MacArthur Lake Stormwater Capture Project

Draft Environmental Impact Report

Prepared for

City of Los Angeles

environment LASANITATION
CITY OF LOS ANGELES
zero waste • zero wasted water

Prepared by

CDM Smith

State Clearinghouse No. 2022040153 | **May 2024**

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Chapter 1

Introduction and Executive Summary

The City of Los Angeles (City) Department of Public Works, Bureau of Sanitation & Environment (LASAN) prepared this Draft Environmental Impact Report (EIR) to evaluate the environmental effects of the MacArthur Lake Stormwater Capture Project (proposed project). This Draft EIR has been prepared by LASAN as the lead agency in conformance with the California Environmental Quality Act (CEQA - Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations [CCR] Title 14, Section 15000 et seq.).

A Notice of Preparation (NOP) and Initial Study, included as **Appendix A** of this Draft EIR, was circulated for public review from April 7, 2022 to May 9, 2022. The Initial Study identified the following resource areas for further evaluation in the EIR: air quality (construction only); biological resources; cultural resources, including paleontological resources (construction only); greenhouse gas emissions; hydrology/water quality; noise (construction only); and tribal cultural resources (construction only). As a result, these resources are evaluated further in this Draft EIR.

Through the analysis in the Initial Study, LASAN determined that the proposed project would have no impact or less than significant impacts related to aesthetics, agriculture and forestry resources, air quality (from project operation), cultural resources (from project operation), energy, geology and soils, hazards and hazardous materials, land use and planning, mineral resources, noise (from project operation), population and housing, public services, recreation, transportation, tribal cultural resources (from project operation), utilities and service systems, and wildfire; therefore, these topics are not analyzed further in this Draft EIR. Federal, state, regional, and local agencies, as well as the public, were afforded the opportunity to comment on the findings of the Initial Study through the 30-day scoping period associated with the circulation of the NOP for this Draft EIR

1.1 Summary of the Proposed Project

1.1.1 Project Overview

The proposed project would divert a portion of wet weather stormwater flows as well as dry weather flows from the existing underground storm drain system, treat the water, and discharge it into MacArthur Lake for storage or return it to the storm drain system. Some of the water stored in the lake would subsequently be discharged to the sanitary sewer. An overview of the project location, project objectives, and project characteristics is provided in the following sections. The details of the proposed project and construction phasing are provided in Chapter 2, *Project Description*.

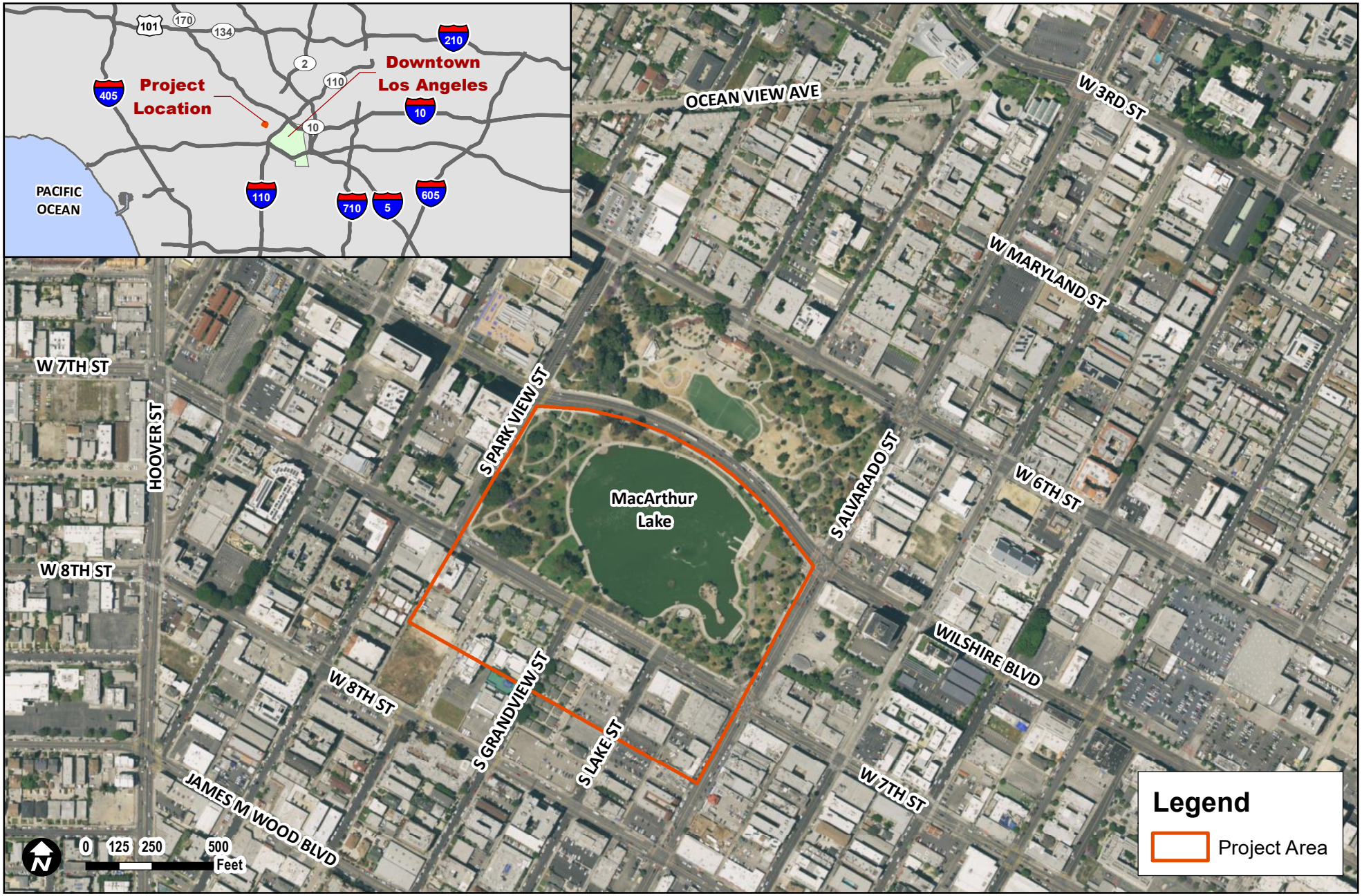
1.1.2 Project Location

The proposed project would be located at MacArthur Park and on adjacent streets south of the park (**Figure 1-1**). MacArthur Park is a public park located at 2230 W. 6th Street in the Westlake neighborhood of central Los Angeles, approximately 1 mile northwest of downtown. The park is bound by 6th Street to the north, 7th Street to the south, Park View Street to the west, and Alvarado Street to the east. Wilshire Boulevard extends east-west through the park, dividing it into northern and southern sections. The proposed project would occur in the southern section of the park, with underground improvements in 7th Street south of the park, in an approximate one-block portion of Grand View Street south of 7th Street, and in an approximate one-block portion of Lake Street south of 7th Street. The boundaries of the project site are illustrated in **Figure 1-2**.

The primary feature of MacArthur Park is MacArthur Lake, which is located in the southern portion of the park. The park is located in a highly developed urban area that consists of residential homes, commercial businesses, and public buildings. Across from the park to the north are commercial businesses, multifamily residential buildings, and institutional uses. To the south, along 7th Street, there are commercial businesses, medical offices, churches, and an elementary school. To the west, along Park View Street, there are multifamily residential buildings, commercial offices, and an elementary school. To the east, there are mixed-use buildings with ground-floor businesses with residential units located on floors above. The Westlake/MacArthur Park subway station is located on Alvarado Street, across from the park. In an approximate one-block portion of Grand View Street and Lake Street south of 7th Street, within the project area, there is a similar mix of uses—including commercial and residential land uses, a church, and the elementary school that is located south of the park.

1.1.3 Project Objectives

Section 15124(b) of the State CEQA Guidelines states that the Project Description shall contain "[a] statement of the objectives sought by the proposed project." In addition, Section 15124(b) of the State CEQA Guidelines further states, "[t]he statement of objectives should include the underlying purpose of the project and may discuss the project benefits."



Sources: CDM Smith, 2022; Aerial Sources: Esri, United States Department of Agriculture Farm Service Agency, 2022
Prepared by: CDM Smith, 2024

Figure 1-1

MacArthur Lake Stormwater Capture Project

PROJECT AREA

Sources: CDM Smith, 2022; Aerial Sources: Esri, United States Department of Agriculture Farm Service Agency, 2022
Prepared by: CDM Smith, 2024

Figure 1-2

MacArthur Lake Stormwater Capture Project

PROJECT LOCATION

The main purpose of the MacArthur Park Stormwater Capture Project is to improve water quality in the Ballona Creek watershed in an effort to comply with regulatory standards and to provide tangible community benefits, such as partially offsetting potable water use and providing enhancements to the park. The specific objectives of the proposed project are to:

- Incrementally improve the water quality in the Ballona Creek Watershed in a manner consistent with the Ballona Creek Watershed Management Program's (WMP)[1] customized compliance pathway[2] for Los Angeles County's Municipal Separate Storm Sewer System (MS4) Permit.[3]
- Incrementally improve the water quality in the Ballona Creek Watershed via regional best management practices (BMPs) as defined in the Ballona Creek WMP and as measured against the Total Maximum Daily Load (TMDL) for metals and trash.
- Reduce the use of potable water used to refill MacArthur Lake to compensate for evaporation losses.
- Provide community investment benefits and nature-based solutions as required by the Los Angeles County Safe Clean Water Program (SCWP), including park space enhancement, public health, and educational opportunities.
- Minimize disruption of existing social and commercial activity at MacArthur Park, on sidewalks, at transit stops, and at local businesses and gathering places during both construction and operations to the extent feasible.

1.1.4 Project Characteristics

The proposed project includes the following elements:

- Stormwater flow diversion structure
- Pretreatment unit
- New pump station
- Stormwater treatment unit
- Water feature
- New conveyance pipelines

The stormwater diversion structure would be installed at an existing underground stormwater maintenance hole located at the intersection of Lake Street and the alley that parallels 7th Street. The pretreatment unit and a pump station would be located in Lake Street south of the park. The pump station would pump stormwater and dry weather flows from the pretreatment unit. An underground

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1 Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

2 The MS4 Permit allows Permittees the flexibility to develop WMPs to implement the requirements of the Permit on a watershed scale through customized strategies, control measures, and BMPs.

3 MS4 Permit Order R4-2012-0175 for Los Angeles County (NPDES Permit No. CAS004001), which was the basis for the preparation of the Enhanced WMP approved in 2016, has since been superseded by Order R4-2021-0105 (NPDES Permit No. CAS004004). The Ballona Creek Watershed Management Group updated their WMP in accordance with the current MS4 Permit; the WMP was amended in February 2021, June 2021, and July 2023 with revised capture volume targets. The revised WMP was approved by the LARWQCB on August 14, 2023.

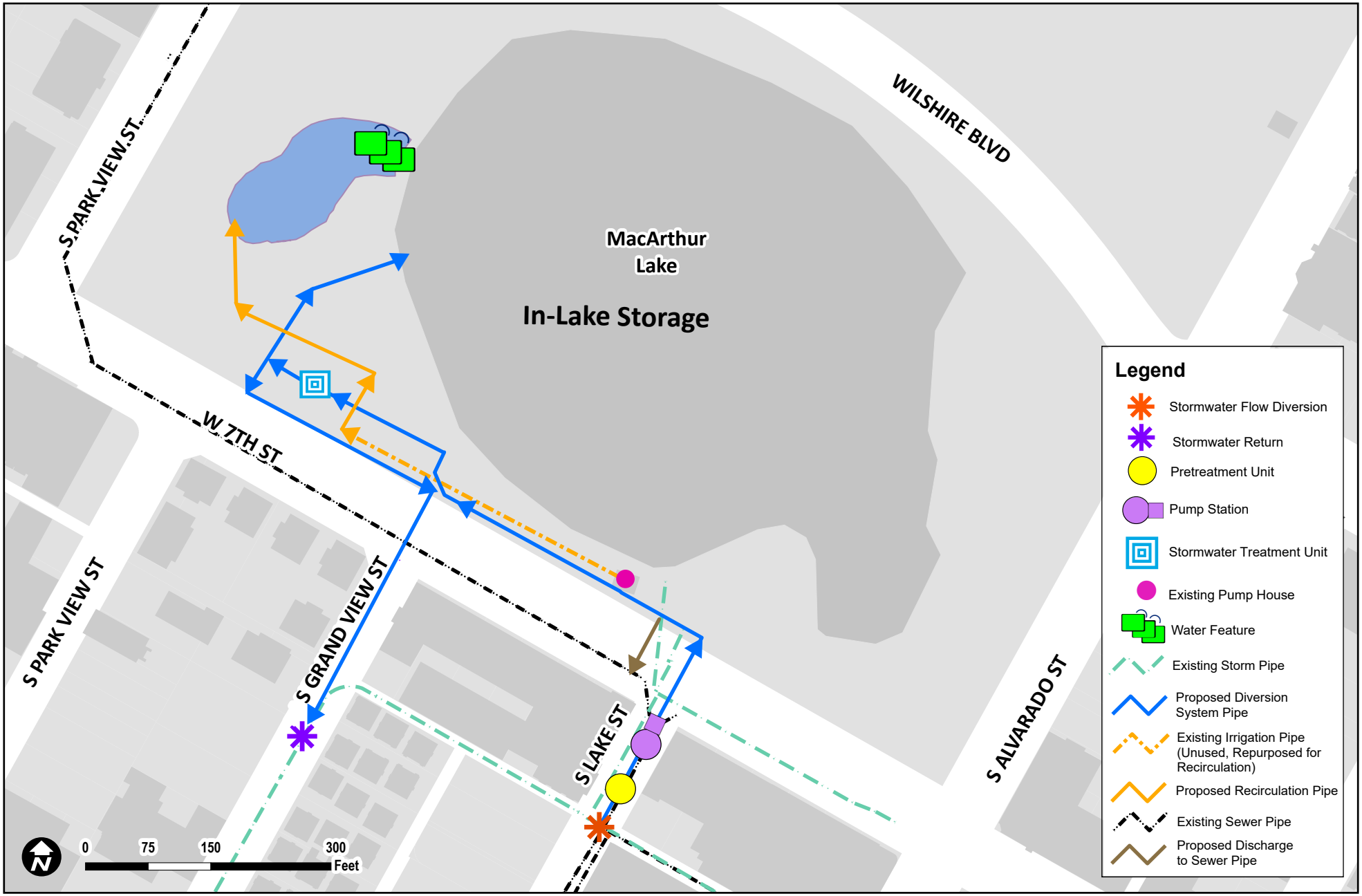
stormwater treatment unit would be located along the southern edge of the park. Underground pipelines would be located in the park and in Lake Street, Grand View Street, and 7th Street to convey stormwater and dry weather flows from the existing storm drain system to the project components, to the lake, to the sanitary sewer system, and back to the storm drain downstream of the diversion structure. A new, lined water feature would be installed near the southwest corner of the park. A second pump station located in an existing pump house would recirculate water from the lake and through the water feature. An illustration of the proposed project components is provided in **Figure 1-3**. The project components are described in further detail in Chapter 2, *Project Description*.

1.2 Purpose of this Draft EIR

Because the proposed project may have a significant effect on the environment, CEQA requires preparation of this Draft EIR. LASAN has undertaken this Draft EIR for the following purposes, as required by CEQA:

- To evaluate the potentially significant environmental effects associated with the implementation of the proposed project;
- To indicate the manner in which those significant impacts can be avoided or substantially lessened;
- To identify any significant and unavoidable adverse impacts that cannot be mitigated;
- To identify potentially feasible alternatives to the proposed project that would attain most of the project objectives and eliminate any significant adverse environmental impacts or substantially lessen any of the significant effects;
- To inform the general public, the local community, and responsible trustee, State, and federal agencies of the nature of the proposed project, its potentially significant environmental effects, feasible mitigation measures to mitigate those effects, and potentially feasible alternatives;
- To enable LASAN decision-makers to consider the environmental consequences of the proposed project and make findings regarding each significant effect that is identified; and
- To facilitate any responsible agencies in issuing permits and/or approvals for the proposed project.

The proposed project will be considered by the City of Los Angeles Board of Public Works, which can approve the project as proposed, approve the project with conditions, or disapprove the project. The Board will also consider certification of the EIR. Project approval would also be required by the Board of Recreation and Parks and may be required by the Los Angeles City Council. Upon certification, the EIR would serve as the environmental document for LASAN and would be used as a basis for decisions on implementation of the proposed project. Other agencies may also use this EIR in their review and/or approval processes.



Sources: Cordoba Corporation, 2022; Craftwater Engineering, Inc., 2024; Navigate LA, 2022; Base Layer Source: Los Angeles GeoHub, 2022
Prepared by: CDM Smith, 2024

Figure 1-3

PROPOSED PROJECT COMPONENTS

This Draft EIR was prepared in accordance with Section 15151 of the State CEQA Guidelines, which defines the standards for EIR adequacy as follows:

> "An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and good faith effort at full disclosure."

1.3 Organization of this Draft EIR

This Draft EIR follows the preparation and content guidance provided by CEQA and the State CEQA Guidelines. Listed below is a summary of the contents of each chapter of this report.

Chapter 1 – Introduction and Executive Summary

This chapter provides a summary of the proposed project, CEQA compliance requirements, an overview of the report organization, and a discussion of areas of controversy known to LASAN and issues to be resolved. Also included is a summary of the environmental analysis, including impacts and mitigation measures, and identification of the environmentally superior alternative.

Chapter 2 – Project Description

Chapter 2 presents the location of the proposed project, the objectives of the proposed project, and a description of the project components, construction activities, and project operations and maintenance. In addition, Chapter 2 identifies the intended use of the EIR, and the permits and approvals required for implementation of the proposed project.

Chapter 3 – Overview of Project Setting

Chapter 3 provides an overview of the existing land use, environmental, and development setting related to the proposed project area and the environmental resources evaluated in Chapter 4, *Environmental Impact Analysis*, of this EIR. This chapter also describes other projects at and immediately adjacent to the project site that, in conjunction with the proposed project, need to be considered in order to assess cumulative impacts.

Chapter 4 – Environmental Impact Analysis

The introductory section of Chapter 4 describes the analytical framework for the environmental review of the proposed project. The remaining sections of the chapter provide detailed analysis of the potential environmental impacts of the proposed project:

- Section 4.1 Air Quality
- Section 4.2 Biology
- Section 4.3 Cultural Resources
- Section 4.4 Greenhouse Gas Emissions

- Section 4.5 Hydrology Water Quality
- Section 4.6 Noise and Vibration
- Section 4.7 Tribal Cultural Resources

For each environmental resource, the individual sections describe: methodology used in the impact analysis; existing conditions; thresholds of significance; environmental impacts that would result from the proposed project; applicable mitigation measures that would eliminate or reduce significant impacts, if warranted; cumulative impacts; and the level of significance of impacts after mitigation.

Chapter 5 – Alternatives

As required by CEQA, Chapter 5 identifies and evaluates the No Project Alternative and potentially feasible build alternative that may avoid or substantially reduce the significant effects of the proposed project.

Chapter 6 – Other Environmental Considerations

Chapter 6 includes a discussion of issues required by CEQA that are not covered in Chapter 4. These include unavoidable significant impacts, irreversible environmental changes, growth inducing impacts, and the impacts of the proposed project determined to be less than significant.

Chapter 7 – List of Preparers and Contributors

Chapter 7 provides a list of the individuals from the City of Los Angeles and contractors that performed key roles in the preparation and development of this Draft EIR.

Chapter 8 –Acronyms and Abbreviations

Chapter 8 provides a list of acronyms used in this Draft EIR.

Chapter 9 – Organizations and Persons Consulted/References

Chapter 9 provides a list of the agencies and organizations that were consulted in the preparation of this Draft EIR and a bibliography of documents used in the preparation of this Draft EIR.

All documents listed in Chapter 9 are available for public inspection upon request by contacting LASAN at san.safecleanwater@lacity.org (please include “MacArthur Lake Stormwater Capture Project EIR References” in the subject line).

Appendices

The appendices present data supporting the analysis contained in the Draft EIR. The appendices in this Draft EIR include:

- Appendix A – Notice of Preparation/Scoping
- Appendix B – Air Quality/Greenhouse Gas Calculations
- Appendix C – Biological Resources Records
- Appendix D – Cultural Resources Technical Report
- Appendix E – Water Mass Balance
- Appendix F – Noise and Vibration Calculations

1.4 Summary of Environmental Impacts

1.4.1 Environmental Impacts of the Proposed Project

Table 1-1 summarizes the environmental impacts of the proposed project for each of the seven resource topics analyzed in Chapter 4, *Environmental Impact Analysis*, of this Draft EIR. The table includes: identification of the environmental topic and summary of the environmental impact; determination of whether the impact is significant; applicable mitigation measures, including the mitigation measure(s) reference number(s); and level of impact significance after mitigation. For complete discussions of potential impacts, mitigation measures, and impact determinations, refer to the relevant sections in Chapter 4.

Table 1-1 Summary of Potential Impacts and Mitigation Measures Associated with the Proposed Project

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Air Quality			
Impact 4.1-1: Would construction of the proposed project result in incremental increases to regional daily emissions that would exceed the regional construction daily mass emission thresholds established by SCAQMD?	Less than Significant	No mitigation is required	Less than Significant
Impact 4.1-2: Would construction of the proposed project result in incremental increases to localized daily emissions that would exceed the localized construction daily mass emission thresholds established by SCAQMD?	Less than Significant	No mitigation is required	Less than Significant
Biological Resources			
Impact 4.2-1: The proposed project could disturb vegetation at the project site during the migratory bird nesting season. This would have a ***significant impact*** on migratory birds during operation and construction. The proposed project would not result in a substantial reduction in flows in Ballona Estuary and Ballona Reserve and, therefore, would not result in a substantial adverse effect on special-status species or migratory birds. This would be a ***less than significant impact*** on special-status species and migratory birds in the Ballona Estuary and the Ballona Reserve during operations.	Construction (onsite): Significant Operations (onsite): Significant Operations (downstream): Less than Significant	Construction (onsite): MM-BIO-1. Protection of Migratory Birds. Operations (onsite): MM-BIO-1. Protection of Migratory Birds. Operations (downstream): No mitigation is required	Construction (onsite): Less than Significant Operations (onsite): Less than Significant Operations (downstream): Less than Significant

Table 1-1 Summary of Potential Impacts and Mitigation Measures Associated with the Proposed Project

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Impact 4.2-2: The proposed project would not result in a substantial reduction in flows in the Ballona Estuary and Ballona Reserve and, therefore, would not result in a substantial adverse effect on riparian habitat or sensitive natural communities. This would be a ***less than significant impact*** on riparian habitat and sensitive natural communities within the Ballona Estuary and the Ballona Reserve during operations.	Less than Significant	No mitigation is required	Less than Significant
Impact 4.2-3: The proposed project would not result in a substantial reduction in flows in the Ballona Estuary and Ballona Reserve and, therefore, would not result in a substantial adverse effect on protected wetlands. This would be a ***less than significant impact*** on wetlands downstream of the project site within the Ballona Reserve during operations.	Less than Significant	No mitigation is required	Less than Significant
Impact 4.2-4: The proposed project would not result in a substantial reduction in flows in the Ballona Estuary and Ballona Reserve and, therefore, would not interfere substantially with the movement of migratory fish or wildlife species, wildlife corridors, or wildlife nursery sites. This would be a ***less than significant impact*** on the movement of fish and wildlife species downstream of the project site in the Ballona Estuary and the Ballona Reserve during operations.	Less than Significant	No mitigation is required	Less than Significant
Impact 4.2-5: The proposed project would not conflict with the provisions of a habitat conservation plan related to the Ballona Reserve SEA. This would be a ***less than significant impact*** during operations.	Less than Significant	No mitigation is required	Less than Significant

Table 1-1 Summary of Potential Impacts and Mitigation Measures Associated with the Proposed Project

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Cultural Resources			
Impact 4.3-1: Construction of the proposed project would not cause a substantial adverse change in the significance of a historical resource. This would be a ***less than significant impact***. The proposed project would have ***no impact*** on Heritage trees.	Historical Resources: Less than Significant Heritage Trees: No Impact	Historical Resources: No mitigation is required Heritage Trees: Not applicable	Historical Resources: Less than Significant Heritage Trees: No Impact
Impact 4.3-2: Construction of the proposed project could cause a substantial adverse change in the significance of an unknown archaeological resource. This would be a ***significant impact***.	Significant Impact	MM-CR-1. Archaeological Resources Pre-construction Worker Training. MM-CR-2. Archaeological Resources Monitoring.	Less than Significant
Impact 4.3-3: Construction of the proposed project could directly or indirectly destroy a unique paleontological resource or site. This would be a ***significant impact***.	Significant Impact	MM-CR-3. Paleontological Resources Pre-construction Worker Training. MM-CR-4. Paleontological Resources Monitoring.	Less than Significant
Cumulative Impact: Implementation of the proposed project, in conjunction with other development projects, could result in a ***significant cumulative impact*** to archaeological resources. The proposed project's contribution to this significant cumulative impact could be ***cumulatively considerable***.	Cumulatively Significant	MM-CR-1. Archaeological Resources Pre-- construction Worker Training. MM-CR-2. Archaeological Resources Monitoring.	Contribution of the proposed project would not be cumulatively considerable
Cumulative Impact: Implementation of the proposed project, in conjunction with other development projects, could result in a ***significant cumulative impact*** to paleontological resources. The proposed project's contribution to this significant cumulative impact could be ***cumulatively considerable***.	Cumulatively Significant	MM-CR-3. Paleontological Resources Pre-construction Worker Training. MM-CR-4. Paleontological Resources Monitoring.	Contribution of the proposed project would not be cumulatively considerable

Table 1-1 Summary of Potential Impacts and Mitigation Measures Associated with the Proposed Project

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Greenhouse Gas Emissions			
Impact 4.4-1: Construction and operation of the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. This would be a ***less than significant impact*** for construction and operations.	Less than Significant	No mitigation is required	Less than Significant
Impact 4.4-2: Construction and operation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This would be a ***less than significant impact*** for construction and operations.	Less than Significant	No mitigation is required	Less than Significant
Hydrology and Water Quality			
Impact 4.5-1: Operation of the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality in MacArthur Park Lake or Ballona Creek. This would be a ***less than significant impact*** for MacArthur Park Lake and ***beneficial impact*** for Ballona Creek.	MacArthur Park Lake: Less than Significant Ballona Creek: Beneficial	MacArthur Park Lake: No mitigation is required Ballona Creek: No mitigation is required	MacArthur Park Lake: Less than Significant Ballona Creek: Beneficial
Impact 4.5-2: Operation of the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. There would ***no impact*** to plans applicable to the project site and a ***beneficial impact*** to water quality control plans applicable to the Ballona Creek watershed.	MacArthur Park Lake: No Impact	MacArthur Park Lake: No mitigation is required	MacArthur Park Lake: No Impact
	Ballona Creek: Beneficial	Ballona Creek: No mitigation is required	Ballona Creek: Beneficial

Table 1-1 Summary of Potential Impacts and Mitigation Measures Associated with the Proposed Project			
Environmental Impacts	**Impact Determination**	**Mitigation Measures**	**Level of Significance After Mitigation**
Noise and Vibration			
Impact 4.6-1: Construction traffic would not cause existing ambient noise levels measured at the property line of noise-sensitive uses to increase by 3 dBA or more in CNEL. This would result in a ***less than significant impact***.	Less than Significant	Not applicable	Less than Significant
Impact 4.6-2: Use of construction equipment in association with construction activities would exceed existing ambient exterior noise levels by 5 dBA or more at noise-sensitive uses. This would be a ***significant impact***.	Significant	MM-NV-1. Construction Noise Control and Mitigation Plan.	Significant and Unavoidable
Impact 4.6-3: Construction of the proposed project would generate groundborne vibration that would exceed structural damage criteria. This would be a ***significant impact***.	Significant	MM-NV-2. Construction Vibration Control and Mitigation Plan.	Less than Significant
Impact 4.6-4: Construction of the proposed project would generate groundborne vibration that would exceed human annoyance criteria. This would be a ***significant impact***.	Significant	MM-NV-2. Construction Vibration Control and Mitigation Plan.	Significant and Unavoidable
Cumulative Impact: With respect to construction equipment noise, implementation of the proposed project, in conjunction with other development projects, would result in a ***significant cumulative impact*** for construction. The proposed project's contribution to this significant cumulative impact would be ***cumulatively considerable***.	Cumulatively Significant	MM-NV-1. Construction Noise Control and Mitigation Plan.	Cumulatively Considerable

Table 1-1 Summary of Potential Impacts and Mitigation Measures Associated with the Proposed Project			
Environmental Impacts	**Impact Determination**	**Mitigation Measures**	**Level of Significance After Mitigation**
Cumulative Impact: With respect to construction vibration, implementation of the proposed project, in conjunction with other development projects, would result in a ***significant cumulative impact*** related to structural damage. The proposed project's contribution to this significant cumulative impact would be ***cumulatively considerable***.	Cumulatively Significant	MM-NV-2. Construction Vibration Control and Mitigation Plan.	Less than Significant
Cumulative Impact: With respect to construction vibration, implementation of the proposed project, in conjunction with other development projects, would result in a ***significant cumulative impact*** related to human annoyance. The proposed project's contribution to this significant cumulative impact would be ***cumulatively considerable***.	Cumulatively Significant	MM-NV-2. Construction Vibration Control and Mitigation Plan.	Cumulatively Considerable
Tribal Cultural Resources			
Impact 4.7-1: Construction would not occur on or in the vicinity of known tribal cultural resources and would not result in a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code Section 21074. This would result in a ***less than significant impact***.	Less than Significant	Not applicable	Less than Significant

1.4.2 Significant Unavoidable Impacts

Based on the analysis of the environmental topics in Chapter 4, *Environmental Impact Analysis,* of this EIR, the MacArthur Lake Stormwater Capture Project would result in significant and unavoidable impacts related to construction equipment noise and human annoyance impacts from construction vibration, as summarized below and in Section 4.6, *Noise and Vibration*.

Noise and Vibration

- Construction of the project elements in Lake Street, Grand View Street, and MacArthur Park would result in temporary elevated noise levels during construction. Even with implementation of Mitigation Measure MM-NV-1, construction equipment noise impacts would be ***significant and unavoidable***. There are no other feasible means to mitigate construction equipment noise impacts associated with the proposed project.

- Construction of the project elements in Lake Street, Grand View Street, and MacArthur Park would result in increased vibration levels during construction, in particular related to excavation and material movement, paving, and truck loading activities. Vibration levels at nearby sensitive receptors would exceed the vibration significance thresholds for human annoyance. Mitigation Measure MM-NV-2 would reduce potential vibration impacts; however, construction vibrations could still exceed the significance threshold for vibration annoyance at some sensitive receptors after mitigation, which would be a ***significant and unavoidable impact***. There are no other feasible means to mitigate human annoyance impacts associated with project construction.
- Construction of a number of other projects in the vicinity of the proposed project could occur concurrently with the proposed project. Construction equipment noise and human annoyance vibration impacts from these projects, in combination with the proposed project, could result in significant, cumulative noise and human annoyance impacts at nearby noise-sensitive receptors, resulting in a significant cumulative impact. Mitigation Measures MM-NV-1 and MM-NV-2 would reduce project-related construction equipment noise and construction vibration human annoyance impacts, respectively; however, even with implementation of mitigation measures, these impacts may remain significant and the project's contribution to significant cumulative equipment noise and human annoyance vibration impacts could remain ***cumulatively considerable***.

1.5 Alternatives Evaluated in the Draft EIR

1.5.1 Description of Alternatives

The following sections summarize the alternatives that were carried forward for consideration in the Draft EIR. These alternatives are further described in Chapter 5, *Alternatives*.

1.5.1.1 Alternative 1: No Project Alternative

Under the No Project Alternative (Alternative 1), construction of the proposed project–including the stormwater diversion structure, treatment unit, pump station, pipelines, and water feature–would not occur. The project site would remain in its existing condition and no BMPs to improve water quality in Ballona Creek would be implemented in/adjacent to MacArthur Park.

1.5.1.2 Alternative 2: Alvarado Street

Similar to the proposed project, Alternative 2 would divert a portion of wet weather stormwater flows as well as dry weather flows from the existing underground storm drain system, treat the water, and discharge it into MacArthur Lake for storage or return it to the storm drain system. Alternative 2 would include a stormwater flow diversion structure, pretreatment unit, two pump stations, two stormwater treatment units, a constructed arroyo and treatment wetlands, pipelines to convey stormwater to and from the existing storm drain system and between the project components, and a pipeline to convey water from MacArthur Lake to the sanitary sewer system. Under Alternative 2, stormwater would be diverted from a storm drain located on the east side of Alvarado Street. Other than the stormwater diversion structure, the remaining project components–including the treatment units, natural stormwater treatment systems, pump stations, and a majority of the pipelines–would occur in the southeast quadrant of MacArthur Park or in the sidewalks adjacent to Alvarado Street and 7th Street. Installation of the storm drain diversion structure would occur at a City-owned storm drain located on

the east side of Alvarado Street approximately 50 feet south of the intersection of Alvarado Street and Wilshire Boulevard. Stormwater conveyance pipes would be installed crossing Alvarado Street from the diversion structure into MacArthur Park. Stormwater pumps would be installed within the park that would convey stormwater from the pre-treatment unit to stormwater treatment units located on the south side of the park near 7th Steet and Lake Street or to a nature-based treatment system consisting of an arroyo and treatment wetlands. A recirculation pump station would recirculate water from the lake and to the top of the arroyo, where it would flow into the treatment wetlands and back into the lake. A stormwater discharge conveyance pipe would be installed from the stormwater treatment units to an existing 30-inch storm drain located in 7th Street. In addition, to enable discharge of water from the lake to the sanitary sewer system, a pipeline would connect from an existing lake drain line located near the existing pump house to an existing sewer maintenance hole located in Lake Street.

