 18, 2017) (Appendix E).

4 SUMMARY AND CONCLUSIONS

During winter and spring, the proposed Project flow reduction from Burbank WRP would be “drowned out” by flows in the LA River, with Project flows constituting 0.5 – 2.5% of flow in the LA River between Burbank Western Channel and the Arroyo Seco confluence. The proposed Project flows constitute a 5-7% 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 ten-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 proposed Project flow reduction translates to an average reduction in flow depth of two tenths of an inch, and a reduction in flow velocity of 1.6%. The shrinkage in wetted channel area is 1.14 acres over a 7.8 mile reach (0.83% of the existing wetted channel area (136.96 acres) under the August 2008 Condition, equivalent to a 7 inch wide strip on either side of the channel). 27% of the shrinkage in wetted area occurs on concrete lined bank or bed areas, and 73% 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 Burbank and Glendale Petition 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 the study area 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.

5 REFERENCES

County of Los Angeles Department of Public Works, Hydrologic Report for the years 2005-06 to 2014-2015.

ESA 2017b City of Burbank Recycled Wastewater 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.

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date August 18, 2017

to Michael Thompson, P.E., Burbank Water & Power

cc

from David Crook, AICP, Senior Managing Associate, ESA

subject Exhibit A to Hydraulic Modeling Report II for Burbank 2017 Wastewater Change Petitions

ESA conducted a detailed review of all publically-available reports and information on each of the activities listed in the LA Comment Letter, plus three other activities not referenced in the letter, to determine if they had to be included in Burbank's Hydraulic Modeling Report II. Descriptions of each project are set forth below.

1. City of Glendale Recycled Water Use Expansion (Wastewater Change Petition 00097)

Description: The Los Angeles – Glendale water reclamation plant (LAGWRP) discharges treated wastewater to ARBOR Reach 4 of the Los Angeles River near Colorado Street. For fiscal years 2011-12 through 2014-15, LAGWRP discharged an average of 3,000 acre feet per year (AFY)/3 MGD (4.1-4.3 cfs depending on which units are used).[1] The City of Glendale's wastewater change petition, noticed on April 20, 2017 (Glendale Petition), proposes to reduce flows to the LA River from 8.08 MGD (12.5 cfs) to 2.85 MGS (4.4 cfs), on average, in August (the lowest flow month). (Glendale Notice of Petition, Table 2.)

Environmental Review: The final EIR for the Pasadena Non-Potable Water Project was prepared in December 2015.

Cumulative Impacts: The cumulative impacts of the Glendale Petition are evaluated in both the Hydraulic Modeling Reports I and II. For the purposes of evaluating the cumulative impacts of the proposed Project and the Glendale Petition, the Hydraulic Modeling Report I conservatively assumed the worst-case scenario—that all discharges to the River from LAGWRP would be zero (0), as compared to the proposed reduction to 4.4 cfs. (See Hydraulic Modeling Report I, p.6.) The Hydraulic Modeling Report II specifically

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[1] City of Los Angeles Bureau of Sanitation's Recycled Water Programs Audit, October 2016.

examines the incremental and cumulative effects of the proposed Project and the Glendale Petition. (See Hydraulic Modeling Report II, §§ 2.1.5, 3.4.)

2. Lower Los Angeles River Revitalization Plan

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.[2] 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. No draft plan or list of proposed actions was located. At the last meeting of the Working Group (March 2017), the group reviewed related planning efforts such as bike paths and overcrossings.

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.

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 II. However, these revitalization efforts are proposed to occur downstream of the Study Area for the proposed Project and therefore to the extent that any future actions would result in reduced dry weather flows to the River, they would not impact Burbank's flow analysis (see Hydraulic Modeling Report I). Burbank's flow analysis did not include the area downstream of the Arroyo Seco confluence because from this point downstream the River is a concrete channel to the estuary.

3. 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).[3] 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 Burbank Reduced Flow 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 Srea. In

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[2] http://lowerlariver.org

[3] http://boe.lacity.org/lariverrmp/

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.[4] "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."[5] 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."[6]

Cumulative Impacts: The LARRMP was not included in the Hydraulic Modeling Report II 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.

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.[7] The study evaluated numerous alternatives. The approved plan for restoration in the study area is Alternative 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. No data were found that quantified the effects of the project on available dry weather flow in the Los Angeles River. Instead, the

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[4] LARRMP Final PEIR/S Findings and Statement of Overriding Considerations, April 2007, p. 24.

[5] LARRMP Final PEIR/S, p. 4-30.

[6] LARRMP Final PEIR/S Findings and Statement of Overriding Considerations, April 2007, p. 46.

[7] http://www.spl.usace.army.mil/Missions/Civil-Works/Projects-Studies/Los-Angeles-River-Ecosystem-Restoration/

"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."[8] 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."[9]

Cumulative Impacts: The LAREFS was not included in the Hydraulic Modeling Report II 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. City of Los Angeles, 2012 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.[10] 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,[11] 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.[12] 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.

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[8] LAREFS, EIS/R, p. 5-176.

[9] LAREFS, EIS/R, p. 5-176.

[10] 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

[11] 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."

[12] Groundwater Replenishment Master Planning Report, p. ES-11.

Environmental Review: No CEQA documents could be found 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 from TWRP to sustain River habitat.

Cumulative Impacts: The 2012 RWMP was not included in the Hydraulic Modeling Report II 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. However, the Hydraulic Modeling Report I did account for potential reductions in the contribution of these wastewater flows by assuming a worst-case baseline flow of 50 cfs that did **not** include any flows from the LAGWRP that enter the River downstream of Sepulveda Basin. As a result, any reduction in wastewater flows associated with this plant were accounted for in the Hydraulic Modeling Report I (and specifically in Hydraulic Modeling Report II). While both Hydraulic Modeling Report I and II accounted for a portion of flows from TWRP (Tillman), LA 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 Burbank's Study Area for the proposed Project and therefore would not impact Burbank's flow analysis (see Hydraulic Modeling Report I). Burbank's flow analysis did not include the area downstream of the Arroyo Seco confluence because from this point downstream the River is a concrete channel to the estuary.

5.a. 2016 Los Angeles Groundwater Replenishment Project[13]

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 acre feet 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.

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.[14]

Cumulative Impacts: The 2012 RWMP was not included in the Hydraulic Modeling Report II 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

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[13] This project was not referenced in the LA Comment Letter.

[14] DEIR, p. 3.4-19; FEIR, p. 3-51.

capacity of TWRP to provide recycled water for the advanced water purification processes, would not result in a change in discharge to the River.

6. LADWP 2015 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.[15] 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. It 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.[16]

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 II because the SWCMP is a high level planning document that did not quantify the impacts of the proposed measures on dry weather River flows. However, the Hydraulic Modeling Report I did account for potential reductions in the contribution of stormwater flows and dry weather runoff by assuming a worst-case baseline flow of 50 cfs that did **not** include any stormwater flows or dry weather runoff that enter the River downstream of Sepulveda Basin. As a result, any reduction in stormwater or dry weather flows associated with implementation of the SWCMP were accounted for in the Hydraulic Modeling Report I.

7. 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.[17] 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.

Environmental Review and Cumulative Impact Analysis: The final Programmatic EIR for the EWMP was prepared in May 2015 and an addendum was filed in June 2015.[18] As stated in the Programmatic EIR: "As individual projects identified in the EWMPs are fully developed, the implementing agency (i.e., the Permittee

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[15] 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

[16] SWCMP, p. 77.

[17] http://www.lastormwater.org/green-la/enhanced-watershed-management-plans/

[18] http://www.lastormwater.org/green-la/enhanced-watershed-management-plans/

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 II. However, the Hydraulic Modeling Report I did account for potential reductions in the contribution of stormwater flows by assuming a worst-case baseline flow of 50 cfs that did **not** include any stormwater flows downstream of Sepulveda Basin. As a result, any reduction in stormwater flows associated with implementation of the SWCMP were accounted for in the Hydraulic Modeling Report I.

8. 2004 LASAN Water Integrated Resources Plan (IRP)

Description: The 2006 LA Sanitation IRP integrates planning for wastewater, recycled water, and stormwater.[19] 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.[20] These programmatic level components could result in a reduction in flows to the LA River, but there are insufficient details to evaluate such impacts. The EIR explained that specific locations of program-level components have not been determined and will be subject to separate environmental review.[21] 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)

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[19] 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

[20] IRP DEIR, p. 2-46.

[21] IRP DEIR, p. 2-46.

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.[22]

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 II. However, the Hydraulic Modeling Report I did account for potential reductions in the contribution of stormwater and dry weather runoff by assuming a worst-case baseline flow of 50 cfs that did **not** include any stormwater flows or and dry weather runoff flows downstream of Sepulveda Basin. (This 50 cfs baseline flow is much lower than the dry weather flows post-project of 110 to 156 cfs estimated in the IRP EIR.) As a result, any reduction in flows associated with implementation of the IRP were accounted for in the Hydraulic Modeling Report I.

9. One Water LA 2040

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 # 8 above) horizon to 2040 (from 2020).[23] 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 2017. 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. However, the City of LA has explained that one of the future elements of the Plan includes the Los Angeles River Flow Study that will address how increased capture of urban runoff and increased water recycling within the City of Los Angeles will impact river flows.

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 was not included in Burbank's Hydraulic Modeling Report I. However, the Hydraulic Modeling Report II did account for potential reductions in the contribution of urban runoff by assuming a worst-case baseline flow of 50 cfs that did **not** include any urban flows downstream of Sepulveda Basin. As a result, any reduction in urban runoff flows associated with the One Water LA Plan were accounted for in the Hydraulic Modeling Report I.

10. Projected Reduction of Groundwater Upwelling

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[22] IRP DEIR, p. 3.11-84.

[23] 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

Description: No such project could be identified. Further, no known projects propose reductions to groundwater upwelling, such as increased groundwater pumping by the City of Los Angeles. Therefore, no quantitative data could be found on potential reductions to groundwater upwelling.

Environmental Review: No CEQA documents were located.

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 Burbank's Cumulative Assessment. However, the Hydrologic Modeling Report I did not account for <u>any</u> groundwater upwelling in the flow regime and therefore any future reductions to this supply would have no effect on the results of the flow model.

11. <u>Arroyo Seco Watershed Management and Restoration Plan</u>

Description: The Arroyo Seco Watershed Management and Restoration Plan was prepared for the State Water Resources Control Board in 2006. 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 II. However, these revitalization efforts are proposed to occur downstream of the study area for the proposed Project and therefore would not impact Burbank's flow analysis (see Hydraulic Modeling Report I). Burbank's flow analysis did not include the area downstream of the Arroyo Seco confluence because from this point downstream the River is a concrete channel to the estuary.

12. 2012 Tujunga Spreading Grounds Enhancement Project[24]

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.

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

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[24] This project was not referenced in the LA Comment Letter.

with urban runoff and enters the Los Angeles River, and therefore is expected to have a beneficial impact on surface water quality."[25]

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 II. However, the Hydraulic Modeling Report I did account for potential reductions in the contribution of stormwater flows by assuming a worst-case baseline flow of 50 cfs that did **not** include any stormwater flows downstream of Sepulveda Basin, including from the Tujunga Wash. As a result, any reduction in stormwater flows associated with implementation of the Tujunga Project were accounted for in the Hydraulic Modeling Report I.

13. 2013 Los Angeles River Diversion, State Historic Park[26]

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 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.[27]

Cumulative Impacts: The proposed 0.15 cfs diversion was not included in the Hydraulic Modeling Report II because the water will be diverted downstream of the Arroyo Seco confluence, and therefore will not impact the study area, which ends at Arroyo Seco.

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[25] DEIR, p. 2-12.

[26] This diversion was not referenced in the LA Comment Letter but is described in Attachment A to Burbank's Wastewater Change Petition.

[27] State Water Resources Control Board. Right to Divert and Use Water, Permit 21342 (2013).

Appendix D

Biological Resources Assessment of the LA River (March 29, 2017) (Biological Assessment)

ESA

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memorandum

date	March 29, 2017
to	Burbank Water and Power
cc	
from	Matthew South, Certified Wildlife Biologist, ESA
subject	City of Burbank Recycled Wastewater Project Biological Resources Assessment of the Los Angeles River

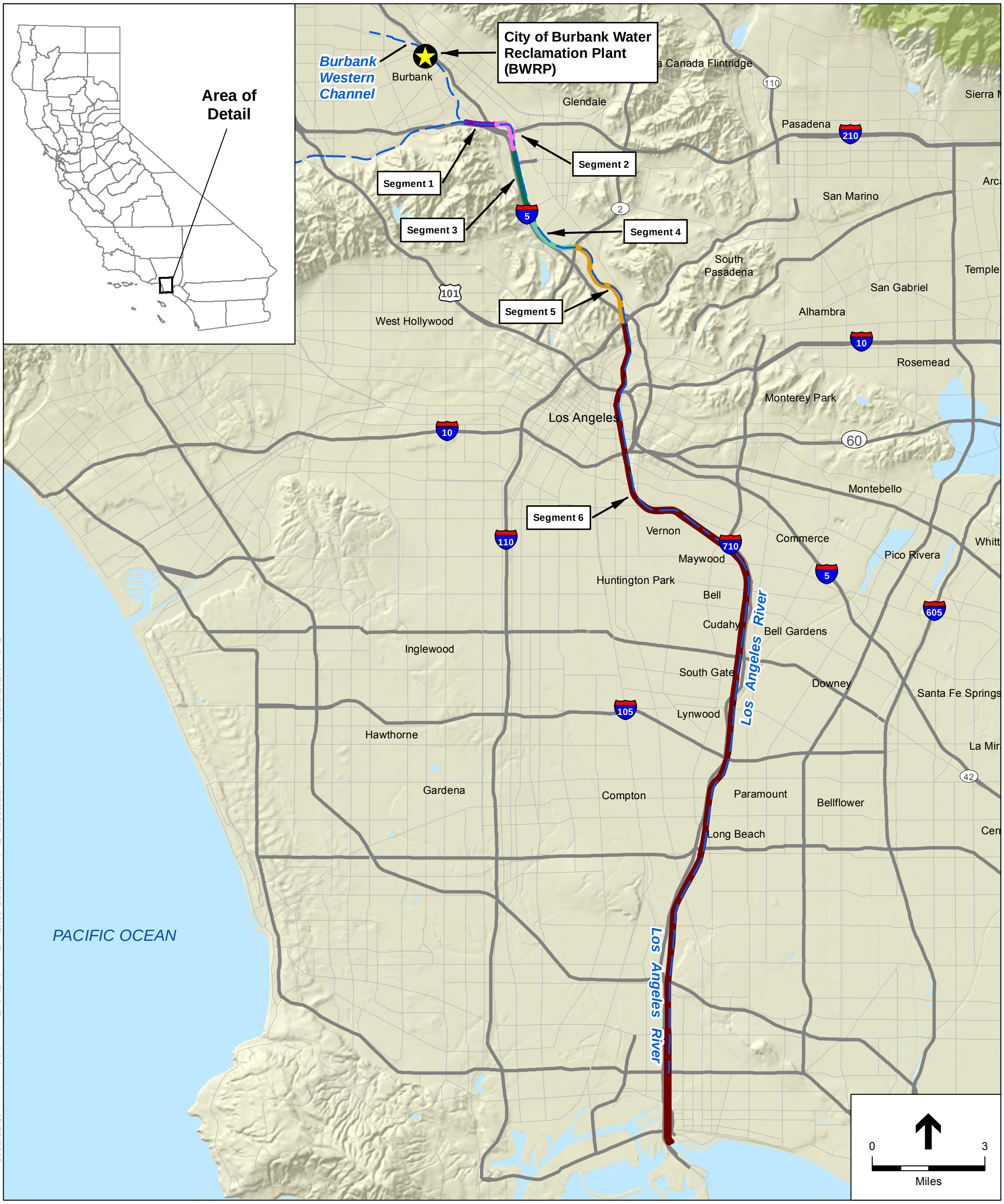
This memorandum summarizes the results of a site survey and literature search of the aquatic and riparian habitat within the Los Angeles River (River) between the Burbank Western Channel (Channel) and the Pacific Ocean. The survey was conducted by ESA to evaluate potential effects of the City of Burbank's Recycled Water Project (proposed project) that would divert a portion of the treated effluent currently discharged into the Channel by the Burbank Water Reclamation Plant (BWRP). The recycled water would be diverted to meet the City's non-potable recycled water demands. The focus of the survey and literature review was to assess the existing biological conditions of the River between the Channel and Pacific Ocean, including the quality of aquatic and riparian habitat features and fish and wildlife that were observed or have the potential to be present. A brief description of the proposed project and methods used during the literature review and survey is provided below.

Proposed Project Description

The City of Burbank is proposing to reduce wastewater discharge from its BWRP, located at 740 North Lake Street, to the Burbank Channel which is a tributary to the Los Angeles River (see **Figure 1 – Regional Location**). Currently the City discharges 5,376 acre-feet (AF) of wastewater into the Channel each year and is proposing to reduce the amount of discharge to 3,766 AF, which is a reduction of 1,610 AF (30.0%) by the year 2027. The diverted water will be treated and redistributed for irrigation and industrial uses to customers located within the city and the San Fernando Valley portion of Los Angeles. The reduction in wastewater would not require any construction of new facilities.

Study Area

The Study Area included 1,350 acres confined within the limits of the Los Angeles River, between the Channel and the Pacific Ocean; a distance of 31.97 linear-miles and a width ranging between approximately 200-350 feet with a focus on wetted areas. The depth of river in the study area is up to 6.5 feet in the deepest part (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). The northern extent of the Study Area is the portion of the river that is immediately west of the Ventura Freeway (State Route 134) and Interstate 5 interchange, and just north of Griffith Park (Figure 1).



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SOURCE: Los Angeles County GIS.

City of Burbank Recycled Wastewater Project – LA River Study . PCR0037.00

Figure 1
Regional Location

The Burbank Channel is entirely concrete-lined and supports no riparian or aquatic habitat values. As a result, the segment of the Burbank Channel from the BWRP to the Los Angeles River was not included within the Study Area.