The arroyo and treatment wetlands associated with Alternative 2 would be located in the southeast corner of the park in an area that currently has a number of trees. Removed trees would be replanted or replaced elsewhere in the park in accordance with City of Los Angeles Department of Recreation and Parks (RAP) policies.[4]

1.5.2 Environmentally Superior Alternative

Section 15126.6(e)(2) of the State CEQA Guidelines indicates that an analysis of alternatives to a proposed project shall identify an environmentally superior alternative among the alternatives evaluated in an EIR. The State CEQA Guidelines also state that, should it be determined that the No Project Alternative is the environmentally superior alternative, the EIR shall identify another environmentally superior alternative among the remaining alternatives. With respect to identifying an environmentally superior alternative among those analyzed in this EIR, the range of project alternatives includes Alternative 1: No Project and Alternative 2: Alvarado Street.

A summary of significant impacts associated with the proposed project is provided in Section 5.2. As detailed in that section, construction of the proposed project would result in significant and unavoidable temporary impacts related to construction equipment noise and vibration-related human annoyance, even with the implementation of mitigation measures. Short-term vibration impacts on nearby structures would be significant but mitigable. The potential environmental impacts associated with the two project alternatives are evaluated in Chapter 5, *Alternatives*. Pursuant to Section 15126.6(c) of the State CEQA Guidelines, the analyses address the ability of the alternatives to "avoid or substantially lessen one or more of the significant effects" of the project.

Alternative 1 (the No Project Alternative) would completely avoid the significant impacts related to construction noise and construction-related vibration annoyance, which would otherwise be unavoidable under the proposed project. As such, Alternative 1 is the environmentally superior alternative.

With respect to construction noise and vibration, Alternative 2 (Alvarado Street) would avoid or substantially lessen significant impacts to certain receptors specifically affected by the proposed project's construction program. However, the avoidance of those significant impacts would be offset by

[4] City of Los Angeles Department of Public Works, Recreation and Parks. Urban Forest Program. October 2004. Available: https://www.laparks.org/sites/default/files/forest/pdf/UrbanForestProgram.pdf.

significant noise and structural vibration impacts to new receptors associated with the Alternative 2 construction program. With respect to construction-related vibration annoyance, while the alternative would avoid significant short-term impacts to certain receptors (namely, the MacArthur Park Elementary School, residences on Grand View Street, and the La Viña en Los Angeles Church), Alternative 2 would have significant and unavoidable impacts to MacArthur Park visitors, as would the proposed project.

Based on the above, Alternative 1 (the No Project Alternative) is considered to be the environmentally superior alternative by completely avoiding the significant impacts of the proposed project. Alternative 2 is the next best environmentally superior alternative. While Alternative 2 would not avoid any of the overall significant impacts of the proposed project, it would avoid significant, and in some cases unavoidable, impacts to certain noise- and/or vibration-sensitive receptors that would otherwise occur under the proposed project.

1.6 Areas of Known Controversy and Issues to be Resolved

As indicated in Section 15123.3 of the State CEQA Guidelines, issues to be resolved in conjunction with the Draft EIR include the choice among alternatives and whether and how to mitigate significant impacts. Alternatives to the proposed project are presented and addressed in Chapter 5, *Alternatives*, and mitigation measures for significant impacts associated with the proposed project are presented throughout Chapter 4, *Environmental Impacts Analysis*. Consideration of those alternatives and mitigation measures for significant impacts will occur as part of the decision-making process for the project.

Five comment submittals in the form of comment letters were received by LASAN during the public circulation period for the Notice of Preparation/Initial Study prepared for this EIR. The primary project-specific concerns that pertain to the proposed project are summarized below. The NOP comments are included in **Appendix A** of this Draft EIR.

Biological Resources

Concerns were expressed by the Department of Fish and Wildlife regarding potential impacts to biological resources that could result from alterations to the Ballona Creek flow regime, including the southern steelhead, other sensitive natural communities, and riparian habitat. Concerns were also expressed regarding potential impacts to nesting birds that could result from tree removal. A detailed analysis of potential impacts to biological resources that is responsive to the expressed concerns is provided in Section 4.2, *Biological Resources*.

Transportation

The Los Angeles County Metropolitan Transportation Authority (Metro) expressed concerns regarding potential impacts to bus service facilities and impacts on subway operations and infrastructure. As discussed in the Initial Study (Section 4, Issue XVII), the proposed project would not result in any long-term changes to bus stops, bicycle lanes or racks, sidewalks, or other non-automotive transportation infrastructure. The majority of construction would occur in MacArthur Park and in Grand View Street and Lake Street. Limited construction would occur in 7th Street. While sidewalks may be temporarily

closed during construction, closure of bus stops on 7th Street is not currently anticipated. In the event a bus stop(s) is affected, it is expected that any such closure would be short term in nature (i.e., 3 to 4 weeks). As more detailed construction plans are developed, LASAN will coordinate with Metro regarding potential effects to bus facilities and ways to minimize those effects, if warranted. The proposed project is located in a highly developed urban area and temporary changes to bus stops are not uncommon. Moreover, short-term effects to bus service facilities would not conflict with a program, plan, or ordinance or policy addressing the circulation system; be inconsistent with Section 15064.3(b) of the State CEQA Guidelines; substantially increase hazards due to a geometric design feature or incompatible use; or result in inadequate emergency access.

The proposed project would not result in any changes to subway infrastructure, operations, or service. The proposed project components would not encroach on Metro's easement in MacArthur Park, and no construction would occur in proximity to the Westlake/MacArthur Park Station. The project component that is located nearest to Metro's easement for the tunnels that lie under MacArthur Park is the proposed water feature. The limits of the water feature would not encroach into the easement and each weir would only be approximately 18 inches deep, limiting the depth of construction activities. Moreover, as noted in the Initial Study (Section 4, Issue X), the proposed water feature would be lined to prevent infiltration that could affect subsurface resources, including the subway tunnels. As more detailed construction plans and engineering drawings are developed, LASAN will provide those to Metro for their consideration.

1.7 Availability of the Draft EIR

The City of Los Angeles solicits comments regarding environmental issues associated with project implementation from all interested parties requesting notice, responsible agencies, agencies with jurisdiction by law, trustee agencies, and other involved agencies in accordance with Section 15087 of the State CEQA Guidelines. In addition, the general public may review and comment on the Draft EIR. The Draft EIR is available for public review at the following locations:

- Online at http://www.lacitysan.org/ceqa
- MacArthur Park Community Center 2230 W. 6th Street, Los Angeles, CA 90057
- Felipe De Neve Branch Library, 2820 W. 6th Street, Los Angeles, CA 90057
- City Public Works building, LA Sanitation & Environment–Receptionist Desk, 1149 S. Broadway, 9th Floor, Los Angeles, CA 90015

The public comment period will begin on May 23, 2024 and end on July 8, 2024. Written comments may be provided by 5:00 p.m. Pacific time on July 8, 2024 by one of the following methods:

- Mail comments to: LA Sanitation & Environment – Safe Clean Water Implementation Division
  Attention: Carmen Andrade
  1149 S. Broadway, 10th Floor MS: 1149/756
  Los Angeles, CA 90015
- Email comments to san.safecleanwater@lacity.org (please include "MacArthur Lake Stormwater Capture Project Draft EIR Comments" in the subject line)

Upon completion of the public review period, written responses to all comments on environmental issues raised by commenters will be prepared. The comments, and their responses, will be included in the Final EIR for consideration by the Board of Public Works, Board of Recreation and Parks, and, if required, by City Council Committees, and the City Council.

Chapter 2

Project Description

2.1 Introduction

The proposed project is a stormwater quality improvement project funded by the County of Los Angeles Safe Clean Water Program (SCWP). The SCWP provides local, dedicated funding as part of a Regional Infrastructure Program with the overarching objective to plan, build, and maintain multi-benefit, watershed-based projects that increase local water supplies, improve water quality, enhance communities, and protect public health.[5,6] The project site is located partially within MacArthur Park and partially within adjacent public rights-of-way in the City of Los Angeles (City).

The proposed project would include a stormwater flow diversion structure, pretreatment unit, a new pump station and rehabilitation of an existing pump station, stormwater treatment unit, water feature, and conveyance pipelines. The project components are discussed in further detail in Section 2.5.

Section 15124 of the State CEQA Guidelines[7] requires an EIR project description to include a) a detailed location map and a regional location map, b) a statement of project objectives which includes the underlying project purpose, c) a general description of the project's technical, economic, and environmental characteristics, and d) a statement briefly describing the intended uses of the EIR. This section of the EIR contains the project description that serves as the basis for the environmental analysis contained in Chapter 4, *Environmental Impact Analysis*.

2.2 Project Location and Setting

The proposed project would be located at MacArthur Park and on adjacent streets south of the park (**Figure 2-1**). MacArthur Park is a public park located at 2230 W. 6th Street[8] in the Westlake neighborhood of central Los Angeles, approximately 1 mile northwest of downtown. The park is bound by 6th Street to the north, 7th Street to the south, Park View Street to the west, and Alvarado Street to the east. Wilshire Boulevard extends east-west through the park, dividing it into northern and southern sections. The proposed project would occur in the southern section of the park, with underground improvements in 7th Street south of the park, in an approximate one-block portion of Grand View Street south of 7th Street, and in an approximate one-block portion of Lake Street south of 7th Street. The boundaries of the project site are illustrated in **Figure 2-2**.

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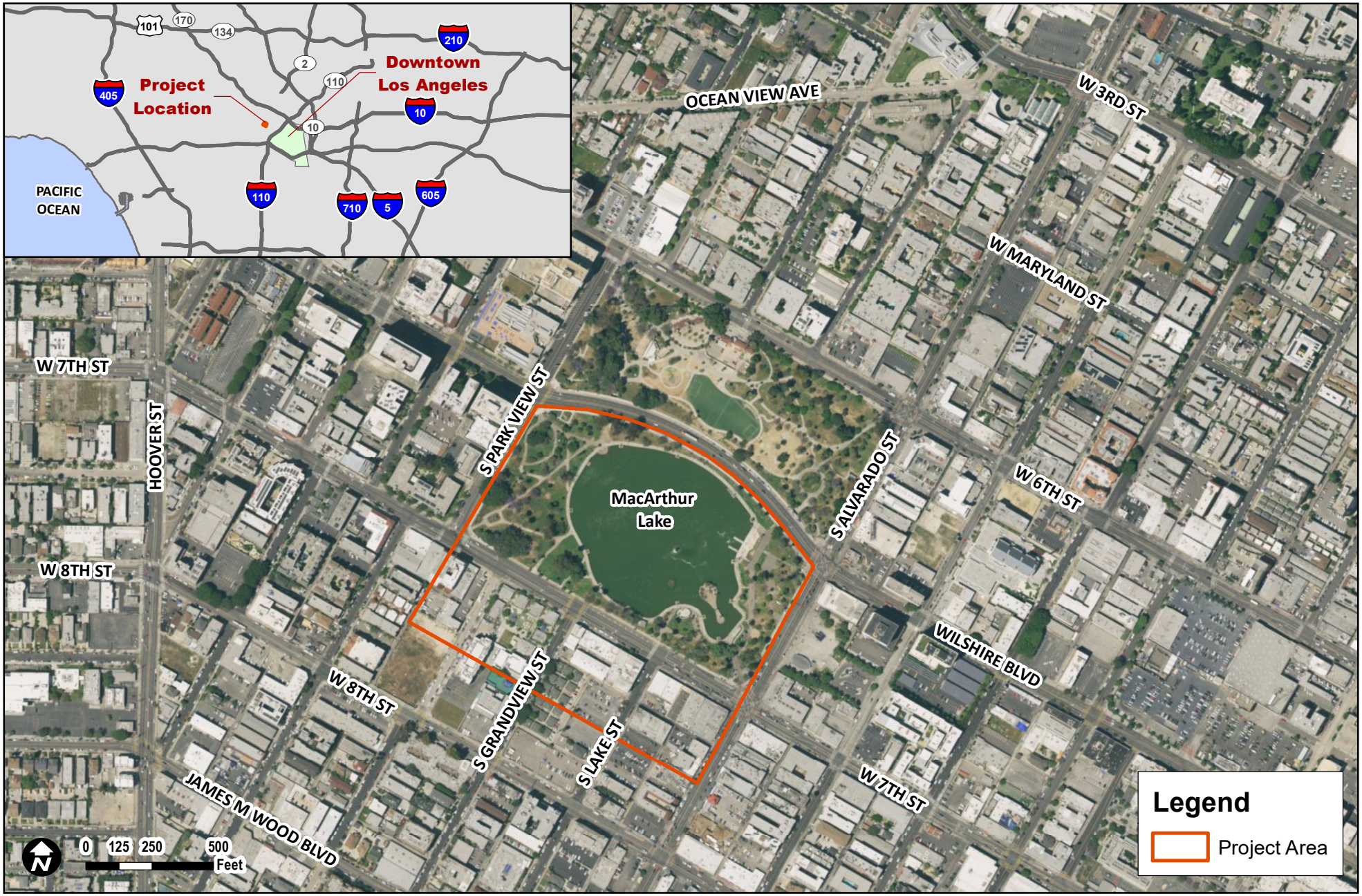
5 County of Los Angeles Department of Public Works, Flood Control District. Safe Clean Water Program Brochure. Available: https://safecleanwaterla.org/wp-content/uploads/2021/09/LACPW_SafeCleanWater_Brochure_V6B.pdf.

6 County of Los Angeles Department of Public Works, Flood Control District. Safe Clean Water Program: Vision, Mission, & Goals. Available: https://safecleanwaterla.org/about/vision-mission-goals/. Accessed November 15, 2021.

7 California Code of Regulations, Title 14, Division 6, Chapter 3. Guidelines for Implementation of the California Environmental Quality Act, as amended December 28, 2018.

8 For ease of reading, directional street information is provided in the park address but is not otherwise used in this EIR.



Sources: CDM Smith, 2022; Aerial Sources: Esri, United States Department of Agriculture Farm Service Agency, 2022
Prepared by: CDM Smith, 2024

Figure 2-1

MacArthur Lake Stormwater Capture Project

PROJECT AREA

Sources: CDM Smith, 2022; Aerial Sources: Esri, United States Department of Agriculture Farm Service Agency, 2022
Prepared by: CDM Smith, 2024

Figure 2-2

MacArthur Lake Stormwater Capture Project

PROJECT LOCATION

The primary feature of the park is MacArthur Lake, which is located in the southern portion of the park. The lake encompasses approximately 8 acres and has a concrete and asphalt liner. Other features in the park include an amphitheater, bandshell, soccer field, playground, and a recreational center, all of which are located in the northern half of the park, north of Wilshire Boulevard. Mature trees, open turf area, walkways, and public art are also placed throughout the park. The portion of the project site that lies within the park primarily consists of open landscaped area, including turf grass, trees, and concrete walkways. There are currently no public art or recreational structures on the project site. However, a playground was recently constructed and opened early 2024 in the southwest corner of the park, adjacent to the proposed water feature.

Park users typically include families, adults of all ages, vendors, and unhoused populations. The park is often used as a community gathering place, a venue to exercise and play sports/games, and a spot to take lunch breaks. Other common activities in and near the park include families with children using the playground equipment, vendors selling food and beverages, religious groups holding gatherings, and recreationists engaging in bird watching. The California Department of Fish and Wildlife (CDFW) stocks the lake with fish.

The park is located in a highly developed urban area that consists of residential homes, commercial businesses, and public buildings. Across from the park to the north are commercial businesses, multifamily residential buildings, an assisted living facility, the Consulate of Mexico, and Los Angeles County offices. To the south along 7th Street, there are commercial businesses, medical offices, churches, and an elementary school. To the west along Park View Street, there are multifamily residential buildings, commercial offices, a labor center, and an elementary school. To the east, there are commercial businesses, including several ground-floor businesses with residential units located on floors above. The Westlake/MacArthur Park subway station is located on Alvarado Street, across from the park. Street vendors are located on public streets surrounding the park, primarily along Alvarado Street. In the portions of Grand View Street and Lake Street south of 7th Street within the project area, there is a similar mix of uses—including commercial and residential land uses, a church, and the elementary school that is located south of the park.

Regionally, the proposed project is located within the Central Santa Monica Bay watershed, as defined by the SCWP. This watershed is referred to as the Ballona Creek watershed by the Los Angeles County Department of Public Works, Flood Control District. The Ballona Creek watershed receives drainage from an approximately 128-square-mile area of western Los Angeles County. During rain events, stormwater currently flows from impervious surfaces, such as streets and rooftops, primarily into storm drains below the City streets and is ultimately discharged to the ocean. The storm drain system also receives dry weather flows from activities such as car washing and excess irrigation runoff.

Stormwater discharges within the Ballona Creek watershed are governed by the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit No. R4-2021-0105 (Permit), which was adopted on July 23, 2021, by the Los Angeles Regional Water Quality Control Board (LARWQCB) and became effective on September 11, 2021. The purpose of the Permit is to ensure storm water systems in Los Angeles County are not causing or contributing to exceedances of

water quality objectives set to protect the beneficial uses in the receiving waters.[9] Pollutants of concern within the watershed include trash, metals, toxics, and bacteria, with zinc being the limiting pollutant, as identified in the Ballona Creek Watershed Management Program (WMP).[10] The WMP identifies three types of control measures that are intended to achieve required pollutant reductions while also providing multiple benefits to the community and leveraging sustainable green infrastructure practices. One category of control measures consists of regional projects, which are centralized facilities located near the downstream ends of large drainage areas that are designed to provide a cost-effective mechanism for infiltration and pollutant reduction.[11] The proposed project is one such regional project, per the Ballona Creek WMP.

2.3 Project Objectives

The main purpose of the proposed project is to improve water quality in the Ballona Creek watershed in an effort to comply with regulatory standards and to provide tangible community benefits, such as partially offsetting potable water use and providing enhancements to the park. The specific objectives of the proposed project are to:

- Incrementally improve the water quality in the Ballona Creek Watershed in a manner consistent with the WMP's[12] customized compliance pathway[13] for Los Angeles County's MS4 Permit.[14]
- Incrementally improve the water quality in the Ballona Creek Watershed via regional best management practices (BMPs) as defined in the Ballona Creek WMP and as measured against the Total Maximum Daily Load (TMDL) for metals and trash.
- Reduce the use of potable water used to refill MacArthur Lake to compensate for evaporation losses.
- Provide community investment benefits and nature-based solutions as required by the SCWP, including park space enhancement, public health, and educational opportunities.
- Minimize disruption of existing social and commercial activity at MacArthur Park, on sidewalks, at transit stops, and at local businesses and gathering places during both construction and operations to the extent feasible.

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9 Ballona Creek Watershed Management Group. Coordinated Integrated Monitoring Program for the Ballona Creek Watershed. September 7, 2015, revised May 31, 2019. Available: https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/ballona_creek/Final%20_Approved_Revised_Ballona_Creek_CIMP_2019-5-31.pdf.

10 Per the Ballona Creek Watershed Management Program, zinc is the limiting pollutant, meaning that if zinc is sufficiently managed in the watershed, all other pollutants of concern will be managed to levels below the allowable loadings.

11 Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

12 Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

13 The MS4 Permit allows Permittees the flexibility to develop WMPs to implement the requirements of the Permit on a watershed scale through customized strategies, control measures, and BMPs.

14 MS4 Permit Order R4-2012-0175 for Los Angeles County (NPDES Permit No. CAS004001), which was the basis for the preparation of the Enhanced WMP approved in 2016, has since been superseded by Order R4-2021-0105 (NPDES Permit No. CAS004004). The Ballona Creek Watershed Management Group updated their WMP in accordance with the current MS4 Permit; the WMP was amended in February 2021, June 2021, and July 2023 with revised capture volume targets. The revised WMP was approved by the LARWQCB on August 14,2023.

2.4 Project Overview

The proposed project would divert a portion of wet weather stormwater flows as well as dry weather flows from the existing underground storm drain system, treat the water, and discharge it into MacArthur Lake for storage or return it to the storm drain system. This process would reduce the amount of stormwater and associated pollutant loads that enter Ballona Creek, the Ballona Creek wetlands, and, ultimately, Santa Monica Bay. Specifically, the proposed project would remove approximately 93 percent of the zinc from the stormwater that would be diverted and returned to the storm drain system, approximately 96 percent of the sediment, and almost 100 percent of the trash.[15]

Currently, an automated system using a floating water level sensor is used to replenish the lake with potable water when lake levels drop as a result of evaporation. The diversion of stormwater from the storm drain system into the lake would decrease the amount of potable water that is used to maintain the lake level (i.e., lake refill). Additionally, the proposed project would enhance the park by creating a water feature and providing educational opportunities, such as signage and information boards about stormwater management.

The proposed project would divert stormwater and dry weather flows from a 200-acre drainage area (**Figure 2-3**) via a diversion from a 45-inch-diameter storm drain in Lake Street. After being diverted, the stormwater would flow through a pretreatment unit to remove trash, sediment, and heavy suspended solids. A pump station would lift the stormwater and convey it through a pipeline below Lake Street and 7th Street to the stormwater treatment unit in the park. From this point, there are two possible flow paths:

- The stormwater treatment unit would provide additional treatment of up to 4 cubic feet per second (cfs) of the incoming flows to further reduce pollutant loads. The remaining stormwater would pass through the stormwater treatment unit without receiving additional treatment. Both the stormwater that received additional treatment and the stormwater that did not would recombine and flow by gravity into the lake for storage until the maximum water level in the lake is reached.
- Once the maximum lake level has been reached, after being routed through the stormwater treatment unit located within the park, the treated stormwater would be returned to the storm drain system downstream of the diversion point through a new pipeline that would be constructed below Grand View Street, where it would connect with an existing 54-inch-diameter storm drain in Grand View Street south of 7th Street. Treated stormwater discharged back to the storm drain system would flow through storm pipes to Ballona Creek and would ultimately reach the Ballona wetlands and Santa Monica Bay.

During major storm events, stormwater flows that exceed the maximum capacity of the diversion structure pump station in Lake Street (i.e., 12.7 cfs) would bypass the proposed diversion structure and continue downstream to Ballona Creek as they do currently.

[15] Carollo, MacArthur Lake Stormwater Capture Project, Project Memorandum, Subject: Flow and Pollutant Removal Mass Balance Estimates, April 25, 2024.

Sources: Cordoba Corporation, 2022; Base Layer Source: Los Angeles GeoHub, 2022
Prepared by: CDM Smith, 2024

Figure 2-3

MacArthur Lake Stormwater Capture Project

PROJECT DRAINAGE AREAS

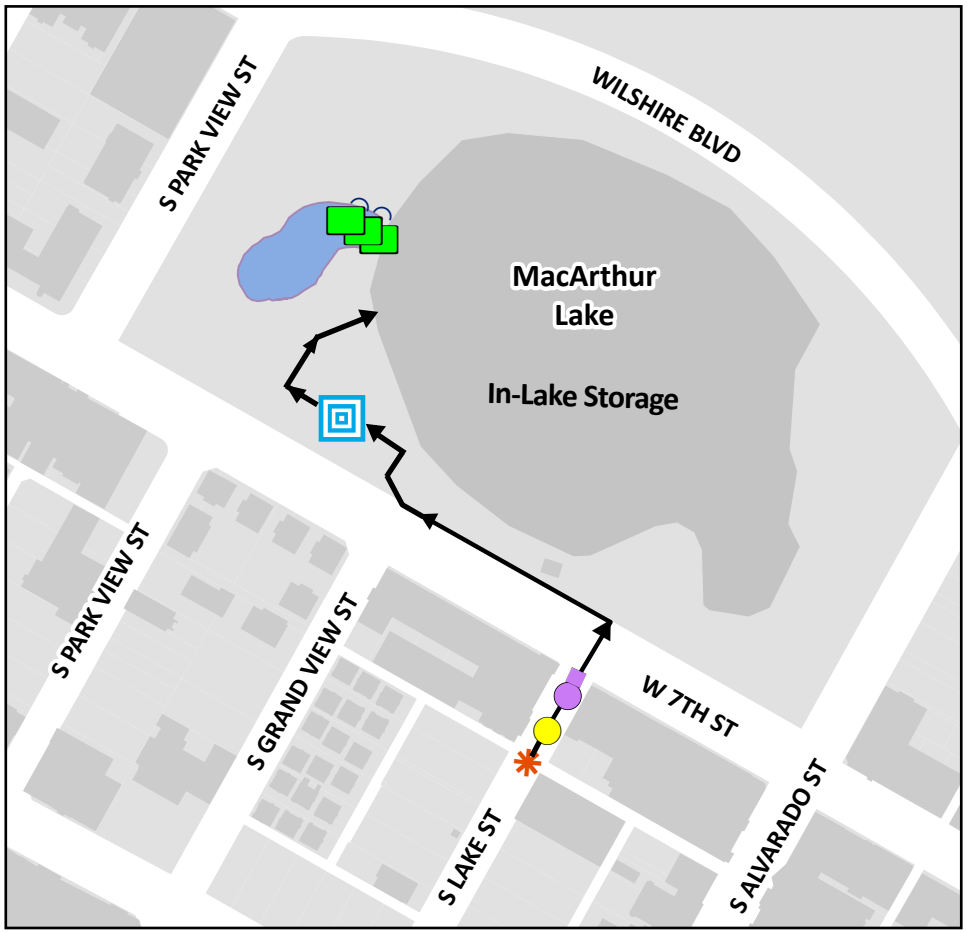
To provide room for storage, the water level in MacArthur Lake would be lowered by up to 8 inches when needed. By lowering the lake by this amount, up to 5 acre-feet (approximately 217,800 cubic feet or 1.63 million gallons) of water would be diverted to the sanitary sewer via a new pipeline that would connect to an existing 48-inch-diameter sewer in Lake Street. It is estimated that discharges to the sanitary sewer would total approximately 95 acre-feet per year (nearly 31 million gallons per year). The actual amount of water that would be diverted to the sanitary sewer annually would vary depending on the frequency, sequencing, size, and duration of wet weather events, as well as temperatures, which govern the amount of evaporation. It is the intent to always have a few inches of storage capacity available in the lake to enable treated dry weather flows to be diverted to the lake year-round. Discharges to the sewer system would occur a minimum of 48 hours after a storm event and would require an Industrial Waste Discharge Permit. Lake water discharged to the sewer would be treated at the Hyperion Water Reclamation Plant (HWRP), which is located outside of the Ballona Creek watershed. In the long-term, effluent from HWRP may be beneficially reused.[16] Stormwater that is stored in MacArthur Lake and later discharged to the sanitary sewer for treatment at HWRP would meet stormwater quality requirements by removing pollutants at the treatment plant.

During dry weather, all flows would be diverted from the 45-inch-diameter storm drain in Lake Street through the pretreatment unit using the smaller pump unit of the new diversion pump station, which would lift the diverted water and convey it through a pipeline below Lake Street and 7th Street. Then, the dry weather flows would be routed through the stormwater treatment unit inside the park. After treatment, the dry weather flows would flow by gravity to MacArthur Lake.

Independent from the stormwater diversion and treatment flows described above, lake water would be recirculated to enhance water quality in the lake. A lake recirculation pump would lift water from the lake, through the existing pump house, and to a water feature designed with a cascading configuration, which would be located on the western edge of the lake. As part of the proposed project, efforts would be made to rehabilitate an existing, but unused, lake water treatment system located in the pump house that consists of a sand media filter and ultraviolet (UV) disinfection unit. If successfully rehabilitated, the lake water would pass through the sand media filter and UV system before being conveyed to the water feature. Use of the existing sand filter and UV unit, if successfully rehabilitated, would further enhance the water quality of the recirculated water. General conceptual flow diagrams during wet weather and dry weather are provided in **Figure 2-4a** and **Figure 2-4b**, respectively. The conceptual lake recirculation system is illustrated in **Figure 2-5.**

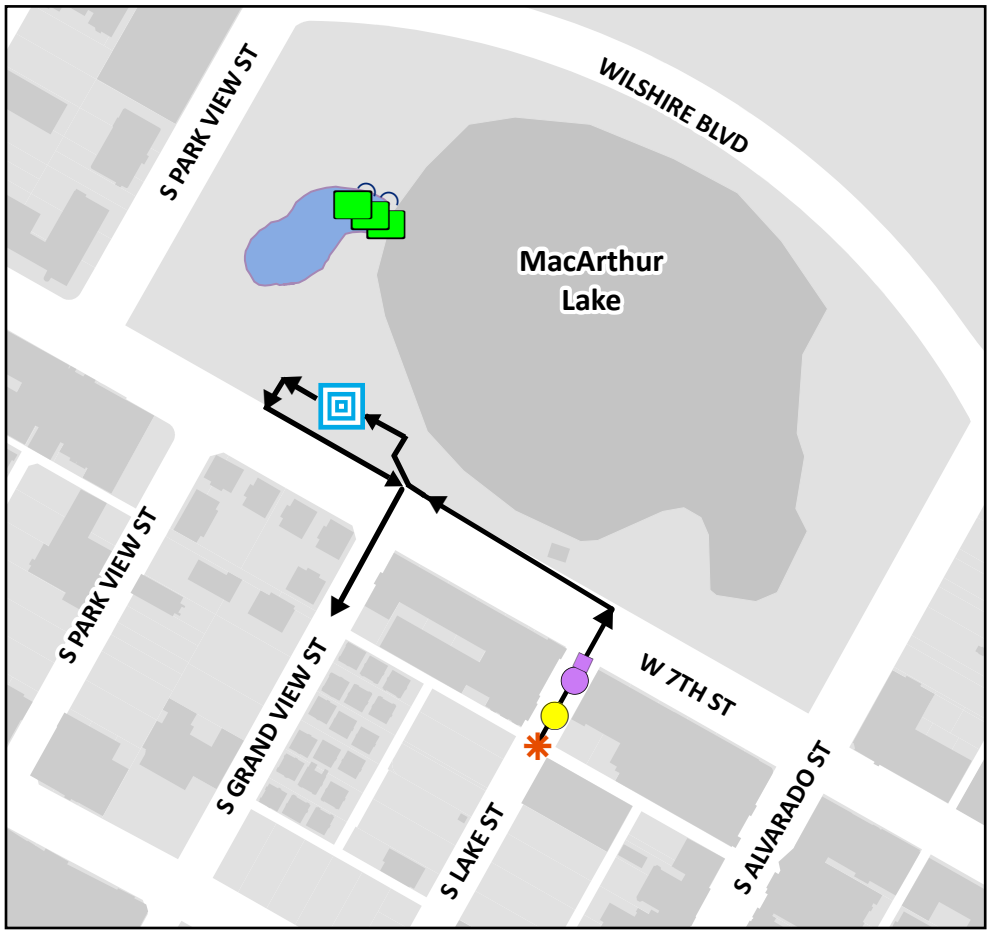
[16] The Hyperion Advanced Water Purification Facility (HAWPF) is a water recycling project at the HWRP that will produce 1.5 million gallons per day (mgd) of recycled water (expandable to 5 mgd) for non-potable water uses at HWRP and other nearby facilities. (City of Los Angeles, LA Sanitation & Environment. Hyperion Water Reclamation Plant: Hyperion Advanced Water Purification Facility. July 1, 2021; Available: https://www.lacitysan.org/san/sandocview? docname=cnt066743. City of Los Angeles Department of Public Works, Bureau of Engineering. Hyperion Advanced Water Purification Facility (HAWPF; Available: https://eng.lacity.org/about-us/divisions/environmental-management/projects/hyperion-advanced-water-purification-facility-hawpf. Accessed March 14, 2022). Through their Hyperion 2035 program, LASAN's long-term goal is to recycle 100 percent of purified water produced by the HWRP by 2035. (Tucker, Carol. "Operation NEXT: LA's Next Major Water Source." LADWP Intake Magazine. Available: http://www.ladwpintake.com/operation-next-las-next-major-water-source/).

Lake Storage of Treated Stormwater



In a storm event, the initial 12.7 cubic feet per second of stormwater flow from an existing 45-inch pipe along Lake Street would be diverted to a pretreatment unit, through a pipeline below Lake Street and 7th Street, and to a stormwater treatment unit in the park. The stormwater treatment unit would provide additional treatment for 4 cfs of the flow. All the water exiting the stormwater treatment unit would flow by gravity into MacArthur Lake for storage.

Treated Stormwater Return to Storm Drain



When MacArthur Lake is at capacity, after passing through the pretreatment unit and the stormwater treatment unit in the park, the diverted stormwater flow would be routed to a pipeline that would connect to the 54-inch storm drain pipe in Grand View Street.

0 90 180 360 Feet

Legend

- Stormwater Flow Diversion
- Pretreatment Unit
- Pump Station
- Stormwater Treatment Unit
- Water Feature
- Water Flow

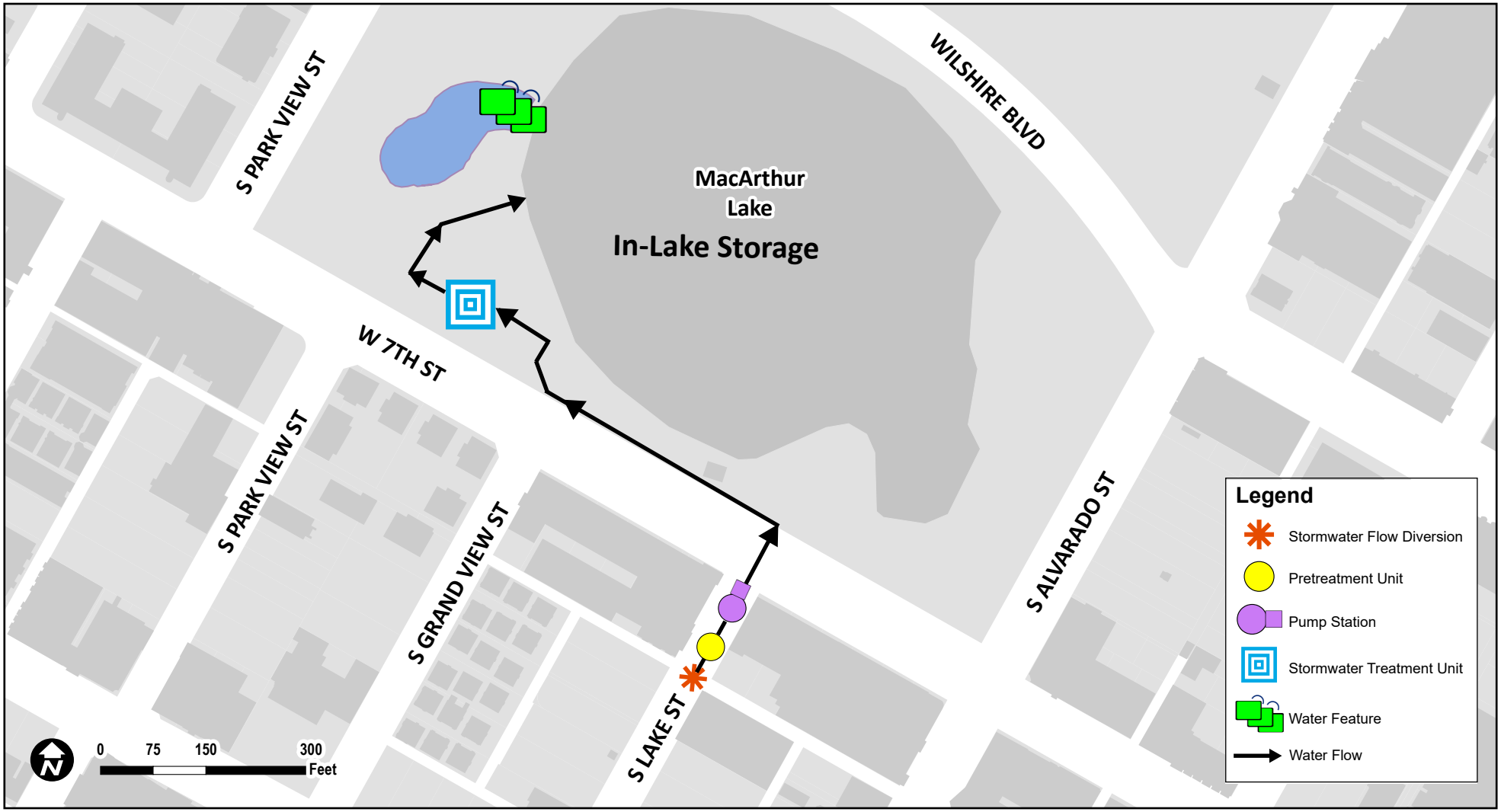
Notes:
AF = acre feet
cfs = cubic feet per second

Sources: Cordoba Corporation, 2022; Craftwater Engineering, Inc., 2024; Base Layer Source: Los Angeles GeoHub, 2022
Prepared by: CDM Smith, 2024

Figure 2-4a

CONCEPTUAL SIMPLIFIED FLOW DIAGRAMS - WET WEATHER FLOWS

Lake Storage of Treated Stormwater

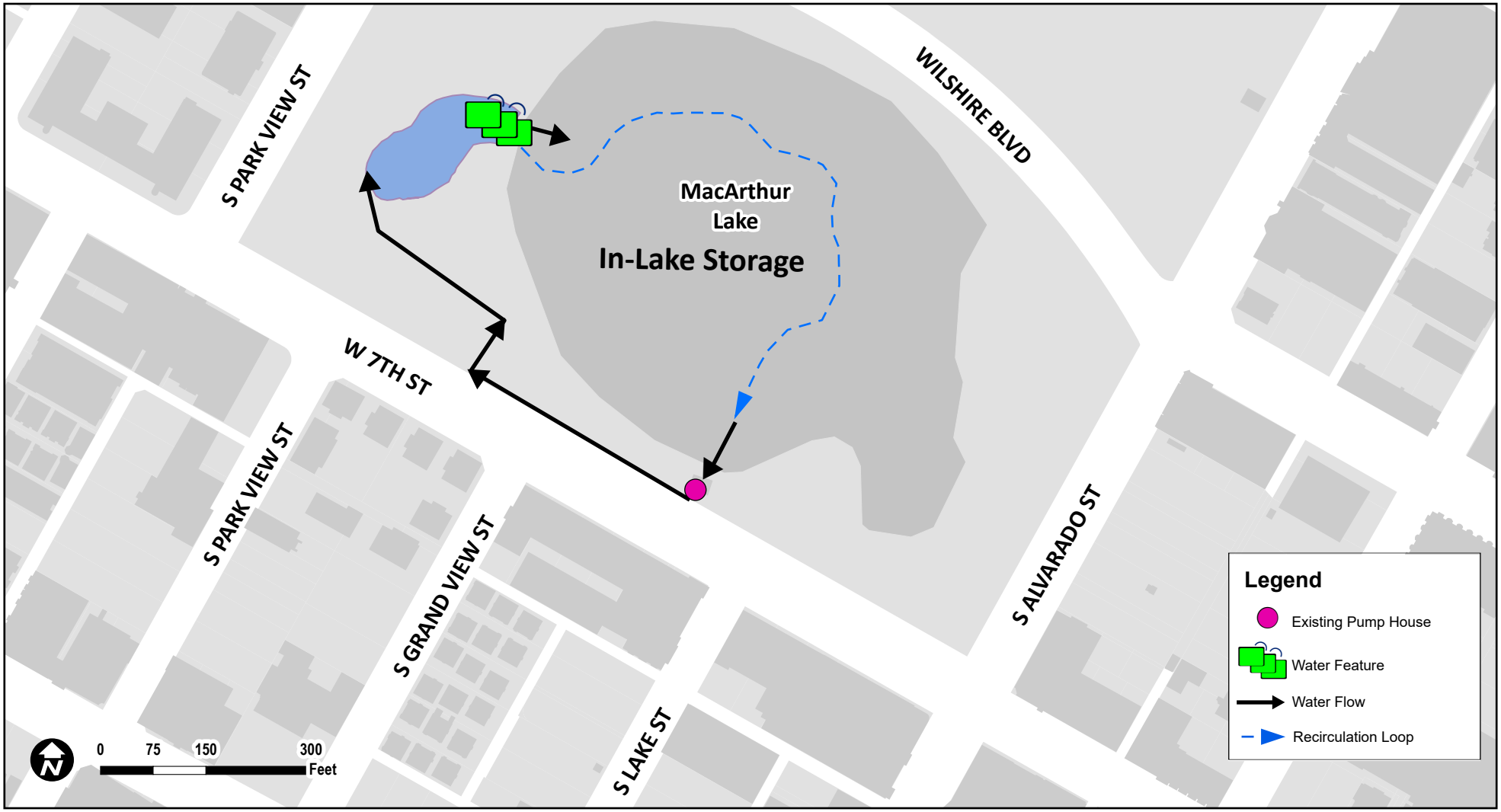


In dry weather conditions, water flow from the 45-inch pipe along Lake Street would be diverted to a pretreatment unit, through a pipeline below Lake Street and 7th Street, and to a stormwater treatment unit in the park. From there, the treated stormwater would flow by gravity into MacArthur Lake for storage.

Sources: Cordoba Corporation, 2022; Craftwater Engineering, Inc., 2024; Base Layer Source: Los Angeles GeoHub, 2022
Prepared by: CDM Smith, 2024

Figure 2-4b

CONCEPTUAL SIMPLIFIED FLOW DIAGRAM - DRY WEATHER FLOWS



Lake water would be recirculated from the lake, through the existing pump house, to a water feature on the west side of the lake. The water may pass through an existing, but unused, water treatment system in the pump house, if it can be successfully rehabilitated. The water would flow through the water feature and back into the lake.

Sources: Cordoba Corporation, 2022; Craftwater Engineering Inc, 2024; Base Layer Source: Los Angeles GeoHub, 2022
Prepared by: CDM Smith, 2024

Figure 2-5

MacArthur Lake Stormwater Capture Project

CONCEPTUAL SIMPLIFIED FLOW DIAGRAM - LAKE WATER RECIRCULATION

2.5 Project Components

The proposed project would include a stormwater flow diversion structure, pretreatment unit, two pump stations (a new pump station and rehabilitation of an existing irrigation pump), stormwater treatment unit, water feature, and conveyance pipelines. In addition, as part of the proposed project, efforts would be made to rehabilitate an existing, but unused, lake water treatment system to treat recirculated lake water. An illustration of the proposed project components is provided in **Figure 2-6**. The individual project components are described below.

2.5.1 Stormwater Diversion Structure

An underground diversion structure would be installed in Lake Street, where it intersects with the alley that parallels 7th Street. Stormwater would be diverted from an existing 45-inch diameter- City storm drain. The system would divert up to 12.7 cfs of captured stormwater from a 200-acre drainage area. During a large storm event, stormwater flows in excess of 12.7 cfs would not be diverted as part of the proposed project. Instead, this excess stormwater would continue to flow through the existing storm drain system as it does under existing conditions and would ultimately be discharged to Ballona Creek.

In the 20-year period from 1999 to 2019, flows exceeded 12.7 cfs on average during 17 days per year. The average volume that would be diverted from the stormwater system and treated by the proposed project annually is estimated to be 244 AF.[17] It is estimated that 114 AF would be treated and redirected back to the storm drain system, as described further below.

2.5.2 Pretreatment Unit and Pump Station

During wet weather conditions, approximately 12.7 cfs (the equivalent of approximately 5,700 gallons per minute [gpm]) of captured stormwater would be diverted to flow through an underground pretreatment unit to remove trash, large debris, and heavy suspended solids from the stormwater. The average volume of stormwater that would be treated by the pretreatment unit is estimated to be 244 acre feet per year. As noted above, flows beyond 12.7 cfs would bypass the proposed project treatment system and flow towards Ballona Creek as they do under existing conditions. The pretreatment system is estimated to result in an approximately 64 percent reduction in zinc,[18] an 80 percent reduction in sediment, and a near 100 percent reduction in trash.[19] A pump station sized for a maximum capacity of 12.7 cfs would pump the stormwater from the pretreatment unit. The pump station would house three pumps: two 60-horsepower (hp) pumps and one 11-hp pump.

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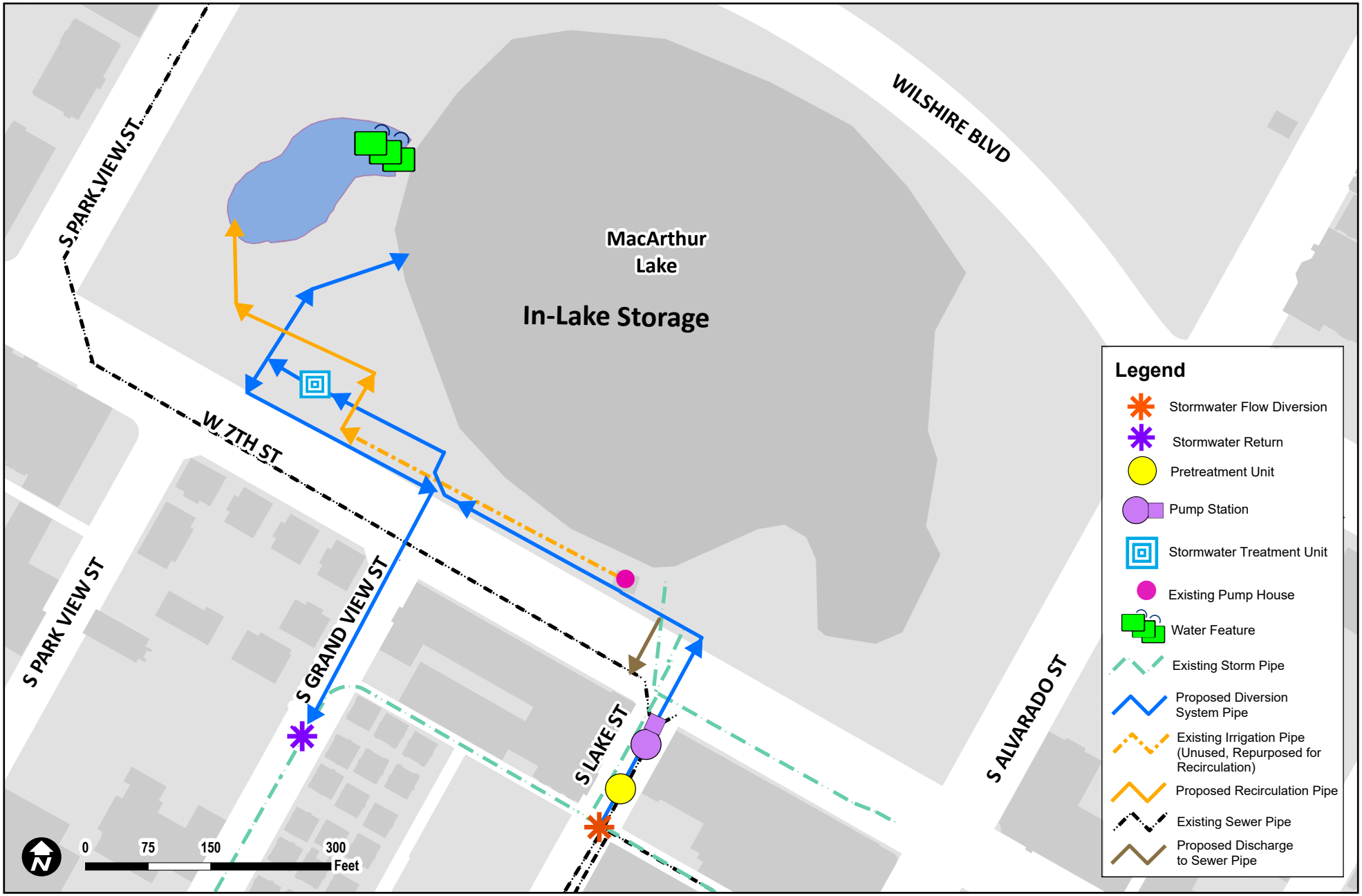
[17] Carollo, MacArthur Lake Stormwater Capture Project, Project Memorandum, Subject: Flow and Pollutant Removal Mass Balance Estimates, April 25, 2024.

[18] Zinc is the limiting pollutant identified in the Ballona Creek Watershed Management Program. As the limiting pollutant, when zinc is fully managed, other pollutants would also be managed to below allowable levels.

[19] Carollo, MacArthur Lake Stormwater Capture Project, Project Memorandum, Subject: Flow and Pollutant Removal Mass Balance Estimates, April 25, 2024.



Sources: Cordoba Corporation, 2022; Craftwater Engineering, Inc., 2024; Navigate LA, 2022; Base Layer Source: Los Angeles GeoHub, 2022
Prepared by: CDM Smith, 2024

Figure 2-6

PROPOSED PROJECT COMPONENTS

From the pump station, stormwater would be routed to the stormwater treatment unit in the park. Up to 4 cfs of the stormwater entering the stormwater treatment unit inside the park would receive additional treatment; the remaining flows would pass through the stormwater treatment unit without receiving further treatment. Upon exiting the stormwater treatment unit, the stormwater flows would be released into MacArthur Lake until the capacity of the lake is reached. Once the lake capacity is reached, after passing through the stormwater unit, the stormwater would be returned to the storm drain system via a new storm drain in 7th Street and Grand View Street, which would connect to an existing 54-inch storm drain in Grand View Street, downstream of the diversion location.

During dry weather conditions, dry weather flows would also flow through the underground pretreatment unit, pump station, and stormwater treatment unit in the park. Following treatment, all dry weather flows would be routed to MacArthur Lake for storage, unless the lake level has reached its maximum and no storage capacity would be available. In that case, dry weather flows would also be routed back the existing 54-inch storm drain in Grand View Street.

The pretreatment unit and pump station would be located in a below-ground vault in Lake Street. A conceptual illustration showing a cross section of the facilities to be constructed in Lake Street, including the storm drain diversion, pretreatment unit, and pump station, is provided in **Figure 2-7**. The pump station would be equipped with controls that can communicate by radio signal to the City's manned operations center located at Venice Pump Station.

2.5.3 Stormwater Treatment Unit

The diverted stormwater would be pumped from the pretreatment unit to the stormwater treatment unit located within MacArthur Park between Grand View Street and Park View Street. The stormwater treatment unit would remove additional pollutants from the stormwater before it is conveyed to MacArthur Lake or back to the storm drain system in Grand View Street. It is estimated that the stormwater treatment unit would remove approximately 80 percent of sediment and 75 percent of zinc from the stormwater treated by the unit.[20]

Of the 244 AFY of dry weather and wet weather flows that would be diverted from the stormwater system, the average volume that would be treated by both the pretreatment unit and the stormwater treatment unit is estimated to be 188 acre feet annually. The remaining 56 AFY would be treated by the pretreatment unit but would bypass the stormwater treatment unit. As noted in Section 2.4, both the flows that would be accommodated by the stormwater treatment unit and the flows that would bypass the unit (i.e., 244 AFY) would recombine. An estimated 130 AFY would be directed to MacArthur Lake; the remaining 114 AFY would be returned to the storm drain system in Grand View Street.[21]

A conceptual illustration showing a cross section of the stormwater treatment units is presented in **Figure 2-8**.

[20] Carollo, MacArthur Lake Stormwater Capture Project, Project Memorandum, Subject: Flow and Pollutant Removal Mass Balance Estimates, April 25, 2024.

[21] Carollo, MacArthur Lake Stormwater Capture Project, Project Memorandum, Subject: Flow and Pollutant Removal Mass Balance Estimates, April 25, 2024.

Source: Cordoba Corporation, 2022
Prepared by: CDM Smith, 2024

Figure 2-7

LAKE STREET CONCEPTUAL UNDERGROUND FACILITIES

Source: Cordoba Corporation, 2022
Prepared by: CDM Smith, 2024

Figure 2-8

MACARTHUR PARK CONCEPTUAL UNDERGROUND FACILITIES

2.5.4 Water Feature

The proposed improvements include an approximately 0.15-acre tiered water feature, new pedestrian paths, seating areas, a boardwalk, new shade trees, and interpretive signage. The lake water would recirculate through a series of cascades that would follow the natural slope of the park down towards the lake. An existing pump in the existing pump house building would be rehabilitated to recirculate water from the lake, treat it using an existing lake water treatment system (if system is able to be successfully rehabilitated), and release it at the top of the water feature, where water would be discharged and cascade down into the lake by gravity. To maintain flow through the water feature and avoid standing water, the pump station would be operated almost continuously, turning the lake volume over approximately every 2 months. The recirculation pump would pump 325 gpm (0.7 cfs) of water; at this rate, the water would have a total retention time within the water feature of approximately 8 hours.

Water from the water feature would flow into the lake under a new pedestrian bridge that would follow the pathway of the existing walkway. The pedestrian bridge would replace a portion of the walkway that runs adjacent to the lake, and would be constructed over the discharge side of the water features, allowing pedestrians continued access around the lake. The pedestrian bridge would be compliant with the Americans with Disabilities Act (ADA). The water feature would offer educational and engaging opportunities for the public to learn more about watershed management and stormwater treatment.

The water feature would be located in a sloped area of the park that is currently occupied by turf grass and walkways. One existing palm and one existing broadleaf tree within the proposed water feature area would be removed, and one broadleaf tree would be relocated. Section 2.6 discusses construction activities in further detail. Removed trees would be replaced with ten new trees to be planted near the water feature or elsewhere in the park and established with deep root bubblers for irrigation in accordance with City of Los Angeles Department of Recreation and Parks (RAP) policies.[22] Construction of the water feature would also require several additional trees to be protected during construction. Section 2.6 discusses construction activities in further detail. The proposed water feature would be located in close proximity to a new playground that recently opened. The water feature and the playground would be separated by a paved walkway. Implementation of the proposed project and the water feature would be closely coordinated with RAP to avoid conflicts. A conceptual plan for the water feature is provided in **Figure 2-9**. Conceptual renderings of the water feature are shown in **Figure 2-10**.

[22] City of Los Angeles Department of Public Works, Recreation and Parks. Urban Forest Program. October 2004. Available: https://www.laparks.org/sites/default/files/forest/pdf/UrbanForestProgram.pdf.

Source: Studio-MLA, 2024
Prepared by: CDM Smith, 2024

Figure 2-9

CONCEPTUAL WATER FEATURE DESIGN

Source: Studio-MLA, 2022
Prepared by: CDM Smith, 2024

Figure 2-10

MacArthur Lake Stormwater Capture Project

CONCEPTUAL WATER FEATURE RENDERINGS

2.5.5 MacArthur Lake

Stormwater would enter MacArthur Lake from the diversion structure after being routed through both the pre-treatment system in Lake Street and the stormwater treatment unit inside the park. An estimated 130 AFY would be routed to the lake from the stormwater treatment unit in the park.[23]

As described in Section 2.4, to provide room for storage, the lake water level would be lowered by approximately 8 inches when needed to accommodate up to 5 acre-feet (approximately 1.63 million gallons) of stormwater. It is estimated that the lake drawdown would total, on average, approximately 95 acre feet (nearly 31 million gallons) per year. The actual volume of lake drawdown would vary depending on the frequency, sequencing, size, and duration of wet weather events, as well as temperatures. It is the intent to always have a few inches of storage capacity available in the lake to enable treated dry weather flows to be diverted to the lake year-round. Water removed from the lake prior to a storm would be discharged to the sanitary sewer system, which would require an industrial waste discharge permit from LASAN. During a storm event, the pretreated stormwater would be discharged to the lake until the maximum water level in the lake has been reached. Excess stormwater beyond the storage capacity of the lake would be routed as described in Section 2.4.

2.5.6 Recirculation System

A recirculation system would be used to convey and distribute the lake water, including the captured dry weather flows and stormwater. As noted in Section 2.5.4, a small quantity of lake water (about 325 gpm or 0.7 cfs) would be recirculated through the water feature (see Figure 2-5). This would provide water quality benefits to the lake by filtering suspended solids as well as reducing nutrients and other elements as the water slowly flows through the water feature. The recirculation pump would operate 24 hours a day year-round (except during storm events), which would keep the water feature from becoming stagnant and would reduce potential vectors such as mosquitos from thriving. If they are able to be successfully rehabilitated, the recirculation system would take advantage of existing, but currently unused, sand media filters and UV system that are located in the existing pump house. In this scenario, water from the lake would pass through a pressure filter and then the UV system prior to being routed to the water feature. The potential incorporation of these currently unused lake water treatment components into the recirculation process would further improve the quality of the water that would be routed to the water feature.

[23] Carollo, MacArthur Lake Stormwater Capture Project, Project Memorandum, Subject: Flow and Pollutant Removal Mass Balance Estimates, April 25, 2024.

2.5.7 Pipelines

As shown in Figure 2-6, several new underground pipelines would be installed. The sizes of these pipelines are described below.

- A 36-inch-diameter pipeline would extend from the proposed diversion structure in Lake Street to the pretreatment unit and the pump station. An 18-inch-diameter pipeline would exit the pump station to a meter vault. From the meter vault, the pipeline would extend from Lake Street across 7th Street to the park, where it would proceed northwesterly, paralleling 7th Street. The pipeline would extend to a pressure-to-gravity transition structure. From this structure, a 24-inch diameter gravity pipe would lead to the stormwater treatment unit that would be located within the park. A branch of this pipeline would extend from the stormwater treatment unit across the park to the lake.
- A 24-inch-diameter pipeline would return treated stormwater to the storm drain system. This pipeline would extend from the stormwater treatment unit in the park, across 7th Street, and down Grand View Street, and connect to the existing 54-inch-diameter storm drain just south of the alley.
- A new 6-inch-diameter pipeline within the park would provide for the circulation of water from the lake to the proposed water feature and back into the lake. A portion of the recirculation system would utilize an existing, unused irrigation line that originates at the existing pump house and extends to a point east of the proposed stormwater treatment unit. The new 6-inch-diameter line would extend from this existing irrigation line to the inlet point of the water feature.
- To enable discharge of water from the lake to the sanitary sewer system, a 12-inch-diameter pipeline would connect from an existing 24-inch-diameter lake drain line located near the existing pump house, continuing southerly to 7th Street, where it would connect to an existing 48-inch-diameter sewer line located in 7th Street.

2.6 Project Construction

2.6.1 Construction Activities

Proposed project construction activities would include site clearing, installation of the underground project components, installation of the water feature, and site restoration. Construction of underground pipelines would occur within MacArthur Park and along the surrounding public rights-of-way, including 7th Street, Grand View Street, and Lake Street. Construction of the stormwater treatment unit would occur within the park parallel to 7th Street, and construction of the water feature would occur on the western edge of the lake.

The majority of construction would occur between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday. Currently, there is no work anticipated on weekends or holidays or during nighttime hours. Work within roadways may be further restricted to avoid peak commute times. Temporary lane closures would be required for work within the public rights-of-way. In particular, at least one lane of travel may need to be closed for an extended period to accommodate pipeline construction. In addition, the bike lane along 7th Street would need to be closed temporarily, or bicycle traffic would need to be shifted/combined into the vehicular travel lane within the limits of the project construction area. Formal

traffic control plans are required and would be prepared and approved by the City of Los Angeles Department of Transportation (LADOT) for any lane or street closures. It is expected that traffic control measures would be required during construction.

Construction of the stormwater diversion structure, pretreatment unit, and pump station would require the complete, but temporary, closure of Lake Street. Access to an existing parking lot along Lake Street would be provided from a secondary entrance further south on Lake Street. Construction of the pipelines would require the temporary closure of one or more lanes of Grand View Street and one or two lanes on 7th Street during a portion of the construction period. Construction of the project components in 7th Street, Lake Street, and Grand View Street would temporarily disrupt businesses and residences. In addition, construction of the storm drain system return pipeline in Grand View Street would result in a short-term (i.e., approximately 2-week) disruption in student pickup and drop-off at the MacArthur Park Elementary School for the Visual and Performing Arts (a pre-kindergarten through 5th grade elementary school serving approximately 515 students that is located on the south side of 7th Street between Grand View Street and Park View Street).[24] To minimize impacts to the school from any lane closures on Grand View Street for pipeline installation, construction of the pipeline on Grand View Street would be coordinated with the school. Efforts would be made to schedule the construction during school vacations.

Construction activities associated with the underground components—including the diversion structure, pretreatment system, pump station, stormwater treatment unit, and pipelines—would entail asphalt/surface removal, excavation, trenching, pipelaying, backfilling, and surface restoration. Construction of the pipelines would use the open-trench method of construction. Implementation of the proposed project may conflict with existing underground utilities located within roadway rights-of-way, which could include water lines, natural gas lines, communication lines, and lighting conduits. Specifically, underground construction activities may necessitate the relocation of an 8-inch diameter potable water line, a street lighting conduit in Lake Street, and a street lighting conduit on 7th Street. Other potential utility conflicts may be identified during permitting and construction. Utility conflicts would be coordinated with utility providers. Utilities would be avoided during design and construction or relocated, as required.

Construction activities associated with the aboveground features, including the water feature, would necessitate the removal of existing turf and hardscape within the construction footprint, as well as site preparation, site grading, excavation, installation of equipment/equipment housing, installation of the water feature and landscaping, and site restoration. As noted in Section 2.5.4, two trees located on the site of the water feature would require removal, and one tree would require relocation. The two removed trees would be replaced with ten new trees to be planted near the water feature or elsewhere in the park. Construction of the water feature would also affect a number of other trees but would not require their removal. In addition, construction of pipelines may be located within the irrigation drip lines of several trees, but would not necessitate their removal. Trees affected by the water feature or pipelines would be protected in place using the tree protection zone (TPZ) guidelines from RAP. It is not

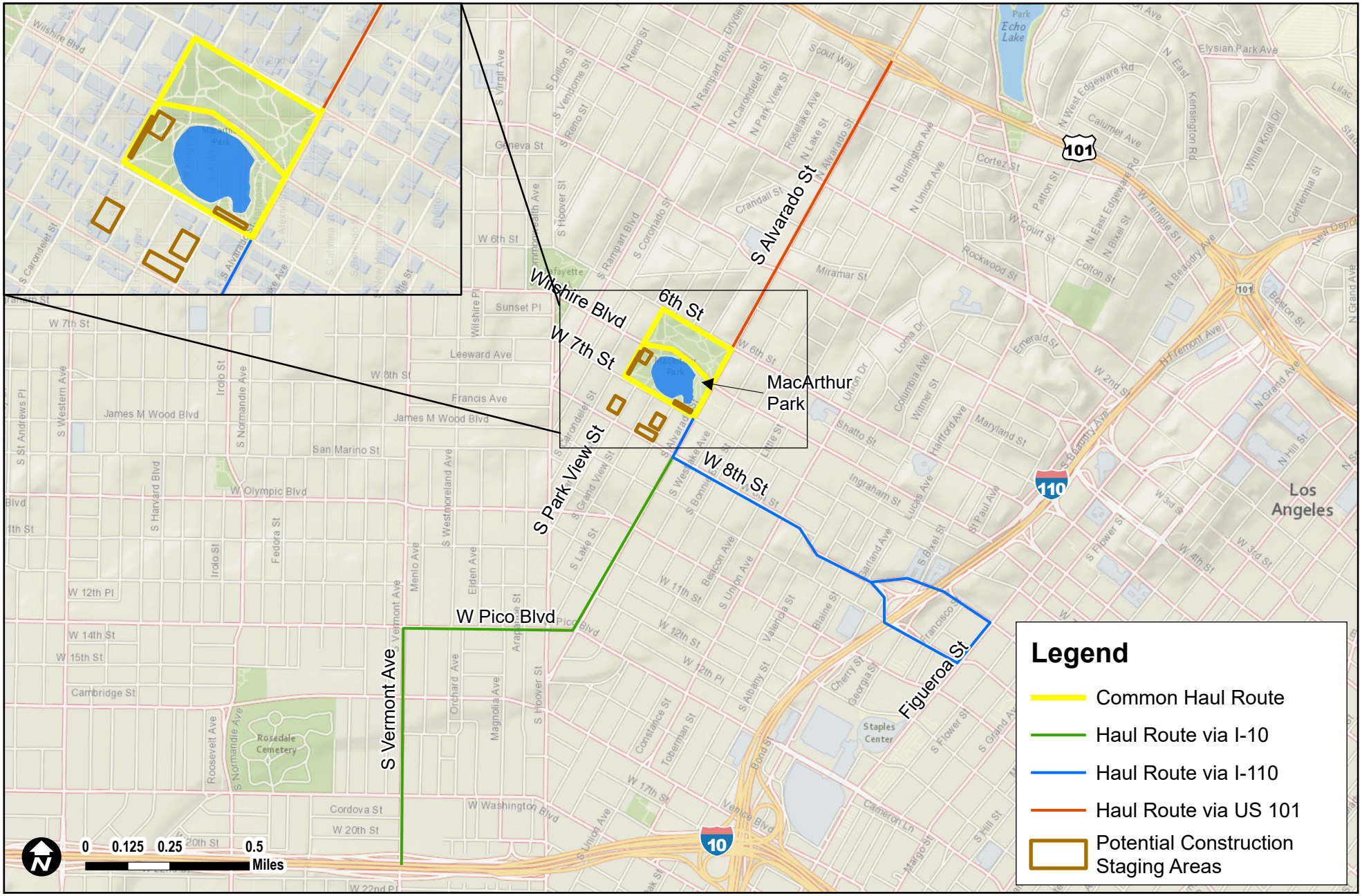
[24] Los Angeles Unified School District. MacArthur Park Elementary School for the Visual and Performing Arts Website, About Our School. Available: https://www.macarthurparkes.org/apps/pages/index.jsp?uREC_ID=315270&type=d. Accessed January 4, 2022.

anticipated that any additional trees would require removal or relocation. However, if additional trees would require removal, removed trees would be replanted or replaced in accordance with City of Los Angeles RAP or Bureau of Street Services (StreetsLA) policies and requirements.[25,26] The primary work around the perimeter of the lake would include connecting the water feature to the lake and replacing a portion of the existing walkway with a pedestrian bridge over the discharge side of the water feature.

A portion of the park lies within the proposed construction footprint. This portion, and other areas of the park within the vicinity, would be affected by construction activities. Construction would require a staging area(s) to temporarily store supplies and materials. Some staging may be located within the park; parcels adjacent to, or in close proximity to the park may also be used for construction staging. Possible staging areas are illustrated in **Figure 2-11**. Construction and staging areas would be fenced and closed to the public while construction activities are taking place. Construction activities could displace unhoused individuals if any are located in the portion of the park that would be affected by construction. Unhoused residents would be relocated to another area of the park or to offsite areas. The proposed project would not require construction within a Los Angeles County Metropolitan Transportation Authority (Metro) easement that traverses the park, although some temporary construction easements may be required. As shown in Figure 2-11, there would be three primary haul routes used to bring materials, equipment, and construction workers to and from the project site: (1) southwest along Alvarado Street from U.S. Route 101 (Hollywood Freeway), (2) northwest along 8th Street from State Route 110, and (3) north along Vermont Avenue from U.S. Highway 10 (Santa Monica Freeway) to east on Pico Boulevard then northeast on Alvarado Street.

[25] City of Los Angeles Department of Public Works, Recreation and Parks. Urban Forest Program. October 2004. Available: https://www.laparks.org/sites/default/files/forest/pdf/UrbanForestProgram.pdf.

[26] City of Los Angeles Department of Public Works, Bureau of Street Services (StreetsLA), Urban Forestry Division. Application for a Tree Removal Permit. Available: https://streetsla.lacity.org/sites/default/files/ufd_tree_removal_permit.pdf.



Sources: Cordoba Corporation, 2022; CDM Smith, 2022; Carollo Engineers, 2024
Prepared by: CDM Smith, 2024

Figure 2-11

HAUL ROUTES AND CONSTRUCTION STAGING AREAS

2.6.2 Construction Equipment

Anticipated construction equipment is listed in **Table 2-1**.

Table 2-1 Anticipated Construction Equipment

Construction Task[1]	Equipment
All Tasks	Backhoe
	Concrete Truck
	Water Truck
	Pickup Truck
Diversion Structure[2]	Asphalt Milling Machine
	Excavator
	Paving Equipment
Drain Line Upgrade[2]	Asphalt Milling Machine
	Excavator
	Paving Equipment
	Pickup Truck
Pretreatment Unit[2]	Asphalt Milling Machine
	Excavator
	Paving Equipment
Pump Station[2]	Asphalt Milling Machine
	Crane
	Excavator
	Paving Equipment
	Pickup Truck
Actuated Valve and Meter Vaults[2]	Asphalt Milling Machine
	Excavator
	Paving Equipment
	Pickup Truck
Treatment Structures[2]	Bulldozer
	Excavator
Pipeline[2]	Asphalt Milling Machine
	Excavator
	Paving Equipment
Water Feature[2]	Bulldozer
	Excavator

Source: Cordoba Corporation, 2022.