For the purpose of the biological survey, the Study Area is divided into seven Segments, five of which (Segments 1-5) assessed in a habitat assessment of the River as described in the US Army Corps of Engineers (ACOE) *Los Angeles River Ecosystem Restoration Feasibility Study* (ACOE 2013). In that study, Segments 1-5 were partially established using landmarks to define geomorphic reaches, such as changes in substrate and bridge overpasses. Segments 1, 3, 4, 5 are soft bottom with trapezoidal concrete slopes, and Segment 7 is soft bottom with boulder rip-rap reinforced slopes. Segments 2 and 6 are concrete lined and vary in shape between box and trapezoidal. Based on a visual inspection during the survey, the composition of substrate in the soft bottom Segments that were surveyed 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 1**.

TABLE 1
SURVEY AREA SEGMENTS

Segment #	Length (linear feet)	Area (acres)	Location	Substrate
Segment 1	4,326	18	Western boundary is at the Channel, and eastern boundary is ~1,000 ft. east of the I-5 overpass, north of Griffith Park	Soft bottom channel, rock and cobble substrate within trapezoidal concrete slopes
Segment 2	5,207	33	Continues east from Segment 1 for 1,000 ft., then turns south to follow I-5, ending near the southern edge of the Autry Museum of the American West	Concrete bottom channel, both box and trapezoidal sloped edges
Segment 3	9,298	37	Continues south of Segment 2 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	168,815	1,350	--	--

Methodology

Literature Review

A literature review was conducted to gather information on the natural resources known or likely to occur in the River's ecosystem. Literature pertinent to the Study Area is abundant because biological resources within Segments 1-5 that are soft-bottom have been widely studied due to the potential for restoration and Segment 7 has been studied because this Segment if part of the Los Angeles River Estuary (Estuary); although much less information was available on Segment 6 due to the lack of natural areas. The literature that was reviewed included the following:

- United States Army Corps of Engineers (ACOE) 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 – The Fish Study*;
- Cooper Ecological Monitoring, Inc. (Cooper) 2008 *Griffith Park Wildlife Management Plan Draft*;
- California Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) Geographic Information System (GIS) Spatial Data for Los Angeles River. Accessed December 13, 2016;
- United States Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPac) Environmental Conservation Online System (ECOS). Accessed December 13, 2016 (USFWS 2016a);
- USFWS Endangered Species Act (ESA), Listed Species Report for Los Angeles County (USFWS 2016b);
- FoLAR 2007 *Images of America – Los Angeles River*.
- eBird online bird survey database. Hotspots and species data along the Los Angeles River. Accessed: December 13, 2016; 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 field survey included Segments 1-5, and largely focused on the soft-bottom portions of the River where vegetation occurs. No field survey was conducted in Segment 6 because these areas are almost entirely concrete-lined and devoid of vegetation, and the generally uniform condition of the segment made the assessment of habitat conducive to a desktop analysis. Segments 1-3 were surveyed on December 15, 2016 and Segments 4 and 5 were surveyed on December 21. During the survey, the biologists walked along the bike path on the western edge of the River to characterize and map vegetation and habitats, and to survey for wildlife and assess the quality of riparian and aquatic habitats within Segments 1-5 of the Study Area.

Vegetation and Habitat Mapping

Vegetation communities, habitats and existing conditions in Segments 1-5 were mapped on aerial photographs during the field survey and subsequently digitized on an aerial photograph using GIS software. Vegetation communities were characterized in the field using *A Manual of California Vegetation, 2nd Ed.* (Sawyer et al. 2009). The limited vegetation within Segment 6 was mapped digitally by delineating the boundaries on aerial imagery using GIS software.

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 homeless encampments, trash, and debris; and important habitat features, such as the presence of sand bars unobstructed flowing water, native riparian vegetation, evidence of bird nesting (i.e., predated nests), suitable perch sites for birds of prey, etc.

Environmental Setting

The Study Area is highly urbanized by residential, commercial, and industrial land uses that border the River throughout its length. The River is channelized and supports perennial flows. The River is historically prone to flash floods, and tremendous flood damage to city’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.

Segments 1-5 of the Study Area 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 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 that is present. 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 Angles, and ends at the Willow Street bridge in Long Beach. This segment is entirely devoid of vegetation and completely surrounded by development,

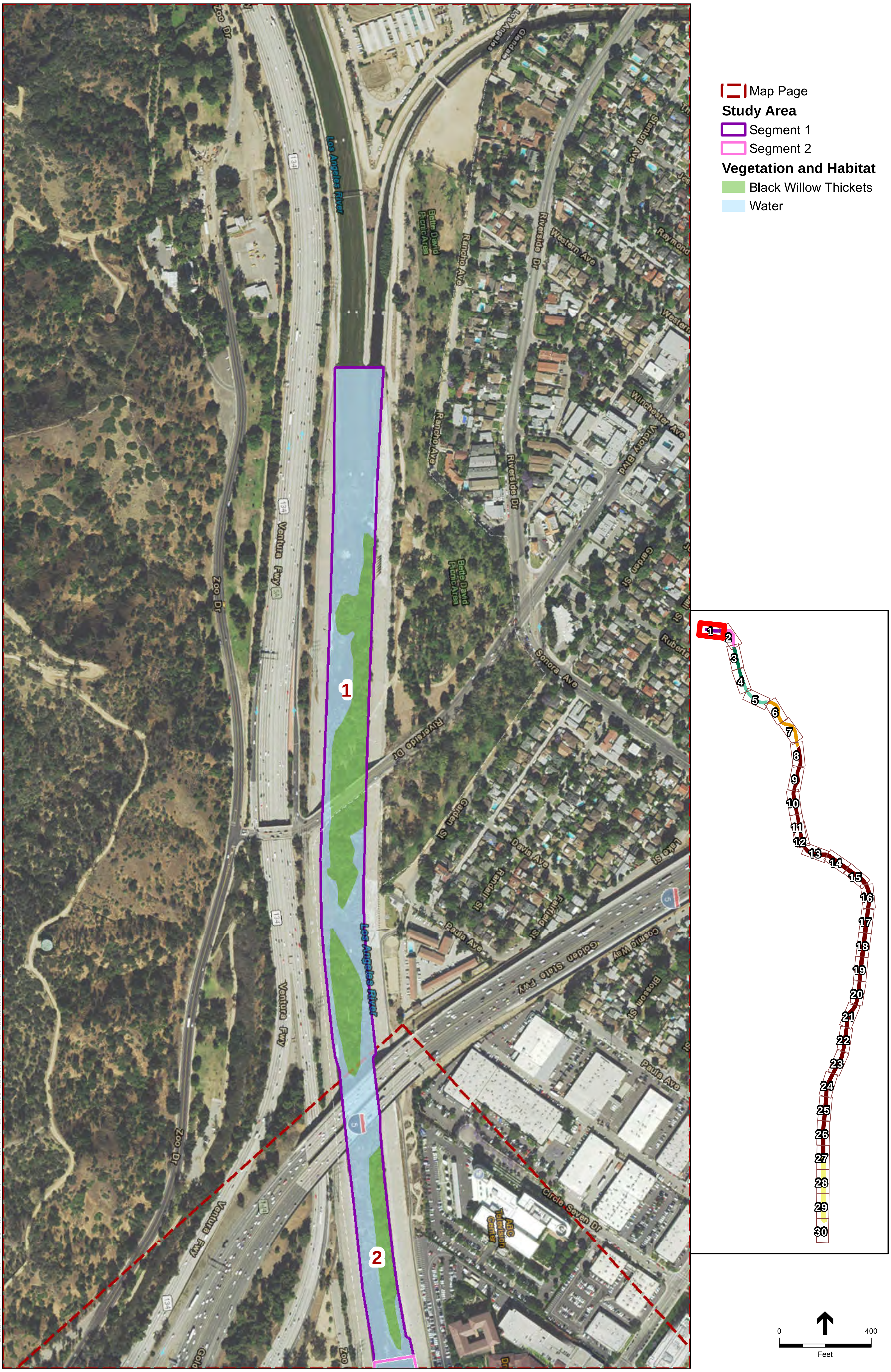
Segment 7 of the Study Area consists of brackish water t and is part of the Estuary. The Estuary receives almost all of its flow from a combination of freshwater from the River and saltwater from the San Pedro Bay. This segment is almost entirely inundated with water except for portions of rocky sandbars 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, but the Golden Shore Marine Biological Reserve 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

Aquatic habitat was observed in Segments 1-7 during the survey and desktop analysis, riparian vegetation was present in Segments 1, 3, 4, and 5, and a sandbar habitat occurs in Segment 7 (see attached **Figure 2 – Vegetation and Habitat Map Book**). A description of the aquatic and sandbar habitats and riparian vegetation community within the Study Area is below. Photographs of Segments 1-5 are presented in **Appendix A**.

Riparian Vegetation

Riparian vegetation includes areas of terrestrial vegetation that relies on a constant source of surface or ground water for survival. The only vegetation community found within Segments 1, 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 goodingii*), along with white alder (*Alnus rhombifolia*), Fremont’s cottonwood (*Populus fremontii*), and other shrubby native willow species (*Salix* sp.).