Notes:

[1] Where construction tasks overlap, the equipment operating crews and equipment would be utilized in both tasks.

[2] Task equipment is in addition to the equipment listed for the "All Tasks" category.

2.6.3 Construction Schedule

Construction is expected to last for approximately 22 months. Installation of the underground components would occur concurrently as sections of pipeline are installed. The water feature would be installed following pipeline construction. At the peak of construction, approximately 15 workers would be on-site.

2.6.4 Monitoring of Tribal Cultural Resources during Construction

As addressed in Section 4.3, *Cultural Resources*, and Section 4.7, *Tribal Cultural Resources*, of this EIR, there are no known archaeological or tribal cultural resources, as defined in Public Resources Code Section 21074, on the project site or in the immediate vicinity, although there is a potential for the discovery of tribal cultural resources during certain ground disturbing activities. The Draft EIR concluded that the impact of the proposed project on tribal cultural resources would be less than significant and no mitigation would be required. However, as part of the tribal consultation process required under Assembly Bill 52, LASAN has agreed to implement the following measures during project construction. These measures will be included in the project's Mitigation Monitoring and Reporting Program, where they will be identified as project commitments (i.e., they will not be identified as mitigation measures).

- **Project Commitment TCR-1. Retain a Tribal Cultural Resources Monitor Prior to Commencement of Ground-Disturbing Activities.**

  A. The lead agency shall retain a qualified monitor whose responsibility it will be to monitor construction activities for Native American tribal cultural resources (TCR). The monitor may be, but is not required to be, affiliated with a tribe that has ancestral ties to the project location as identified by the Native American Heritage Commission and that has engaged in consultation with the lead agency. In the case of this project, the only tribe that meets these criteria is the Gabrieleño Band of Mission Indians – Kizh Nation. The lead agency shall make a good faith effort to coordinate with the Gabrieleño Band of Mission Indians – Kizh Nation in the selection of the monitor. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, the following: demolition, pavement removal, grading, excavation, and trenching.

  B. Prior to the commencement of monitoring, the lead agency and the Tribal Cultural Resources Monitor shall meet to agree upon the activities to be monitored and the conditions under which monitoring shall no longer be required. This agreement will cover TCR monitoring during the actual time that such monitoring has the potential to identify disturbance to tribal cultural resources resulting from ground-disturbing activities, as defined in subsection A above. Such periods shall be determined by the daily log of onsite activities maintained by the construction contractor or a City of Los Angeles Department of Public Works inspector, or by another similar source. The lead agency or their representative shall provide access to the Tribal Cultural Resource Monitor during the remainder of the construction period–including during non-ground disturbing activities, or activities that are not within the scope of agreed-upon monitoring–however, such voluntary monitoring will not be subject to this agreement.

C. A copy of the executed monitoring agreement shall be submitted by the Tribal Cultural Resources Monitor to the lead agency or their representative prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

D. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, TCRs), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the lead agency or their representative.

E. On-site TCR monitoring subject to this agreement shall conclude upon the following: (1) written confirmation to the Tribal Cultural Resource Monitor from a designated point of contact for the lead agency that all ground-disturbing activities, as defined in subsection A above, and phases that may involve ground-disturbing activities, on the project site or in connection with the project are complete; or (2) a determination and written notification by the Tribal Cultural Resource Monitor to the lead agency or their representative that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact TCRs.

- **Project Commitment TCR-2. Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial).**

  Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Tribal Cultural Resources Monitor and/or archaeologist in accordance with State CEQA Guidelines Section 15064.5. The lead agency shall, in good faith, consult with the Tribal Cultural Resource Monitor and/or the Gabrieleño Band of Mission Indians – Kizh Nation on the disposition of any TCRs encountered. Any resulting data recovery reports shall be deposited with the California Historical Resources Regional Information Center or a legal repository, as appropriate.

- **Project Commitment TCR-3. Unanticipated Discovery of Human Remains and Associated Funerary Objects.**

  A. Native American human remains are defined in Public Resources Code Section 5097.98(d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.

  B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code Section 5097.98 and Health and Safety Code Section 7050.5 shall be followed. Among other provisions, Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native

American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.

C. Human remains and grave/burial goods shall be treated alike per Public Resources Code Section 5097.98(d)(1) and (2).

D. Construction activities may resume in other parts of the project site in accordance with CEQA Guidelines Section 15064.5(f) at a distance from discovered human remains and/or burial goods to be determined by the Tribal Cultural Resource Monitor in consultation with the lead agency or their representative. The Tribal Cultural Resource Monitor shall provide the lead agency or its representative consent of that determination or justification why the monitor believes that construction activities may not resume in other parts of the project site.

E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.

F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

2.7 Project Operations

As part of the project and as required under the SCWP, LASAN would develop an Operation and Maintenance (O&M) plan for the project, which would outline the activities that are expected to be necessary to ensure the project components remain in good working order. In addition, LASAN would develop a Post-construction Monitoring Plan that would identify the steps needed to evaluate the effectiveness of the stormwater treatment facilities as well as the reporting requirements.

The majority of the project components—including the diversion structure, pretreatment unit, pump station, stormwater treatment unit, and pipelines—would operate underground, with the primary aboveground feature being the water feature. The pump station would include an aboveground control panel, which would be located in the pump house located in the park on the south side of the lake.

During a storm event, if the pump equipment were to fail, there would be no diversion of stormwater water to the lake; stormwater flows would continue down the storm drain system as it currently does. The majority of the project components would be located below ground and would not be subject to flooding. Above ground equipment would be located above flood elevations.

Oversight of the project's operation would primarily be performed via remote access through a telemetry system; however, some on-site O&M would be required for the stormwater treatment unit and water feature. Regular maintenance would include inspections after storm events as well as annual inspections and system cleanings to remove any fine particles or trash filtered as part of the pretreatment processes. Two-person maintenance crews would conduct the inspections for the proposed project; estimated maintenance requirements are as follows:

- Inspection for pumping equipment – twice per year
- Cleaning for pumping equipment – twice per year
- Inspection/cleaning of other underground structures – approximately 20 times for the pretreatment unit (i.e., after every storm greater than or equal to 0.1 inch of rainfall) and 5 times per year for the stormwater treatment unit

- Inspection and cleaning of the water feature – four times per year

2.8 Intended Uses of this EIR

This EIR will be used primarily to (1) inform decision-makers and the public about the potentially significant environmental effects of the proposed project and the feasible ways to avoid or reduce the significant environmental effects; and (2) ensure that the planning and decision-making processes reflect an understanding of the environmental effects of the proposed project. In addition, if the project is approved, the EIR will be used by the agencies identified below in connection with permits and approvals necessary for the construction and operation of the proposed project.

The proposed project will be considered by the City of Los Angeles Board of Public Works, which can approve the project as proposed, approve the project with conditions, or disapprove the project. The Board will also consider certification of the EIR. Project approval would also be required by the Board of Recreation and Parks and may be required by the Los Angeles City Council.

CEQA requires that the EIR project description include a list of agencies that are expected to use the EIR in their decision-making, a list of permits and other approvals required to implement the project, and a list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies (State CEQA Guidelines Section 15124(d)(1)). The state and local approvals and permits anticipated to be required for the proposed project include, but are not limited to, those identified in **Table 2-2**.

Table 2-2 Agencies, Permits, and Approvals

Agency	Permit/Approval
California Division of Occupational Safety and Health	Construction Permit Trenching and Excavation Permit
California State Water Resources Control Board /Los Angeles Regional Water Quality Control Board	NPDES Construction General Permit 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), and/or Construction General Permit 2022-0057-DWQ, including Stormwater Pollution Prevention Plan (SWPPP)
City of Los Angeles, Recreation and Parks	Encroachment Permit/Right-of-Entry Permit Tree Removal approval
City of Los Angeles, Bureau of Engineering	Construction "B" Permit (LAMC 62.106.b) Sewer (S) Permit Storm Drain (SD) Permit Excavation (U) Permit
City of Los Angeles, Bureau of Sanitation and Environment	Industrial Waste Discharge (dewatered groundwater, sanitary sewer discharges) Stormwater Connection Permit
City of Los Angeles, Multiple	Temporary Traffic Control Plans Maintenance Hole (MH) Opening Permit Street Tree Removal Permit Grading permits Building and Safety permits
Various Agencies/Utilities	Utility Relocation Agreements Utility Crossing Notifications
Source: Cordoba Corporation, 2022; CDM Smith, 2024.	

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Chapter 3

Overview of Project Setting

3.1 Introduction

This chapter provides an overview of the existing setting relevant to the proposed project. More detailed descriptions of the existing setting specific to each of the environmental topics evaluated in this EIR are provided within their respective sections in Chapter 4, *Environmental Impact Analysis*. This chapter also describes other projects that may, in conjunction with the proposed project, result in cumulative impacts to the environment.

3.1.1 Development Setting

As discussed in Chapter 2, *Project Description*, the proposed project site includes a portion of MacArthur Park and adjacent streets south of the park (Figure 2-1). MacArthur Park is a public park located at 2230 W. 6th Street[27] in the Westlake neighborhood of central Los Angeles, approximately 1 mile northwest of downtown. The park is bound by 6th Street to the north, 7th Street to the south, Park View Street to the west, and Alvarado Street to the east. Wilshire Boulevard extends east–west through the park, dividing it into northern and southern sections. The primary feature of the park is MacArthur Lake, which is located in the southern portion of the park. The lake encompasses approximately 8 acres and has a concrete and asphalt liner. Other features in the park include an amphitheater, bandshell, soccer field, playground, and a recreational center, all of which are located in the northern half of the park, north of Wilshire Boulevard. Mature trees, open turf area, walkways, and public art are also placed throughout the park. The portion of the project site that lies within the park primarily consists of an open landscaped area that includes turf grass, trees, and cement walkways. There are no public art or recreational structures on the project site.

The park is located in a highly developed urban area that consists of residential homes, commercial businesses, and public buildings. North of the park, along 6th Street, there are commercial businesses, multifamily residential buildings, an assisted living facility, the Consulate of Mexico, and Los Angeles County offices. South of the park, along 7th Street, there are commercial businesses, medical offices, and an elementary school. West of the park, along Park View Street, there are multifamily residential buildings, commercial offices, a labor center, and an elementary school. East of the park, along Alvarado Street, there are commercial businesses, including several ground-floor businesses with residential units located on floors above. The Westlake/MacArthur Park subway station is located on the east side of Alvarado Street across from the park. Street vendors typically operate on public streets surrounding the park, primarily along Alvarado Street. The neighborhood south of the park, where the majority of the underground project components would be located, supports a mix of uses similar to the other areas adjacent to the park, including commercial and residential land uses, several churches, and an elementary school.

[27] For ease of reading, directional street information is provided in the park address but is not otherwise used in this EIR.

In the City of Los Angeles General Plan, the proposed project is located within the City's Westlake Community Plan, which designates the park as 'Open Space' and the areas adjacent to 7th Street, Lake Street, and Grand View Street as 'Community Commercial.'[28] In the City of Los Angeles zoning map, the park has a zoning classification of Open Space. The public rights-of-way do not have a zoning classification but are adjacent to areas classified as Commercial Zone (C2) along 7th Street and Multiple Dwelling Zone (R4) along Grand View Street and Lake Street.[29]

3.1.2 Environmental Setting

This section provides a summary of the environmental setting of the topical issues that are fully evaluated in Chapter 4, *Environmental Impact Analysis*. The respective sections of Chapter 4 provide detailed descriptions of the environmental setting specific to each resource.

3.1.2.1 Air Quality

As discussed further in Section 4.1, *Air Quality*, the project site is located within the South Coast Air Basin (SoCAB), a 6,745-square-mile area encompassing all of Orange County and the urban, non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SoCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). At the federal level, the SoCAB is designated as a nonattainment area for ozone (O_3), fine particulate matter ($PM_{2.5}$), and lead (Pb).[30] At the state level, the SoCAB is designated as nonattainment for O_3, respirable particulate matter (PM_{10}), and $PM_{2.5}$.[31] Air quality conditions in the project study area and vicinity are typically the result of meteorological conditions and existing emission sources, such as vehicles on roads and highways.

3.1.2.2 Biology

As discussed further in Section 4.2, *Biological Resources*, the project site is located in a highly developed and urbanized area that does not contain native habitat, wildlife corridors, or nursery sites. MacArthur Park contains ornamental landscaped vegetation consisting of grasses, cacti, palm gardens, and diverse mature tree species that may provide potential nesting sites for migratory birds, including raptors. Surrounding blocks included in the project site are highly developed, with sparse landscaping consisting primarily of trees and shrubs along the rights-of-way and the perimeters of several properties.

MacArthur Park is situated within the 128-square-mile Ballona Creek Watershed, which includes Ballona Creek and Ballona Estuary, which are collectively 9.5 miles long. Ballona Creek is divided into three hydrological units. The two upstream units are channelized with concrete lining and/or walls and no vegetation. These units lack suitable habitat to support special-status species. The most downstream unit is 3.5 miles long, starting at Centinela Boulevard and continuing to the Pacific Ocean. This downstream unit is referred to as the Ballona Estuary, which is home to 18 identified fish species. The Ballona Estuary is surrounded by the 566-acre Ballona Wetlands Ecological Reserve (Ballona Reserve), which consists of approximately 153 acres of potential wetlands. The reserve includes riparian

[28] City of Los Angeles. General Plan Land Use Map Westlake Community Plan. 2015. Available: https://planning.lacity.org/odocument/b1ab4266-378b-43d6-9e0d-37691adfc2a1/WLKplanmap.pdf.

[29] City of Los Angeles. ZIMAS. Available: http://zimas.lacity.org/. Accessed May 26, 2021.

[30] U.S. Environmental Protection Agency. Green Book – California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Available: https://www3.epa.gov/airquality/greenbook/anayo_ca.html. Accessed February 3, 2022.

[31] California Air Resources Board. Area Designations Maps/State and National. Available: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations.

vegetation and five special-status natural vegetation communities. In addition, 36 special-status species (including 2 amphibian and reptile species, 2 invertebrate species, 1 fish species [*Oncorhynchus mykiss irideus*, commonly referred to as southern California steelhead], 13 bird species, 4 mammal species, and 14 plant species) were identified as having the potential to occur within the Ballona Estuary and Ballona Reserve. The Ballona Estuary and the Ballona Reserve also provide habitat for over 130 species of migratory birds.

3.1.2.3 Cultural Resources

As discussed further in Section 4.2, *Cultural Resources*, and **Appendix D** of this EIR, prehistoric human land use in the region potentially dates back to approximately 12,000 years ago. Evidence of this early habitation comes from two of the earliest sites in all of the Americas that contain human remains: "La Brea Woman" and "Los Angeles Man." Ethnographically, physical borders did not exist between tribes and other entities, and the project site and surrounding vicinity included many tribal groups. While the Chumash and Kitanemuk generally lived outside the project area, the ancestral homeland of many people from those tribes has been defined by the Native American Heritage Commission (NAHC) to include the project area. The project site is located in a region where prehistoric cultural history is minimally documented and/or understood. At the time of the arrival of the Spanish, the Native American people, named the Tataviam, occupied various locales within the project vicinity, including the Santa Clara River Valley and northward to the southern Antelope Valley. However, other Native American culture groups, including the Chumash to the west, and the Gabrielino/Tongva/Kizh Nation tribes to the south and southeast, claim this area as part of their territory.

Relative to the built environment, there are 19 buildings and structures within 0.25-mile of the project site that have been identified as eligible for listing as historic resources at the national, state, and/or local level. None of these properties is located within the proposed project boundary. In addition, MacArthur Park itself is recognized as a Los Angeles Historical Cultural Monument.

3.1.2.4 Greenhouse Gas Emissions

As discussed further in Section 4.4, *Greenhouse Gas Emissions*, in 2019, greenhouse gas (GHG) emissions in California primarily came from transportation sources (40 percent), followed by industrial sources (21 percent) and electrical power sources (14 percent). The combustion of fuels associated with area traffic—as well as building and lighting operations, water use, and waste management—contribute to local GHG emissions within the project area.

3.1.2.5 Hydrology and Water Quality

As discussed further in Section 4.5, *Hydrology and Water Quality*, the major surface water feature in the project area is MacArthur Park Lake. The lake encompasses approximately 8 acres and has a concrete and asphalt liner. Evaporative losses in lake water are replaced primarily by potable water.

As noted in Section 3.1.2.2, the project area is located entirely within the 128-square-mile Ballona Creek Watershed, which, according to the Ballona Creek Watershed Management Program (WMP), contains the following identified pollutants of concern: metals, toxics, and bacteria (*Escherichia coli* or *E. coli)*, with zinc being the limiting pollutant being addressed by the proposed project.[32] Currently, stormwater

[32] Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

within the watershed flows from impervious surfaces into storm drains that reach the concrete-lined Ballona Creek, from which it is conveyed to the Ballona Estuary and is ultimately discharged to the Pacific Ocean.

3.1.2.6 Noise and Vibration

As further discussed in Section 4.6, *Noise and Vibration*, the project area is located within a developed, urbanized area consisting of commercial, recreational, and residential land uses. Existing noise in the project area arises from the busy urban environment, including passenger vehicle activity on nearby roadways, institutional and light commercial activities, and park users.

3.1.2.7 Tribal Cultural Resources

As further discussed in Section 4.7, *Tribal Cultural Resources*, the project site is within the historical territory of the Gabrielino tribe, often referred to as Tongva. The Tongva have been present in the Los Angeles Basin for 7,000 years.[33] Inhabiting the southern portion of what is today Los Angeles County, the northern portion of Orange County, and some western portions of San Bernardino and Riverside Counties, the Gabrielino were estimated at 5,000 to 10,000 when Spanish settlers first arrived in the 1700s. After the Spanish established themselves in the Los Angeles area, Gabrielino communities and culture went into a rapid decline.[34] There are no known tribal cultural resources located on the project site. The project site is in a highly disturbed area that has long been and is currently being used for open space or recreational uses, which may reduce the likelihood that tribal cultural resources would be discovered within the project site during construction.

3.1.3 Development Setting

This section identifies other projects that could, in conjunction with the proposed project, result in cumulative impacts to the environmental resources addressed in this EIR.

State CEQA Guidelines Section 15130(b) states that a discussion of cumulative impacts should include either:

a. List of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

b. Summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program.

For the purpose of analyzing the proposed project's cumulative impacts, the list approach was used. Projects planned, proposed, or recently implemented by public agencies, including the City of Los Angeles, as well as by private developers were included in the analysis. Two categories of projects were considered: (1) projects in the vicinity of the proposed project site and (2) projects in the Ballona Creek

[33] Gabrielino -Tongva Indian Tribe. History. Available: https://gabrielinotribe.org/history/. Accessed May 4, 2022.
[34] Los Angeles Almanac. Original People of Los Angeles County. Available: http://www.laalmanac.com/history/hi05.php. Accessed May 4, 2022.

watershed that have the potential to affect resources in Ballona Creek and/or Ballona Estuary. The projects identified in this section were considered in the cumulative impacts analysis for the resources analyzed in Chapter 4, *Environmental Impact Analysis*. Projects in the Ballona Creek watershed, specifically, were accounted for in the analysis of cumulative impacts to biological resources and to hydrology/water quality.

Construction of the projects considered in the cumulative analysis may not overlap with construction of the proposed project. Some of the projects are already complete. Others may be completed before construction of the proposed project commences or may not begin construction until after construction of the proposed project is complete.

In accordance with guidance from the California Natural Resources Agency (CNRA), GHG emissions are considered in the context of cumulative impacts, rather than as an individual project impact. Therefore, the GHG analysis is inherently cumulative in nature and a separate cumulative impact analysis is not required.

3.1.3.1 Other Projects in the Vicinity of the Proposed Project

Other projects in the vicinity of the proposed project that are considered in the cumulative impact analysis are listed in **Table 3-1** and identified in **Figure 3-1**. Note that Figure 3-1 only shows projects in the immediate vicinity of the proposed project with a single discrete location. A description of each project is also provided in Table 3-1. The projects listed in Table 3-1 were considered in the cumulative impacts analysis for each resource analyzed in Chapter 4, *Environmental Impact Analysis*.

Table 3-1 List of Cumulative Projects in Project Vicinity

	Project	Phase/Implementation Timing	Description
1	MacArthur Park Playground Project	Construction completed in February 2024	Opening of a new playground in the southwest comer of MacArthur Park, which consists of new play equipment, new surfacing and drainage, landscaping and irrigation, light emitting diode (LED) lighting, drinking fountain, security camera(s), and trash receptacle(s).
2	Westlake MacArthur Park Pedestrian Improvements	Construction completion anticipated in 2024	Construction of 2.5 miles of pedestrian enhancements including 33 new pedestrian security lights, 22 bus benches, 22 trash receptacles, 85 street trees, continental crosswalks (10 locations), curb ramps (4 locations), landscape medians, and irrigation.
3	Westlake MacArthur Park Area Transit Improvements	Construction completion anticipated in 2024	This project would improve bus stops in the Westlake MacArthur Park area by improving shelters and benches for transit and adding additional streetscape and lighting to enhance safety.
4	Alvarado Great Streets Project	Planning phase	Streetscape improvements are planned to be implemented along Alvarado Street between Wilshire Boulevard and 7th Street. The improvements will consist of a midblock crosswalk and east side curb extension, mid-block traffic signal, street trees, bus stop lighting, and new transit shelters.

Table 3-1 List of Cumulative Projects in Project Vicinity			
	Project	**Phase/Implementation Timing**	**Description**
5	Maya Corridor	Construction anticipated 2025	The Maya Corridor Project is a streetscape improvement effort that involves placemaking elements to pay homage to the Mayan descendants who currently live in Los Angeles. The project will be located along 6th Street between Carondelet Street and Valencia Street, and will include construction of two gateway monuments, intersection and crosswalk improvements, custom-colored sidewalks and bus stop lighting, street trees, wayfinding signage, and other elements.
6	7th Street LANI Westlake Transit Improvement Project	Construction anticipated 2024	Streetscape improvements will be made to pedestrian areas adjacent to existing transit stops along 7th Street between Carondelet Street and Westlake Avenue, as well as the surrounding environment. Improvements will include construction of bus shelters, bus stop security lighting, street trees, and community identifiers/medallions.
7	The Park View Mixed-Use Project	Construction expected to begin mid-2024	The Park View project is located at 8th Street and Park View Street and will consist of approximately 10,000 square feet of ground-floor commercial space, 264 apartments, and approximately 22,000 square feet of recreational and entertainment amenities.[1,2]
8	Lake on Wilshire	Project entitled, building permits pending	Lake on Wilshire is a mixed-use project that will develop a 70,000-square-foot multi-cultural/performing arts center, 478 apartment units, and a 220-room hotel on the east side of Westlake Street south of Wilshire Boulevard.[3,4]
9	The MacArthur Renovation	Construction underway; anticipated to be completed in 2024	The MacArthur Renovation project will renovate the historic 11-story "MacArthur" building to include hotel rooms and entertainment/event space. The building is located at Park View Street and 6th Street.[5]
10	Westlake/MacArthur Park Joint Development, also known as Centro Westlake	Planning phase	Proposed mixed-use project to be jointly developed by the Los Angeles County Metropolitan Transportation Authority (Metro) and a private developer that would consist of 668 residential units, 300 hotel rooms, approximately 56,000 square feet of retail/restaurant space, and approximately 115,000 square feet of office use. The project site is located directly across the street from MacArthur Park between Alvarado Street and Westlake Avenue south of Wilshire Boulevard. The proposal includes redevelopment of the existing Metro plaza at the Westlake/MacArthur Park Metro Station.[6,7]

Table 3-1 List of Cumulative Projects in Project Vicinity

	Project	Phase/Implementation Timing	Description
11	2101 W. 8th Street	Project entitled, building permits pending	Construction of a new seven-story building consisting of 57 residential units and 5,861 square feet of commercial space located one block south of MacArthur Park at 8th Street and Alvarado Street.

Source: City of Los Angeles, 2022; CDM Smith, 2022.

Notes:

[1] City of Los Angeles Department of City Planning, Central Area Planning Commission. Letter of Determination: 2401-2147 West 8th Street and 729-751 South Park View Street. September 30, 2021.

[2] Pacific Apartments Corp. Park View Homepage. Available: http://www.pacificapt.com/733-park-view.html. Accessed March 29, 2024.

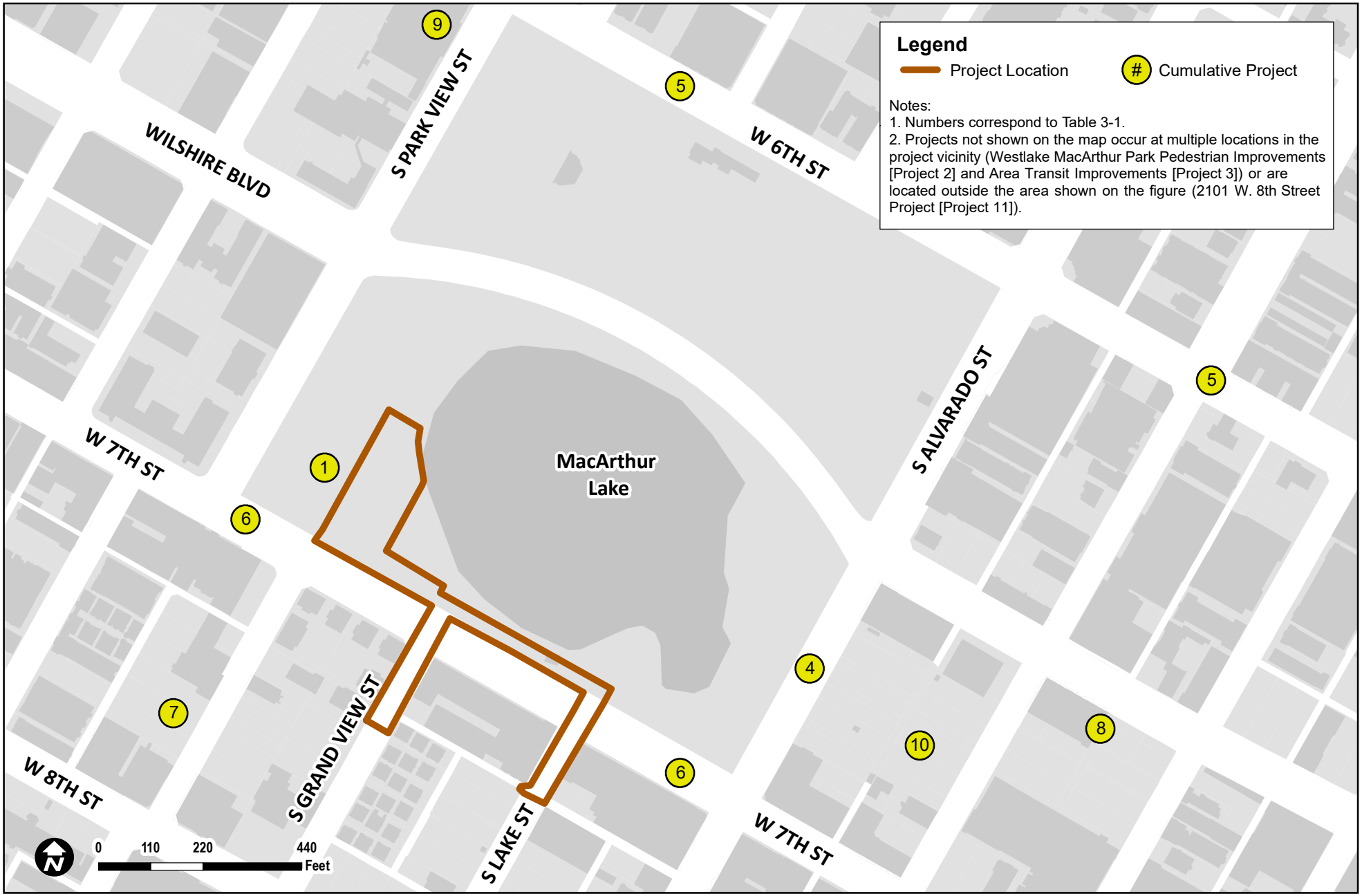
[3] City of Los Angeles Department of City Planning, Los Angeles City Planning Commission. Letter of Determination: 1930 West Wilshire Boulevard. November 1, 2017.

[4] The Lake on Wilshire Homepage. Available: https://www.thelakeonwilshire.com/en/about/. Accessed January 19, 2022.

[5] Omgivning. MacArthur Hotel. Available: https://omgivning.com/projects/macarthur-hotel/. Accessed January 19, 2022.

[6] Urbanize Los Angeles. Breaking Down the Big Centro Westlake Development. January 18, 2024. Available: https://la.urbanize.city/post/breaking-down-big-centro-westlake-development.

[7] Los Angeles County Metropolitan Transportation Authority. Next stop: building communities–Westlake/MacArthur Park Joint Development. August 19, 2020. Available: https://boardagendas.metro.net/board-report/2020-0410/.



Sources: CDM Smith, 2022; Base Layer Source: Los Angeles GeoHub, 2022
Prepared by: CDM Smith, 2024

Figure 3-1

MacArthur Lake Stormwater Capture Project

CUMULATIVE PROJECTS IN PROPOSED PROJECT VICINITY

3.1.3.2 Other Projects in the Ballona Creek Watershed

Chapter 4, *Environmental Impact Analysis*, of this EIR evaluates the potential for the proposed project to result in impacts to biological resources and to hydrology/water quality, including downstream impacts within the Ballona Creek watershed. Three other projects in the Ballona Creek watershed are considered in the cumulative impact analysis for these environmental resources: the Ballona Creek WMP, the Ballona Creek Bacteria Total Maximum Daily Load (TMDL) Project, and the Ballona Wetlands Restoration Project. Details about these projects are provided in the following paragraphs.

The 2016 Ballona Creek EWMP[35] was developed by the Ballona Creek Watershed Management Group (BCWMG) to comply with Municipal Separate Storm Sewer System (MS4) Permit Order No. R4-2012-0175 (Permit) for Los Angeles County; the 2016 EWMP was a predecessor to the Ballona Creek WMP, which was published as an amendment to the EWMP in 2021 and 2023.[36,37] The updated WMP applies to a number of MS4 Permittees, including the City of Los Angeles, which is the lead coordinating agency for the BCWMG. The objective of the Ballona Creek WMP is to determine the control measures, referred to as best management practices (BMPs), that will achieve required pollutant reductions while also providing benefits to the communities in the watershed. Three categories of BMPs are identified in the WMP, including regional projects, low impact development (LID),[38] and green streets.[39] Regional projects are centralized facilities located near the downstream ends of large drainage areas that treat large volumes of stormwater runoff from a large area (tens to hundreds of acres in size). Types of regional facilities include infiltration facilities, retention facilities, and constructed wetlands. The Ballona Creek WMP Implementation Strategy identifies a network of regional, LID, and green street BMPs that could divert stormwater runoff from Ballona Creek, and thus the Ballona estuary and wetlands. The MacArthur Lake Stormwater Capture Project is one such regional project of the type contemplated in the Ballona Creek WMP.

The Ballona Creek Bacteria TMDL Project is included in the Ballona Watershed WMP as well as the Central Santa Monica Bay Watershed Area Stormwater Investment Plan.[40] The project would involve two low-flow treatment facilities and one low-flow diversion to divert and treat polluted stormwater to improve downstream water quality in Ballona Creek, Ballona Estuary, Sepulveda Channel, and Centinela

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35 Ballona Creek Watershed Management Group. Enhanced Watershed Managed Program for the Ballona Creek Watershed. January 2016. Available: https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/ballona_creek/BallonaCreek_DraftEWMP_rev.pdf.

36 MS4 Permit Order R4-2012-0175 for Los Angeles County (NPDES Permit No. CAS004001), which was the basis for the preparation of the Enhanced WMP approved in 2016, has since been superseded by Order R4-2021-0105 (NPDES Permit No. CAS004004). The Ballona Creek Watershed Management Group updated their WMP in accordance with the current MS4 Permit; the WMP was amended in February 2021, June 2021, and July 2023 with revised capture volume targets. The revised WMP was approved by the LARWQCB on August 14,2023.

37 Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

38 Low-Impact Development refers to distributed structural practices that capture, infiltrate, store, and use, and/or treat runoff at a parcel (normally less than 10 tributary acres). Common LID practices include bioretention, permeable pavement, and other infiltration BMPs that prevent runoff from leaving a parcel. Rainfall harvest practices such as cisterns can also be used to capture rainwater that would otherwise run off a parcel and use it to offset non-potable water demands.

39 Green Streets are distributed structural practices that are typically implemented as linear bioretention/biofiltration practices installed parallel to roadways. These systems receive runoff from the gutter and infiltrate it through native or engineered soil media. Permeable pavement can also be implemented in parking lanes of roads.

40 Los Angeles County Safe Clean Water Program. Central Santa Monica Bay Stormwater Investment Plan. Fiscal Year 2021-2022. Available: https://safecleanwaterla.org/wp-content/uploads/2021/09/SIP-ROC-Transmittal-CSMB.pdf.

Creek during dry weather. The Los Angeles City Council certified the EIR in June 2018. It is uncertain which other projects, including signature projects, will ultimately be implemented under the WMP.

The Ballona Wetlands Restoration Project is a joint project of the U.S. Army Corps of Engineers (USACE) and the California Department of Fish and Wildlife (CDFW) that seeks to restore the wetland and other ecological functions of the Ballona Reserve. Key components of the restoration project include reconnecting Ballona Creek to portions of its historic floodplain by constructing new engineered levees set back from the existing Ballona Creek channel, realigning the channel into a more natural meandering shape, and installing new hydraulic structures to improve tidal circulation into the Ballona Reserve. CDFW certified the Final EIR for the project in December 2020. However, due to subsequent litigation, CDFW decertified the EIR in September 2023 and is currently revising the document as per the court order. The revised document will disclose and analyze new flood control design parameters and commit to additional environmental review if performance criteria change. According to CDFW's website, the deficiencies in the original EIR are expected to be easily rectified. CDFW anticipates completion and recertification of the revised EIR by the end of 2025, with project implementation following in 2026.[41] It is not expected that the revisions will substantially alter the cumulative impact analysis provided in the original EIR.