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SOURCE: ESRI

City of Burbank Recycled Wastewater Project – LA River Study . PCR0037.00

Figure 2

Vegetation and Habitat Map Book - Page 1

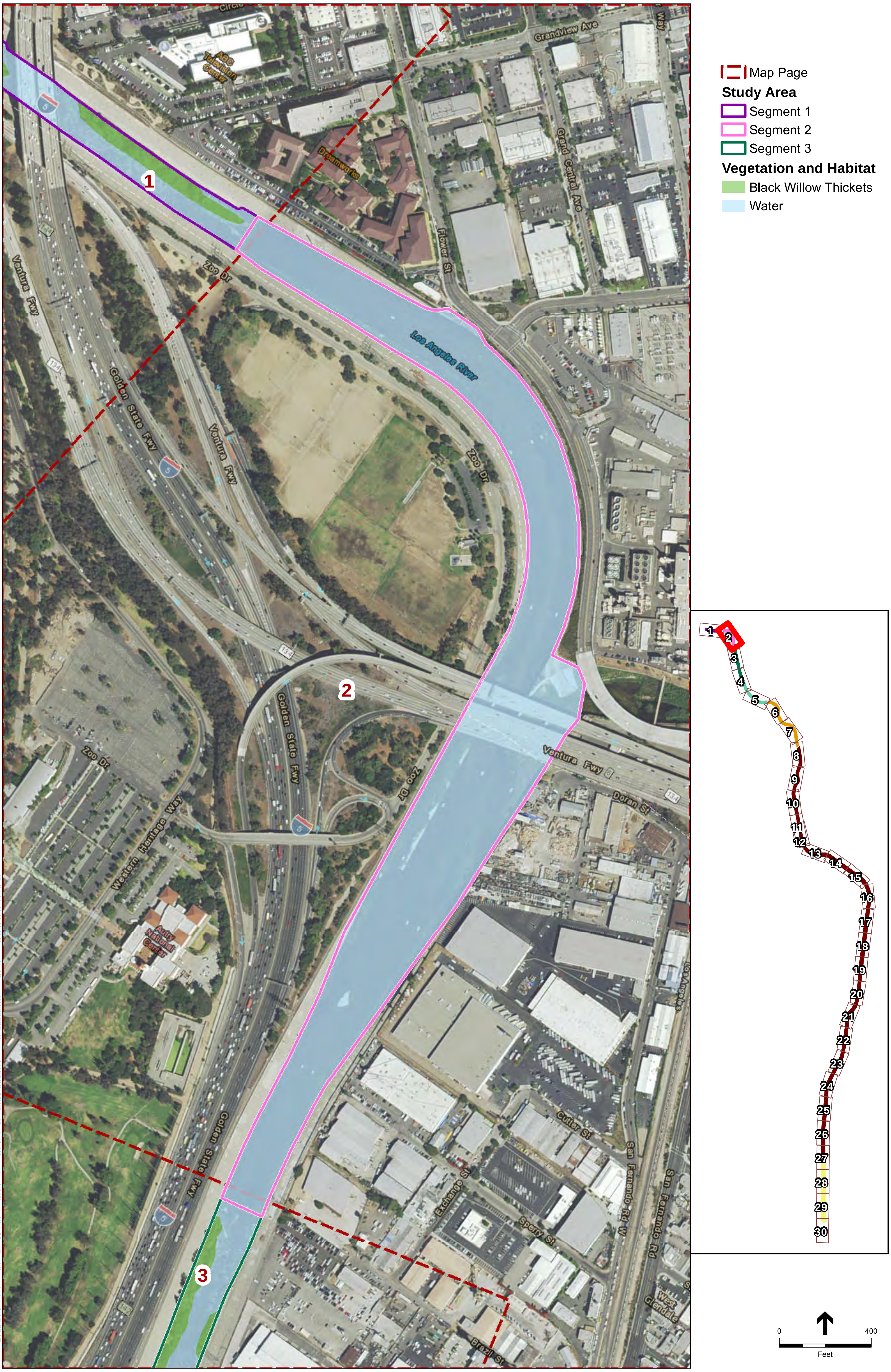

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Figure 2

Vegetation and Habitat Map Book - Page 2

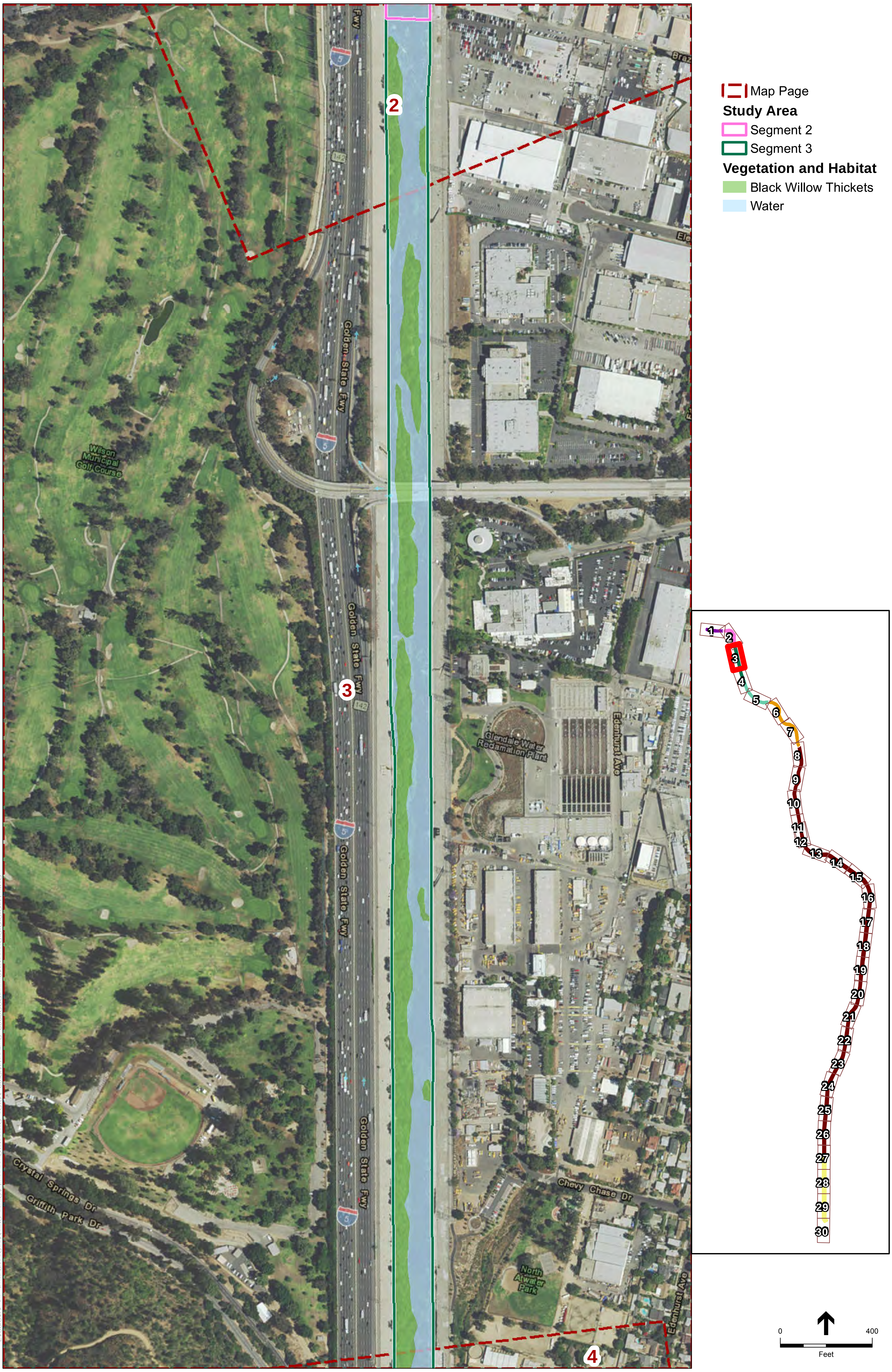

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Figure 2

Vegetation and Habitat Map Book - Page 3

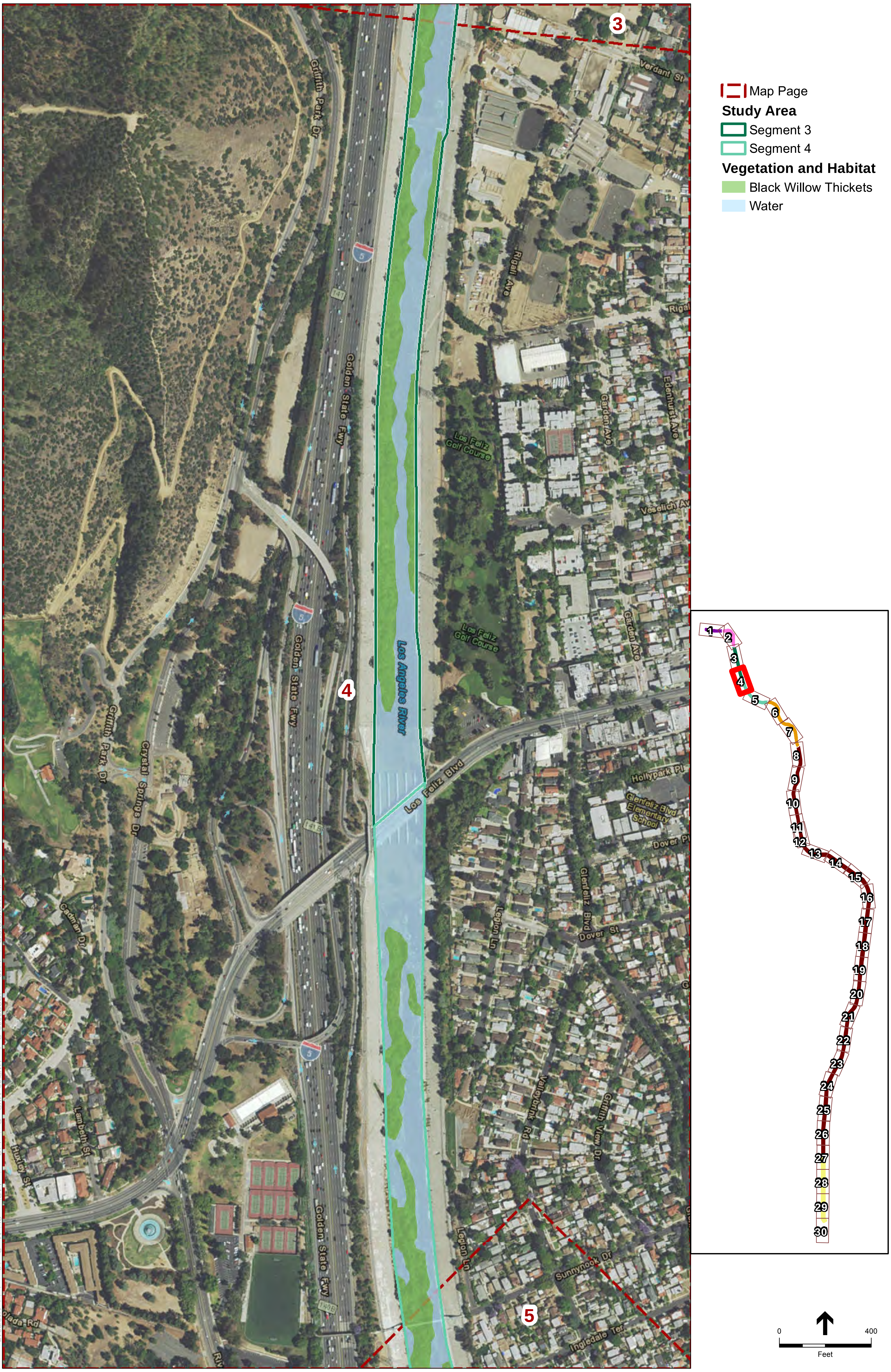

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Figure 2

Vegetation and Habitat Map Book - Page 4

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Figure 2

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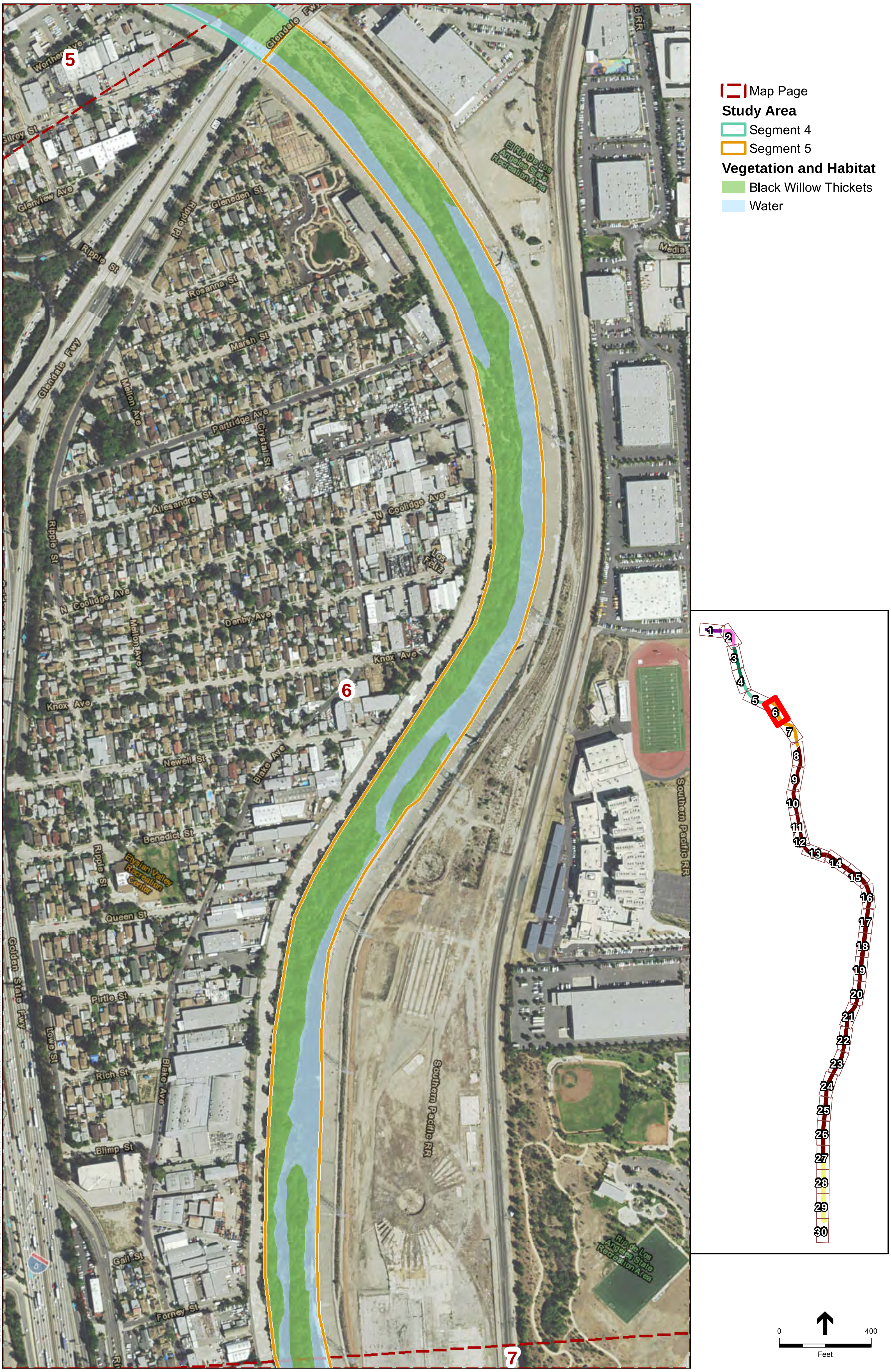

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Figure 2

Vegetation and Habitat Map Book - Page 6

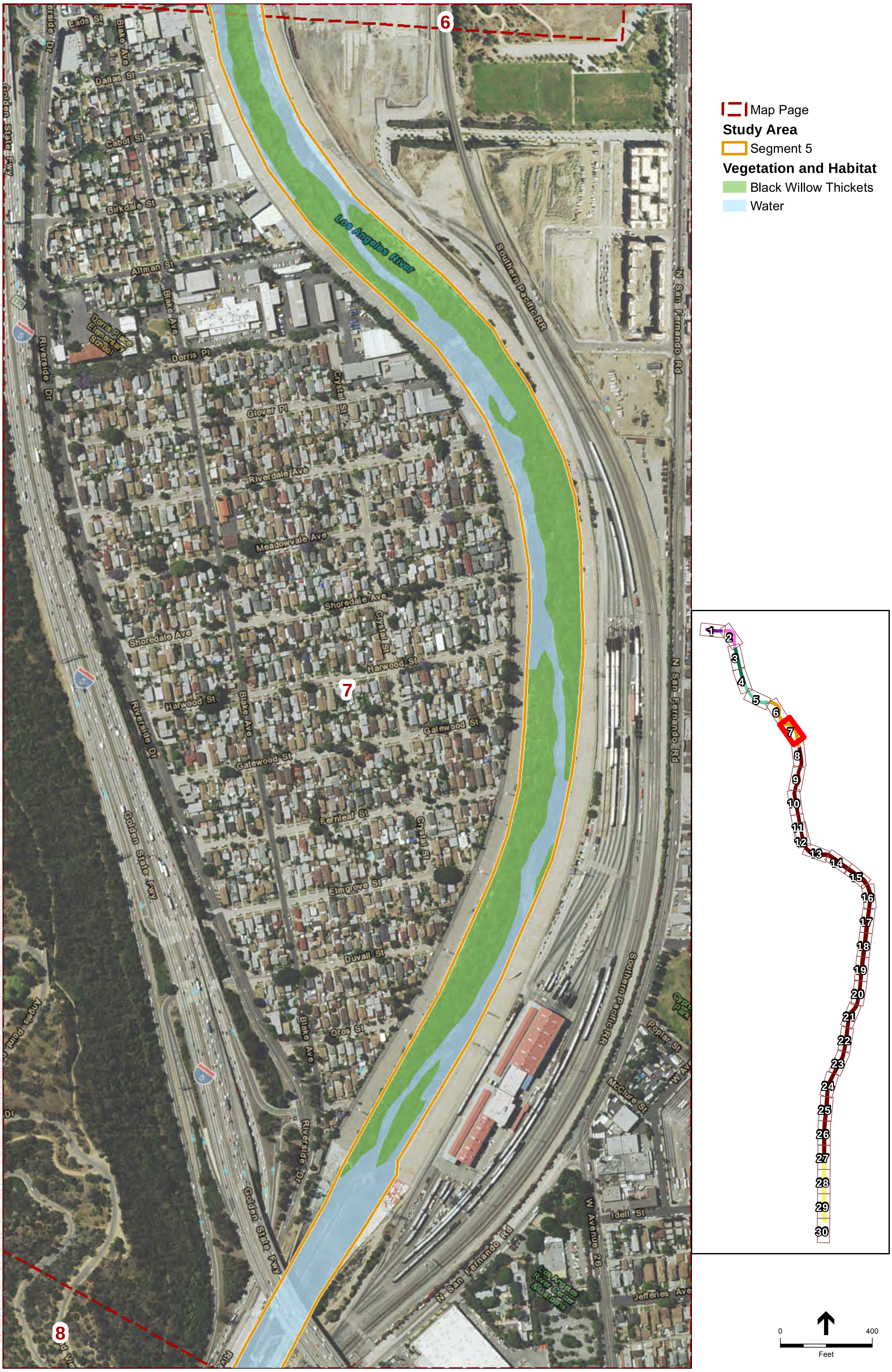

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Figure 2

Vegetation and Habitat Map Book - Page 7

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Figure 2

Vegetation and Habitat Map Book - Page 8

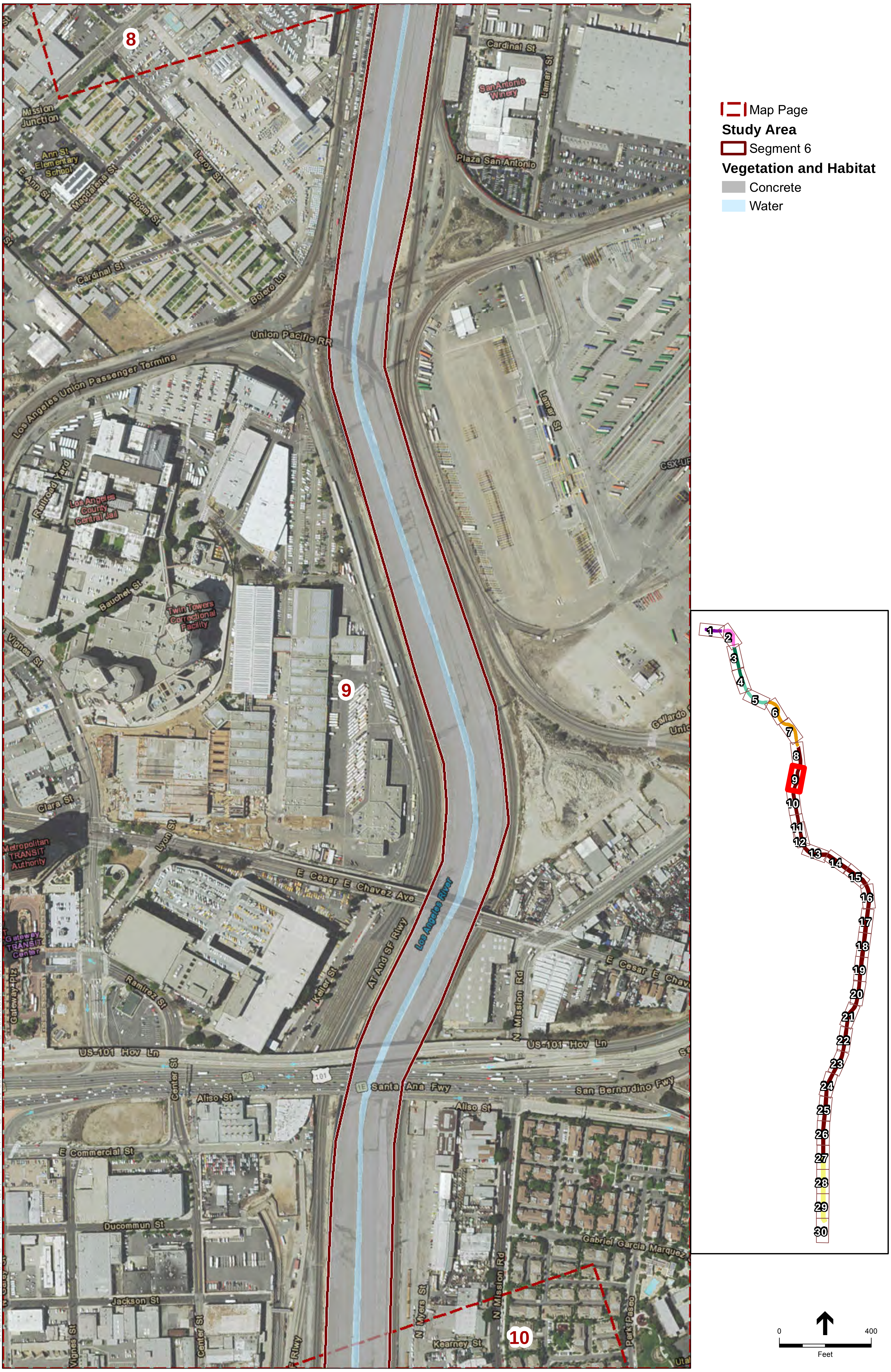

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Figure 2

Vegetation and Habitat Map Book - Page 9

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Figure 2

Vegetation and Habitat Map Book - Page 10

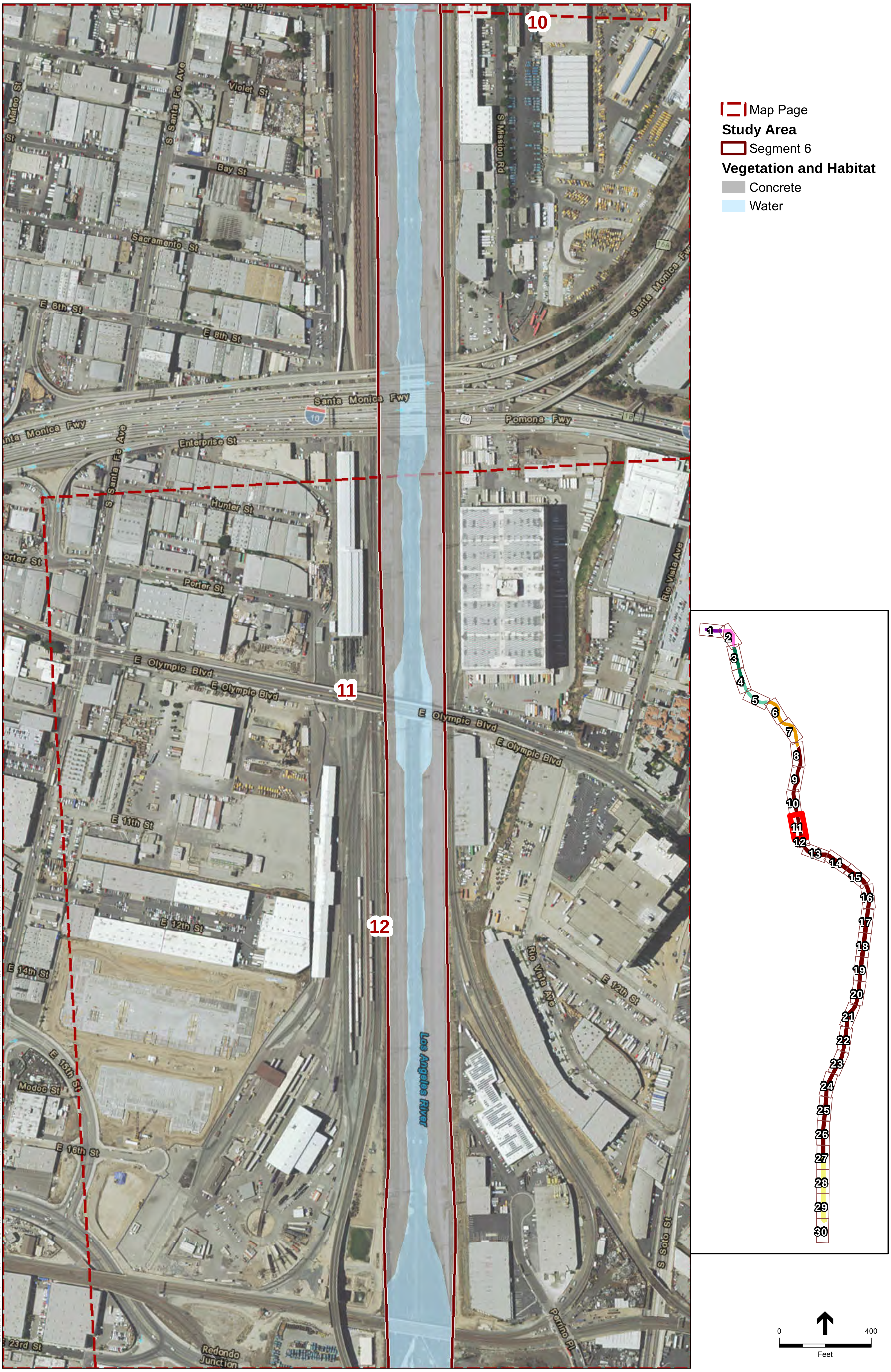

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Figure 2

Vegetation and Habitat Map Book - Page 11

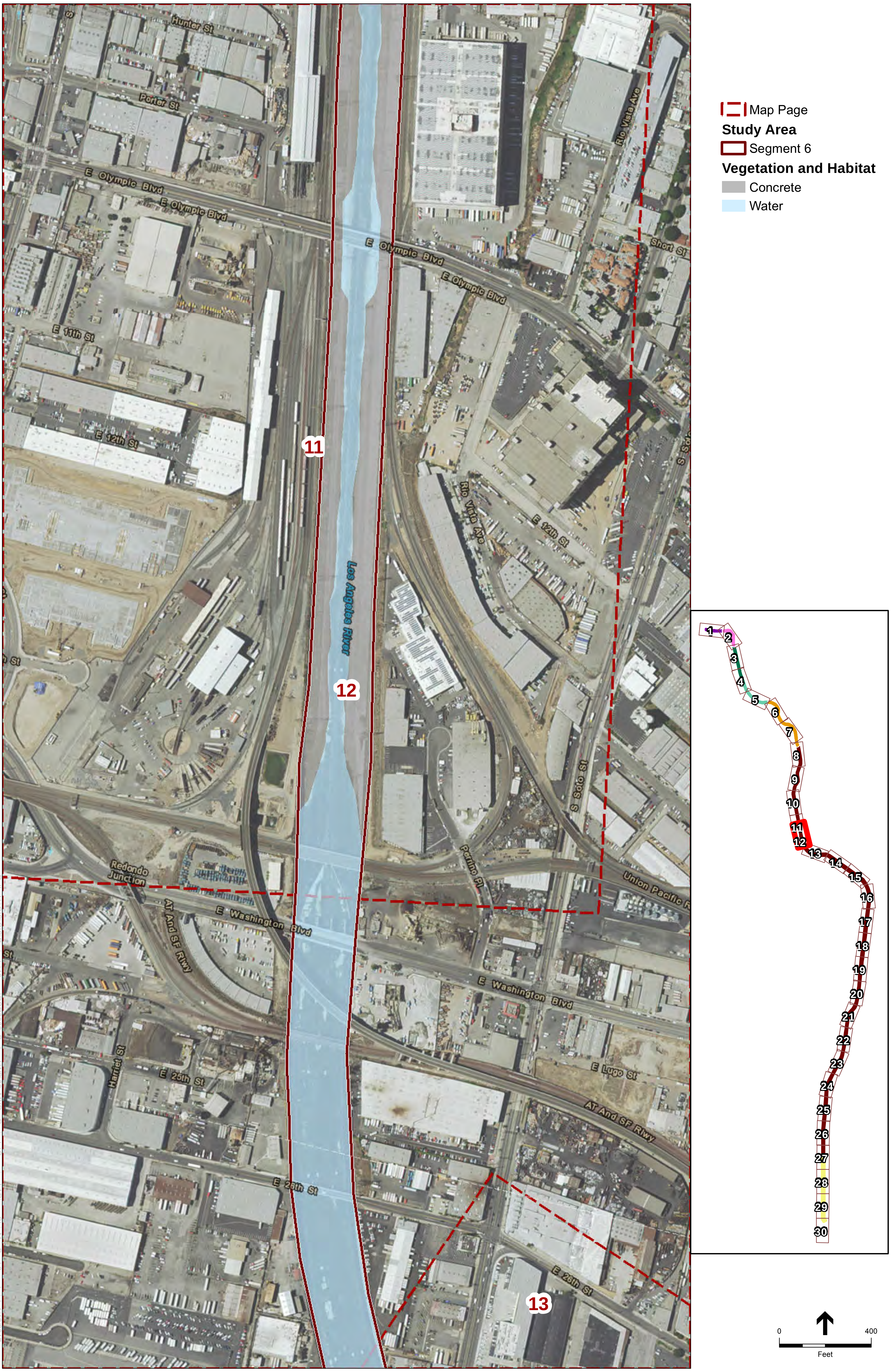

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Figure 2

Vegetation and Habitat Map Book - Page 12

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Figure 2

Vegetation and Habitat Map Book - Page 13

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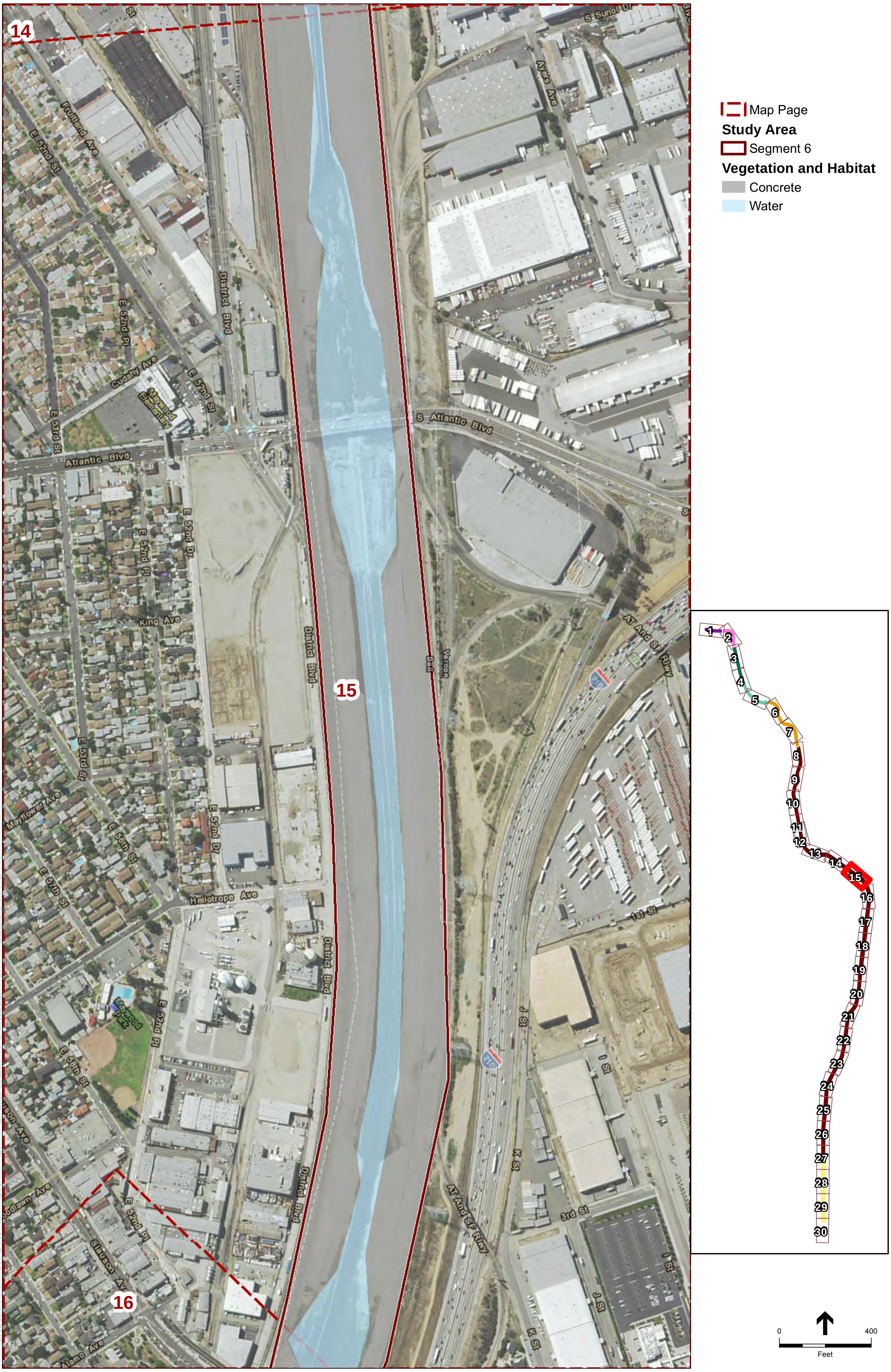
Figure 2

Vegetation and Habitat Map Book - Page 14



SOURCE: ESRI

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Figure 2

Vegetation and Habitat Map Book - Page 15

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Figure 2

Vegetation and Habitat Map Book - Page 16

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City of Burbank Recycled Wastewater Project – LA River Study . PCR0037.00

Figure 2

Vegetation and Habitat Map Book - Page 17

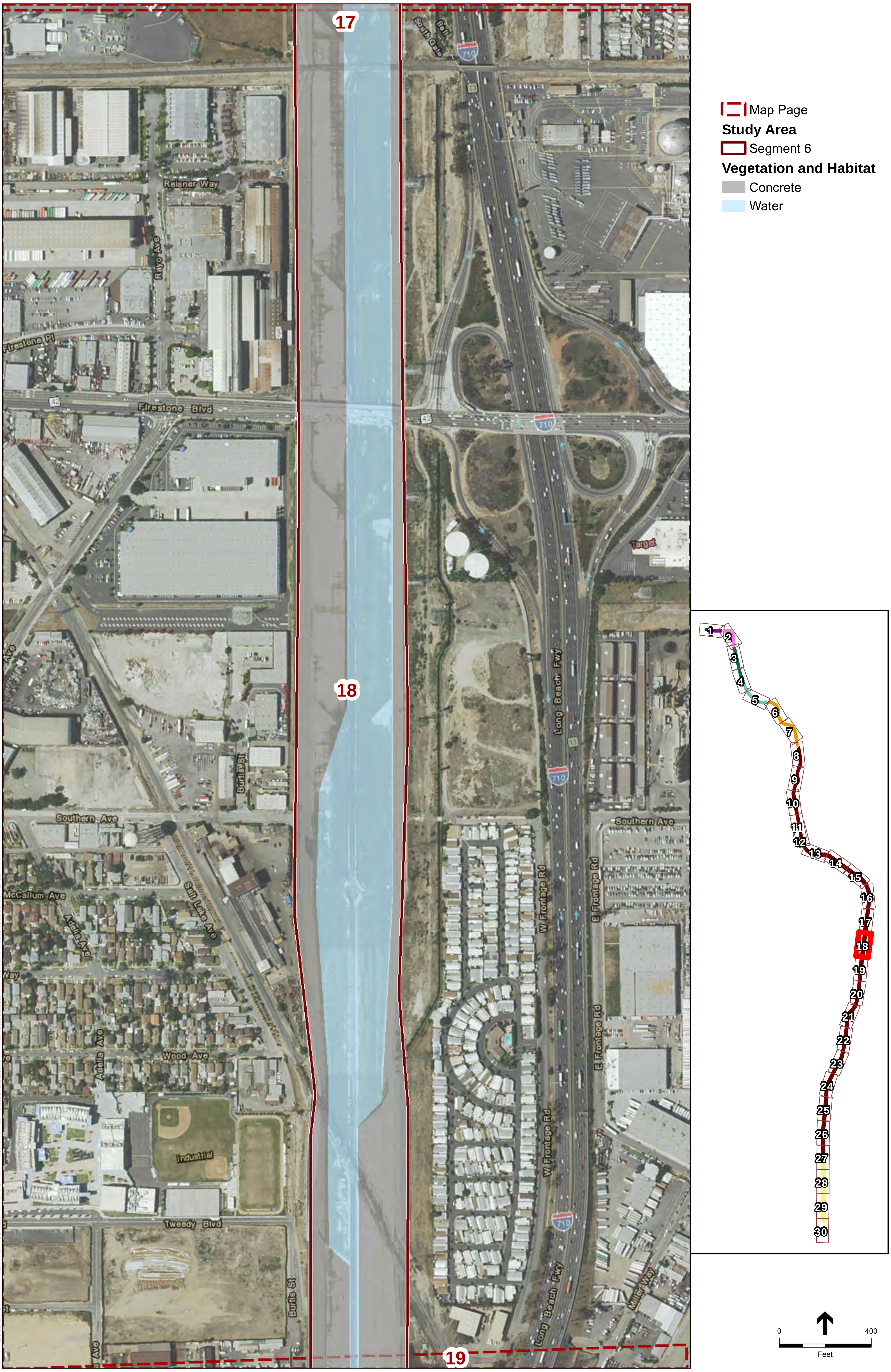

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Figure 2

Vegetation and Habitat Map Book - Page 18

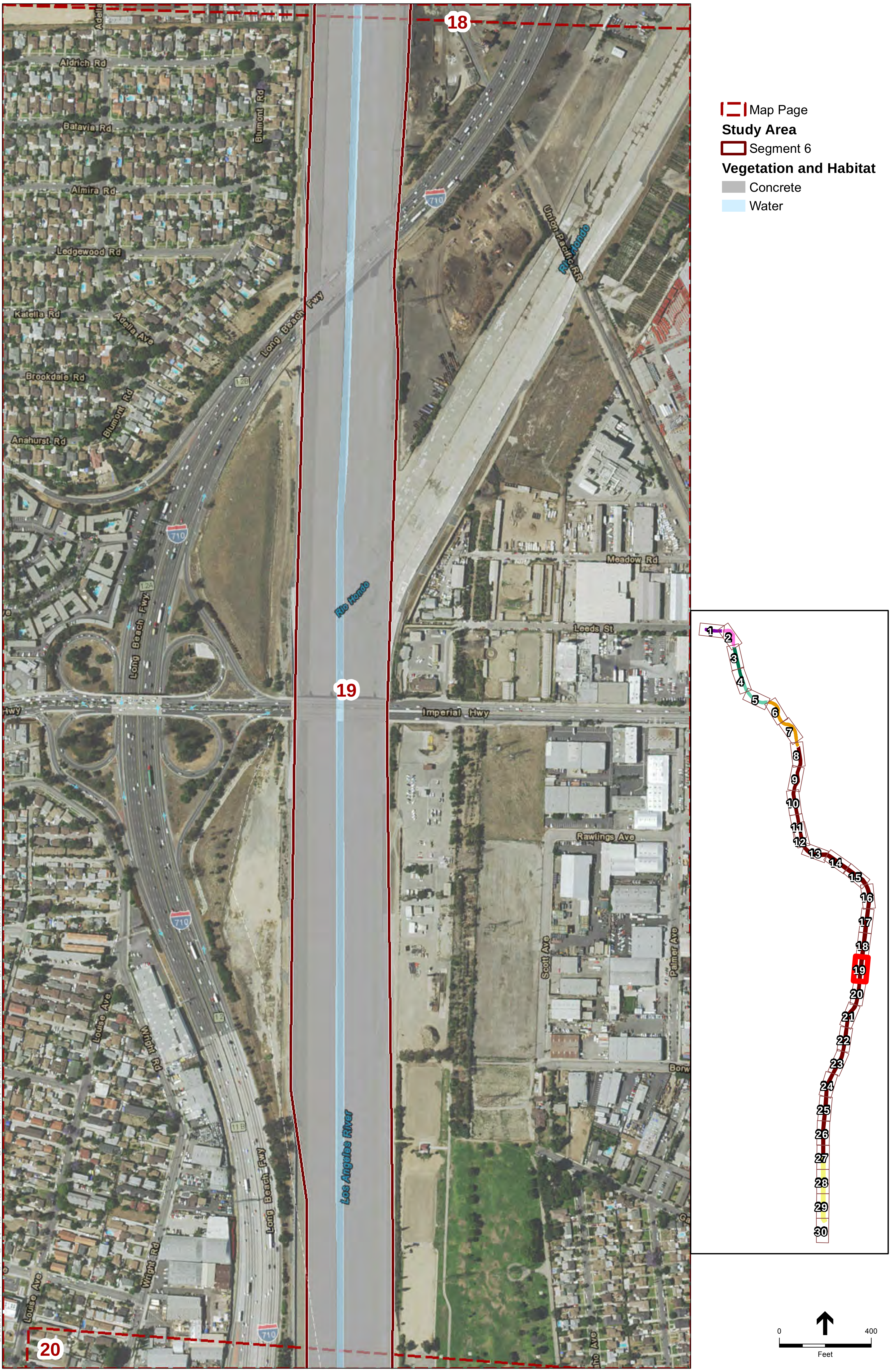

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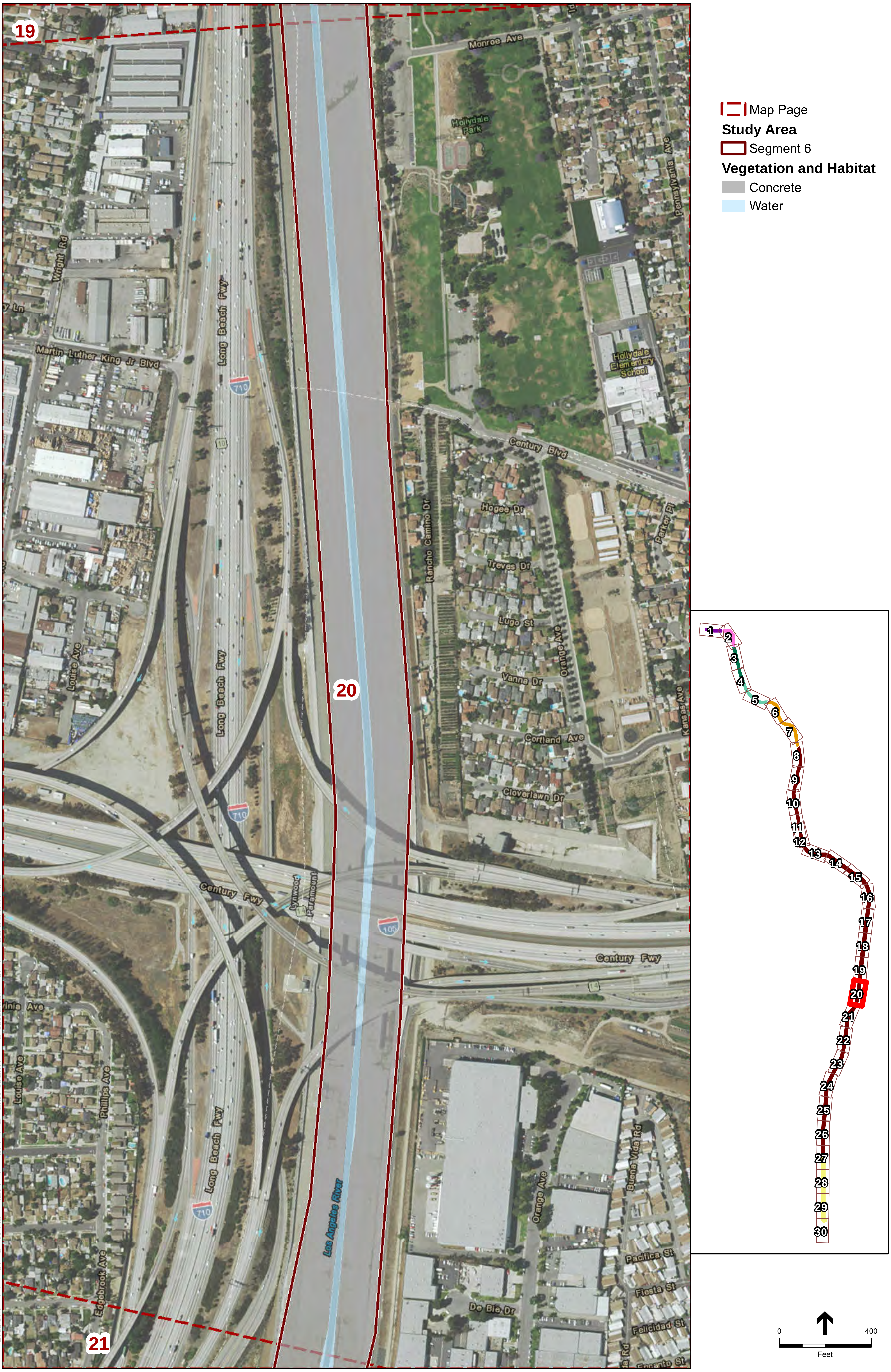
Figure 2