[41] California Department of Fish and Wildlife. The Ballona Wetlands Restoration Project. 2022. Available: https://wildlife.ca.gov/Regions/5/Ballona-EIR.

Chapter 4

Environmental Impact Analysis

Introduction

This chapter presents an assessment of the environmental impacts of the MacArthur Lake Stormwater Capture Project described in Chapter 2, *Project Description*. This chapter describes the physical environment at and within the vicinity of the project site that may be affected by project implementation, the impacts to that physical environment, and the measures proposed to mitigate those impacts when significant, as required.

This introduction describes the structure and format of the analysis of the seven environmental resource areas addressed in this chapter. This section also defines the terminology used in characterizing the level of significance for each potential impact and, where appropriate, the associated mitigation.

The following seven resource areas are addressed in this chapter, as determined by the Initial Study prepared for the proposed project (provided in **Appendix A**).

- Air Quality
- Biological Resources
- Cultural Resources
- Greenhouse Gases
- Hydrology and Water Quality
- Noise and Vibration
- Tribal Cultural Resources

The analysis of each resource area includes the following components:

- The **Introduction** briefly describes the issues addressed in the analysis and summarizes the specific issue areas of the topic that are not being addressed in the EIR based on the findings of the MacArthur Lake Stormwater Capture Project Initial Study (included as **Appendix A** of this EIR).
- The **Methodology** identifies how potential impacts on a resource area were determined.
- The **Existing Conditions** section provides an overview of the federal, state, regional, and/or local laws and regulations that apply to the proposed project and are relevant to the resource area. This section also describes current conditions with regard to the resource area. State CEQA Guidelines Section 15125 states that "An EIR must include a description of the physical environmental conditions in the vicinity of the proposed project. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. … Generally, the lead agency should describe physical environmental conditions as they exist at the time the notice of preparation [NOP] is published." The NOP for this EIR was circulated for public review from April 7, 2022, to May 9, 2022. In accordance with the provisions of CEQA, 2022 is the baseline year for characterizing existing conditions in the environmental analysis.

- The **Thresholds of Significance** are quantitative or qualitative criteria used to determine whether a significant environmental impact would occur as a result of the proposed project. Unless otherwise noted, the thresholds of significance used in the analysis of proposed project impacts reflect guidance provided in Appendix G of the State CEQA Guidelines.[42]
- The **Project Impacts** section presents the analysis of impacts and the determination of significance for each threshold (an explanation of terms is detailed below). Impacts are first determined without consideration of mitigation measures. If an impact is determined to be significant, mitigation measures are identified that would be implemented to reduce or avoid a significant impact related to the resource area. If mitigation measures are applicable, project impacts are reevaluated taking into consideration the applicable mitigation measures and whether the mitigation would reduce the impact to a less than significant level, or whether the impact would remain significant and unavoidable. For purposes of determining significance, impacts were compared to the environmental baseline conditions, as described above.
- The **Cumulative Impacts** section evaluates the potential for impacts from the proposed project in conjunction with impacts from past, present, and reasonably foreseeable future projects, to result in cumulative impacts. The list of cumulative projects considered in the analysis is presented in Section 3.1.3 of Chapter 3, *Overview of Project Setting*.
- The **Summary of Impact Determinations** summarizes the conclusions of the impacts analysis associated with each threshold of significance, including the impact determinations of the proposed project before mitigation, mitigation measures proposed to reduce or avoid significant impacts, and the level of significance after implementation of the proposed mitigation measures.

Terminology Used in This Environmental Analysis

In evaluating the potential impacts of the proposed project, the level of significance is determined by applying the thresholds of significance (i.e., significance criteria) presented for each resource area. The following terms are used to describe each impact and, where significant impacts are determined, how mitigation measures are addressed:

- **No Impact** – No impact occurs when the proposed project or one of the alternatives evaluated in Chapter 5, *Alternatives,* would have no impact on the environment.
- **Less Than Significant Impact** – A less than significant impact occurs when an impact would not exceed the threshold of significance, therefore not causing a substantial adverse change in the environment, or where an impact would be reduced to level that would be below the threshold of significance after application of proposed mitigation measures.
- **Significant Impact** – A significant impact occurs when an impact would exceed the threshold of significance, therefore causing (or potentially causing) a substantial adverse change in the environment.

[42] State of California. Guidelines for California Environmental Quality Act (State CEQA Guidelines). California Code of Regulations, Title 14, Chapter 3, Sections 15000-15387.

- **Significant and Unavoidable Impact** – Per Section 15126.2(c) of the State CEQA Guidelines, a significant and unavoidable impact occurs when a significant impact cannot be reduced to a less than significant level through any feasible mitigation measure(s).
- **Mitigation** – Mitigation refers to measures that would be implemented to avoid or lessen a significant impact. As outlined in Section 15370 of the State CEQA Guidelines, mitigation can include any of the following:
  - Avoiding the impact completely by not taking a certain action or parts of an action
  - Minimizing the impact by limiting the degree or magnitude of the action and its implementation
  - Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
  - Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
  - Compensating for the impact by replacing or providing substitute resources or environments

In accordance with Section 15097 of the State CEQA Guidelines, mitigation measures that are adopted through certification of the EIR would be included in a Mitigation Monitoring and Reporting Plan and would be monitored to ensure compliance and implementation.

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4.1 Air Quality

4.1.1 Introduction

This air quality analysis examines criteria pollutant emissions that would result from construction of the proposed project. (As described later in this section, the Initial Study determined that impacts from project operations and impacts related to odors would be less than significant and, therefore, these criteria did not require additional analysis in this EIR.) Emissions from construction activities (e.g., on-site and off-site construction equipment, fugitive dust, and worker vehicle trips) were calculated and, because construction would not otherwise occur without the proposed project, were evaluated against a baseline of zero emissions.

This air quality impact analysis includes regional emission inventories for the proposed project (i.e., the quantities of specific pollutants, typically expressed in pounds per day [lb/day] or tons per year [tpy]) based on emissions modeling. The analysis also includes local emission inventories for the assessment of localized impacts of air pollutants associated with the proposed project. The criteria pollutant emission inventories were developed using standard industry software/models and methodologies that meet federal, state, and local approval. Results of the emission inventories were compared to daily regional and localized emissions thresholds established by the South Coast Air Quality Management District (SCAQMD) for the South Coast Air Basin (SoCAB).[43]

4.1.1.1 Pollutants of Interest

Of the seven criteria air pollutants, six were evaluated for the proposed project's construction activities: ozone (O_3) (using surrogates volatile organic compounds [VOCs][44] and oxides of nitrogen [NO_X]), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), respirable particulate matter (PM_{10}),[45] and fine particulate matter ($PM_{2.5}$).[46]

Although lead (Pb) is a criteria pollutant, it was not evaluated in this analysis because the proposed project does not contain any direct source of Pb emissions and would have a negligible effect on ambient Pb levels, both locally and in the SoCAB. Sulfate compounds (such as ammonium sulfate) are not emitted directly into the air but are formed through various chemical reactions in the atmosphere; thus, sulfur is considered a secondary pollutant. Minimal sulfur would be emitted from project sources and, because the relative abundance of sulfates from fuel combustion is much lower than that of SO_2, sulfur emitted by project sources was assumed to remain in the atmosphere as SO_2.[47] Therefore, no sulfate inventories were estimated for the criteria air pollutant analysis.

Similarly, hydrogen sulfide would not be directly produced by project sources. While hydrogen sulfide may be produced by microbial processes within MacArthur Lake, the proposed project would not be expected to alter water quality such that hydrogen sulfide emissions would be substantially changed.

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[43] South Coast Air Quality Management District. South Coast AQMD Air Quality Significance Thresholds. April 2019. Available: https://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

[44] Emissions of VOC and reactive organic gases (ROG) are essentially the same for the combustion emission sources evaluated in this EIR. This EIR refers to organic emissions as VOCs.

[45] Respirable particulate matter refers to particulates with an aerodynamic diameter less than or equal to 10 micrometers.

[46] Fine particulate matter refers to particulates with an aerodynamic diameter less than or equal to 2.5 micrometers.

[47] Seinfeld, J.H., and Pandis, S. N. Atmospheric Chemistry and Physics: From Air Pollution to Climate Change, 3rd ed. 2016. Table 2.2.

Vinyl chloride, a raw organic compound used in the production of pipe, hose, wrapping, and polyvinyl chloride plastic products, would also not be directly emitted from project sources. Therefore, hydrogen sulfide and vinyl chloride were not evaluated in this analysis.

Consistent with standard professional practice for project-level EIRs, the evaluation of O_3 was conducted by analyzing the emissions of surrogate compounds VOC and NO_X, which are precursors in the formation of O_3. Because O_3 is a regional pollutant, and ambient concentrations can only be predicted using regional photochemical models that account for all sources of precursors, regional photochemical O_3 modeling is not used for project-level reviews under standard practice, as results would be speculative and not meaningful or accurate.[48,49,50]

Additional information regarding the six analyzed criteria pollutants and their associated health impacts is presented in the following subsections.

4.1.1.1.1 Ozone[51]

The primary component of smog, O_3 is not directly emitted from pollutant sources; rather, it forms in the atmosphere as a result of a chemical reaction between VOC and NO_X in the present of sunlight. In warm-weather months and in urban areas, O_3 levels are typically highest. VOC and NO_X are considered 'O_3 precursors' and their emissions are regulated to control the creation of atmospheric O_3. Health effects of O_3 include damage to lung tissues, deterioration of lung function, chest discomfort, coughing, nausea, respiratory tract and eye irritation, and decreased pulmonary functions. Exposure to ambient levels of O_3 affects healthy people of all ages, including children and the elderly; people with impaired respiratory systems (such as those with asthma) are generally at greater risk.

4.1.1.1.2 Nitrogen Dioxide[52]

A highly reactive gas, the primary source of NO_2 is fuel combustion from cars, trucks, buses, power plants, and off-road equipment. Additionally, NO_2 can interact with other chemicals in the atmosphere to form acid rain, particulates, and O_3. Health effects of NO_2 include damage to lung tissues, deterioration of lung function, coughing, wheezing, and other respiratory symptoms. Exposure to ambient levels of NO_2 affects healthy people of all ages, including children and the elderly; people with impaired respiratory systems (such as those with asthma) are generally at greater risk.

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48 South Coast Air Quality Management District. Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and [Proposed] Brief of Amicus Curiae, Case No. S219783 in the Supreme Court of California. April 13, 2015. Available: https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf. Accessed February 1, 2022.

49 San Joaquin Valley Unified Air Pollution Control District. Application for Leave to File Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party in Interest and Respondent, Friant Ranch, L.P, Case No. S219783 in the Supreme Court of California. April 13, 2015. Available: https://www.courts.ca.gov/documents/7-s219783-ac-san-joaquin-valley-unified-air-pollution-control-dist-041315.pdf. Accessed February 1, 2022.

50 California Association of Environmental Professionals and American Planning Association California Chapter. Application for Leave to File Amicus Curiae Brief in Support of Friant Ranch, L.P. on Behalf of California Association of Environmental Professionals and American Planning Association California Chapter; Proposed Amicus Curiae Brief, Case No. S219783 in the Supreme Court of California. May 12, 2015. Available: https://www.courts.ca.gov/documents/14-s219783-ac-ca-assn-environ-prof-et-al-051215.pdf. Accessed February 1, 2022.

51 U.S. Environmental Protection Agency. Ground-level Ozone Basics. Available: https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics. Accessed February 1, 2022.

52 U.S. Environmental Protection Agency. Nitrogen Dioxide (NO_2) Pollution. Available: https://www.epa.gov/no2-pollution/basic-information-about-no2. Accessed February 1, 2022.

4.1.1.1.3 Carbon Monoxide[53]

CO is a colorless, odorless, toxic gas formed by the incomplete combustion of fuels. The primary sources of CO in the SoCAB include cars, trucks, buses, power plants, and off-road equipment. Exposure to high ambient levels of CO reduces the amount of oxygen in the blood and subsequently results in heart difficulties (especially for people with chronic diseases), reduced lung capacity, and impaired mental abilities.

4.1.1.1.4 Particulate Matter and Fine Particulate Matter[54]

Particulate matter (abbreviated as PM) includes solid and liquid particles of dust, soot, aerosols, and other materials minuscule enough to remain suspended in air for extended periods of time. 'Inhalable particles' (diameters ≤10 micrometers) and 'fine inhalable particles' (diameters ≤2.5 micrometers), PM_{10} and $PM_{2.5}$, respectively, represent the portion of airborne particles thought to represent the greatest hazard to public health. These particles accumulate in the respiratory system and are associated with various health effects, including aggravation of respiratory conditions, deterioration of lung function, and possible premature death. People with cardiopulmonary conditions, particularly the elderly and children, are most sensitive to the negative effects of airborne particulates.

Particulate matter originates from natural sources (e.g., dust, pollen, and wildfire smoke) and from artificial sources (e.g., fuel combustion, field burning, factory operations, tobacco smoke, and dust from vehicle movements or other man-made disturbances). Particulate matter can also be formed in the atmosphere; this secondary formation occurs when gases, such as sulfur oxides (SO_X) and NO_X, react with other compounds present in the atmosphere.

The secondary formation of particulate matter can also lead to acidic deposition (acid rain). Adverse health effects of acid rain include damage to lung tissue, impairment of the respiratory system, and premature death. Acid rain can also adversely affect the environment, such as by altering the composition of vegetation in wetlands and terrestrial systems, resulting in the acidification of freshwater bodies, impairing aquatic visibility, increasing levels of toxins that are harmful to aquatic life, and resulting in eutrophication of estuarine and coastal waters.[55]

4.1.1.1.5 Sulfur Dioxide[56]

SO_X are formed when fuel that contains sulfur is burned (typically coal and oil) and during other industrial processes. SO_X accounts for distinct but related compounds that contain sulfur and oxygen, but primarily consists of SO_2 and sulfur trioxide (SO_3). For the evaluation of SO_2 in this analysis, it was conservatively assumed that all SO_X from combustion sources would be SO_2. Therefore, SO_X and SO_2 are considered equivalent throughout this document. Health effects of ambient levels of SO_2 include respiratory impairment and illness as well as aggravation of cardiovascular conditions. People with

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[53] U.S. Environmental Protection Agency. Carbon Monoxide (CO) Pollution in Outdoor Air. Available: https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution. Accessed February 1, 2022.

[54] U.S. Environmental Protection Agency. Particulate Matter (PM) Basics. Available: https://www.epa.gov/pm-pollution/particulate-matter-pm-basics. Accessed February 1, 2022.

[55] U.S. Environmental Protection Agency. Effects of Acid Rain. Available: https://www.epa.gov/acidrain/effects-acid-rain. Accessed February 1, 2022.

[56] U.S. Environmental Protection Agency. Sulfur Dioxide Basics. Available: https://www.epa.gov/so2-pollution/sulfur-dioxide-basics. Accessed February 1, 2022.

cardiopulmonary conditions, particularly the elderly and children, are most sensitive to the negative effects of SO_2.

4.1.1.2 Scope of Analysis

Prior to the preparation of this EIR, an Initial Study (included in **Appendix A** of this EIR) was prepared using the CEQA Environmental Checklist Form to assess potential environmental impacts on air quality. The Initial Study found that impacts of the proposed project from operations and impacts related to odors would be less than significant and, thus, no further analysis of these topics in an EIR was required. Therefore, the air quality analysis in this EIR is focused on impacts from construction.

The air quality analysis conducted for the proposed project evaluates construction-related impacts for peak-day construction activities. Construction emissions were quantified for each construction task, with total project construction anticipated to occur over 22 months. The scope of the construction emissions evaluation included the following components:

- Identify construction-related emission sources for each construction task.
- Develop peak-day construction emission inventories for the identified sources, including those for construction task overlap, as appropriate.
- Compare the regional peak-day emission inventories (on-site and off-site sources) with the appropriate CEQA significance thresholds for regional construction emissions.
- Compare the localized peak-day emission inventories (on-site sources only) with the appropriate CEQA significance thresholds for local construction emissions.
- Determine the level of significance of project impacts.
- Identify construction mitigation measures as appropriate.

4.1.2 Methodology

The goal of the air quality analysis was to evaluate the potential effects of the proposed project on regional and local air quality. For reasons described previously, only construction emissions were quantified.

4.1.2.1 Construction Emission Sources

Construction-related criteria pollutant emissions were quantified for CO, VOC, NO_X, SO_2, PM_{10}, and $PM_{2.5}$ for the proposed project's constituent construction activities (construction tasks). The construction emission sources evaluated in this analysis include on- and off-road construction equipment; on-road hauling and vendor delivery vehicles; worker vehicles; fugitive dust from excavation, material handling, and vehicle travel on silted roadways; and fugitive VOC from paving.

The basis for construction emission estimates is the construction equipment schedule, which identifies each construction task's approximate start and end dates and required equipment. Construction of certain tasks would occur in the same geographic location of the proposed project site and overlapping tasks would use the same pool of workers and equipment.[57] Daily emissions were calculated using the

[57] Overlapping construction tasks would not result in the need for additional equipment or workers; only the greater of equipment counts and worker counts for overlapping construction tasks would be used onsite at any given time.

California Air Pollution Control Officers Association's (CAPCOA) California Emissions Estimator Model (CalEEMod) Version 2020.4.0.35 for each construction task, based on a 5-day work week and an 8-hour per day, single-shift schedule. CalEEMod modeling parameters are provided in **Appendix B** of this EIR.

Emission estimates for the proposed project construction activities included the application of emission-reduction measures required by SCAQMD, including compliance with Rule 403[58] for fugitive dust control and the use of ultra-low sulfur fuels.[59]

As further described in Chapter 2, *Project Description*, construction of the proposed project would last approximately 1.5 years.

4.1.2.1.1 Off-Road Equipment

For the purposes of the proposed project construction emissions evaluation, off-road equipment includes bulldozers, backhoes, excavators, and other heavy-duty construction equipment that is not licensed for travel on public roadways. Off-road construction equipment types, power ratings (horsepower), load factors, and daily operating hours were estimated for each construction task based on project-specific information and CalEEMod default modeling parameters. Emissions from off-road equipment exhaust were calculated using CalEEMod.

4.1.2.1.2 On-Road Equipment

For the purposes of the proposed project construction emissions evaluation, on-road equipment includes on-site equipment such as pickup trucks, and off-site equipment such as vendor-delivery trucks, material-hauling trucks, and construction worker vehicles.

On-road, on-site construction equipment type, power ratings, load factors, and daily operating hours were estimated for each construction task based on project-specific information and CalEEMod default modeling parameters.

On-road, off-site construction equipment operating parameters were based on project-specific information, including material-hauling volumes and task-specific vendor delivery information, and CalEEMod default modeling parameters. Emissions from on-road equipment exhaust were calculated using CalEEMod.

4.1.2.1.3 Fugitive Dust

Fugitive dust is an additional source of PM_{10} and $PM_{2.5}$ emissions associated with construction activities. Fugitive dust includes re-suspended road dust from on- and off-road vehicle movements, as well as dust from grading, excavating, and loading/unloading activities. Fugitive dust emissions were calculated using CalEEMod with project-specific information (e.g., excavated quantities) and CalEEMod default modeling parameters. These calculations include appropriate reductions achieved with implementation of mandated dust control, as required by SCAQMD Rule 403 (Fugitive Dust).

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[58] South Coast Air Quality Management District. Rule 403 Fugitive Dust. June 2005.

[59] California Air Resources Board. Ultra Low Sulfur Diesel Fact Sheet. Available: https://ww2.arb.ca.gov/resources/fact-sheets/california-low-sulfur-diesel-fuel-fact-sheet. Accessed February 2, 2022.

4.1.2.1.4 Fugitive VOC

The primary source of construction-related fugitive VOC is emissions from asphalt paving operations. VOCs are emitted via evaporation of a petroleum distillate solvent (or diluent) used to liquefy asphalt cement. Fugitive VOC emissions were calculated using CalEEMod per default modeling parameters and project-specific operating hours for paving equipment.

4.1.3 Existing Conditions

4.1.3.1 Regulatory Setting

Air quality is regulated by federal, state, and local laws. In addition to rules and standards contained in the Federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), air quality in the Los Angeles region is subject to the rules and regulations established by the California Air Resources Board (CARB) and the SCAQMD, with oversight provided by the U.S. Environmental Protection Agency (USEPA) Region 9.

4.1.3.1.1 Federal

U.S. Environmental Protection Agency

USEPA establishes overarching nationwide policies and regulations for the protection of air quality nationwide. USEPA establishes the National Ambient Air Quality Standards (NAAQS), standards for stationary sources (e.g., power plants, incinerators, industrial boilers) and mobile sources (e.g., on-road cars, trucks, and other vehicles and off-road equipment) of air pollutant emissions. The NAAQS address seven pollutants, referred to as 'criteria' pollutants: O_3, PM_{10}, $PM_{2.5}$, CO, NO_2, SO_2, and Pb. The standards represent ambient (i.e., outdoor) levels below which human health (primary standards) and the environment and quality of life (secondary standards) would be adequately protected. **Table 4.1-1** presents the current NAAQS.

Table 4.1-1 National and California Ambient Air Quality Standards Applicable to the Proposed Project

Pollutant	Averaging Time	California Standards (CAAQS)[a]	Federal Standards (NAAQS)[b]	
			Primary	Secondary
Ozone (O_3)[c]	1 hour	0.09 ppm (180 µg/m^3)	—	—
	8 hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary Standard
Respirable Particulate Matter (PM_{10})	24 hour	50 µg/m^3	150 µg/m^3	Same as Primary Standard
	Annual	20 µg/m^3	—	—
Fine Particulate Matter ($PM_{2.5}$)[d]	24 hour	—	35 µg/m^3	Same as Primary Standard
	Annual	12 µg/m^3	12.0 µg/m^3	15 µg/m^3
Carbon monoxide (CO)	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
	8 hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—

Table 4.1-1 National and California Ambient Air Quality Standards Applicable to the Proposed Project

Pollutant	Averaging Time	California Standards (CAAQS)[a]	Federal Standards (NAAQS)[b]	
			Primary	Secondary
Nitrogen dioxide (NO_2)[e]	1 hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	—
	Annual	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	Same as Primary Standard
Sulfur dioxide (SO_2)[f]	1 hour	0.25 ppm (655 µg/m³)	75 ppb (196 µg/m³)	—
	3-hour	—	—	0.5 ppm (1,300 µg/m³)
	24 hour	0.04 ppm (105 µg/m³)	—	—
Lead (Pb)[g]	30-day average	1.5 µg/m³	—	—
	Rolling 3-month average	—	0.15 µg/m³	Same as Primary Standard
Hydrogen Sulfide (H_2S)[g, h]	1 hour	0.03 ppm (42 µg/m³)	—	—
Sulfates[g]	24 hour	25 µg/m³	—	—
Vinyl Chloride[g]	24 hour	0.01 ppm (26 µg/m³)	—	—
Visibility-Reducing Particles[g]	—	Reduction of 0.23 per kilometer	—	—

Source: California Air Resources Board. Ambient Air Quality Standards. May 2016. Available: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf. Accessed February 3, 2022.

Notes:

[a] California standards for O_3, CO, SO_2, NO_2, PM_{10}, $PM_{2.5}$, and visibility are not to be exceeded. California standards for Pb and sulfates are not to be equaled or exceeded.

[b] National standards for CO, SO_2 (secondary), PM_{10}, and Pb are not to be exceeded more than once per year. National annual standards for NO_2 and $PM_{2.5}$ are not to be exceeded.

[c] National standard for O_3 is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard.

[d] National standard for 24-hour $PM_{2.5}$ is attained when the 3-year average of the annual 98th percentile of the daily maximum concentrations at each site do not exceed the standard.

[e] National standard for 1-hour NO_2 is attained when the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site do not exceed the standard.

[f] National standard for 1-hour SO_2 is attained when the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site do not exceed the standard.

[g] Lead, sulfates, vinyl chloride, and visibility-reducing particles would not be expected to result from anticipated proposed project activities.

[h] Hydrogen sulfide emissions from microbial processes within the lake would not be expected to meaningfully change die to proposed project activities.

Key: mg/m³ = milligrams per cubic meter; ppm = parts per million (by volume); µg/m³ = micrograms per cubic meter

Clean Air Act

The CAA authorizes the USEPA to establish air quality policy and set regulations. Additionally, it requires the USEPA to establish nationwide designations for areas based on their compliance with the NAAQS. These designations are: attainment (area meets the NAAQS), nonattainment (area does not meet the NAAQS), and maintenance (area is in transition from nonattainment to attainment). Areas for which a designation has not been assigned are noted as unclassified. The current attainment status of the SoCAB for each pollutant is presented in **Table 4.1-2**.

Table 4.1-2 South Coast Air Basin Attainment Status

Pollutant	California Standards (CAAQS)[1]	Federal Standards (NAAQS)[1]
Ozone (O_3)	Nonattainment	Nonattainment – Extreme
Carbon Monoxide (CO)	Attainment	Attainment – Maintenance
Nitrogen Dioxide (NO_2)	Attainment	Attainment – Maintenance
Sulfur Dioxide (SO_2)	Attainment	Attainment
Respirable Particulate Matter (PM_{10})	Nonattainment	Attainment – Maintenance
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment – Serious[2,3]
Lead (Pb)	Attainment	Nonattainment

Source: U.S. Environmental Protection Agency. Green Book – California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Available: https://www3.epa.gov/airquality/greenbook/anayo_ca.html. Accessed February 3, 2022; South Coast Air Quality Management District. 2021 South Coast $PM_{2.5}$ Redesignation Request and Maintenance Plan. October 2021. Available: https://ww2.arb.ca.gov/sites/default/files/2021-10/draft-final-pm2-5-redesignation-request-and-maintenance-plan.pdf. Accessed February 3, 2022.

Notes:

1 Status as of February 3, 2022.

2 The Los Angeles County portion of the SoCAB is classified as moderate nonattainment for 1997 NAAQS, serious nonattainment for 2006 NAAQS, and serious nonattainment for 2012 NAAQS.

3 Although formally classified as moderate nonattainment for the 1997 NAAQS, in 2016, based on data collected from 2011 through 2013, the USEPA determined that the SoCAB had attained the 1997 24-hour $PM_{2.5}$ NAAQS. The SoCAB has continued to attain the 1997 24-hour $PM_{2.5}$ NAAQS since 2013. In 2020, monitored data collected from 2018 through 2020 demonstrated that the SoCAB also had attained the 2006 24-hour $PM_{2.5}$ NAAQS. CARB is considering adoption of an SCAQMD-prepared *2021 $PM_{2.5}$ Redesignation Request Plan* for inclusion into the California SIP.

State Implementation Plan

In accordance with the CAA, areas that do not meet the NAAQS must prepare a State Implementation Plan (SIP) that includes strategies, emission-reduction measures, and specific timeframes for achieving NAAQS attainment. The 2016 SIP is the most recent SIP developed for the SoCAB by CARB and submitted to USEPA for approval. The 2016 SIP focuses on regulatory and incentive programs designed to reduce emissions from mobile sources, fuel combustion, and consumer products to achieve the NAAQS for O_3 and $PM_{2.5}$.

4.1.3.1.2 State

California Air Resources Board

CARB enforces the federal CAA statewide. CARB also develops the California Ambient Air Quality Standards (CAAQS) and additional air quality regulations that apply only in California. The CCAA, signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practicable date. The CAAQS are typically more stringent than the NAAQS and, in addition to the seven criteria pollutants, includes air quality standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. In a method similar to that used by the USEPA, CARB designates regions in California based on their attainment of the CAAQS. Table 4.1-1 presents the current CAAQS. The current attainment status of the SoCAB for each pollutant is presented in Table 4.1-2.

CARB also establishes regulations and sets emission standards for off-road equipment and on-road motor vehicles for sale in California. These standards are typically more stringent than the corresponding USEPA standards for new off-road equipment and on-road motor vehicles.

4.1.3.1.3 Regional and Local

South Coast Air Quality Management District

SCAQMD is the agency principally responsible for comprehensive air pollution control in the SoCAB. To that end, SCAQMD works directly with the Southern California Association of Governments (SCAG), county transportation commissions, and local governments, and cooperates with state and federal government agencies. SCAQMD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and enforces such measures though educational programs or fines, when necessary.

SCAQMD has developed various rules for the regulation of pollutant emissions within the SoCAB. Rule 403 – Fugitive Dust, which is applicable to the proposed project, requires the implementation of best available dust control measures for projects that generate fugitive dust. The rule specifies dust control techniques, including the stabilization of soils through pre-watering for excavation or trenching activities, and the watering of soils during earthmoving activities, which must be implemented during project construction in the SoCAB. Rule 1113 – Architectural Coatings limits the maximum allowable VOC content of architectural coatings sold in the SoCAB and, in doing so, limits VOC emissions that off-gas from architectural coatings applied during construction or maintenance activities.

In coordination with CARB and SCAG, SCAQMD also prepares and implements the Air Quality Management Plans (AQMP), which are used by CARB in SIP development. The latest (2016) AQMP was submitted to CARB for inclusion in the SIP in 2017. CARB included the AQMP in the SIP and submitted the SIP to USEPA. The AQMP includes specific local and regional strategies, programs, incentives, and regulations to reduce emissions to achieve and maintain the NAAQS in the SoCAB.

4.1.3.2 Environmental Setting

The SoCAB includes all of Orange County and the urban, non-desert portions of Los Angeles, San Bernardino, and Riverside counties, covering an area of approximately 6,745 square miles bounded on the west by the Pacific Ocean; on the north and east by the San Gabriel, San Bernardino, and San Jacinto mountains; and on the south by the San Diego county line. Project activities would be limited to the proposed project's development site and surrounding roadways within the SoCAB.

4.1.3.2.1 Climatological Conditions

The climate of the region is classified as Mediterranean, characterized by warm summers with little precipitation and mild winters with moderate precipitation. The meteorological conditions of the region are heavily influenced by the Eastern Pacific High, a powerful persistent high-pressure system, and the moderating effects of the Pacific Ocean. Seasonal variations in the location and strength of the Eastern Pacific High are key factors in weather changes throughout the region.

The Eastern Pacific High attains its greatest strength and most northerly position during the summer, when it is centered west of northern California. In this location, the Eastern Pacific High effectively shelters southern California from the effects of polar storm systems. Large-scale atmospheric subsidence associated with the Eastern Pacific High produces an elevated temperature inversion along the West Coast. The base of this subsidence inversion is generally 1,000 to 2,500 feet above mean sea level during the summer. Vertical mixing is often limited to the base of the inversion, and air pollutants are trapped in the lower atmosphere.

The mountain ranges that surround the SoCAB constrain the horizontal movement of air and inhibit the dispersion of air pollutants out of the region. These two factors, combined with the air pollution sources from more than 15 million people plus businesses and industries, are responsible for the high pollutant conditions that can occur in the SoCAB. In addition, high solar radiation during the summer months promotes the formation of O_3.

The proximity of the Eastern Pacific High and a thermal low-pressure system in the desert interior to the east produces a sea breeze regime that prevails within the region for most of the year, particularly during the spring and summer months. During the fall and winter months, the Eastern Pacific High can combine with high pressure over the continent to produce light winds and extended inversion conditions in the region. These stagnant atmospheric conditions often result in elevated pollutant concentrations in the SoCAB. Excessive buildup of high pressure in the desert interior can produce a 'Santa Ana' condition, characterized by warm, dry, northeast winds in the basin and offshore regions. Santa Ana winds often help clear the SoCAB of air pollutants.

Meteorological data, including temperatures and precipitation, are measured at meteorological stations operated by the National Weather Service. The average high and low air temperatures at the Los Angeles Downtown University of Southern California Campus Station (USW00093134)—the closest station with a complete temperature and precipitation record, located approximately 1.3 miles east of the proposed project site—are 84 degrees Fahrenheit (°F) and 48°F, respectively.[60]

The Eastern Pacific High weakens in the winter and shifts to the south, allowing storm systems to pass through the region. The number of days with precipitation varies substantially from year to year, which produces a wide range of variability in annual precipitation totals. The average annual precipitation at the Los Angeles Downtown University of Southern California Campus Station was 14 inches between 1991 and 2020. Approximately 90 percent of the annual rainfall occurs October through April, with a monthly average maximum of 3.6 inches in February. This wet-dry seasonal pattern is characteristic of

[60] National Oceanic and Atmospheric Administration. U.S. Climate Normals Quick Access. Available: https://www.ncei.noaa.gov/access/us-climate-normals/#dataset=normals-monthly&timeframe=30&location=CA&station=USW00093134. Accessed February 3, 2022.

most of California. Infrequent precipitation during the summer months usually occurs from tropical air masses that originate from continental Mexico or tropical storms off the west coast of Mexico.

4.1.3.2.2 Air Quality Monitoring Data

Air quality within the SoCAB has improved markedly since the inception of air pollutant monitoring in 1976 by the SCAQMD. This improvement is a result of the implementation of stationary source emission-reduction strategies by SCAQMD and the reduction of pollution from on-road motor vehicles. This trend toward cleaner air has occurred despite continued population growth.

CARB and SCAQMD operate a network of pollutant monitoring and meteorological stations in the SoCAB. The station closest to the proposed project site is the Los Angeles North Main Street monitoring station (ARB No. 70087), located approximately 2.8 miles east-northeast of the eastern end of MacArthur Park. **Table 4.1-3** presents the most recent pollutant data available from CARB, encompassing 2018 through 2020—the three most recent available years.