Vegetation and Habitat Map Book - Page 19



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City of Burbank Recycled Wastewater Project – LA River Study . PCR0037.00

Figure 2

Vegetation and Habitat Map Book - Page 20

SOURCE: ESRI

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Figure 2

Vegetation and Habitat Map Book - Page 21

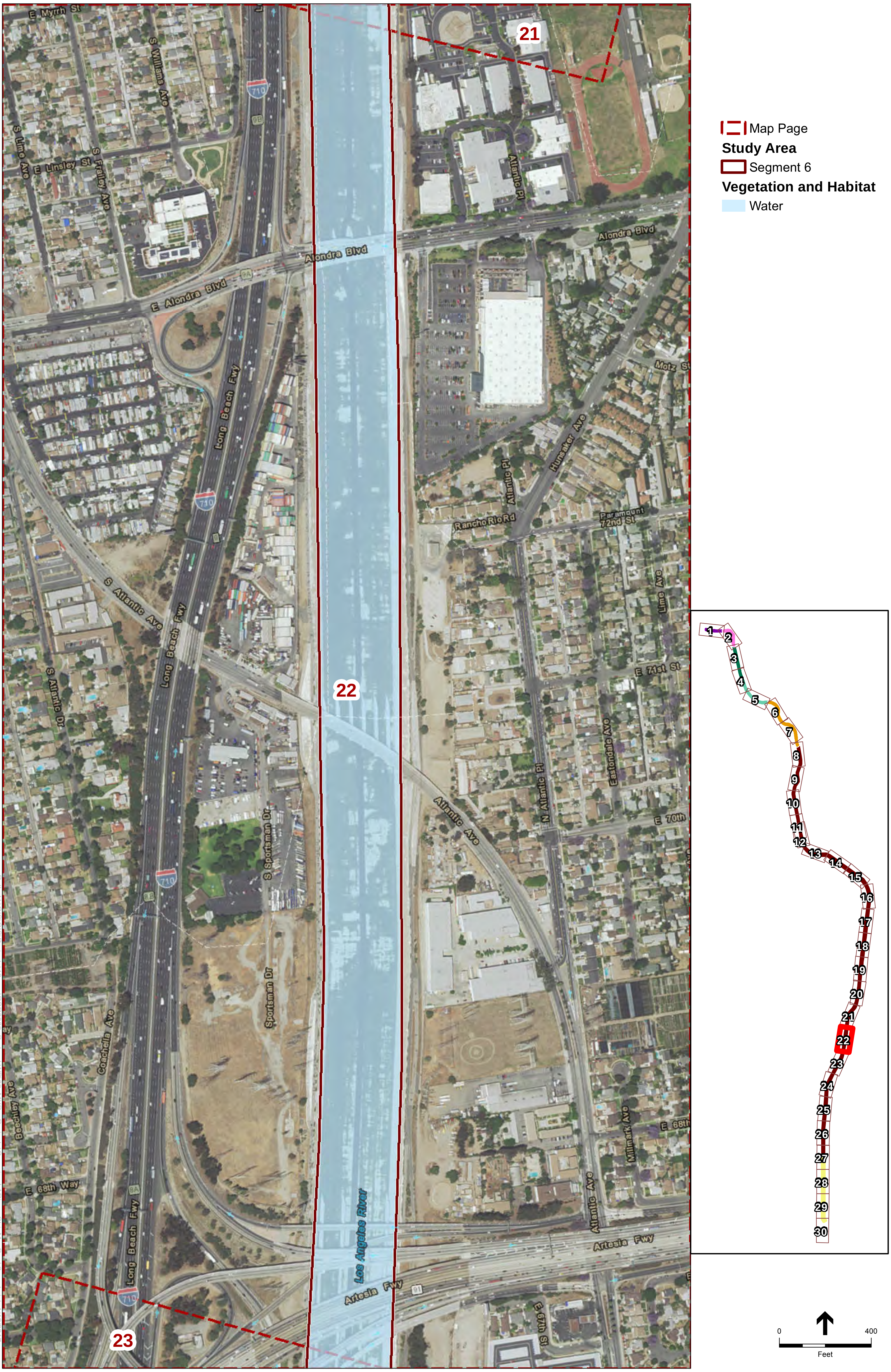

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Figure 2
Vegetation and Habitat Map Book - Page 22

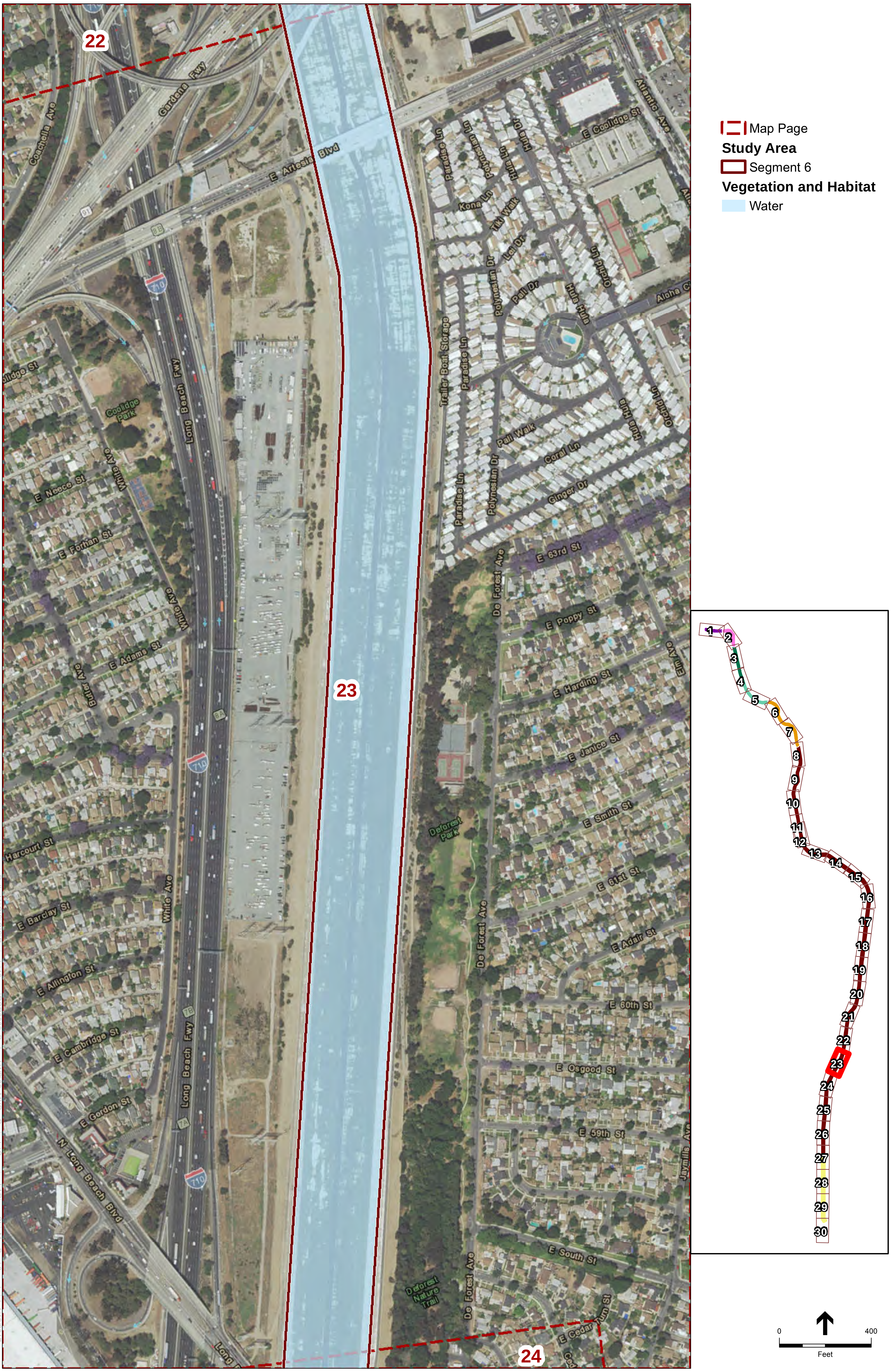

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Figure 2

Vegetation and Habitat Map Book - Page 23

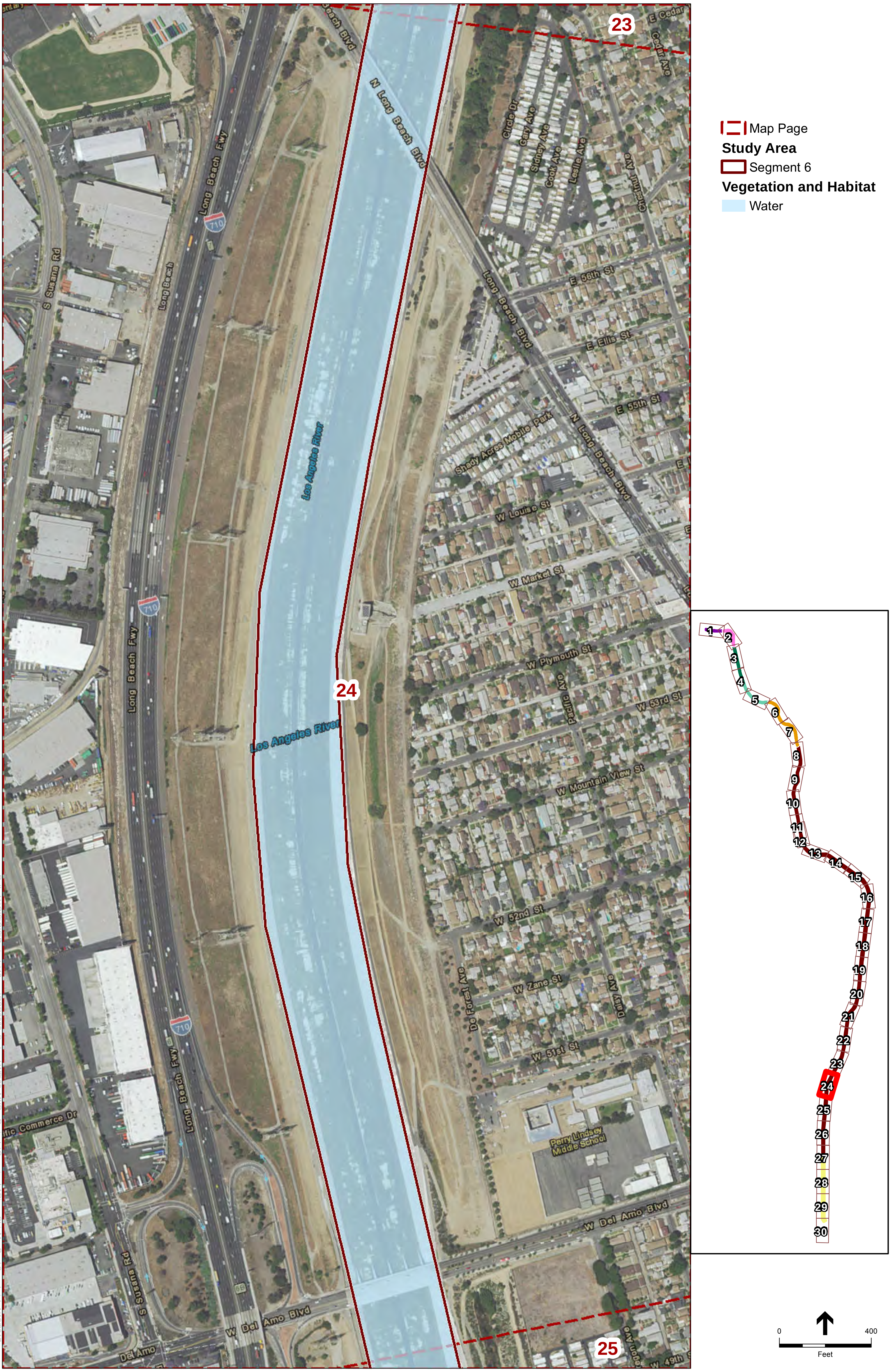

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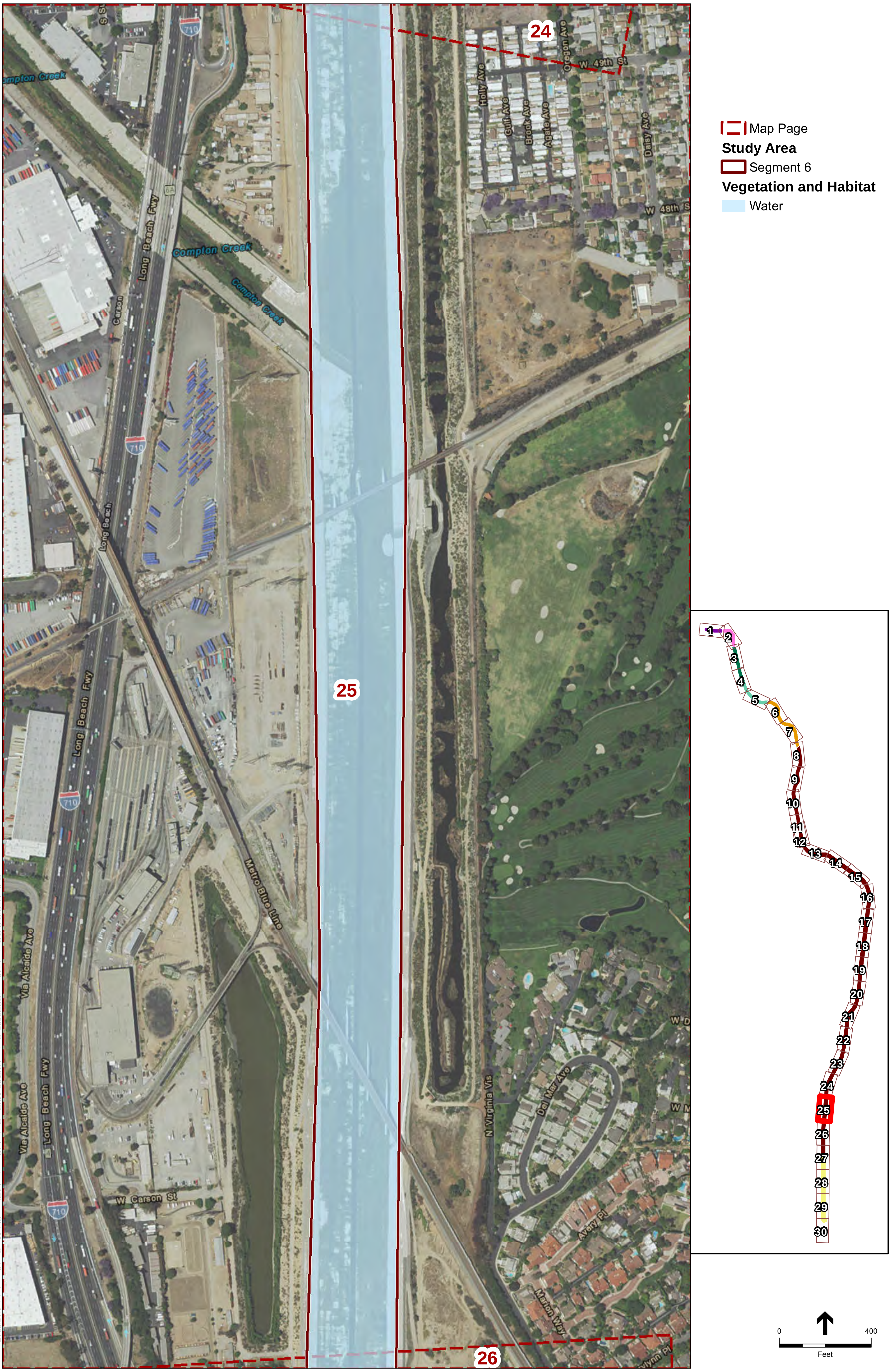
Figure 2

Vegetation and Habitat Map Book - Page 24

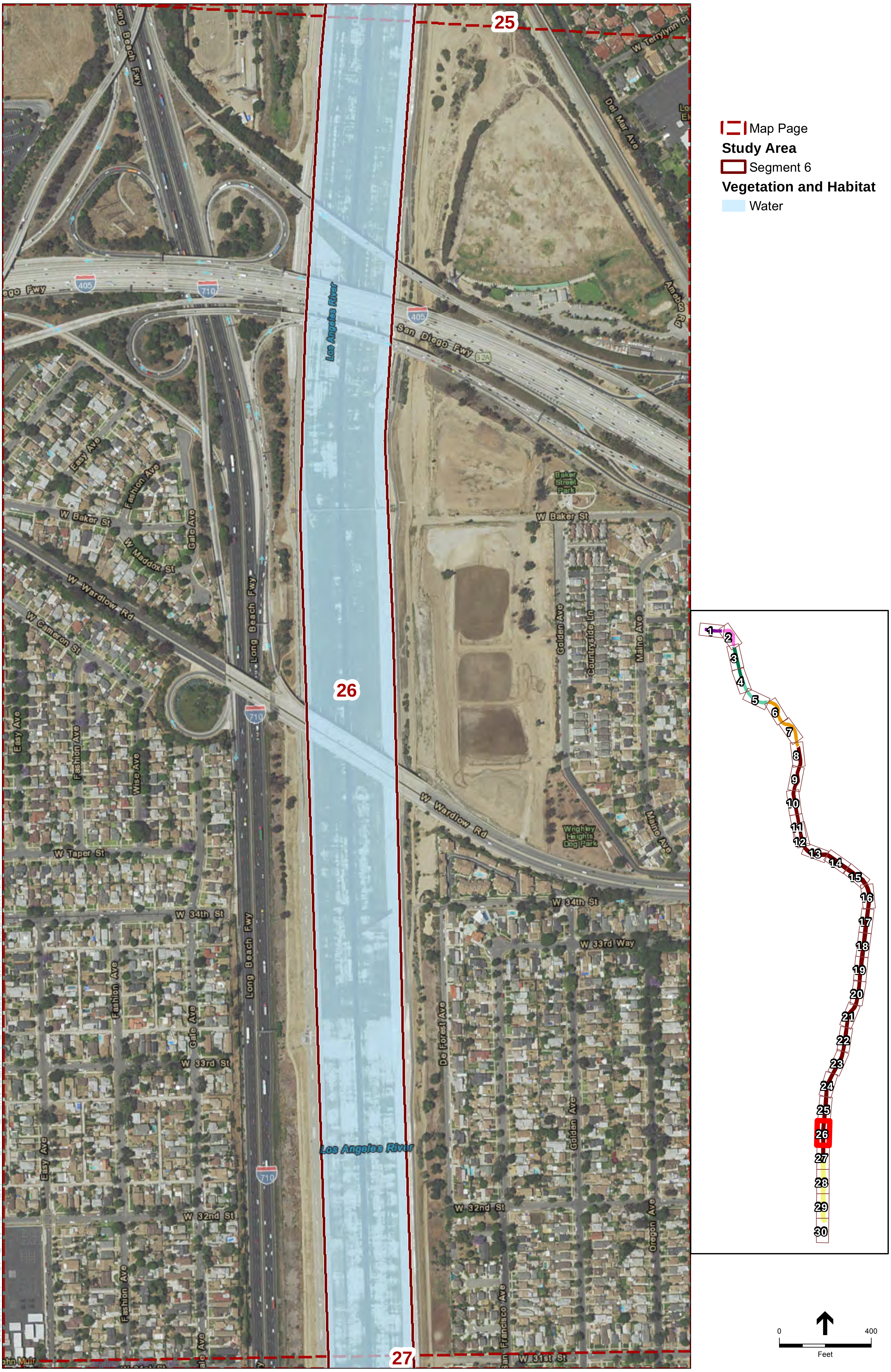


SOURCE: ESRI

City of Burbank Recycled Wastewater Project – LA River Study . PCR0037.00

Figure 2

Vegetation and Habitat Map Book - Page 25

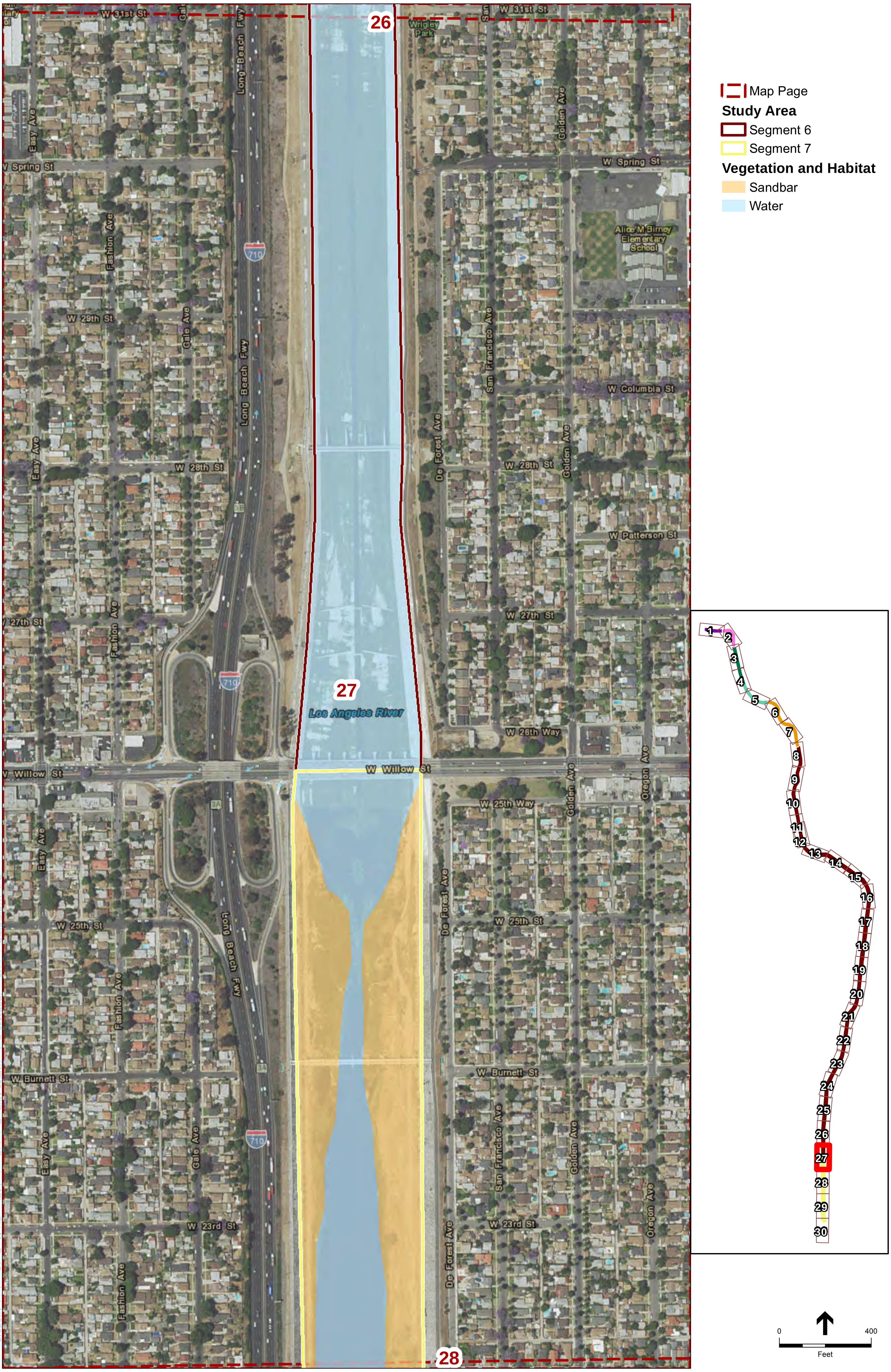


SOURCE: ESRI

City of Burbank Recycled Wastewater Project – LA River Study . PCR0037.00

Figure 2

Vegetation and Habitat Map Book - Page 26



SOURCE: ESRI

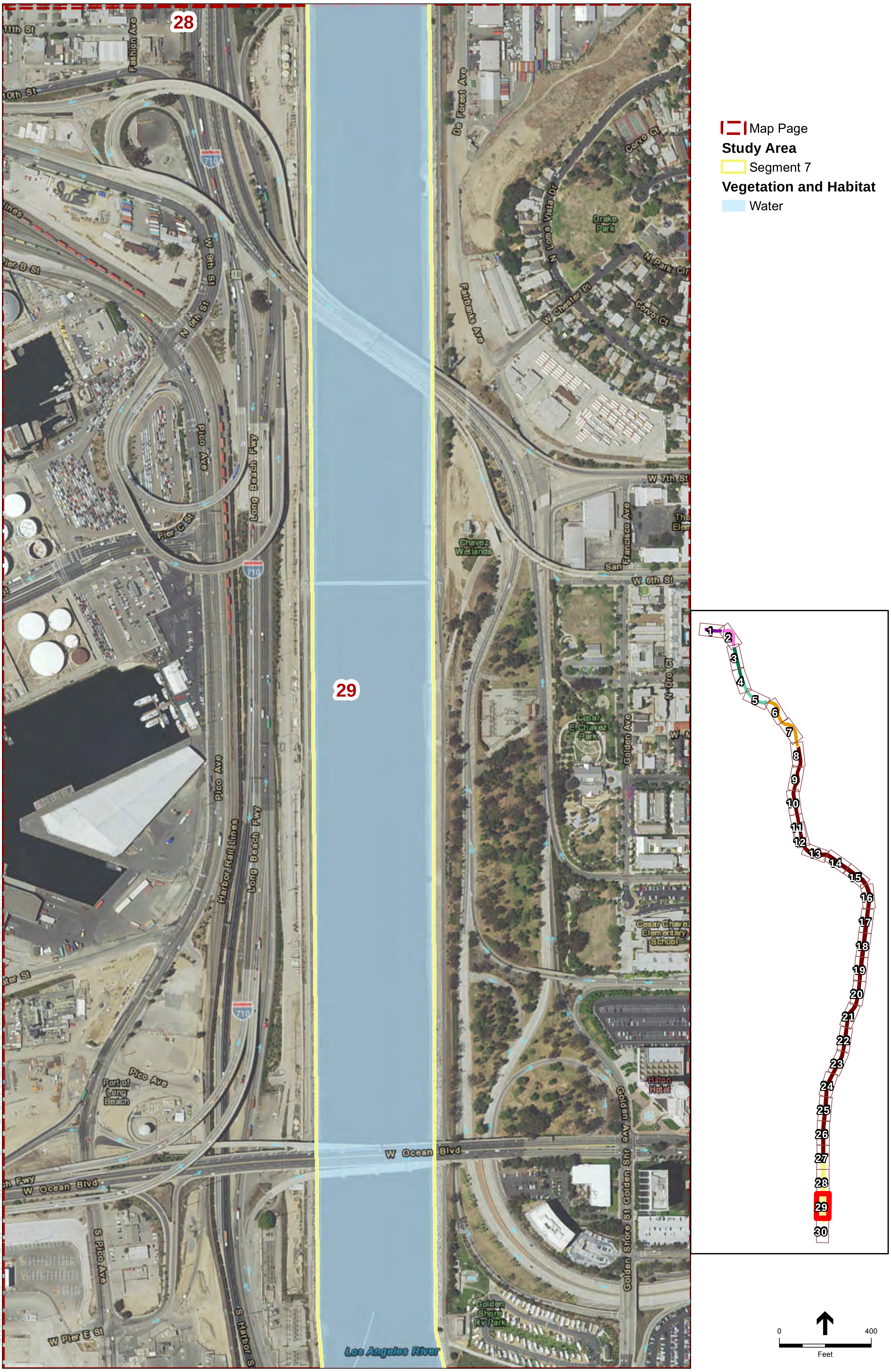
Figure 2
Vegetation and Habitat Map Book - Page 27

SOURCE: ESRI

City of Burbank Recycled Wastewater Project – LA River Study . PCR0037.00

Figure 2

Vegetation and Habitat Map Book - Page 28

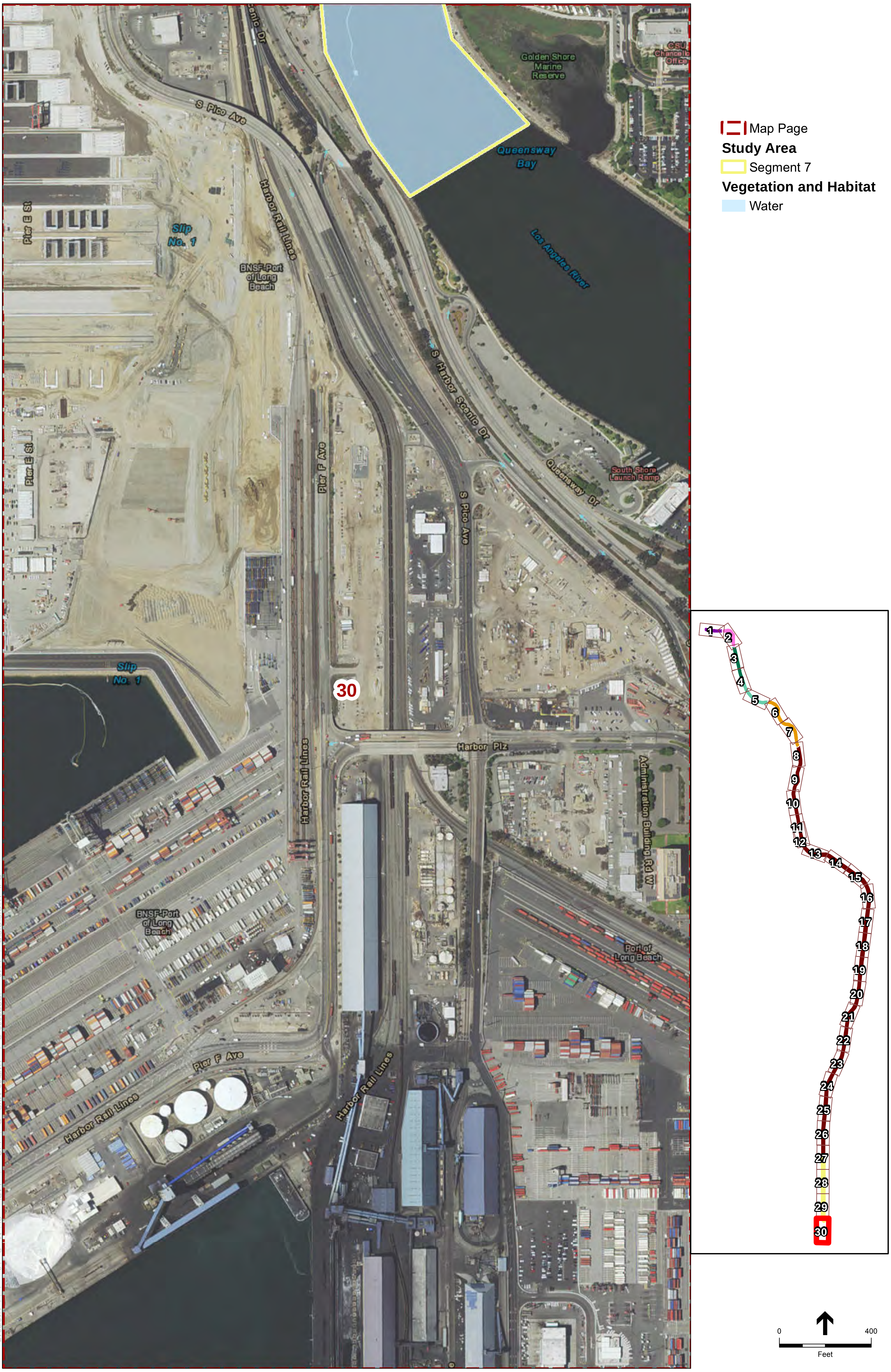


SOURCE: ESRI

City of Burbank Recycled Wastewater Project – LA River Study . PCR0037.00

Figure 2

Vegetation and Habitat Map Book - Page 29



Map Page

Study Area

Segment 7

Vegetation and Habitat

Water

SOURCE: ESRI

City of Burbank Recycled Wastewater Project – LA River Study . PCR0037.00

Figure 2

Vegetation and Habitat Map Book - Page 30

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 community has been greatly degraded and disturbed by homeless encampments, trash, invasive plant species, and vegetation management activities, 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 (*Baccharis salicifolia*) 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 (ACOE 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 (*Washingtonia robusta*), 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 at 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 ACOE 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 1, 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 has flow from the River and in the opposite direction from the Pacific Ocean.

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. 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-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

The Study Area hosts a diversity of wildlife species, although many are nonnative. According to the *Los Angeles River Ecosystem Restoration Study* (ACOE 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 Segments 2 and 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 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) 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.

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 have 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 there 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, several of these are non-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 tho 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 streambed alterations (i.e., cement-lined and accelerated flows), ground disturbance, extensive populations of exotic plant species that outcompete natives, homeless encampments, and trash. CNDDB records that intersect with the River include four special-status plants, mesa horkelia (*Horkelia cuneate* var. *puberula*), Coulter’s goldfields (*Lasthenia glabrata* ssp. *coulteri*), prostrate vernal pool navarretia (*Navarretia prostrata*), and Greata’s aster (*Syimphyotrichum greatae*) (CNDDB 2016). 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 navarettia 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. A summary of the listing status for each of these species, as well as their likelihood of occurrence in the Study Area 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 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 (*Rhynicthys 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 1, 3, 4, and 5. Segments 2 and 6 are 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 1, 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 has been recorded to eBird within all segments of the Study Area except Segment 2. 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. Ofeten feeds low over water. Nests n 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 anddenser 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 except Segment 2. 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 except Segment 2. The species winters in the Study Area but migrates north out of Southern California to breed.

Species	Status: Federal/State	Preferred Habitat	Probability of Occurrence in Study Site
American perefrine 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.
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 except Segment 2. 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. The species was observed in Segment 1 of the Study Area during the field survey 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 1, 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 Stufy 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; but native riparian and aquatic/semi-aquatic habitats in pristine form almost no longer exist within the Study Area. A diversity of wildlife is attracted to the Study Area 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 2**.