Table 4.1-3 Ambient Air Quality Data

Pollutant[a,b,c]	2018	2019	2020
Ozone (O_3)			
Max. Concentration 1-hour period, ppm	0.098	0.093	0.185
Days over State Standard (0.09 ppm)[a,c]	2	0	14
Federal Design Value 8-hour period, ppm	0.074	0.072	0.076
Max. California Concentration 8-hour period, ppm	0.073	0.080	0.118
Days over State Standard (0.07 ppm)[a,c]	4	2	22
Carbon Monoxide (CO)			
Max. Concentration 1-hour period, ppm	2.04	2.04	2.09
Max. Concentration 8-hour period, ppm	1.89	1.64	1.78
Nitrogen Dioxide (NO_2)			
Max. Concentration 1-hour period, ppm	70.1	69.7	61.6
Annual Arithmetic Mean (AAM), ppm	18	18	17
Sulfur Dioxide (SO_2)			
Max. Concentration 1-hour period, ppm	0.018	0.010	0.004
99th Percentile Concentration 1-hour period, ppm	0.003	0.003	0.004
Max. Concentration 24-hour period, ppm	0.001	0.001	0.001
Respirable Particulate Matter (PM_{10})			
Max. Federal Concentration 24-hour period, µg/m^3	68.2	62.4	83.7
Max. California Concentration 24-hour period, µg/m^3	81.2	93.9	185.2
Days over State Standard (50 µg/m^3)[a,c]	31	15	34
Annual California Concentration, µg/m^3	34.0	—[d]	33.9
Exceed State Standard? (20 µg/m^3)	Yes	—[d]	Yes
Fine Particulate Matter ($PM_{2.5}$)			
Max. Concentration in 24-hour period, µg/m^3	65.3	43.5	175.0
98th Percentile Concentration in 24-hour period, µg/m^3	61.4	43.5	175.0
24-hour Federal Design Value, µg/m^3	31	31	37
No. of Samples Above Federal 24-hour Standard (35 µg/m^3)[a,c]	6	1	12

Table 4.1-3 Ambient Air Quality Data			
Pollutant[a,b,c]	**2018**	**2019**	**2020**
Annual Federal Concentration, µg/m^3	12.8	10.8	13.7
Annual NAAQS Design Value, µg/m^3	12.2	11.9	12.5
Exceed State Standard? (12 µg/m^3)	Yes	No	Yes

Sources: California Air Resources Board. iADAM Top4 Summary. Available: https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed February 4, 2022. California Air Resources Board. AQMIS2. Available: https://www.arb.ca.gov/aqmis2/aqdselect.php. Accessed February 4, 2022.

Notes:

[a] An exceedance is not necessarily a violation. A violation occurs when exceedances of the NAAQS and CAAQS standards occur at a greater frequency than allowed, as defined in 40 CFR 50 for NAAQS and 17 CCR 70200 for CAAQS.

[b] Statistics may include data that are related to an exceptional event.

[c] Days over the standard are only shown for nonattainment pollutants.

[d] Insufficient data available to determine the value.

Key: µg/m^3 = micrograms per cubic meter; NAAQS = National Ambient Air Quality Standards; ppm = parts per million (by volume)

4.1.4 Thresholds of Significance

For this air quality evaluation, the applicable air quality thresholds of significance were determined with consideration for the air quality issues identified in Appendix G of the State CEQA Guidelines and the air quality thresholds developed by the SCAQMD.[61,62,63] The proposed project would result in a significant impact related to air quality if it would:

Threshold 4.1-1 Result in incremental increases to regional daily emissions from construction that would exceed the regional construction daily mass emission thresholds established by SCAQMD. SCAQMD's regional construction emission thresholds are summarized in **Table 4.1-4**.

Threshold 4.1-2 Result in incremental increases to localized daily emissions from construction that would exceed the localized construction daily mass emission thresholds established by SCAQMD. SCAQMD's localized construction emission thresholds are summarized in Table 4.1-4.

As discussed in Section 4.1.3.1 of this EIR, the NAAQS and CAAQS represent ambient pollutant levels below which human health would be adequately protected, as required under the CAA and CCAA, respectively. SCAQMD has developed regional and localized emission thresholds for construction and operation of projects within the SoCAB below which a project's emissions would not be expected to result in an exceedance of the applicable NAAQS or CAAQS. These mass emission thresholds are consistent with the applicable air quality plan, SCAQMD's AQMP, a component of the California SIP.

61 State of California. Guidelines for California Environmental Quality Act (State CEQA Guidelines). California Code of Regulations, Title 14, Chapter 3, Sections 15000-15387.

62 South Coast Air Quality Management District. Air Quality Significance Thresholds. April 2019. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf. Accessed February 4, 2022.

63 South Coast Air Quality Management District. Localized Significance Thresholds Mass Rate Lookup Tables. July 2008. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf. Accessed February 4, 2022.

Therefore, the thresholds are also consistent with statewide goals and trajectories for achieving and maintaining attainment of the NAAQS and CAAQS standards.

SCAQMD's thresholds are based on a project's total peak-day emissions, including emissions from both on- and off-site sources. These regional thresholds are the same for all projects within the SoCAB, irrespective of the project location, and account for secondary formation of O_3 from precursor compounds. SCAQMD has also developed localized significance thresholds (LSTs) to address nearfield (typically within 1 kilometer) direct impacts to local air quality. LSTs evaluate the impacts of a project's peak-day emissions from on-site (localized) sources. These LSTs vary based on a project's size and location within the SoCAB to reflect local variations in ambient pollutant concentrations. Proposed project construction would occur in Los Angeles, LST Source Receptor Area 1 (SRA 1),[64] and the estimated disturbed site area would be 1 acre. Because the land use in the vicinity of the project is densely populated and heavily urbanized, it is anticipated that sensitive receptors would be located within 25 meters of the project site throughout construction. Thus, the corresponding LSTs for a 1-acre site in SRA 1 with a 25-meter receptor distance were used.

Table 4.1-4 Air Quality Significance Thresholds

Pollutant	SCAQMD Regional Construction Mass Emission Threshold (lb/day)	SCAQMD Localized Construction Mass Emission Threshold (lb/day)[1]
CO	550	680
NO_X/NO_2	100	74
SO_X/SO_2	150	N/A
PM_{10}	150	5
$PM_{2.5}$	55	3
VOC	75	N/A

Sources: South Coast Air Quality Management District. Air Quality Significance Thresholds. April 2019. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf. Accessed February 4, 2022. South Coast Air Quality Management District. Localized Significance Thresholds Mass Rate Lookup Tables. July 2008. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf. Accessed February 4, 2022.

Note:

[1] Thresholds correspond to SCAQMD LSTs for a 1-acre minimum disturbed site and 25-meter receptor distance in SRA 1.

Key: CO = carbon monoxide; lb/day = pounds per day; LST = localized significance threshold; N/A = not applicable; NO_X = oxides of nitrogen; NO_2 = nitrogen dioxide; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District; SO_X = oxides of sulfur; SO_2 = sulfur dioxide; VOC = volatile organic compounds

4.1.5 Project Impacts

4.1.5.1 Impact 4.1-1

Summary Conclusion for Impact 4.1-1: Construction of the proposed project would not result in incremental increases to regional daily emissions that would exceed the regional construction daily mass emission thresholds established by SCAQMD. This would be a *less than significant impact*.

[64] South Coast Air Quality Management District. Monitoring Area Map. 1999. Available: http://www.aqmd.gov/docs/default-source/default-document-library/map-of-monitoring-areas.pdf. Accessed February 17, 2022.

4.1.5.1.1 Impacts

Regional air pollutant emissions associated with construction of the proposed project would result from construction equipment exhaust, worker vehicle exhaust, hauling and delivery vehicle exhaust, fugitive dust from material handling and vehicle movements, and fugitive VOC from paving activities.

Construction equipment lists, task schedules, and detailed model outputs for each construction task are presented in **Appendix B** of this EIR. Construction emissions for each task were modeled assuming that all necessary equipment would operate for the entirety of each task's duration. However, for construction of the proposed project, equipment and construction personnel would be cross-utilized in overlapping tasks. Therefore, actual peak-day emissions would be equivalent to the highest daily emissions associated with an individual construction task, irrespective of schedule overlap. These calculations include appropriate reductions achieved with implementation of mandated dust control, as required by SCAQMD Rule 403 – Fugitive Dust. **Table 4.1-5** presents the proposed project's daily regional construction emissions associated with each construction task. As shown in the table, no criteria pollutant emissions would exceed the SCAQMD peak-day regional construction emissions thresholds. Therefore, the proposed project's regional construction emissions would result in a ***less than significant impact***.

Table 4.1-5 Regional Construction Criteria Pollutant Emissions (lb/day)

Construction Task	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$	VOC
Diversion Structure	16.9	10.1	<0.1	0.7	0.5	1.2
Drain Line Upgrade	18.9	11.9	<0.1	0.9	0.6	1.4
Pretreatment Unit	16.8	10.2	<0.1	0.7	0.5	1.2
Pump Station	19.9	13.7	<0.1	1.0	0.7	1.6
Actuated Valve and Meter Vaults	18.9	11.0	<0.1	0.8	0.6	1.3
Treatment Structure	16.0	12.9	<0.1	3.0	1.8	1.4
Pipeline	16.9	9.6	<0.1	0.7	0.5	1.2
Electrical[1]	N/A	N/A	N/A	N/A	N/A	N/A
Existing Equipment Upgrades[1]	N/A	N/A	N/A	N/A	N/A	N/A
Water Feature	16.9	14.9	<0.1	3.6	2.2	1.6
Maximum Peak-Day Emissions[2]	**19.9**	**14.9**	**<0.1**	**3.6**	**2.2**	**1.6**
Significance Threshold	550	100	150	150	55	75
Exceeds Threshold?	No	No	No	No	No	No

Source: **Appendix B** of this EIR.

Notes:

[1] Because electrical and existing site upgrades would require minimal construction equipment and would completely overlap other tasks, electrical and existing site upgrades would not result in peak-day emissions, as compared to other tasks.

[2] Equipment and construction personnel would be cross-utilized in overlapping tasks; therefore, peak-day emissions would be equivalent to the highest daily emissions associated with an individual construction task, irrespective of schedule overlap.

Key: CO = carbon monoxide; lb/day = pounds per day; LST = localized significance threshold; N/A = not applicable; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; SO_X = oxides of sulfur; VOC = volatile organic compounds

4.1.5.1.2 Mitigation Measures

Because the proposed project would result in a ***less than significant impact*** related to regional construction emissions, no mitigation is required.

4.1.5.1.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address regional construction emissions. Impacts would be ***less than significant***.

4.1.5.2 Impact 4.1-2

Summary Conclusion for Impact 4.1-2: Construction of the proposed project would not result in incremental increases to localized daily emissions that would exceed the localized construction daily mass emission thresholds established by SCAQMD. This would be a *less than significant impact*.

4.1.5.2.1 Impacts

Localized air pollutant emissions associated with construction of the proposed project would result from on-site construction equipment exhaust, fugitive dust from material handling and the movement of on-site vehicles, and fugitive VOC from paving activities.

Construction equipment lists, task schedules, and detailed model outputs for each construction task are presented in **Appendix B** of this EIR. As described in Section 4.1.5.1, construction emissions for each task were modeled assuming that all necessary equipment would operate for the entirety of each task's duration. However, for construction of the proposed project, equipment and construction personnel would be cross-utilized in overlapping tasks. Therefore, actual peak-day emissions would be equivalent to the highest daily emissions associated with an individual construction task, irrespective of schedule overlap. These calculations include appropriate reductions achieved with implementation of mandated dust control, as required by SCAQMD Rule 403 – Fugitive Dust. For the calculation of localized emissions, consistent with SCAQMD guidance, off-site emission sources (e.g., hauling and vendor delivery vehicle and worker vehicle exhaust and fugitive road dust) were not included. **Table 4.1-6** presents the proposed project's daily localized construction emissions associated with each construction task. As shown in the table, no criteria pollutant emissions would exceed the SCAQMD peak-day localized construction emissions thresholds. Therefore, the proposed project's localized construction emissions would result in a ***less than significant impact***.

Table 4.1-6 Localized Construction Criteria Pollutant Emissions (lb/day)				
Construction Task	**CO**	**NO_2**	**PM_{10}**	**$PM_{2.5}$**
Diversion Structure	16.2	10.0	0.5	0.5
Drain Line Upgrade	18.1	11.7	0.6	0.6
Pretreatment Unit	16.1	10.0	0.5	0.5
Pump Station	19.0	13.6	0.7	0.6
Actuated Valve and Meter Vaults	18.2	10.9	0.5	0.5
Treatment Structure	15.4	12.6	2.8	1.7
Pipeline	16.2	9.3	0.5	0.4
Electrical[1]	0.0	0.0	0.0	0.0
Existing Equipment Upgrades[1]	0.0	0.0	0.0	0.0
Water Feature	16.3	14.5	3.4	2.1
Maximum Peak-Day On-Site Emissions[2]	**19.0**	**14.5**	**3.4**	**2.1**
Significance Threshold	680	74	5	3
Exceeds Threshold?	No	No	No	No

Source: **Appendix B** of this EIR.

Notes:

[1] Because electrical and existing site upgrades would require minimal construction equipment and would completely overlap other tasks, electrical and existing site upgrades would not result in peak-day emissions, as compared to other tasks.

[2] Equipment and construction personnel would be cross-utilized in overlapping tasks; therefore, peak-day emissions would be equivalent to the highest daily emissions associated with an individual construction task, irrespective of schedule overlap. A detailed breakdown of on-site emissions for each construction task is presented in **Appendix B** of this EIR.

Key: CO = carbon monoxide; lb/day = pounds per day; NO_2 = nitrogen dioxide; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter

4.1.5.2.2 Mitigation Measures

Because the proposed project would result in a ***less than significant impact*** related to localized construction emissions, no mitigation is required.

4.1.5.2.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address localized construction emissions. Impacts would be ***less than significant***.

4.1.6 Cumulative Impacts

Other projects in the vicinity of the proposed project could be constructed concurrently with the proposed project, including those projects listed in Table 3-1 of this EIR. Construction of projects that would overlap with construction of the proposed project has the potential to generate cumulative criteria pollutant emissions that would exceed SCAQMD's significance thresholds and, thus, result in a significant cumulative impact to air quality during their construction.

SCAQMD has provided guidance on an acceptable approach to addressing the cumulative impacts issue for air quality. Specifically, Appendix D of SCAQMD's *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* states that "Projects that exceed the project-specific

significance thresholds are considered by SCAQMD to be cumulatively considerable … Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively considerable."[65]

As presented in Section 4.1.5, construction of the proposed project would not exceed SCAQMD's project-specific construction emissions thresholds. Therefore, based on the SCAQMD cumulative impact guidance, the contribution of the proposed project to cumulative construction-related air pollutant emissions would ***not be cumulatively considerable***.

4.1.7 Summary of Impact Determinations

Table 4.1-7 summarizes the impact determinations of the proposed project relative to air quality, as described in Section 4.1.5. Identified impacts are based on the significance criteria presented in Section 4.1.4, the information and data sources cited throughout Section 4.1, and the professional judgement of the report's preparers, as applicable.

Table 4.1-7 Summary of Impacts and Mitigation Measures Associated with the Proposed Project Related to Air Quality

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Impact 4.1-1: Would construction of the proposed project result in incremental increases to regional daily emissions that would exceed the regional construction daily mass emission thresholds established by SCAQMD?	Less than Significant	No mitigation is required	Less than Significant
Impact 4.1-2: Would construction of the proposed project result in incremental increases to localized daily emissions that would exceed the localized construction daily mass emission thresholds established by SCAQMD?	Less than Significant	No mitigation is required	Less than Significant

[65] South Coast Air Quality Management District. White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. Appendix D – Cumulative Impact Analysis Requirements Pursuant to CEQA. August 2003. Page D-3. Available: https://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf. Accessed March 7, 2022.

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4.2 Biological Resources

4.2.1 Introduction

The biological resources analysis in this EIR was informed by the Initial Study, as described below. The specific biological resources topics evaluated in this EIR include impacts on migratory birds on the project site from the construction and operation of the proposed project and impacts on biological resources downstream of the project site, including migratory birds, special-status species, riparian habitat or sensitive natural communities, state and federally protected wetlands, and the movement of fish and wildlife species from flow reductions in Ballona Creek.

Prior to the preparation of this EIR, an Initial Study (included in **Appendix A** of this EIR) was prepared using the California Environmental Quality Act (CEQA) Environmental Checklist Form to assess potential environmental impacts associated with biological resources. The Initial Study (Section 4, Issue IV) found that, for several of the Initial Study screening criteria, the proposed project would result in no impact or a less than significant impact and, thus, no further analysis of these topics in an EIR was required. Specifically, the Initial Study found that impacts from construction and operation of the project on special-status species, riparian habitat or other sensitive natural communities, state and federally protected wetlands, the movement of fish and wildlife species, and adopted local, regional, or state habitat conservation plans or Natural Community Conservation Plans within the project site would be less than significant and no further analysis of these resources in an EIR is required. Similarly, potential impacts from construction of the project on these resources, as well as migratory birds, in downstream areas would also be less than significant and no further analysis of construction impacts on these downstream resources in an EIR is required (although impacts from operation on these resources downstream are evaluated in this EIR). In addition, no protected native tree species occur with the proposed project construction boundary. Therefore, construction and operation of the proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and no further analysis in an EIR is required.

As noted above, this EIR includes an analysis of potential impacts from construction and operation of the proposed project on migratory birds at the project site. In addition, this EIR includes an analysis of potential impacts from operation of the proposed project on biological resources associated with Ballona Creek downstream of the project site, including the Ballona Estuary and Ballona Wetlands Ecological Reserve (Ballona Reserve). The Ballona Estuary consists of the final 3.5-mile downstream stretch of Ballona Creek and ends at the Pacific Ocean. The Ballona Reserve is a protected area extending roughly from Fiji Way to the north, Marina Freeway to the east, Westchester bluffs to the south, and Playa del Rey to the west, which includes approximately 153 acres of wetlands and approximately 83 acres of non-wetland waters of the U.S.[66] Specifically, this EIR evaluates potential operational impacts related to the reduction of flows in Ballona Creek on special-status species, migratory birds, riparian habitat or other sensitive natural communities, state and federally protected wetlands, and the movement of fish and wildlife species in the Ballona Estuary and Ballona Reserve. The

[66] U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the key project components described herein.

potential for operation of the project to conflict with local, regional, or state habitat conservation plans applicable to downstream areas is also evaluated in this EIR because the Ballona Reserve is designated as a significant ecological area (SEA) by Los Angeles County (i.e., the Ballona Wetlands SEA).[67]

4.2.2 Methodology

4.2.2.1 General Methodology

To evaluate potential impacts on biological resources downstream of the project site, existing database sources and environmental reports associated with the downstream area, which includes the Ballona Estuary (the most downstream reach of Ballona Creek) and the Ballona Reserve, were reviewed.

Special-status species include those federally and/or state-listed as threatened, endangered, proposed, and/or candidate wildlife and plant species as well as those identified as species of concern by California Department of Fish and Wildlife (CDFW) (for wildlife) and ranked as rare and/or sensitive by the California Native Plant Society (CNPS) (for plants). Special-status plant and animal species with the potential to occur in the Ballona Creek, Ballona Estuary, and the Ballona Reserve were identified using the California Natural Diversity Database (CNDDB)[68] and the Information for Planning and Consultation (IPaC)[69] databases. The CNDDB is a program administered by CDFW that inventories the status and locations of rare plants and animals in California. The Ballona Estuary and Ballona Reserve are located within the Venice 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle, which is approximately 62 square miles in size.[70] The IPaC search area was defined using the polygon tool to delineate the Ballona Estuary and the Ballona Reserve. A search of the U.S. Fish and Wildlife (USFWS) critical habitat mapper was also conducted to identify designated critical habitat for federally listed species in the downstream area.

Results from these database searches were compared and supplemented with biological resources information presented in the 2017 Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report (EIS/EIR).[71]

For wetlands, existing data were obtained from the USFWS National Wetlands Inventory (NWI) mapper[72] and a review of the NavigateLA database,[73] which provides maps and reports using data from City departments.

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67 City of Los Angeles Department of Public Works, Bureau of Engineering. NavigateLA. Available: https://navigatela.lacity.org/navigatela/. Accessed January 19, 2022.

68 California Department of Fish and Wildlife. California Natural Diversity Database RareFind electronic database. 2022. Available: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed February 3, 2022.

69 U.S. Fish and Wildlife Service. Information for Planning and Consultation. 2022. Available: https://ecos.fws.gov/ipac/. Accessed March 1, 2022.

70 A 7.5-minute quadrangle is an area that spans 7.5 minutes of latitude and 7.5 minutes of longitude.

71 U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the biological resources information presented in the 2017 EIR and relied upon herein.

72 U.S. Fish and Wildlife Service. National Wetlands Inventory Mapper. 2022. Available: https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper. Accessed March 22, 2022.

73 City of Los Angeles Department of Public Works, Bureau of Engineering. NavigateLA. Available: https://navigatela.lacity.org/navigatela/. Accessed January 19, 2022.

Results from CNDDB, IPaC, and USFWS database searches are included in **Appendix C**.

4.2.2.2 California Department of Fish and Wildlife Comments

CDFW provided comments on the Notice of Preparation/Initial Study for the proposed project. These comments are summarized as follows:

- Potential impacts on southern steelhead: The EIR should analyze and discuss the proposed project's potential impact on southern steelhead population, habitat, substrate, and passage. The EIR should analyze the project's effects on flow and hydraulics (i.e., velocity, depth, temperature, and wetted perimeter) of Ballona Creek and associated impacts on southern steelhead. The EIR should include an analysis of cumulative impacts on southern steelhead in relation to cumulative flow reductions and water diversions proposed by closely related past, present, and probable future projects in Ballona Creek Watershed and the Los Angeles River Watershed. CDFW provided recommendations for what the hydrology and hydraulics analysis should include.
- Potential impacts on biological resources: The EIR should assess potential impacts on biological resources that are caused by water diversion, including riparian habitat and sensitive natural communities. CDFW provided recommendations for what the assessment should include. The EIR should also define the thresholds used to evaluate the significance of potential impacts on biological resources.
- Potential impacts on streams and associated natural communities: CDFW recommended that the EIR include a stream delineation and evaluation of impacts on any river, stream, or lake and provide mitigation to reduce such impacts.
- Potential impacts on migratory birds: The EIR should discuss the proposed project's impact on nesting birds and raptors and provide measures to mitigate potentially significant impacts on migratory birds.
- CDFW also provided a number of general comments and recommendations, including, but not limited to, the following topics: mitigation measures, biological baseline assessment, project description and alternatives, and data.

4.2.3 Existing Conditions

4.2.3.1 Regulatory Setting

The following section presents the federal, state, and local regulations and plans that are applicable to the proposed project, relative to biological resources.

4.2.3.1.1 Federal

Federal Endangered Species Act

Under the Federal Endangered Species Act (ESA), the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (U.S. Code [U.S.C.], Title 16, Section 1533[c]). The ESA prohibits the 'take' of endangered or threatened fish and wildlife species, the 'take' of endangered or threatened plants in areas under federal jurisdiction or in violation of state law, or adverse modifications to their critical habitat. Under the ESA, the definition of 'take' is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such

conduct."[74] USFWS and National Marine Fisheries Service (NMFS) also interpret the definition of 'harm' to include significant habitat modification that could result in the take of a species.

The ESA also authorizes the federal government to designate 'critical habitat' for any species it lists under the ESA. Critical habitat is defined as "(1) specific areas within the geographical area occupied by the species at the time of listing if they contain physical or biological features essential to the species conservation, and those features that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation."[75]

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) decrees that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. The MBTA protects nearly all native North American bird species. Under the MBTA, taking, killing, or possessing migratory birds is unlawful.

4.2.3.1.2 State

California Department of Fish and Wildlife Species Designations

CDFW maintains a list of 'species of special concern.' These are broadly defined as plant and wildlife species that are of concern to CDFW because of population declines and restricted distributions, and/or because they are associated with habitats that are declining in California. These species are inventoried in the CNDDB regardless of their legal status.

California Endangered Species Act

CDFW is responsible for administration of the California Endangered Species Act (CESA). For projects that affect a species that is both state and federally listed, compliance with the Federal ESA will satisfy the CESA if CDFW determines that the federal incidental take authorization is 'consistent' with the CESA. Projects that result in a take of a state-listed species may require an incidental take permit under the CESA. The state act also lends protection to species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or den locations, communal roosts, and other essential habitat.

Fully Protected Species under California Fish and Game Code

Protection of fully protected species is described in four sections of the California Fish and Game Code that list 37 fully protected species (California Fish and Game Code Sections 3511, 4700, 5050, and 5515). These statutes prohibit take or possession of fully protected species at any time.

California Fish and Game Code Section 1600, Lake and Streambed Alterations

Section 1600 et seq. of the California Fish and Game Code, as administered by CDFW, mandates that "it is unlawful for any person to substantively divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material

[74] U.S. Fish and Wildlife Service. Endangered Species Act of 1973 as Amended through the 108th Congress. 1973. Available: https://media.fisheries.noaa.gov/dam-migration/esa-accessible.pdf. Accessed June 9, 2022.

[75] U.S. Fish and Wildlife Service. Endangered Species Act of 1973 as Amended through the 108th Congress. 1973. Available: https://media.fisheries.noaa.gov/dam-migration/esa-accessible.pdf. Accessed June 9, 2022.

from the streambeds, without first notifying the department of such activity."[76] Lake or streambed alteration must be permitted by CDFW through a Lake or Streambed Alteration Agreement.

California Fish and Game Code Sections 1990-1913, Native Plant Protection Act

Sections 1900-1913 of the California Fish and Game Code prohibit take of endangered or rare native plants, with some exceptions, including after proper notification to CDFW, for vegetation removal from canals, roads, and other sites.

California Fish and Game Code Sections 3500-3705, Migratory Bird Protection

Sections 3500-3705 of the California Fish and Game Code regulate the taking of migratory birds and their nests. Specifically, the code prohibits the taking of nesting birds, their nests, eggs, or any portion thereof during the nesting season. Typically, the breeding/nesting season is from February 15 through September 15 (and can occur as early as January 1 for some raptors). Depending on each year's seasonal factors, the breeding season can start earlier and/or end later.

4.2.3.1.3 Local

Los Angeles County Significant Ecological Areas Program and Ordinance

Los Angeles County designates areas within the county that contain irreplaceable biological resources as SEAs. Los Angeles County's SEA ordinance establishes regulations to conserve biological and physical diversity of natural communities found within SEAs by requiring development to avoid and minimize impacts on SEA resources. Development includes, but is not limited to, the alteration of existing vegetation, alterations to topography, construction activities, and land division.[77]

City of Los Angeles General Plan

The Conservation Element of the City's General Plan outlines objectives, policies, and programs related to the protection and management of endangered species, fisheries, and habitats.[78]

4.2.3.2 Environmental Setting

4.2.3.2.1 Project Site

The project site has been substantially altered from the marshland and alkali lake that were once present prior to development of the park in the late 1880s and 1890s. The current vegetation at the project site is ornamental landscape plants and includes grasses, cacti, palm gardens, and diverse mature tree species. The blocks south and east of MacArthur Park included in the project site are primarily developed with sparse landscaping consisting primarily of trees and shrubs along the rights-of-way and the perimeters of several properties. Special-status species have low to no potential to occur within the project site (i.e., MacArthur Park and adjacent areas). Although the project site is in a developed area, MacArthur Park supports trees and other vegetation that may provide potential nesting

[76] California Code, Fish and Game Code – FCG Section 1602. 2019. Available: https://codes.findlaw.com/ca/fish-and-game-code/fgc-sect-1602.html. Accessed June 9, 2022.

[77] Los Angeles County. Significant Ecological Areas Ordinance. 2019. Available: https://planning.lacounty.gov/site/sea/2020/02/19/new-sea-ordinance-is-now-in-effect/.

[78] City of Los Angeles. Conservation Element of the City of Los Angeles General Plan. 2001. Available: https://planning.lacity.org/odocument/28af7e21-ffdd-4f26-84e6-dfa967b2a1ee/Conservation_Element.pdf.

sites for migratory birds, including raptors. Migratory bird species use a variety of habitats and, although they prefer to nest in native vegetation, they may nest in virtually any type of vegetation.

4.2.3.2.2 Ballona Creek, Estuary, and Reserve

MacArthur Park is in the Ballona Creek Watershed, which encompasses approximately 128 square miles. Stormwater from the project area enters the storm drain system and ultimately flows into Ballona Creek and Estuary, which are collectively 9.5 miles long. The upstream reach of Ballona Creek is located approximately 4.5 miles west-southwest of MacArthur Park and the Ballona Estuary and Reserve are located approximately 10 miles southwest of MacArthur Park. Ballona Creek is divided into three hydrological units:[79]

- Ballona Creek Reach 1 is approximately 2 miles long from Cochran Avenue to National Boulevard. This portion of the creek is channelized with vertical concrete walls.
- Ballona Creek Reach 2 is approximately 4 miles long between National Boulevard and Centinela Avenue. Reach 2 is also channelized with concrete lining and trapezoidal walls.
- Ballona Creek transitions to the Ballona Estuary at Centinela Boulevard, which continues for approximately 3.5 miles to the Pacific Ocean. The Ballona Estuary is lined by sloped banks composed of concrete or riprap with a soft bottom creek bed and experiences tidal inundation. The Ballona Estuary is disconnected from the floodplain by concrete flood control levees. Culverts and gates allow water into the Ballona Reserve. However, water quality within the Ballona Estuary is impaired for various constituents, including, but not limited to, metals, bacteria, and sediment toxicity; thus, flows to the Ballona Reserve are similarly impaired.[80]

Reaches 1 and 2 of Ballona Creek are concrete-lined with no vegetation. As such, they lack suitable habitat to support special-status species. Thus, the potential for special-status species to occur and be affected by the project was evaluated for the downstream area consisting of the Ballona Estuary and the Ballona Reserve, which contain riparian habitat and other natural vegetation communities, as discussed below.

Ballona Estuary consists of the final 3.5-mile downstream stretch of Ballona Creek and ends at the Pacific Ocean. The Ballona Reserve, owned and managed by CDFW, is connected to the estuary through tidal gates. The Ballona Reserve encompasses 566 acres and includes approximately 153 acres of potential wetlands within the Ballona Creek Watershed.[81] The Ballona Reserve is designated as a state ecological

[79] Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

[80] U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the description of Ballona Creek, the Ballona Estuary, and the water quality information included in the 2017 EIR and presented herein.

[81] U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the biological resources information included in the 2017 EIR and presented herein.

reserve and a portion of the Reserve is also designated as Los Angeles County SEA.[82] The USFWS NWI database indicates that estuarine and marine wetlands, freshwater emergent wetlands, and freshwater forested shrub wetlands are all present in the Ballona Reserve.[83]

The Ballona Estuary supports patches of riparian vegetation, particularly where sediment has accumulated. Riparian habitat along the Ballona Estuary, as well as within the connected Ballona Reserve, are considered sensitive vegetation communities. Five special-status natural vegetation communities are present in the Ballona Reserve, with the most prominent being southern coastal salt marsh, followed by southern mud intertidal, coastal brackish marsh, southern willow scrub, and southern dune scrub.[84]

As discussed in Section 4.2.2, special-status species include those federally and/or state-listed as threatened, endangered, proposed, and/or candidate wildlife and plant species, as well as those identified as species of concern by CDFW (for wildlife) and any plants classified as rare and/or sensitive by the CNPS. **Table 4.2-1** presents special-status wildlife and plant species listed on the CNDDB and IPaC as having the potential to occur in the Ballona Estuary and Ballona Reserve, which, as noted previously, are covered by the Venice 7.5-minute USGS topographic quadrangle. Additionally, the 2017 Ballona Wetlands Restoration Project EIS/EIR was consulted to determine which special-status species have the potential to occur in the Ballona Reserve. In summary, 36 special-status plant and animal species were identified from the CNDDB and IPaC search within the Venice quadrangle. The potential for each of these species to occur within the Ballona Reserve was evaluated against the presence of suitable habitat. According to a search of the USFWS IPaC database, no critical habitat is present in the Ballona Reserve or the Ballona Estuary.[85]

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[82] City of Los Angeles Department of Public Works, Bureau of Engineering. NavigateLA. Available: https://navigatela.lacity.org/navigatela/. Accessed January 19, 2022.

[83] U.S. Fish and Wildlife Service. National Wetlands Inventory Mapper. 2022. Available: https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper. Accessed March 22, 2022.

[84] U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the biological resources information included in the 2017 EIR and presented herein.

[85] U.S. Fish and Wildlife Service. Information for Planning and Consultation. 2022. Available: https://ecos.fws.gov/ipac/. Accessed March 22, 2022.

Table 4.2-1 Special-Status Species and Potential to Occur in the Ballona Reserve			
Common Name ***Scientific Name***	**Status/CNPS Rank**	**Habitat Requirements**	**Potential to Occur**
Amphibians and Reptiles			
Southern California Legless Lizard *Anniella stebbinsi*	SSC	Occurs in sandy or loose loamy soils with high moisture content under sparse vegetation.	High potential to occur.
Western Pond Turtle *Actinemys marmorata*	SSC	Aquatic habitats, including marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat near water for egg laying.	Low potential to occur.
Invertebrates			
El Segundo Blue Butterfly *Euphilotes battoides allyni*	FE	Restricted to remnant coastal dune habitat in Southern California. Host plant is *Eriogonum parvifolium.* Larvae feed only on the flowers and seeds; used by adults as major nectar source.	High potential to occur.
Monarch Butterfly *Danaus plexippus*	FC	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (e.g., eucalyptus, Monterey pine, and cypress).	High potential to occur.
Fish			
Southern California Steelhead *Oncorhynchus mykiss irideus*	FE, SSC	Coastal streams with water temperatures below 15°C. Need cool, clear water with in-stream cover. Spawn in tributaries to large rivers or streams directly connected to the ocean. Spawning habitat consists of gravel substrates free of excessive silt. Migrate into freshwater streams when sandbars breach during winter and spring rains. In 2008, the species was observed in Ballona Creek approximately 2.5 miles upstream of the Marina Freeway overpass; however, focused aquatic surveys have not since detected the species. No spawning habitat available in Ballona Creek (including Ballona Estuary).	Low potential to occur.
Birds			
Belding's Savannah Sparrow *Passerculus sandwichensis beldingi*	SE	Coastal salt marshes, from Santa Barbara south through San Diego County. Nests in pickleweed (*Salicornia* spp.) on and about margins of tidal flats.	High potential for foraging and nesting.
Burrowing owl *Athene cunicularia*	SE	Open, dry, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	Moderate potential for foraging; low potential for nesting.
California Black Rail *Laterallus jamaicensis coturniculus*	ST, CFP	Freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of approximately 1 inch that do not fluctuate during the year, and dense vegetation for nesting habitat. Rare in southern California.	Unlikely to occur.