TABLE 2
DESCRIPTIONS OF HABITATS AND EXISTING CONDITIONS WITHIN SEGMENTS 1-7

Segment #	Existing Conditions
Segment 1	**Riparian Habitat:** 6.4 acres of BWT occurs on narrow islands located in the middle of the concrete-sloped channel, 60 percent of which is bare ground resulting from recent invasive plant management. BWT is highly compromised due to disturbance from invasive species removal, concrete-lining, and presences of trash. Habitat is currently of low quality. Native plants are limited and essentially no understory is present (due to removal of invasive plant species). However, tall willows provide perching and nesting opportunities for raptors and songbirds. **Aquatic Habitat:** Flowing water surrounds the islands of BWT. Flowing water is channel-edge to channel-edge. Ponded/slow water occurs at the edges of the island. Large boulders in unvegetated areas slow water. Variation in ponding, slow and fast moving water provides habitat for a diversity of wildlife: fish, amphibians, waterfowl, shorebirds, and other aquatic and semi-aquatic species; sandbars, shallow pools, and emergent vegetation at the island edges provide opportunities for bird nesting and amphibian breeding; However, channelization and development have eliminated almost all of the native fish from this segment. This segment provides adequate habitat for common and introduced species, but lacks high quality habitat for native fish.
Segment 2	**Aquatic Habitat:** The River channel widens in this area and the bottom becomes concrete and devoid of vegetation. The channel sides are largely box and the water spreads out to form a thin layer over the entire bottom. Low quality habitat for aquatic species occurs in Segment 2 due to the concrete bottom of the River and shallow stream that is not suitable for native fish species. Nonetheless, large flocks of black-neck stilts (*Himantopus mexicanus*) and gulls, mallards (*Anas platyrhynchos*), and American coots (*Fulica americana*) were observed foraging in this area during the field survey due to the availability of invertebrates in the water. No opportunity for nesting occurs for these birds in this segment.
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 proposed project would gradually reduce yearly water discharge into the River by 1,610 AF over a 10-year period, a 30.0-percent reduction in water discharged from the BWRP. 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 Water Reclamation Plant in the Sepulveda Basin, approximately 8 miles upstream from the Study Area. The Tillman Plant discharges a minimum of 22,400 AF per year, and the BWRP currently discharges 5,376 AF per year. The proposed reduction of 1,610 AF is 5.8 percent of the total minimum wastewater that is discharged from the Tillman Plant and the BWRP combined. Local surface runoff also contributes to the flow during the low natural flow season, as does water from 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.

Below is an analysis of potential impacts from implementation of the proposed project to 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.

Vegetation Communities and Habitats

Riparian

A total of 75.3 acres of BWT occur in Segments 1, 3, 4, and 5 of the Study Area. During times of naturally low flow in the River (April to November) the BWT relies on upstream discharges of wastewater. The project proposes to remove 1,610 AF of the yearly wastewater that is currently discharged from the BWRP. However, the reduction in volume of discharge is only 5.8 percent of wastewater that is discharged into the River when considering the current combined discharge from the Tillman Water Reclamation Plant and the BWRP. Additional water into the River comes from surface runoff 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 the BWRP at all times of year. The reduction would result in a reduction in 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.

Aquatic

Aquatic habitat occurs in all segments of the Study Area, 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 1,610 AF from the River each year, a 5.8 percent decrease of wastewater that is discharged into the River when considering the current combined discharge from the Tillman Water Reclamation Plant and the BWRP. Additional water into the River comes from surface runoff 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 Segments 2 and 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 the BWRP would not significantly reduce aquatic habitat values in the Study Area.

Wildlife

Special-Status Species

A total of 15 special-status wildlife species are known to occur or have a high potential to occur in the Study Area, 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 3 bat species (western mastiff bat, hoary bat, and big free-tailed bat). Considering there would be no measurable reduction of BWT from the reduced discharge from the BWRP, the resident and migratory wildlife community that depends on the 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 the BWRP. Therefore, impacts to special-status wildlife would be less than significant.

Cumulative Effects

The proposed project would contribute to incremental reduced flow in the Los Angeles River. Several other projects and programs are being planned that may also impact river flows. For example, the City of Los Angeles is proposing additional recycled water efforts that will divert wastewater discharges from the Tillman WRP upstream of the Study Area and the Los Angeles-Glendale WRP located adjacent to the Study Area. The flows will be diverted to support local water demands including groundwater recharge. However, the City of Los Angeles is also planning to increase the capacity at Tillman WRP to treat wastewater that would otherwise be treated at Hyperion WRP. In addition, the City of Los Angeles recently prepared a Stormwater Capture Master Plan that describes future stormwater capture projects that would reduce wet season river flows compared to existing conditions. In 2014, Los Angeles County adopted the Greater Los Angeles County Integrated Regional Water Management Plan that includes significant water conservation efforts that will retain water in reservoirs upstream from the Study Area with the intent of percolating in spreading basins. Furthermore, Los Angeles County also is preparing Enhanced Watershed Management Plans (EWMPs) to comply with their Municipal Separate Storm Sewer System (MS4) permit issued by the Regional Water Quality Control Board. The EWMPs identify opportunities within the watershed to retain urban runoff and stormwater that may further reduce river flows. However, in most cases, the extent to which these activities will reduce dry weather flows into the river is unknown. In addition, the City of Los Angeles has committed to continuing to discharge a substantial amount of water from Tillman WRP and treating more water at Tillman, which will offset reductions. These projects, and their potential cumulative impacts, are discussed further in the Hydraulic Modeling Report II.

It is important to note that a future reduction of flows within the river may eventually reduce the acreage of BWT habitats within the river channel. Aquatic habitats may also diminish within the channel as less water is discharged from existing sources. However, this may reflect a more natural condition of the river. 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. Any reduction in future perennial flow in the Los Angeles River would resemble a more natural condition of the River compared with historic conditions.

The City of Los Angeles is considering the development of the Los Angeles River Ecosystem Restoration Plan which would consist of a $1.6-billion-dollar restoration of the Glendale Narrows (Segments 1-5 of the Study Area). Stakeholders for this project include the County of Los Angeles, the US Army Corps of Engineers, the City of Los Angeles, and several non-governmental organizations including Friends of the Los Angeles River. This project's goal is to restore the River and surrounding areas to a more natural system, creating a slower flow, larger and wider floodplain, and creating new habitat, such as native marsh and riparian habitats, as well as to introduce recreational opportunities. Although this Plan may need to expect less perennial flow in the channel than currently exists, the opportunities for public access and floodplain expansion will not be adversely affected by the cumulative reduction of flow.

Although the proposed project would contribute to an incremental reduction in river flows that could have a less than significant impact on existing biological resources, the project's contribution, along with other related projects, would not be cumulatively considerable.

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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 B

Wildlife Species in Segments 1-5 (ACOE 2013)

Largemouth bass	*Micropterus salmoides*
Black bullhead	*Ictalarus (Ameiurus) melas*
Carp	*Cyprinus carpio*
Mosquitofish	*Gambusia affinis*
Green sunfish	*Lepomis cyanellus*
Tilapia	*Oreochromis spp.*
Western toad	*Bufo boreas*
California Treefrog	*Pseudacris regilla*
Bullfrog	*Rana catesbeiana*
Red-eared Slider	*Trachemys scripta elegans*
Southern Alligator Lizard	*Elgaria multicarinata*
Western Fence Lizard	*Sceloporus occidentalis*
Side-blotched lizard	*Uta stansburiana*
Two-Striped Garter Snake	*Thamnophis hammondii*
Pied-billed Grebe	*Podilymbus podiceps*
Eared Grebe	*Podiceps nigricollis*
Double-crested Cormorant	*Phalacrocorax auritus*
Great blue heron	*Ardea herodias*
Great Egret	*Ardea alba*
Snowy Egret	*Egretta thula*
Green Heron	*Butorides virescens*
Black-crowned Night-Heron	*Nycticorax nycticorax*
Turkey Vulture	*Cathartes aura*
Canada Goose	*Branta canadensis*
Gadwall	*Anas strepera*
American Wigeon	*Anas americana*
Mallard	*Anas platyrhynchos*
Blue-winged Teal	*Anas discors*
Cinnamon teal	*Anas cyanoptera*
Northern Shoveler	*Anas clypeata*
Northern Pintail	*Anas acuta*
Green-winged Teal	*Anas crecca*
Bufflehead	*Bucephala albeola*
Hooded Merganser	*Lophodytes cucullatus*
Ruddy Duck	*Oxyura jamaicensis*
Muscovy Duck	*Cairina moschata*
Osprey	*Pandion haliaetus*
White-tailed Kite	*Elanus leucurus*
Sharp-shinned Hawk	*Accipiter striatus*
Cooper's Hawk	*Accipiter cooperii*
Red-shouldered Hawk	*Buteo lineatus*
Red-tailed Hawk	*Buteo jamaicensis*
American Kestrel	*Falco sparverius*
Merlin	*Falco columbarius*
Peregrine Falcon	*Falco peregrinus*
Sora	*Porzana carolina*
Common Moorhen	*Gallinula chloropus*
American Coot	*Fulica americana*
Killdeer	*Charadrius vociferus*

Black-necked Stilt	*Himantopus mexicanus*
Greater Yellowlegs	*Tringa melanoleuca*
Lesser Yellowlegs	*Tringa flavipes*
Spotted Sandpiper	*Actitis macularia*
Western sandpiper	*Calidris mauri*
Least Sandpiper	*Calidris minutilla*
Wilson's Snipe	*Gallinago delicata*
Ring-billed Gull	*Larus delawarensis*
California Gull	*Larus californicus*
Western Gull	*Larus occidentalis*
Caspian Tern	*Sterna caspia*
Rock Pigeon	*Columba livia*
Mourning Dove	*Zenaida macroura*
Barn Owl	*Tyto alba*
Great Horned Owl	*Bubo virginianus*
Vaux's Swift	*Chaetura vauxi*
White-throated Swift	*Aeronautes saxatalis*
Black-chinned Hummingbird	*Archilochus alexandri*
Anna's Hummingbird	*Calypte anna*
Rufous Hummingbird	*Selasphorus rufus*
Allen's Hummingbird	*Selasphorus sasin*
Belted Kingfisher	*Ceryle alcyon*
Acorn Woodpecker	*Melanerpes formicivorus*
Red-breasted Sapsucker	*Sphyrapicus ruber*
Nuttall's Woodpecker	*Picoides nuttallii*
Downy Woodpecker	*Picoides pubescens*
Northern Flicker	*Colaptes auratus*
Western Wood-pewee	*Contopus sordidulus*
Willow Flycatcher	*Empidonax traillii*
Pacific-slope Flycatcher	*Empidonax difficilis*
Black Phoebe	*Sayornis nigricans*
Say's Phoebe	*Sayornis saya*
Ash-throated Flycatcher	*Myiarchus cinerascens*
Cassin's Kingbird	*Tyrannus vociferans*
Western Kingbird	*Tyrannus verticalis*
Loggerhead Shrike	*Lanius ludovicianus*
Bell's Vireo	*Vireo bellii*
Cassin's Vireo	*Vireo cassinii*
Hutton's Vireo	*Vireo huttoni*
Warbling Vireo	*Vireo gilvus*
Western Scrub Jay	*Aphelocoma californica*
American Crow	*Corvus brachyrhynchos*
Common Raven	*Corvus corax*
Tree Swallow	*Tachycineta bicolor*
Violet-green Swallow	*Tachycineta thalassina*
Northern rough winged swallow	*Stelgidopteryx serripennis*
Cliff Swallow	*Petrochelidon pyrrhonota*
Barn Swallow	*Hirundo rustica*
Oak Titmouse	*Baeolophus inornatus*
Bushtit	*Psaltriparus minimus*

Bewick's Wren	*Thryomanes bewickii*
House Wren	*Troglodytes aedon*
Ruby-crowned Kinglet	*Regulus calendula*
Blue-gray Gnatcatcher	*Polioptila caerulea*
Western Bluebird	*Sialia mexicana*
Swainson's Thrush	*Catharus ustulatus*
Hermit Thrush	*Catharus guttatus*
American Robin	*Turdus migratorius*
Wrentit	*Chamaea fasciata*
Northern mockingbird	*Mimus polyglottos*
California Thrasher	*Toxostoma redivivum*
European Starling	*Sturnus vulgaris*
American Pipit	*Anthus rubescens*
Cedar Waxwing	*Bombycilla cedrorum*
Phainopepla	*Phainopepla nitens*
Orange-crowned Warbler	*Vermivora celata*
Nashville Warbler	*Vermivora ruficapilla*
Yellow Warbler	*Dendroica petechia*
Yellow-rumped Warbler	*Dendroica coronata*
Black-throated Gray Warbler	*Dendroica nigrescens*
Townsend's Warbler	*Dendroica townsendi*
Hermit Warbler	*Dendroica occidentalis*
MacGillivray's Warbler	*Oporornis tolmiei*
Common Yellowthroat	*Geothlypis trichas*
Wilson's Warbler	*Wilsonia pusilla*
Yellow-breasted Chat	*Icteria virens*
Western Tanager	*Piranga ludoviciana*
Spotted Towhee	*Pipilo maculatus*
California Towhee	*Pipilo crissalis*
Chipping Sparrow	*Spizella passerina*
Lark Sparrow	*Chondestes grammacus*
Savannah Sparrow	*Passerculus sandwichensis*
Song sparrow	*Melospiza melodia*
Lincoln's Sparrow	*Melospiza lincolnii*
White-crowned Sparrow	*Zonotrichia leucophrys*
Golden-crowned Sparrow	*Zonotrichia atricapilla*
Dark-eyed Junco	*Junco hyemalis*
Black-headed Grosbeak	*Pheucticus melanocephalus*
Blue Grosbeak	*Guiraca caerulea*
Lazuli Bunting	*Passerina amoena*
Red-winged blackbird	*Agelaius phoeniceus*
Western Meadowlark	*Sturnella neglecta*
Brewer's Blackbird	*Euphagus cyanocephalus*
Great tailed Grackle	*Quiscalus mexicanus*
Brown-headed Cowbird	*Molothrus ater*
Hooded Oriole	*Icterus cucullatus*
Bullock's Oriole	*Icterus bullockii*
Purple Finch	*Carpodacus purpureus*
House Finch	*Carpodacus mexicanus*
Lesser Goldfinch	*Carduelis psaltria*

Lawrence's Goldfinch	*Carduelis lawrencei*
American Goldfinch	*Carduelis tristis*
House Sparrow	*Passer domesticus*
Virginia opossum	*Didelphis virginiana*
California Myotis	*Myotis californicus*
Yuma Myotis	*Myotis yumanensis*
Silver-haired Bat	*Lasionycteris noctivagans*
Western Pipistrelle	*Pipistrellus hesperus*
Big Brown Bat	*Eptesicus fuscus*
Western Red Bat	*Lasiurus blossevillii*
Hoary Bat	*Lasiurus cinereus*
Townsend's Big-eared Bat	*Corynorhinus townsendii*
Brazilian Free-tailed Bat	*Tadarida brasiliensis*
Desert Cottontail	*Sylvilagus audubonii*
California ground squirrel	*Spermophilus beecheyi*
Eastern Fox Squirrel	*Sciurus niger*
Little Pocket Mouse	*Perognathus longimembris*
Western Harvest Mouse	*Reithrodontomys megalotis*
Deer Mouse	*Peromyscus maniculatus*
Dusky-footed Wood Rat	*Neotoma fuscipes*
Black Rat	*Rattus rattus*
Norway Rat	*Rattus norvegicus*
House Mouse	*Mus musculus*
Coyote	*Canis latrans*
Raccoon	*Procyon lotor*
Striped skunk	*Mephitis mephitis*
Bobcat	*Lynx rufus*
Amazon sailfin catfish	*Pterygoplichthys pardalis*
African clawed frog	*Xenopus laevis*
Gopher snake	*Pituophis catenifer*
Southern Pacific Rattlesnake	*Crotalus helleri*
Ring-Necked Duck	Aythya collaris
Domestic Dog	Canis familiaris
Domestic Cat	Felis catus

Appendix E

Supplement to Biological Resources Assessment of the LA River (August 18, 2017) (Supplement to Biological Assessment)

ESA

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memorandum

date August 18, 2017

to Burbank Water and Power

cc

from Daryl Koutnik, PhD, Principal, ESA

subject Supplement to City of Burbank Recycled Wastewater Project Biological Resources Assessment of the Los Angeles River

This memorandum supplements ESA's Biological Resources Assessment Memorandum dated March 29, 2017 and provides information to clarify impacts to aquatic and riparian habitat, and associated wildlife species, within the Los Angeles River (River) between the Burbank Western Channel (Channel) and the Pacific Ocean. This analysis has been conducted by ESA to evaluate potential effects of the City of Burbank's Recycled Water Project (proposed project) that would divert a portion of the treated effluent currently discharged into the Channel by the Burbank Water Reclamation Plant (BWRP), including cumulative effects of the proposed Project and other related projects in the area that would affect flows within the River as analyzed in Hydraulic Modeling Report II.

Potential Impacts to Aquatic and Riparian Habitat

As discussed in detail in the Biological Resources Assessment Memorandum (included in Appendix B of this Initial Study), the 6.5-mile reach of the study area is highly urbanized and the native community has been degraded and disturbed by homeless encampments, trash, invasive plants species, and vegetation management activities. The flows contributed by treatment plant discharges and urban runoff are not natural flows. Historically, the River likely dried up during summer months. Based on current conditions, habitat in the Study Area is generally of low quality, but the portion of the 6.5-mile reach that has a soft-bottomed channel supports some in-channel riparian vegetation as well as aquatic habitat for fish, amphibian, reptiles and other organisms. Species and ecological communities potentially sensitive to changes in channel hydrology and known to be in the study reach include:

- Black willow thicket communities and associated birds (e.g., least Bell's vireo)
- Western mosquitofish (the only native fish species present in the reach)

Willow communities are typically sensitive to inundation frequency and depth to the water table (root access to groundwater). Willow habitat inundation frequency is typically important during winter high flows that will not be affected by the proposed Project, and therefore was not assessed in the Biological Resources Assessment. Depth to the water table can be strongly influenced by the elevation of the prevailing low flow water surface elevation during the dry season, and therefore was assessed. Aquatic habitat for species such as western mosquitofish is influenced by the depth and velocity of flow, and the wetted channel area. In addition to these species specific water needs, reductions in wetted channel area have the potential to impact riparian habitat.

Effects of Burbank WRP Reductions

The model results for the with-project condition show changes in water depth (and to the summer water table for vegetated areas of sediment within the channel) and velocity that are considered close to undetectable, and are very unlikely to impact habitat conditions. As discussed on pages 28 and 29 of Hydraulic Modeling Report II (Appendix C of the Final Initial Study), average water depth reduction is 0.2 inches for the August 2008 baseline condition, and the average change in velocity is 1.6%. The reduction in wetted channel area is 1.14 acres (0.83% of the existing condition wetted channel area of 136.96 acres), which could be spread over the 7.8-mile study area (or an approximately 7-inch-wide strip along either side of the River channel). Note that 27% of the reduction in wetted area occurs in areas of concrete bank or bed protection, reducing the area of earthen channel affected to 0.83 acres. It should be noted that while the Project could result in a reduction of almost an acre of wetted soft-bottom channel area distributed throughout the study area, this does not translate to a commensurate reduction in riparian vegetation or associated riparian habitat. This is due to the fact that although an incrementally increased amount of soft-bottom channel would be exposed as a result of the proposed flow reductions, the actual effects on riparian vegetation would likely not be perceptible given that the average water level would only be reduced by 0.2 inches, which is well within the root zone of the vast majority of plant species within the channel. As such, it is not expected that the reduction in flow depth or wetted area would have a substantial adverse effect on the extent or quality of riparian habitat in the River.

In sum, impacts on riparian habitat, such as Black Willow Thicket, from Project operations will be less than significant because the incremental decrease in wetted area will not strand or substantially reduce riparian habitat that has emerged in the study area and sufficient water supplies will continue to support the tree root zones beneath the River, since the vast majority of drainages within the Los Angeles River watershed are intermittent and are routinely exposed to fluctuating surface flows resulting in communities to be scoured and re-establish from year to year depending on the volume and velocity of flows. Furthermore, the reduction in overall flow depth of 0.2 inches and flow velocity reduction of 1.6% during the worst-case dry weather conditions would not be considered substantial and would not notably affect the function or value of existing riparian habitat within the River, and thus implementation of the Project would not substantially adversely affect the ability of special status species, including the least Bell's vireo, to forage or nest within the study area. As such, impacts were determined to be less than significant and no mitigation measures are required. During all other hydraulic conditions (outside of the August 2008 baseline condition), the proposed Project would have no measurable impacts on species and ecological communities potentially sensitive to changes in channel hydrology.

Within the Study Area, based on a review of available aerial photography[1] algal mats within the concrete portion of the River channel (downstream from approximately Interstate 5) provide some limited foraging habitat for migratory bird species. Therefore, the reduction in flows in the River during dry months could potentially incrementally reduce the size of these foraging areas. However, the algal mats along the River are not considered a distinct habitat type by applicable resource agencies, including the California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS). In addition, although algal mats may provide

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[1] Google Maps. https://www.google.com/maps. Accessed August 18, 2017.

incidental foraging opportunities for some species, none of the special status bird species that may exist in the study area utilize these mats for foraging purposes. This is due to the fact that the special status species in the area include the least tern and California brown pelican (both fish-eating species), peregrine falcon (bird-eating species), and least Bell's vireo (insect-eating species), none of which rely on crustaceans (which would be supported by algal mats) as a primary food source, and thus none of these species would be measurably affected by an incremental reduction in the size of algal mats along the River's concrete walls. In addition, it should be noted that the majority of the algal mats within the study area are located along the River's concrete channel at levels above the channel bottom, and thus are assumed to be sustained by water from incidental urban runoff or other distinct sources (i.e., flows not directly related to upstream discharges to the River, including discharges from the BWRP).[2] Therefore, the above-channel algal mats will not be impacted by the Project's proposed flow reductions to the River. Nonetheless, some of the algal mats in the study area are located along the low-flow channel bottom and thus are sustained, in part, by flows from BRWP and other sources, such as TWRP (Tillman). While the proposed reductions in dry weather flows in the River associated with the Project could incrementally reduce the water supply available to these algal mats along the River's low-flow channel, these algal mats are localized within the study area and limited in terms of their ability to sustain large populations of foraging birds or other wildlife.

Furthermore, recent studies suggest that blue-green algae (or cyanobacteria) can survive periodic dessication (drying) for limited durations, and therefore it is possible that at least some portions of the existing algal mats could persist despite an incremental reduction in the overall availability of water.[3,4,5] It should also be noted that many species of cyanobacteria, some of which likely comprise the algal mats that exist within the River, produce toxins that can adversely affect water quality and potentially create health risks for humans and wildlife. Toxic cyanobacteria are found worldwide in inland and coastal water environments.[6] At least 46 species have been shown to cause toxic effects in vertebrates (Sivonen & Jones, 1999). The most common toxic cyanobacteria genera and species in fresh water environments include *Microcystis, Cylindrospermopsis raciborskii, Planktothrix (*syn. *Oscillatoria) rubescens, Synechococcus, Planktothrix (*syn. *Oscillatoria) agardhii, Gloeotrichia, Anabaena, Lyngbya, Aphanizomenon, Nostoc, Oscillatoria, Schizothrix,* and *Synechocystis*.[7] Toxicity cannot be excluded in other species and genera. As research broadens and covers more regions over the globe, additional toxic species are likely to be found, and therefore it is prudent to presume a toxic potential in any cyanobacterial population.[8] Thus, while existing algal mats may provide limited selective foraging habitat for birds and other wildlife, it may also present a health risk to those same species and impair water quality in the River itself and in affected receiving water bodies, including the Los Angeles River Estuary.

In addition, the incidence and extent of such algal mats tends to increase within the lower reaches of the River (areas outside of the Study Area), which is associated with the overall increase in flow volume in the downstream reaches and associated potential to support aquatic vegetation. Specifically, under the August 2008 baseline flow

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[2] Ibid.

[3] Dadheech, Nidheesh. (2010). *Desiccation tolerance in cyanobacteria.* African journal of microbiology research. 4. 1584-1593. Available at: https://www.researchgate.net/publication/215687529_Desiccation_tolerance_in_cyanobacteria.

[4] Potts, Malcolm. *Dessication Tolerance of Prokaryotes*. Microbiol. Mol. Biol. Rev. December 1994 vol. 58 no. 4 755-805. 1 December 1994. Available at: http://mmbr.asm.org/content/58/4/755.full.pdf

[5] Potts, Malcolm. *Mechanisms of desiccation tolerance in cyanobacteria.* European Journal of Phycology. Volume 34, 1999 - Issue 4. Pages 319-328 | Published online: 03 Jun 2010. Available at: http://www.tandfonline.com/doi/pdf/10.1080/09670269910001736382?needAccess=true

[6] World Health Organization. *Guidelines for Safe Recreational Water Environments.* Chapter 8. Algae and Cyanobacteria in Fresh Water. 2003. Available at: http://apps.who.int/iris/bitstream/10665/42591/1/9241545801.pdf. Page 136.

[7] Ibid. Page 137.

[8] Ibid. Page 137.

conditions, a flow volume of approximately 78.5 cfs at the Arroyo Seco confluence increases to approximately 112 cfs, or approximately 33.5 cfs (42.6%), at Wardlow Road just north of the LA River Estuary. As such, the effects of the proposed project and other projects within the River's watershed on baseline flows would represent an even smaller proportion of the overall flows in the River channel than ESA's hydraulic analysis predicts as one moves downstream. Thus, the incremental effect of reduced flows on the River's ability to support algal mats for foraging habitat for bird species and other wildlife would have no measureable impact in the downstream reaches where algal mats are more prolific. Additionally, as noted above, the algal mats are not identified as significant habitat areas, and do not support large populations of 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 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. Thus the reduction in Project-related discharges to the River would not result in significant adverse impacts to special status species or migratory birds related to existing algal mats in the River channel.

In addition, the reduced discharge would not significantly reduce or eliminate areas of slow-moving water or pools that support aquatic species, as the anticipated flow velocity would not notably change as a result of the Project (i.e., 1.6% reduction in flow velocity). Likewise, a reduction in the depth of water by 0.2 inches will not impact fish migration or movement of native aquatic species in the River. Thus, impacts to aquatic species associated with Project implementation would be less than significant.

Cumulative Effects of Proposed Project and proposed Reductions from LAGWRP

For the cumulative project effects scenario, the average changes in flow depth (0.48 inches) and velocity (4.8%) are very small, and thus will not have a significant impact on habitat. As discussed on pages 21 and 22 of Hydraulic Modeling Report II, the reduction in wetted area is 2.77 acres, or 2.02% of the existing condition wetted area, which would be spread out over the 7.8-mile study area on either side of the River channel. As noted above for Project-specific impacts, of this area, it is expected that 36% of the reduction in wetted area occurs in areas of concrete bank or bed protection, reducing the area of earthen channel affected to 1.77 acres or 1.29% of the existing condition wetted area. This cumulative reduction in wetted area would occur over the 7.8-mile study area (or an approximately 18-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 only occur in the soft-bottom channel areas (or approximately 64% of the channel area affected by the cumulative flow reductions), 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, particular 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 LAFWRP would have no measurable impacts on species and ecological communities potentially sensitive to changes in channel hydrology.

Appendix F

Native American Tribal Consultation

CITY OF BURBANK
Water and Power
Since 1913

February 15, 2017

Fernandeño Tataviam Band of Mission Indians
Caitlin B. Gulley
Tribal Historic and Cultural Preservation Officer
1019 2nd Street
San Fernando, CA 91340

RE: Burbank Wastewater Change Petition IS/ND

Dear Ms. Gulley:

In conformance with the tribal consultation requirements of Assembly Bill (AB) 52, this letter is to inform you that Burbank Water and Power (BWP) 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, BWP proposes to gradually decrease the volume of treated wastewater discharged from the Burbank Water Reclamation Plant (BWRP) to the adjacent Burbank Western Channel (Channel) in order to increase the delivery of recycled water to various users within the BWP service area and adjacent jurisdictions. Specifically, BWP is proposing to gradually increase its use of recycled water from 2,705 acre-feet (AF) to approximately 5,027 AF by 2025. Over approximately the next ten years, this proposed change would gradually reduce the volume of BWRP's discharges into the Burbank Western Channel from 5,376 AF to 3,766 AF. This additional recycled water will be put to use within the City of Burbank and the San Fernando Valley portion of Los Angeles, all of which is within the Upper Los Angeles River Area ("ULARA"). The project would not involve any excavation, grading, ground disturbance, construction, or other physical changes to the environment other than the increase in application of recycled water within the BWP service area and portions of surrounding jurisdictions (see **Figure 1**, *Project Location*, and **Figure 2**, *Place of Use*, below).

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:

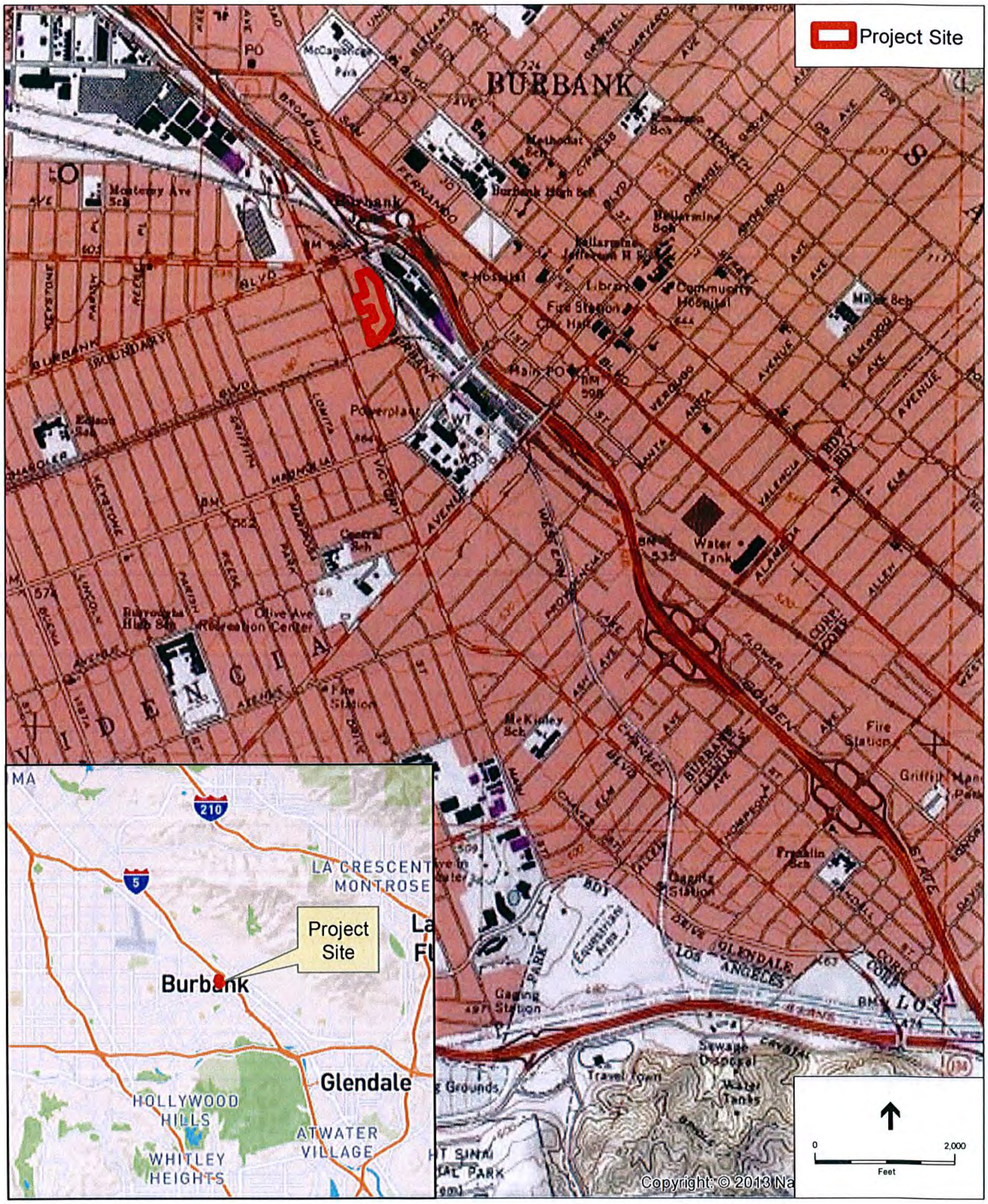
Michael Thompson, P.E.
Principal Civil Engineer
Water Division
Burbank Water & Power
164 West Magnolia Boulevard
Burbank, CA 91502

(818) 238-3500
MThompson@burbankca.gov

Sincerely,

Michael Thompson
Principal Civil Engineer

Attachment: Project Study Area



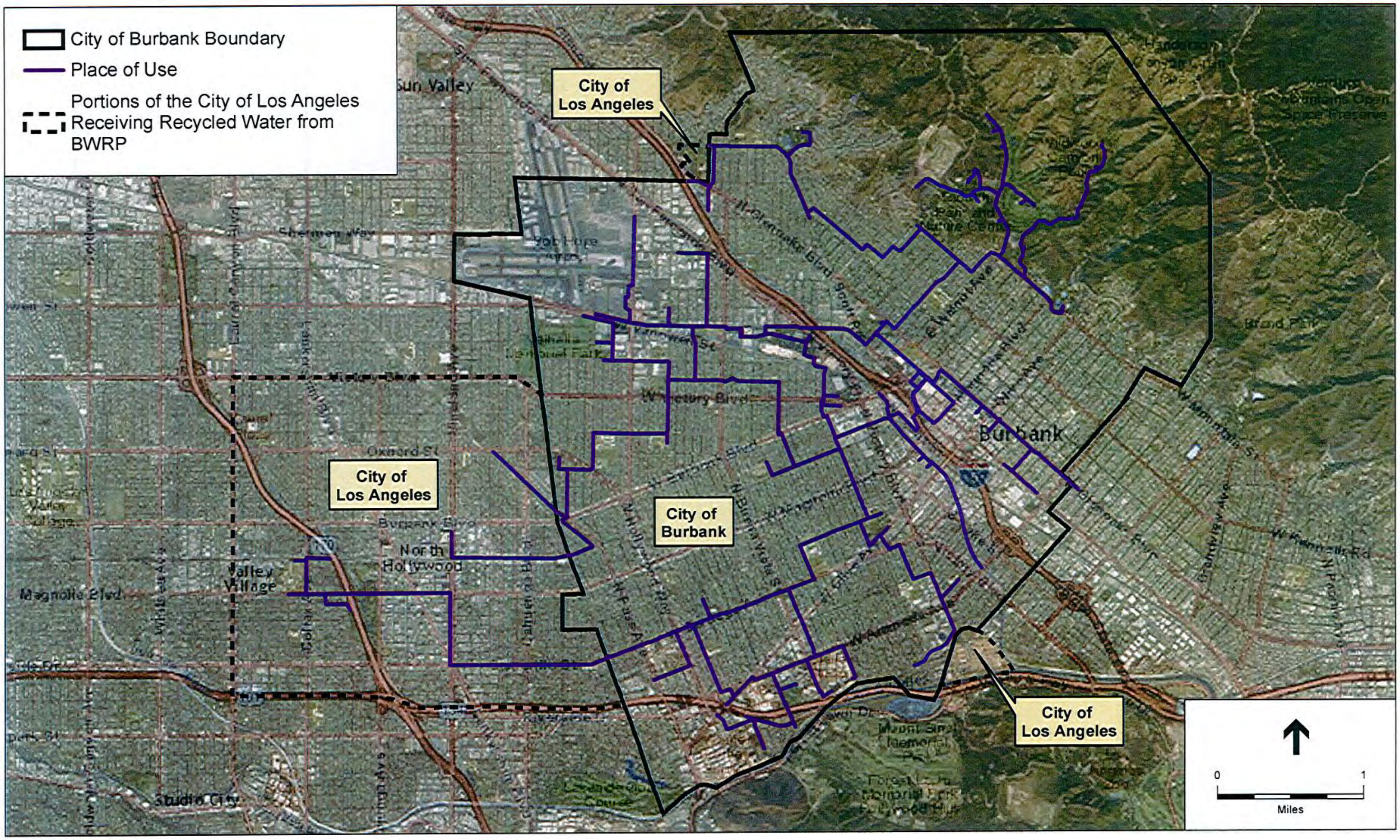
SOURCE: USGS Topographic Series (Burbank, CA); Open Street Map, 2016.

Burbank Wastewater Change Petition

Figure 1

Regional Location and Project Vicinity Map

ESA PCR



SOURCE: City of Burbank, 2016.

Burbank Wastewater Change Petition
Figure 2
Place of Use

ESA PCR