Table 4.2-1 Special-Status Species and Potential to Occur in the Ballona Reserve			
Common Name ***Scientific Name***	**Status/CNPS Rank**	**Habitat Requirements**	**Potential to Occur**
California Brown Pelican *Pelecanus occidentalis californicus*	CFP	Coastal shorelines. Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	Low potential for loafing and roosting.
California Least Tern *Sternula antillarum browni*	FE, SE, CFP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates (e.g., sand beaches, alkali flats, landfills, or paved areas).	Low potential for foraging or nesting.
Coastal California Gnatcatcher *Polioptila californica californica*	FT, SSC	Obligate, permanent resident of coastal sage scrub below 2,500 ft in Southern California. Prefers low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	High potential for foraging; low potential for nesting.
Least Bell's Vireo *Vireo bellii pusillus*	FE, SE	Dense riparian vegetation for nesting. Winters in southern Baja California.	High potential for foraging and nesting.
Least Bittern *Ixobrychus exilis*	SSC	Variety of dense emergent wetlands, especially favoring extensive bulrush, but also occurring in cattail and even salt cedar when inundated or along the immediate edge of waterways. Fresh, brackish, and occasionally salt water are used in coastal southern California.	High potential for foraging and nesting.
Light-footed Ridgway's Rail *Rallus longirostris levipes*	FE, SE, CFP	Lower elevations of coastal marshes with active tidal flow and dense pickleweed and/or cordgrass thickets from Hueneme, Ventura County (formerly to Santa Barbara County) south to Bahia de San Quintin, Baja California, Mexico. No substantial seasonal movements occur, although rare individuals wander away from known breeding locales.	High potential for foraging and nesting.
Tricolored Blackbird *Agelaius tricolor*	ST, SSC	Wetlands with dense vegetation, typically near agricultural fields. Breed in dense colonies and may travel several kilometers to secure food for their nestlings. California range is restricted to the Central Valley and surrounding foothills, and throughout coastal and some inland localities in southern California.	Moderate potential for foraging; low potential for nesting.
Virginia Rail *Rallus limicola*	SSC	Dense emergent marsh habitat; forages in mudflats and shallow water.	High potential for foraging; moderate potential for nesting.
Western Snowy Plover *Charadrius alexandrinus*	FT, SSC	Sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.	Low potential for foraging or nesting.
Yellow Rail *Coturnicops noveboracensis*	SSC	Freshwater sedge marshes, damp grasses, meadows. Rare in southern California.	Unlikely to occur.

Table 4.2-1 Special-Status Species and Potential to Occur in the Ballona Reserve			
Common Name ***Scientific Name***	**Status/CNPS Rank**	**Habitat Requirements**	**Potential to Occur**
Mammals			
Pacific Pocket Mouse *Perognathus longimembris pacificus*	FE, SSC	Obligate resident of fine-grained sandy soils of coastal strand, coastal dunes, river and marine alluvium, and coastal sage scrub habitats in close proximity to the ocean. Occurrences are closely associated with loose or friable soils that permit burrowing.	Low potential to occur.
Townsend's Big-eared Bat *Corynorhinus townsendii pallescens*	SSC	Arid portions of California. Inhabits the narrow coastal plains from the Mexican border north to El Segundo, Los Angeles County. Seems to prefer soils of fine alluvial sands near the ocean.	Low potential to occur.
South Coast Marsh Vole *Microtus californicus stephensi*	SSC	Tidal marshes in Los Angeles, Orange, and southern Ventura counties.	High potential to occur.
Southern California Salt Marsh Shrew *Sorex ornatus salicornicus*	SSC	Coastal marshes in Los Angeles, Orange, and Ventura counties. May require dense ground cover, nesting sites above mean high tide and free from inundation.	Moderate potential to occur.
Plants			
Ballona Cinquefoil *Potentilla multijuga*	1A	Brackish meadows and seeps.	Extirpated.
Beach Spectaclepod *Dithyrea maritima*	ST, 1B.1	Marine shores, sand dunes, and sandy places near the shore.	Low potential to occur.
Brand's Star Phacelia *Phacelia stellaris*	1B.1	Open areas in coastal dune and coastal scrub habitat.	Low potential to occur.
Coastal Goosefoot *Chenopodium littoreum*	1B.2	Sandy soils and on dunes.	Extirpated.
Coulter's Goldfields *Lasthenia glabrata* ssp. *coulteri*	1B.1	Coastal salt marshes, playas, and vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands.	Extirpated.
Mesa Horkelia *Horkelia cuneata* var. *puberula*	1B.1	Occurs in chaparral, cismontane woodland, coastal scrub habitat on sandy or gravelly sites.	Low potential to occur.
Orcutt's Pincushion Chaenactis *glabriuscula* var. *Orcuttian*	1B.1	Coastal bluff scrub or coastal dunes.	Low potential to occur.
Prostrate Vernal Pool Navarretia *Navarretia prostrata*	1B.2	Coastal scrub, valley and foothill grassland, vernal pools, meadows, and seeps. Found in alkaline soils in grassland or in vernal pools on mesic, alkaline sites.	Low potential to occur.

Table 4.2-1 Special-Status Species and Potential to Occur in the Ballona Reserve

Common Name *Scientific Name*	Status/CNPS Rank	Habitat Requirements	Potential to Occur
Salt Marsh Bird's-beak *Chloropyron maritimum* ssp. *maritimum*	FE, SE, 1B.2	Salt marshes, wetlands, and coastal dunes. Limited to the higher zones of salt marsh habitat.	Possibly extirpated; unlikely to occur.
Salt Spring Checkerbloom *Sidalcea neomexicana*	2B.2	Playas, chaparral, coastal scrub, lower montane coniferous forest, and Mojavean desert scrub. Alkali springs and marshes.	Low potential to occur.
San Diego Button-celery *Eryngium aristulatum* var. *parishii*	FE, SE, 1B.1	Vernal pools, specifically San Diego mesa hardpan and claypan vernal pools and southern interior basalt flow vernal pools, usually surrounded by scrub. Also found in coastal scrub and valley and foothill grassland habitats.	Extirpated.
San Fernando Valley Spineflower *Chorizanthe parryi* var. *fernandina*	SE, 1B.1	Coastal scrub and valley and foothill grassland in sandy soils.	Possibly extirpated; unlikely to occur.
Southern Tarplant *Centromadia parryi* ssp. *australis*	1B.1	Margins of marshes and swamps, valley and foothill grassland, and vernal pools. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins.	High potential to occur.
Ventura Marsh Milk-vetch *Astragalus pycnostachyus* var. *lanosissimus*	FE, SE, 1B.1	Marshes and swamps, coastal dunes, and coastal scrub within reach of high tide or protected by barrier beaches; more rarely near seeps on sandy bluffs.	Presumed extirpated.

Sources: California Department of Fish and Wildlife. California Natural Diversity Database RareFind electronic database. 2022. Available: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed February 3, 2022; U.S. Fish and Wildlife Service. IPaC. 2022. Available: https://ecos.fws.gov/ipac/. Accessed March 1, 2022; U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017.(As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the biological resources information presented in the 2017 EIR.)

Notes:
CNPS rankings: 1A = Presumed Extirpated in California; 1B.1 = Seriously Threatened in California; 1B.2 = Moderately Threatened in California; 2B.2 = Moderately Threatened in California but common elsewhere.

Key: CFP = Fully Protected Species; FC = Federal Candidate; FE = Federally Listed – Endangered; FT = Federally Listed – Threatened; SE = State-Listed – Endangered; SSC = California State Species of Special Concern; ST = State-Listed – Threatened

More than 130 species of migratory birds have been observed within the Ballona Reserve and along the Ballona Estuary. The most abundant bird species identified include the house finch (*Carpodacus mexicanus*) and white-crowned sparrow (*Zonotrichia leucophrys*), as well as shorebird species including the willet (*Tringa semipalmata*), black-bellied plover (*Pluvialis squatarola*), and least sandpiper (*Calidris minutilla*).[86] In particular, the portion of Ballona Estuary from Centinela Avenue to Lincoln Boulevard supports a number of migratory bird species because the sheet flows in this reach allow phytoplankton (algae and cyanobacteria), microorganisms, and herbaceous vegetation to establish. The algae provide habitat and a food source for benthic invertebrates, which are a vital food source for shorebirds and wading birds.[87]

Several fish surveys have been conducted within the Ballona Estuary. A total of 18 fish species, including native species, such as arrow gobies (*Clevelandia ios*) and topsmelt (*Atherinops affinis*), were identified within the Ballona Estuary between 1981 and 2011. Upstream of the Ballona Reserve, Ballona Creek does not provide spawning habitat for fish because it is heavily urbanized and lined with concrete.[88]

There are no designated or major wildlife movement corridors or native wildlife nursery sites within or adjacent to the Ballona Reserve.[89]

4.2.4 Thresholds of Significance

The proposed project would result in a significant impact related to biological resources if it would:

Threshold 4.2-1 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.

Threshold 4.2-2 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.

Threshold 4.2-3 Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

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86 U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the description of biological resources included in the 2017 EIR and presented herein.

87 Los Angeles Department of Water and Power. Draft Final Mitigated Negative Declaration Stormwater Capture Parks Program, Section 4 - Response to Comments. July 2021. Available: https://files.ceqanet.opr.ca.gov/266965-3/attachment/lsqo-eU7gTE5z1IuSVx7uU6qTh5sVQIiAps1EJ0ABOTyZ6WgbhtDtOkYJloorJV8oACOQdTCQkHIhfZK0.

88 U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the description of biological resources included in the 2017 EIR and presented herein.

89 U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the description of biological resources included in the 2017 EIR and presented herein.

Threshold 4.2-4 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.

Threshold 4.2-5 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These thresholds are from Appendix G of the State CEQA Guidelines.

4.2.5 Project Impacts

As noted in Section 4.2.3.2.1, special-status species have low to no potential to occur within the project site (i.e., MacArthur Park and adjacent areas), although the project site supports trees and other vegetation that may provide potential nesting sites for migratory birds. Furthermore, there are no riparian or other sensitive natural communities, state or federally protected wetlands, or habitat that facilitates movement of fish and wildlife species within the project site. Thus, the Initial Study found that the proposed project would have a ***less than significant impact*** on these biological resources within the project site and these topics do not require further analysis in the EIR. The Initial Study also found that construction of the proposed project would have a ***less than significant impact*** on these biological resources in downstream areas and that construction impacts downstream do not require further analysis in the EIR. Finally, as noted in Section 4.2.1, no protected native tree species occur with the proposed project construction boundary and, therefore, the proposed project would have ***no impact*** with respect to local policies or ordinances protecting biological resources and this topic does not require further analysis in the EIR.

This section evaluates the potential for the proposed project to result in impacts to migratory birds from the construction and operation of the proposed project on the project site, and impacts on biological resources downstream of the project site–including special-status species, migratory birds, riparian habitat or sensitive natural communities, state and federally protected wetlands, and the movement of fish and wildlife species–that may result during operations due to flow reductions in Ballona Creek.

4.2.5.1 Impact 4.2-1

Impact 4.2-1. Construction and operation of the proposed project would not have a substantial adverse effect on species identified as a candidate, sensitive, or special-status species on the project site. This would be a *less than significant impact* for project construction and operations. However, construction and operation of the project could adversely affect migratory birds on the project site, which are protected by U.S. Fish and Wildlife Service regulations (i.e., the MBTA), by disturbing vegetation during the migratory bird nesting season. This would be a *significant impact* for project construction and operations. Operation of the proposed project would not result in a substantial adverse effect on any species identified as a candidate, sensitive, or special-status species downstream of the project site (i.e., in Ballona Estuary or Ballona Reserve). This would be a *less than significant impact*.

4.2.5.1.1 Construction

As discussed in Section 4.2.3.2.1, MacArthur Park supports trees and other vegetation that may provide potential nesting sites for migratory birds, including raptors, that are subject to protection under the MBTA. Construction during the migratory bird nesting season, which generally spans February 15

through September 15 (and can occur as early as January 1 for some raptors) could result in adverse effects on these migratory birds. Vegetation disturbance has the potential to destroy nests, eggs, and young. Thus, disturbances to vegetation that provides bird nesting habitat during the bird nesting season would result in a ***significant impact*** on migratory birds at the project site from construction of the proposed project.

Construction of the water feature would require the removal of two trees, a palm and a broadleaf tree. These trees may provide habitat for migratory birds. As noted in Section 2.5.4, these trees would be replaced with 10 new trees to be planted near the water feature or elsewhere in the park. The trees would be established with deep root bubblers for irrigation in accordance with City of Los Angeles Department of Recreation and Parks (RAP) policies.[90] Replacement of the 2 existing trees with 10 new trees would increase habitat for migratory birds. Construction of the proposed project may affect additional trees. Affected trees would be protected in place. If any trees required removal, the tree(s) would be replanted or replaced in accordance with City of Los Angeles RAP or Bureau of Street Services (StreetsLA) policies and requirements. No impacts to migratory birds would occur.

4.2.5.1.2 Operations

Project Site

Vegetation within the project site may provide potential nesting sites for migratory birds, including raptors, that are subject to protection under the MBTA. Maintenance of the proposed project's stormwater facilities would not likely entail removal of vegetation but could involve vegetation trimming. Trimming of vegetation during the migratory bird nesting season would have the potential to result in significant impacts on migratory birds, as such trimming would have the potential to destroy nests, eggs, and young. This would be a ***significant impact*** on migratory birds at the project site from operation of the proposed project.

Ballona Estuary and Ballona Reserve

As noted in Section 4.2.2, special-status species include those federally and/or state-listed as threatened, endangered, proposed, and/or candidate wildlife and plant species as well as those identified as species of concern by CDFW (for wildlife) and ranked as rare and/or sensitive by the CNPS (for plants). As shown in Table 4.2-1, 36 special-status species (including 2 amphibian and reptile species, 2 invertebrate species, 1 fish species, 13 bird species, 4 mammal species, and 14 plant species) were identified as having the potential to occur within the Ballona Estuary and Ballona Reserve. Notably, southern California steelhead (southern steelhead) were identified as having a low potential to occur within the Ballona Estuary. Southern steelhead require cool, clear water with in-stream cover. They spawn in tributaries, large rivers, or streams directly connected to the ocean and migrate into freshwater streams during winter and spring rains.[91] In addition to special-status species, more than 130 species of migratory birds have been observed within the Ballona Reserve and along the Ballona

[90] City of Los Angeles Department of Public Works, Recreation and Parks. *Urban Forest Program*. October 2004. Available: https://www.laparks.org/sites/default/files/forest/pdf/UrbanForestProgram.pdf.

[91] U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the biological resources information included in the 2017 EIR and presented herein.

Estuary.[92] In particular, the portion of Ballona Estuary from Centinela Avenue to Lincoln Boulevard supports a number of migratory bird species because sheet flows support the growth of algae and cyanobacteria, microorganisms, and herbaceous vegetation. The algae provide habitat and a food source for benthic invertebrates, which are a vital food source for shorebirds and wading birds.[93]

As discussed in Section 4.5, *Hydrology and Water Quality,* of this EIR, operation of the proposed project would capture stormwater and dry weather flows from an approximate 200-acre catchment area (0.24 percent of the total watershed of Ballona Creek) that would normally drain into the Ballona Creek. Some of the captured flows would be treated and returned to the storm drain system whereas some of the flows would be stored in the lake and/or discharged to the sanitary sewer system. The proposed project would reduce flows from the storm drain system to Ballona Creek by approximately 0.24 percent or less. This would not substantially reduce the total flows downstream in the Ballona Estuary and the Ballona Reserve and, thus, would not significantly affect special-status species in the Ballona Estuary and Ballona Reserve either directly or through habitat modifications. Additionally, because the Ballona Estuary is tidally influenced, the volume of ocean water in the estuary during dry weather is far greater than the contribution from Ballona Creek.[94] Thus, the diversion of flow within the Ballona Creek Watershed at the project site would result in negligible effects on flows and hydraulics (i.e., velocity, depth, temperature, and wetted perimeter) in the Ballona Estuary and the Ballona Reserve where special-status species and migratory birds are known to occur. Flows that maintain existing habitat for special-status species and migratory birds, including natural flow regimes that support steelhead and sheet flows that support foraging habitat for birds in the Ballona Estuary, would not be substantially reduced such that these habitats would be affected. Moreover, as discussed in Section 4.5, *Hydrology and Water Quality,* of this EIR, the proposed project would improve water quality in Ballona Creek. This beneficial effect on water quality in Ballona Creek could improve habitat conditions for special-status species and migratory birds in the Ballona Estuary and Ballona Reserve. For the reasons discussed above, the proposed project would result in a ***less than significant impact*** on candidate, sensitive, or special-status species and foraging migratory birds in the Ballona Estuary and the Ballona Reserve.

4.2.5.1.3 Mitigation Measures

Because the proposed project would result in a ***less than significant impact*** on special-status species and migratory birds downstream of the project site, no mitigation is required.

As noted above, construction and operation of the proposed project could disturb vegetation on the project site during the migratory bird nesting season. This is considered to be a significant impact.

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92 U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the biological resources information included in the 2017 EIR and presented herein.

93 Los Angeles Department of Water and Power. Draft Final Mitigated Negative Declaration Stormwater Capture Parks Program, Section 4 - Response to Comments. July 2021. Available: https://files.ceqanet.opr.ca.gov/266965-3/attachment/lsqo-eU7gTE5z1IuSVx7uU6qTh5sVQIiAps1EJ0ABOTyZ6WgbhtDtOkYJloorJV8oACOQdTCQkHIhfZK0.

94 City of Los Angeles, Los Angeles Sanitation and Environment. Final Environmental Impact Report, Ballona Creek Bacteria Total Maximum Daily Load Project, SCH 2017021047. Prepared by Catalyst Environmental Solutions Corporation. April 2017. Available: https://www.lacitysan.org/san/sandocview?docname=cnt024339.

Mitigation proposed to reduce significant impacts on migratory birds during construction and operation is provided below.

- **MM-BIO-1. Protection of Migratory Birds**

  If construction or maintenance activities that require the removal of vegetation are scheduled to occur during the nesting season for birds/raptors (January 1 to September 15), vegetation clearing for the proposed project shall be conducted outside the nesting season, if feasible.

  If it is not feasible to schedule vegetation clearing outside of nesting season and prior to implementation of construction or maintenance activities that could result in removal of or disturbances to vegetation providing bird nesting habitat during the bird nesting season (January 1 through September 15), the following shall occur:

  – A biological survey will be conducted 72 hours prior to construction or maintenance that will remove or disturb suitable nesting habitat during the breeding season. The survey will be performed by a qualified avian biologist with experience conducting breeding bird surveys. The biologist will prepare a survey report within 24 hours of conducting the survey, documenting the presence or absence of any active nest of a migratory bird.

  – If an active nest is located within the construction area, or in the vicinity, and the biologist determines that the nest may be impacted, an appropriate no-work buffer will be established by the biologist, in consultation with CDFW, based on the species, the type of construction activities, and other considerations. Vegetation removal within the buffer and other construction activities as determined by the biologist will be postponed until the nest is vacated and juveniles have fledged (minimum of 6 weeks after egg laying) and when there is no evidence of a second attempt at nesting.

  – The biologist shall serve as a construction monitor during those periods when construction activities will occur near active nest areas to ensure that no inadvertent impacts on these nests shall occur.

4.2.5.1.4 Significance of Impact After Mitigation

With implementation of MM-BIO-1, significant impacts associated with impacts to migratory birds would be reduced to a level that is ***less than significant impact***.

As indicated above, no mitigation is required to address impacts on special-status species or migratory birds in downstream areas. The proposed project would result in a ***less than significant impact.***

4.2.5.2 Impact 4.2-2

Impact 4.2-2: Operation of the proposed project would not substantial adverse effect on any riparian habitat or sensitive natural communities downstream of the project site (i.e., within the Ballona Estuary and the Ballona Reserve). This would be a *less than significant impact*.

4.2.5.2.1 Impacts

As discussed in Section 4.2.3.2.2, the Ballona Estuary and Ballona Reserve support riparian habitat and other sensitive natural communities. Five special-status natural vegetation communities are present in

the Ballona Reserve, with the most prominent being southern coastal salt marsh.[95] As discussed in Section 4.2.5.1.2, the operation of the proposed project would reduce flows from the storm drain system to Ballona Creek by approximately 0.24 percent or less. This would not substantially reduce flows or alter the hydraulics downstream in the Ballona Estuary and the Ballona Reserve. Thus, the proposed project would not substantially alter habitat conditions of the sensitive vegetation communities and the impact on riparian habitat or sensitive natural communities in the Ballona Estuary and Ballona Reserve would be ***less than significant***.

4.2.5.2.2 Mitigation Measures

Because the proposed project would result in a ***less than significant impact*** on riparian habitat and sensitive natural communities downstream of the project site, no mitigation is required.

4.2.5.2.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address downstream impacts on riparian habitat and sensitive natural communities. The proposed project would result in a ***less than significant impact.***

4.2.5.3 Impact 4.2-3

Impact 4.2-3: Operation of the proposed project would not have a substantial adverse effect on state or federally protected wetlands in the Ballona Estuary and Ballona Reserve through direct removal, filling, hydrological interruption, or other means. This would be a *less than significant impact*.

4.2.5.3.1 Impacts

As discussed in Section 4.2.3.2.2, the Ballona Reserve encompasses 153 acres of potential wetlands.[96] The USFWS NWI database indicates that the Ballona Reserve contains estuarine and marine wetlands, freshwater emergent wetlands, and freshwater forested shrub wetlands.[97] The proposed project would not remove or fill any wetlands. As discussed in Section 4.2.5.1.2, operation of the proposed project would reduce flows from the storm drain system to Ballona Creek by approximately 0.24 percent or less. This would not substantially reduce flows or alter the hydraulics downstream in the Ballona Estuary and the Ballona Reserve. Thus, the proposed project would not affect wetlands through direct removal, filling, hydrological interruption or other means. that would result in a substantial adverse effect on wetlands and impacts on wetlands in the Ballona Estuary and Ballona Reserve would be ***less than significant***.

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[95] U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the biological resources information included in the 2017 EIR and presented herein.

[96] U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the wetlands information included in the 2017 EIR and presented herein.

[97] U.S. Fish and Wildlife Service. National Wetlands Inventory Mapper. 2022. Available: https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper. Accessed March 22, 2022.

4.2.5.3.2 Mitigation Measures

Because the proposed project would result in a ***less than significant impact*** on wetlands within the Ballona Reserve, no mitigation is required.

4.2.5.3.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address downstream impacts on wetlands. The proposed project would result in a ***less than significant impact***.

4.2.5.4 Impact 4.2-4

Impact 4.2-4: Operation of the proposed project would not 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. This would be a *less than significant impact*.

4.2.5.4.1 Impacts

There are no known designated or major wildlife movement corridors or native wildlife nursery sites within or adjacent to the Ballona Reserve; therefore, the proposed project would have no impacts on these resources. As shown in Table 4.2-1 and discussed in Section 4.2.5.1.2, southern steelhead were identified as having a low potential to occur within the Ballona Estuary. Southern steelhead require cool, clear water with in-stream cover. They spawn in tributaries, large rivers, or streams directly connected to the ocean and migrate into freshwater streams during winter and spring rains. In 2008, the species was observed in Ballona Creek approximately 2.5 miles upstream of the Marina Freeway overpass; however, focused aquatic surveys have not since detected the species.[98] Additionally, a total of 18 fish species, including native species such as arrow gobies (*Clevelandia ios*) and topsmelt (*Atherinops affinis*), were identified within the Ballona Estuary between 1981 and 2011. Upstream of the Ballona Estuary, Ballona Creek does not provide spawning habitat for fish because it is heavily urbanized and lined with concrete.[99]

As discussed in Section 4.2.5.1.2, operation of the proposed project would reduce flows from the storm drain system to Ballona Creek by approximately 0.24 percent or less. This would not substantially reduce the flow or alter the hydraulics downstream in the Ballona Estuary. Thus, the proposed project would not alter the flow regime necessary to support fish passage along the Ballona Creek. The impact of the proposed project on the movement of native resident or migratory fish and wildlife species, including the southern steelhead, in the Ballona Estuary or on wildlife corridors or nursery sites would be ***less than significant***.

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[98] U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the biological resources information included in the 2017 EIR and presented herein.

[99] U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the habitat information included in the 2017 EIR and presented herein.

4.2.5.4.2 Mitigation Measures

Because the proposed project would result in a ***less than significant impact*** on the movement of fish and wildlife species, wildlife corridors, and nursery sites downstream of the project site, no mitigation is required.

4.2.5.4.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address downstream impacts on the movement of fish and wildlife species or on wildlife corridors and nursery sites. The proposed project would result in a ***less than significant impact***.

4.2.5.5 Impact 4.2-5

Impact 4.2-5: Operation of the proposed project would not conflict with the provisions of an adopted habitat conservation plan. This would be a *less than significant impact*.

4.2.5.5.1 Impacts

As discussed in Section 4.2.3.2.2, the Ballona Reserve is designated as a state ecological reserve and a portion of the Reserve is also designated as a Los Angeles County SEA.[100] As discussed in Section 4.2.5.1.2, operation of the proposed project would reduce flows from the storm drain system to Ballona Creek by approximately 0.24 percent or less. This would not substantially reduce flows or alter the hydraulics downstream in the Ballona Estuary and the Ballona Reserve and would, thus, not affect vegetation, hydrology, or habitat conditions in these areas. Therefore, the proposed project would not conflict with the provisions of the Ballona Wetlands SEA designated by Los Angeles County and impacts on an adopted habitat conservation plan would be ***less than significant***.

4.2.5.5.2 Mitigation Measures

Because the proposed project would result in a ***less than significant impact*** on adopted habitat conservation plans, no mitigation is required.

4.2.5.5.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address impacts to adopted habitat conservation plans. The proposed project would result in a ***less than significant impact***.

4.2.6 Cumulative Impacts

4.2.6.1 Project Site

As mentioned in Section 4.2.5.1.2, vegetation on the project site may provide potential nesting sites for migratory birds, including raptors. The proposed project has the potential to result in significant impacts to migratory birds from vegetation disturbance during construction and tree trimming during maintenance. Implementation of MM-BIO-1, which requires a biologist to conduct biological surveys to locate nests and, if nests are found, implement no-work buffers around nests as appropriate, would reduce impacts to a level that is less than significant.

There are a number of construction projects that have recently been completed or are expected to occur near the proposed project site, such as the MacArthur Park Playground Project, Westlake

[100] City of Los Angeles Department of Public Works, Bureau of Engineering. NavigateLA. Available: https://navigatela.lacity.org/navigatela/. Accessed January 19, 2022.

MacArthur Park Pedestrian Improvements, and Westlake MacArthur Park Area Transit Improvements, as discussed in Section 3.1.3 of Chapter 3, *Overview of Project Setting*. If construction and maintenance of these cumulative projects were to require vegetation disturbance during the migratory bird nesting season, the projects could result in significant impacts on migratory birds. Similar to the proposed project, these cumulative projects would be required to comply with state and federal laws pertaining to the protection of migratory birds. As such, cumulative impacts related to migratory birds would be ***less than significant***.

4.2.6.2 Ballona Estuary and Ballona Reserve

There are a number of regional programs and planning efforts aimed at addressing environmental conditions in the Ballona Creek watershed, including the Ballona Creek WMP, the Los Angeles County Safe Clean Water Program (SCWP), the City of Los Angeles Urban Water Management Plan, the City of Los Angeles Department of Water and Power's Stormwater Capture Master Plan, the City of Los Angeles Green New Deal, the Central Santa Monica Bay Watershed Area Stormwater Investment Plan and others. Some of these programs and plans address issues at a policy level, whereas others offer specific projects that are planned or proposed to be implemented. This cumulative impact analysis focuses on specific projects or programs that will implement individual projects that, together, have the potential to result in cumulative impacts to biological resources.

As identified in Chapter 3, *Overview of Project Setting*, this cumulative impact analysis focuses on specific projects and programs that have the potential to result in impacts to biological resources in the Ballona Estuary and Ballona Reserve. In particular, the following projects are evaluated in the analysis of cumulative biological resources impacts:

- Projects to be implemented in the Ballona Creek watershed under the Ballona Creek WMP[101]
- Ballona Creek Bacteria Total Maximum Daily Load (TMDL) Project and its low-flow diversion facilities in the Ballona Creek watershed[102]
- The Ballona Wetlands Restoration Project[103]

4.2.6.2.1 Stormwater Diversion Projects

Numerous stormwater and/or dry weather flow diversion projects are planned or proposed for implementation within the Ballona Creek watershed to meet water quality TMDLs within Ballona Creek. The proposed project is one such project. As discussed in Section 4.2.5.1, operation of the proposed project would capture stormwater and dry weather flows from an approximate 200-acre catchment area (0.24 percent of the total watershed of Ballona Creek) that would normally drain into the Ballona Creek. Some of the captured flows would be treated and returned to the storm drain system whereas some of the flows would be stored in the lake and/or discharged to the sanitary sewer system. The

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[101] Ballona Creek Watershed Management Group. Enhanced Watershed Management Program for the Ballona Creek Watershed. 2016. Available: https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/ballona_creek/BallonaCreek_RevisedEWMP_2016Jan19.pdf.

[102] City of Los Angeles Bureau of Sanitation Watershed Protection Division. Ballona Creek Bacteria Total Maximum Daily Load Project Draft Environmental Impact Report. Ped by Catalyst Environmental Solutions Corporation. August 2017. Available: https://www.lacitysan.org/san/sandocview?docname=cnt019961.

[103] California Department of Fish and Wildlife. The Ballona Wetlands Restoration Project. 2022. Available: https://wildlife.ca.gov/Regions/5/Ballona-EIR.

proposed project would reduce flows from the storm drain system to Ballona Creek by approximately 0.24 percent or less. Other diversion projects include the Ballona Creek TMDL Project and individual projects associated with the Ballona Creek WMP. Implementation of these projects could result in indirect cumulative impacts on biological resources associated with reduced flows to the Ballona Estuary and the Ballona Reserve, as discussed below.

Ballona Creek Watershed Enhanced Watershed Management Program

In 2016, the Ballona Creek Watershed Management Group published the Ballona Creek EWMP to comply with the Municipal Separate Storm Sewer System (MS4) Permit Order No. R4-2012-0175 (Permit) for Los Angeles County; the 2016 EWMP was a predecessor to the Ballona Creek WMP, which was published as an amendment to the EWMP in 2021 and 2023.[104] The WMP objective is to determine the control measures, referred to as best management practices (BMPs), that will achieve required pollutant reductions while also providing community benefits in the Ballona Creek watershed. BMPs identified in the WMP include centralized regional projects, distributed BMPs such as low-impact development (LID), and green streets. Regional projects are centralized facilities that treat large volumes of stormwater runoff from a large area (tens to hundreds of acres in size). Types of regional facilities include infiltration facilities, retention facilities, and constructed wetlands; thus, the proposed project is considered a regional facility under the WMP. LID projects include structural practices–such as permeable pavement or rain gardens–that capture, infiltrate, store, use, and/or treat runoff from smaller areas. Green streets are bioretention/bioinfiltration measures installed parallel to roadways.

The WMP Implementation Strategy lays out a network of regional BMPs, LID, and green street measures that could divert storm drain system flows from Ballona Creek, and thus the estuary and wetlands. The WMP identifies more than 68 regional BMPs, including 10 signature regional projects, four of which would retain the stormwater volume from the 85th percentile, 24-hour storm to comply with TMDL requirements. The signature projects were evaluated through detailed environmental, geotechnical, and engineering feasibility analyses; however, funding for design and construction has not been identified for all signature projects, and it is uncertain which projects will ultimately be implemented under the WMP. In addition to the signature projects, the WMP identifies the Low Flow Treatment Facility (LFTF) #1 as a Very High priority project and also discusses the Low Flow Treatment Facility #2 (these projects are discussed further below).

Impacts associated with the predecessor to the Ballona Creek WMP, the 2016 Ballona Creek EWMP, were addressed in an EIR prepared by the County of Los Angeles Department of Public Works titled the *Los Angeles County Flood Control District Enhanced Watershed Management Programs EIR* (EWMP EIR).[105] The EWMP was amended and republished as the WMP in 2021 and 2023 to account for revised capture volume targets, but the regional BMPs identified in the original EWMP remained substantially unchanged; thus, the analysis presented in the EWMP EIR remains applicable. As noted in this EIR, the

[104] MS4 Permit Order R4-2012-0175 for Los Angeles County (NPDES Permit No. CAS004001), which was the basis for the preparation of the Enhanced WMP approved in 2016, has since been superseded by Order R4-2021-0105 (NPDES Permit No. CAS004004). The Ballona Creek Watershed Management Group updated their WMP in accordance with the current MS4 Permit; the WMP was amended in February 2021, June 2021, and July 2023 with revised capture volume targets. The revised WMP was approved by the LARWQCB on August 14,2023.

[105] County of Los Angeles Department of Public Works. Los Angeles County Flood Control District Enhanced Watershed Management Programs Final Program Environmental Impact Report. Prepared by ESA. 2015. Available: https://dpw.lacounty.gov/lacfcd/ewmppeir/.

majority of the regional and distributed BMPs would be small in scale and would occur within existing developed or disturbed areas. However, larger structural BMPs would require mitigation to reduce impacts on biological resources. Because these BMPs would retain and treat stormwater within the watershed, they would reduce pollutant loading into waterways and improve the water quality of aquatic and coastal habitats, as well as the plants and wildlife dependent on them, including habitat in the Ballona Estuary and Ballona Reserve. Moreover, the EIR concluded that "the majority of high-value habitats in the region rely on groundwater seepage rather than perennial urban runoff." [106] The final mix of projects that would be implemented under the WMP is uncertain, so there is not enough information to quantify the impacts on flows from WMP projects. Nevertheless, with respect to cumulative impacts, the EIR found that, while some projects may result in reduced riparian habitat or wetlands along some drainage segments due to the reduced dry weather flows, the cumulative effect would be offset by increased groundwater recharge and seepage supporting expanded wetland and riparian vegetation, and the local flora and fauna populations that depend on them, throughout the watershed.[107] The EWMP EIR concluded that, with implementation of the mitigation measures proposed for the program, cumulative impacts of the WMP on biological resources would be less than significant. As noted above, the proposed project is considered a regional facility as defined by the Ballona Creek WMP. Therefore, the cumulative impacts of the proposed project on biological resources are addressed in the cumulative impact analysis in the EWMP EIR and the conclusions of that analysis apply to the proposed project.

Ballona Creek Bacteria Total Maximum Daily Load Project

The Ballona Creek Bacteria TMDL Project would involve two low-flow treatment facilities and one low-flow diversion to divert and treat polluted stormwater to improve downstream water quality in Ballona Creek, Ballona Estuary, Sepulveda Channel, and Centinela Creek during dry weather. This project is included in the Ballona Watershed WMP (as noted above) as well as the Central Santa Monica Bay Watershed Area Stormwater Investment Plan.[108] The Ballona Creek Bacteria TMDL Project EIR concluded that the diversion of flow from the project would slightly lower water levels in Ballona Creek and, thus, the Ballona Estuary and Ballona Reserve. However, because the volume of tidal water in the Ballona Estuary during dry weather is far greater than the contribution from Ballona Creek, the impact from the reduction in flow downstream on biological resources in the Ballona Estuary and Ballona Reserve was determined to be less than significant.[109] With respect to cumulative impacts, the Ballona Creek Bacteria TMDL EIR evaluated a list of cumulative projects, including all ten of the WMP signature regional projects as well as the Ballona Wetlands Restoration Project. The cumulative impact analysis did not identify any significant cumulative impacts to biological resources.

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[106] County of Los Angeles Department of Public Works. Los Angeles County Flood Control District Enhanced Watershed Management Programs Draft Program Environmental Impact Report, Section 3.3, Biological Resources. Page 3.3-30. Prepared by ESA. 2015. Available: https://dpw.lacounty.gov/lacfcd/ewmppeir/.

[107] County of Los Angeles Department of Public Works. Los Angeles County Flood Control District Enhanced Watershed Management Programs Draft Program Environmental Impact Report, Section 3.3, Biological Resources. Page 3.3-30. Prepared by ESA. 2015. Available: https://dpw.lacounty.gov/lacfcd/ewmppeir/.

[108] Los Angeles County Safe Clean Water Program. Central Santa Monica Bay Stormwater Investment Plan. Fiscal Year 2021-2022. Available: https://safecleanwaterla.org/wp-content/uploads/2021/09/SIP-ROC-Transmittal-CSMB.pdf.

[109] Los Angeles Bureau of Sanitation Watershed Protection Division. Ballona Creek Bacteria Total Maximum Daily Load Project Final Environmental Impact Report. Prepared by Catalyst Environmental Solutions Corporation. 2018. Available: https://www.lacitysan.org/san/sandocview?docname=cnt024339.

Conclusions Regarding Cumulative Impacts from Stormwater Diversion Projects

As discussed in Section 4.2.5, the impacts of the proposed project on biological resources would be less than significant. Moreover, the impacts to biological resources associated with the cumulative projects mentioned above (i.e., the Ballona Watershed WMP and the Ballona Creek Bacteria TMDL Project) were determined to be less than significant or, in some cases, beneficial. The EIRs prepared for these projects took the regional projects into account in their analyses. In particular, as noted above, the analysis of cumulative impacts in the EWMP EIR included regional projects such as the proposed project. Therefore, the cumulative impacts of the proposed project are addressed in the cumulative impact analysis in the EWMP EIR and the conclusions of that analysis apply to the proposed project. As stated in the EWMP EIR, with the implementation of mitigation measures that would apply to the WMP projects, cumulative impacts on biological resources would be less than significant. With respect to cumulative impacts from the reduction in flows in Ballona Creek specifically, the cumulative effect would be offset by increased groundwater recharge and seepage supporting expanded wetland and riparian vegetation, and the local flora and fauna populations that depend on them, throughout the watershed. Therefore, cumulative impacts of the proposed project in conjunction with other cumulative projects on biological resources in the Ballona Estuary and Reserve would be ***less than significant***.

4.2.6.2.2 Ballona Wetlands Restoration Project

The Ballona Wetlands Restoration Project seeks to restore the wetland and other ecological functions of the Ballona Reserve. Key components of the restoration project include reconnecting Ballona Creek to portions of its historic floodplain by constructing new engineered levees set back from the existing Ballona Creek channel, realigning the channel into a more natural meandering shape, and installing new hydraulic structures to improve tidal circulation into the Ballona Reserve.[110] CDFW certified the Final EIR for the project in December 2020. However, due to subsequent litigation, CDFW decertified the EIR in September 2023 and is currently revising the document as per the court order. The revised document will disclose and analyze new flood control design parameters and commit to additional environmental review if performance criteria change. According to CDFW's website, the deficiencies in the original EIR are expected to be easily rectified. CDFW anticipates completion and recertification of the revised EIR by the end of 2025, with project implementation following in 2026.[111] It is not expected that the revisions will substantially alter the project as it relates to the cumulative impact analysis provided herein.

Because the primary goal of the restoration project is to restore wetland and ecological functions of the Ballona Reserve, implementation of the restoration project would benefit biological resources. As discussed in Section 4.2.5, the proposed project would reduce flows from the storm drain system to Ballona Creek by approximately 0.24 percent or less. This reduction in flow is not anticipated to have any significant impacts on Ballona Estuary or the Ballona Reserve. Thus, cumulative impacts of the

[110] U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the key project components described herein.

[111] California Department of Fish and Wildlife. The Ballona Wetlands Restoration Project. 2022. Available: https://wildlife.ca.gov/Regions/5/Ballona-EIR.

proposed project in combination with the Ballona Wetlands Restoration Project on biological resources would be ***less than significant***.

4.2.7 Summary of Impact Determinations

Table 4.2-2 summarizes the impact determinations and applicable mitigation measures of the proposed project relative to biological resources, as described in Section 4.2.5. Identified impacts are based on the significance criteria presented in Section 4.2.4, the information and data sources cited throughout Section 4.2, and the professional judgment of the report's preparers, as applicable.

Table 4.2-2 Summary of Impacts and Mitigation Measures Associated with the Proposed Project Related to Biological Resources

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Impact 4.2-1: The proposed project could disturb vegetation at the project site during the migratory bird nesting season. This would have a ***significant impact*** on migratory birds during operation and construction. The proposed project would not result in a substantial reduction in flows in Ballona Estuary and Ballona Reserve and, therefore, would not result in a substantial adverse effect on special-status species or migratory birds. This would be a ***less than significant impact*** on special-status species and migratory birds in the Ballona Estuary and the Ballona Reserve during operations.	Construction (onsite): Significant Operations (onsite): Significant Operations (downstream): Less than Significant	Construction (onsite): MM-BIO-1. Protection of Migratory Birds. Operations (onsite): MM-BIO-1. Protection of Migratory Birds. Operations(downstream): No mitigation is required	Construction (onsite): Less than Significant Operations (onsite): Less than Significant Operations (downstream): Less than Significant
Impact 4.2-2: The proposed project would not result in a substantial reduction in flows in the Ballona Estuary and Ballona Reserve and, therefore, would not result in a substantial adverse effect on riparian habitat or sensitive natural communities. This would be a ***less than significant impact*** on riparian habitat and sensitive natural communities within the Ballona Estuary and the Ballona Reserve during operations.	Less than Significant	No mitigation is required	Less than Significant

Table 4.2-2 Summary of Impacts and Mitigation Measures Associated with the Proposed Project Related to Biological Resources

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Impact 4.2-3: The proposed project would not result in a substantial reduction in flows in the Ballona Estuary and Ballona Reserve and, therefore, would not result in a substantial adverse effect on protected wetlands. This would be a ***less than significant impact*** on wetlands downstream of the project site within the Ballona Reserve during operations.	Less than Significant	No mitigation is required	Less than Significant
Impact 4.2-4: The proposed project would not result in a substantial reduction in flows in the Ballona Estuary and Ballona Reserve and, therefore, would not interfere substantially with the movement of migratory fish or wildlife species, wildlife corridors, or wildlife nursery sites. This would be a ***less than significant impact*** on the movement of fish and wildlife species downstream of the project site in the Ballona Estuary and the Ballona Reserve during operations.	Less than Significant	No mitigation is required	Less than Significant
Impact 4.2-5: The proposed project would not conflict with the provisions of a habitat conservation plan related to the Ballona Reserve SEA. This would be a ***less than significant impact*** during operations.	Less than Significant	No mitigation is required	Less than Significant

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4.3 Cultural Resources

4.3.1 Introduction

This section addresses the proposed project's impacts on historical, archaeological, and paleontological resources (i.e., cultural resources). The existing cultural resources in the vicinity of the proposed project are described below, along with the methodology and the regulatory framework that guided the evaluation of cultural resources. Impacts to cultural resources that would result from the proposed project are identified, along with any measures to mitigate significant effects of the proposed project, if needed. This section is based in part on more comprehensive information contained in **Appendix D.**

Section 4.6, *Noise and Vibration*, of this EIR addresses the potential for construction-related vibration to adversely affect buildings located in proximity to the proposed construction activities. Some of these buildings are, or may be, historical resources. Impacts to historical resources from construction vibration are identified in this section.

In accordance with Assembly Bill 52, Appendix G of the State CEQA Guidelines identifies tribal cultural resources as a separate resource from other cultural resources. Section 4.7, *Tribal Cultural Resources*, of this EIR addresses the potential for the proposed project to adversely affect tribal cultural resources in the vicinity of the proposed project. As demonstrated in that section, project impacts on tribal cultural resources would be less than significant.

Prior to the preparation of this EIR, an Initial Study (included as **Appendix A** of this EIR) was prepared using the CEQA Environmental Checklist Form to assess potential environmental impacts to cultural resources. The Initial Study (Section 4, Issue VII) concluded that impacts to human remains would be less than significant and no further analysis of this topic in an EIR was required. In addition, the Initial Study found that operational impacts from the proposed project on historical, archaeological, and paleontological resources would be less than significant and, thus, no further analysis of operational impacts related to these topics in an EIR was required. Therefore, the cultural resource analysis in this EIR is focused on impacts from construction.

4.3.2 Methodology

An archaeological, paleontological, and built environment assessment was performed for the proposed project by ArchaeoPaleo Resource Management, Inc. (APRMI) personnel who meet the Secretary of the Interior's Professional Qualification Standards in the disciplines of archaeology and architectural history (see **Appendix D**) and/or are qualified professional paleontologists per the Society of Vertebrate Paleontology's guidelines. The cultural resources assessment utilized a two-step methodology involving research and field investigation to determine whether there are previously recorded cultural resources within the cultural resource study area and surrounding vicinity that require evaluation and treatment. The results of the assessment also provide a basis for assessing the sensitivity of the cultural resources study area for additional and buried cultural resources. The cultural resource study area is defined as the southerly half of the southern portion of the park, approximately 200 feet of the northern sections of Lake Street and Grand View Street south of 7th Street, and an approximate 300-foot section of 7th Street between Alvarado Street and Park View Street. The proposed water feature would be located along the western margin of MacArthur Lake, approximately 200 feet northeast of the intersection of Park View Street and 7th Street.

APRMI requested a paleontological resource records check for the proposed project from the Vertebrate Paleontology Department of the Natural History Museum of Los Angeles County on December 23, 2021. To determine the paleontological sensitivity of the cultural resource study area, this records check consisted of a thorough review of the museum's paleontology collection records of recorded fossil sites in and/or near the cultural resource study area. A thorough search of the Paleobiology Database was also conducted by APRMI on February 24, 2022. The Paleobiology Database allows users to search through various taxonomic groups of fossils recorded by nearly 400 scientists from over 130 institutions in 24 countries. This resource was used to search for additional paleontological records that may be present within the cultural resource study area and to better understand the sensitivity of the general project vicinity.

APRMI requested a cultural resource records and literature search from the South-Central Coastal Information Center (SCCIC), the local repository for the California Historical Resources Information System (CHRIS), on December 23, 2021 to identify any cultural resources on or near the project site. The results for this request were received on February 14, 2022. A quarter-mile search radius was utilized around the project. This records search reviews current inventories of the National Register of Historic Places (NRHP or National Register), California Register of Historical Resources (CRHR or California Register), California Historical Landmarks, California Points of Historical Interest (CPHI), and the Built Environment Resource Directory (BERD). Historical resources considered include prehistoric or historic buildings, sites, districts, structures, or objects that meet criteria of significance as established by the NRHP, CRHR, and/or local jurisdictions. The evaluation of historic significance was based on a review of existing historic designations, research of the relevant historic contexts, and analysis of the eligibility criteria and integrity thresholds for listing in the NRHP, CRHR, or as a City of Los Angeles Historic-Cultural Monument (LAHCM).

APRMI requested a Sacred Lands File Search for the cultural resource study area from the Native American Heritage Commission (NAHC) on December 20, 2021. The result of NAHC's search of the Sacred Lands Inventory were received on January 26, 2022.

In addition to these records requests, APRMI conducted archival research using a number of sources, including the following:

- Los Angeles Historic Resources Inventory, an online information and management system that inventories, maps, and helps protect the City of Los Angeles' significant historic resources
- Westlake Recovery Community Redevelopment Area Intensive Survey,[112] which was completed by LSA Associates, Inc. on behalf of the City of Los Angeles Community Redevelopment Agency and in coordination with the City of Los Angeles Department of City Planning, Office of Historic Resources, to identify, document, and evaluate, potential historic buildings and structures in the Westlake neighborhood
- BERD, which provides information regarding non-archaeological resources in the California Department of Parks and Recreation, Office of Historic Preservation's (OHP) inventory

[112] City of Los Angeles Community Redevelopment Agency. Intensive Survey: Westlake Recovery Community Redevelopment Area. Prepared by LSA Associates, Inc. June 15, 2009. Available: https://planning.lacity.org/odocument/8cbace8b-a304-4e57-9fd3-800331d25939/Westlake_RRA_Report.pdf.

- Additional inventory databases including Zimas, NavigateLA, HistoricPlacesLA, and SurveyLA

To further understand the historic built environment of the cultural resource study area, APRMI investigated past building assessments and designations associated with the Westlake Recovery Community Redevelopment Area survey. The survey identified, documented, and evaluated all properties aged 50 years or older in the Westlake area. These properties were then determined to be eligible or ineligible for the NRHP or CRHR, and/or for designation as a LAHCM.

A field reconnaissance survey of the project area was conducted on November 19, 2021, to evaluate the presence of any historic, cultural, or tribal resources within or near the cultural resource study area to determine if the proposed project would have a significant adverse impact on such resources. The survey also included the initial assessment of any historic structures that might be impacted by the project.

4.3.3 Existing Conditions

4.3.3.1 Regulatory Setting

Cultural resources (including historical, archaeological, and paleontological resources) fall within the jurisdiction of several levels of government. Federal laws provide the framework for the identification and, in certain instances, protection of historical resources. Additionally, state and local jurisdictions play active roles in the identification, documentation, and protection of such resources within their communities. The National Historic Preservation Act (NHPA) of 1966, as amended (NHPA; 54 U.S. Code [U.S.C.] Section 300101 et seq.); CEQA; California Register of Historical Resources (Public Resources Code Section 5024.1); and the City of Los Angeles Cultural Heritage Ordinance (Los Angeles Administrative Code Section 22.171 et seq.) are the primary federal, state, and local laws governing and affecting preservation of historical resources of national, state, regional, and local significance.[113]

4.3.3.1.1 Federal

National Register of Historic Places

The National Register was established under by the NHPA as "an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment."[114] The National Register recognizes properties that are significant at the national, state, and/or local levels. To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. The National Register has established Criteria for Evaluation to determine the significance of a resource:

a) It is associated with events that have made a significant contribution to the broad patterns of our history

b) It is associated with the lives of persons significant in our past

[113] Los Angeles Administrative Code, Chapter 9, Division 22, Article 1, Section 22.171 et seq. Cultural Heritage Ordinance. Effective April 2, 2007. Available: http://preservation.lacity.org/sites/default/files/Cultural%20Heritage%20Ordinance.pdf.

[114] 36 Code of Federal Regulations, Section 60.2. Effects of Listing under Federal Law.

c) It embodies the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction

d) It yields, or may be likely to yield, information important in prehistory or history[115]

Districts, sites, buildings, structures, and objects of potential significance that are at least 50 years in age must meet one or more of the above criteria. However, the National Register does not prohibit the consideration of properties less than 50 years in age whose exceptional contribution to the development of American history, architecture, archaeology, engineering, and culture can clearly be demonstrated. In addition to meeting the Criteria for Evaluation, a property must have integrity. "Integrity is the ability of a property to convey its significance."[116] According to National Register Bulletin 15, the National Register recognizes seven aspects or qualities that, in various combinations, define integrity. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity, a property will always possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.[117] In assessing a property's integrity, the National Register criteria recognizes that properties change over time; therefore, it is not necessary for a property to retain all of its historic physical features or characteristics. The property must retain, however, the essential physical features that enable it to convey its historic identity.[118]

Archaeological resources, in contrast to historical resources, are most often eligible under Criterion D for their "information potential." For properties eligible under Criterion D, less attention is given to their overall condition than if they were being considered under Criteria A, B, or C. Archaeological sites, in particular, do not exist today exactly as they were formed as there are always cultural and natural processes that alter the deposited materials and their spatial relationships. For properties eligible under Criterion D, integrity is based upon the property's potential to yield specific data that address important research questions.[119]

Antiquities Act of 1906

The Antiquities Act of 1906 (16 U.S.C. Section 431 et seq.), provides for the establishment and preservation of national monuments, historic landmarks, and historic or prehistoric structures, or other items of interest on federally owned lands. Additionally, Section 433 of the Act prohibits the purposeful

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[115] U.S. Department of Interior. National Park Service. National Register Bulletin 16, How to Complete the National Register Registration Form. Revised 1997. Available: https://www.nps.gov/subjects/nationalregister/upload/NRB16A-Complete.pdf. This bulletin contains technical information on comprehensive planning, survey of cultural resources, and registration in the National Register.

[116] U.S. Department of Interior. National Park Service. National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation. 1995. Page 44. Available: https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf.

[117] U.S. Department of Interior. National Park Service. National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation. 1995. Page 44. Available: https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf.

[118] A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Like feeling, association requires the presence of physical features that convey a property's historic character. Because feeling and association depend on individual perceptions, their retention alone is never sufficient to support eligibility of a property for the National Register. U.S. Department of the Interior, National Park Service. National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation. 1995. Available: https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf.

[119] U.S. Department of the Interior, National Park Service. National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation. 1995. Page 46. Available: https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf.

taking, excavation, damage, and destruction of historic or prehistoric ruins, monuments, or other objects of antiquity on federally owned lands. Other "objects of antiquity" are interpreted to include paleontological remains.

Native American Graves Protection and Repatriation Act

The discovery of human remains is always a possibility during construction-related disturbances. The Native American Graves Protection and Repatriation Act (25 U.S.C. Section 3001 et seq.) was enacted on November 16, 1990. It states that the "ownership or control of Native American cultural items," which include human remains, funerary objects, sacred objects, and objects of cultural patrimony, that are "excavated or discovered on Federal or tribal lands" after the law went into effect is held by the lineal descendants of the Native American (or Hawaiian) to whom the objects originally belonged. If the lineal descendants cannot be found, then their ownership is conferred to the "Indian" tribe or Native Hawaiian organization on whose land the objects or remains were discovered or that has the closest cultural affiliation.

4.3.3.1.2 State

California Register of Historical Resources

The California Register was created by Assembly Bill 2881, which was signed into law on September 27, 1992. The California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."[120] The criteria for eligibility for the California Register are based on National Register criteria.[121] Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.[122] Per Instructions for Recording Historical Resources published by OHP, physical evidence of human activities more than 45 years old may be recorded for purposes of inclusion in OHP's filing system although, similar to the National Register, resources less than 45 years old may also be filed.[123]

The California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally Determined Eligible for the National Register
- California Registered Historical Landmarks from No. 770 onward
- CPHI that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register[124]

[120] Public Resources Code, Section 5024.1(a).
[121] Public Resources Code, Section 5024.1(b).
[122] Public Resources Code, Section 5024.1(d).
[123] California Office of Historic Preservation. Instructions for Recording Historical Resources. March 1995.
[124] Public Resources Code, Section 5024.1(d).

Other resources that may be nominated to the California Register include:

- Individual historical resources
- Historical resources contributing to historic districts
- Historical resources identified as significant in historical resources surveys with significance ratings of Categories 1 through 5
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as a historic preservation overlay zone[125]

To be eligible for the California Register, a historical resource must be significant at the local, state, or national level, under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
2. Is associated with the lives of persons important in our past
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
4. Has yielded, or may be likely to yield, information important in prehistory or history

Additionally, a historical resource must retain enough of its historic character or appearance to be recognizable as a historical resource and to convey the reasons for its significance.[126] Historical resources that have been rehabilitated or restored may be evaluated for listing. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. The resource must also be judged with reference to the particular criteria under which it is proposed for eligibility. It is possible that a historical resource may not retain sufficient integrity to meet the criteria for listing in the National Register but may still be eligible for listing in the California Register.[127]

California Environmental Quality Act

Under CEQA, a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.[128] This statutory standard involves a two-part inquiry. The first part is a determination of whether the project involves a historical resource. If it does, the inquiry addresses whether the project may cause a "substantial adverse change in the significance" of the resource. State CEQA Guidelines Section 15064.5(a) provides that, for the purposes of CEQA compliance, the term "historical resources" shall include the following:[129]

[125] Public Resources Code, Section 5024.1(e).
[126] 14 California Code of Regulations, Chapter 11.5, Section 4852(c). Types of Historical Resources and Criteria for Listing in the California Register of Historical Resources.
[127] 14 California Code of Regulations, Chapter 11.5, Section 4852(c). Types of Historical Resources and Criteria for Listing in the California Register of Historical Resources.
[128] Public Resources Code, Section 21084.1.
[129] 14 California Code of Regulations, Section 15064.5(a). Determining the Significance of Impacts to Archaeological and Historical Resources.

- A resource listed in, or determined to be eligible by, the State Historical Resources Commission for listing in the California Register
- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in a historical resource survey meeting the requirements in Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat such resources as significant for purposes of CEQA unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets one of the criteria for listing on the California Register.

The fact that a resource is not listed in or determined to be eligible for listing in the California Register, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be a historical resource as defined in Public Resources Code Sections 5020.1(j) or 5024.1.

CEQA also requires lead agencies to determine if a proposed project would have a significant effect on unique archaeological resources; an EIR is not required to address non-unique archaeological resources. As defined in Section 21083.2(g) of the Public Resources Code, a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

State CEQA Guidelines Section 15064.5 broadens the approach of classifying archaeological resources by recognizing that certain archaeological resources may also have significance as historical resources. If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of the Public Resources Code and Section 15064.5 of the State CEQA Guidelines apply. If an archaeological site does not meet the criteria for a historical resource contained in the Guidelines, then the site is to be treated in accordance with the provisions of Public Resources Code Section 21083.2, which refer to a unique archaeological resource. The Guidelines note that, if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources

shall not be considered a significant effect on the environment. (State CEQA Guidelines Section 15064.5(c)(4)).

California Administrative Code

Title 14, Section 4307 of the California Administrative Code states that "no person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value."

Public Resources Code

Section 5097.5 of the Public Resources Code protects both cultural and paleontological resources. It states that:

> [n]o person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands.

As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

4.3.3.1.3 Local

Conservation Element of the City of Los Angeles General Plan

The policy of the City of Los Angeles is to "identify and protect significant archaeological and paleontological sites and/or resources known to exist or that are identified during land development, demolition or property modification activities."[130] The City's General Plan Conservation Element[131] protects endangered paleontological and archaeological resources by adhering to CEQA mandates. In regard to archaeological resources, a qualified archaeologist is to monitor excavations or other subsurface activities in a project area that has been determined to have archaeological significance and is to evaluate all potential impacts to archaeological materials. In regard to paleontological resources, a qualified paleontologist must assess a project's potential impact to a paleontological site and determine the appropriate mitigation if a paleontological site will be damaged or destroyed. If significant paleontological or archaeological resources are uncovered during a project, excavations may be halted in order to assess, document, protect, and possibly remove the resources.

City of Los Angeles Cultural Heritage Ordinance

The City of Los Angeles enacted a Cultural Heritage Ordinance (Los Angeles Administrative Code, Section 22.171.7) that defines LAHCMs for the City. According to the ordinance, LAHCMs are sites, buildings, or structures of particular historical or cultural significance to the City of Los Angeles in which the broad cultural, economic, or social history of the nation, state, or community is reflected or exemplified, including sites and buildings associated with important personages or that embody certain

[130] City of Los Angeles. Conservation Element of the Los Angeles General Plan, Chapter 2, Section 5. Available: https://planning.lacity.org/cwd/gnlpln/consvelt.pdf. Accessed April 2019.
[131] City of Los Angeles. Conservation Element of the Los Angeles General Plan. Available: https://planning.lacity.org/cwd/gnlpln/consvelt.pdf. Accessed April 2019.

distinguishing architectural characteristics and are associated with a notable architect. LAHCMs are regulated by the City's Cultural Heritage Commission and the City Council.

The City of Los Angeles Cultural Heritage Ordinance establishes criteria for designating local historical resources as LAHCMs. Pursuant to the Ordinance, a LAHCM is any site, building, or structure of particular historic or cultural significance to the City of Los Angeles that meets one or more of the following criteria:

- Reflects or exemplifies the broad cultural, economic, or social history of the nation, state, or community
- Is identified with historic personages or with important events in the main currents of national, state, or local history
- Embodies the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period, style, or method of construction
- Is a notable work of a master builder, designer, or architect whose individual genius influenced his or her age

Heritage Trees

The City Department of Recreation and Parks (RAP) designates individual trees as Heritage trees to preserve them because of their "their historical, commemorative, or horticultural significance".[132]

4.3.3.2 Environmental Setting

4.3.3.2.1 Prehistoric Background

Early human habitation in Los Angeles dates as far back as approximately 12,000 years ago. Evidence of this early habitation comes from discoveries such as the Los Angeles Man, discovered north of Baldwin Hills by La Cienega Boulevard and Jefferson Boulevard, and La Brea Woman, found at the La Brea Tar Pits within Hancock Park. Both sites were found in association with numerous well-preserved Ice Age fossils. Early Archaic populations consisted of small, band level in size, groups of people approximately totaling a dozen individuals, or one or two families.

Subsequent archaeological periods are described in detail in **Appendix D**, including population characteristics, settlement patterns, and use of natural resources and tools. As noted in the appendix, during the Late Prehistoric period (400 to 1,000 years ago), regional differences throughout California fully developed, resulting in the tribal groups that are currently known. Populations of these culturally distinct groups continued to rise as did territorially defined sedentary settlement patterns. Since physical borders did not exist between tribes and other entities, the cultural resources study area and surrounding vicinity included many tribal groups. While the Chumash and Kitanemuk generally lived outside the project area's territory, the NAHC lists the project area as the ancestral homeland of many of the people from those tribes. The project area is located in a region where prehistoric cultural history is historically minimally documented and/or understood. At the time of the arrival of the Spanish, the Native American people, named the Tataviam, occupied various locales in the Los Angeles area, which

[132] City of Los Angeles Department of Recreation and Parks. Heritage Trees. Available: https://www.laparks.org/forest/heritage-trees. Accessed August 19, 2022.

included the Santa Clara River Valley and northward to the southern Antelope Valley. However, other Native American culture groups, including the Chumash to the west, and the Gabrieliño/Tongva/Kizh Nation tribes to the south and southeast, include this area as part of their territory.

4.3.3.2.2 Historical Development

In the 1800s, the land that would become MacArthur Park contained marshland and a lake (known today as MacArthur Lake) that served as a drinking water reservoir that was connected to the Zanja Madre, the original aqueduct that carried water from the Los Angeles River to the Pueblo de Los Angeles (the settlement that would later become the City of Los Angeles). The city abandoned the non-pressurized aqueduct system for a pressurized pipe system and, subsequently, the area was used as a city dump for many decades.

The Westlake area was first surveyed in 1857. People began settling in the area in the 1860s as the location west of downtown became a popular alternative to lower elevations that had been affected by a series of floods. The first recorded subdivision was in 1877 with the construction of the Fairmount Tract, a 132-residential-lot located near 9th Street and Wilshire Boulevard. By the mid-1880s, much of the Westlake community had been subdivided and construction of many neighborhoods was underway. Due to inconsistencies in historical records, it is unclear exactly how Los Angeles came into possession of the land that became MacArthur Park, but by the late 1890s the property was renovated and opened to the public as "Westlake Park." Native shrubs, trees, grass, and flowers were planted around the property, drawing people from all over the Los Angeles basin for the recreational amenities such as picnicking grounds, horse-drawn buggy rides, and strolling the park's perimeter.

In the 1930s, despite protests from the community, a viaduct was constructed across the park that joined Wilshire Boulevard on the west with and Orange Street on the east (later renamed Wilshire Boulevard) to provide access to downtown Los Angeles. The road connection divided the lake in half, and the northern half was drained. Later, an amphitheater, bandshell, soccer fields, playground, and recreation center were built in the northern portion of the park. In addition, over the years, various monuments and public art pieces have been added to the park. In 1942, the park was renamed "MacArthur Park" after General Douglas MacArthur. On May 1st, 1972, MacArthur Park was designated an LAHCM (#100). Today, the park continues to serve as a community gathering and recreational space, as well as providing open space to the Westlake neighborhood, which is among the highest density communities in the City and County of Los Angeles.

4.3.3.2.3 Paleontological Resource Setting

The project site is overlain by surficial Quaternary alluvium (*Qa*) that is concentrated primarily in the middle section of MacArthur Park. These sediments consist of clay, sand, and gravel deposited from natural geologic processes or once existing stream channels. Along the west, north, and eastern boundaries of the project site, older surficial sediments (*Qae*) of Pleistocene age (1.5 million to approximately 11,477 years old) were identified which are similar to *Qa* but also includes alluvial fan sediments of the neighboring mountain regions. The exact thickness of these deposits is variable. Both of these sedimentary units have produced various invertebrate and vertebrate fossil localities throughout the Los Angeles Basin. The most famous Quaternary aged fossil locality in the Los Angeles Basin is Rancho La Brea, also known as the La Brea Tar Pits, located approximately four miles east of the project site. Its asphalt deposits are found within the Quaternary alluvium of the Pleistocene and has preserved various specimens such as sabre-tooth cats (*Smilodon californicus*), dire wolf (*Canis lupus*

furlong), and much more. This location has also produced an entire re-creation of the Pleistocene through its preservations of smaller organisms like birds and mollusks but especially due the preservation of plants and insects of that time.

4.3.3.2.4 Records Search Results

Historical Records

Under CEQA (Section 15064.5 of the State CEQA Guidelines), the definition of a historical resource is a resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register. The California Register, in turn, automatically includes properties listed on the National Register and those formally determined to be eligible for the National Register. In addition, a resource included in a local historic register or identified as significant in a historical resource survey is presumed to be historically or culturally significant. The records search for historical resources involved review of previous survey records and reports on file. Based on previous survey records and reports on file, six historic resources, properties, or registered landmarks are located within the cultural resource study area or in close proximity to proposed construction activities. One of these resources is MacArthur Park, which is recognized as LAHCM #100 and has been formally determined to be eligible for the National and California Registers. The historical resources within the study area are listed in **Table 4.3-1** and shown in **Figure 4.3-1**.

Archaeological Records

According to the cultural records search results provided by the SCCIC, 21 studies or assessments were conducted within the cultural resource study area and/or within 0.25 mile. These studies were conducted during various developments and by different researchers spanning from 1983 to 2013. A review of these documents revealed that there are no previously recorded archaeological sites or isolates located within, or within 0.25 mile of, the cultural resource study area. A summary of these studies and assessments is available in **Appendix D**. It should be noted that the SCCIC response states that the absence of site-specific information does not indicate the absence of cultural resources.

Table 4.3-1 Historic Resources Within the Cultural Resource Study Area or in Close Proximity to Proposed Construction

ID[1]	Resource[2]	Year(s) Built	Location	Register Qualified Under[3]
1	General Douglas MacArthur Park	1890s	Within Study Area	LAHCM No. 100; Determined Eligible for NRHP and CRHR
2	2126-2130 W. 7th Street	1909 to 1923	Near Study Area	Appears Eligible for NRHP, CRHR, and LAHCM; Individually Significant Contributor to 7th Street Streetcar Commercial Zone
3	2212-2228 W. 7th Street	1922 to 1927	Near Study Area	Appears Eligible for NRHP, CRHR, and LAHCM; Individually Significant Contributor to 7th Street Streetcar Commercial Zone
4	743 S. Grand View Street (Former Chouinard Institute of Arts)	1924	Near Study Area	LAHCM No. 454; Appears Eligible for NRHP and CRHR

Table 4.3-1 Historic Resources Within the Cultural Resource Study Area or in Close Proximity to Proposed Construction

ID[1]	Resource[2]	Year(s) Built	Location	Register Qualified Under[3]
5	2410-2414 W. 7th Street	1924	Near Study Area	Appears Eligible for NRHP, CRHR, and LAHCM; Individually Significant Contributor to 7th Street Streetcar Commercial Zone
6	2416-2422 W. 7th Street	1925	Near Study Area	Appears Eligible for NRHP, CRHR, and LAHCM; Individually Significant Contributor to 7th Street Streetcar Commercial Zone2

Source: **Appendix D** of this EIR; City of Los Angeles Community Redevelopment Agency. Intensive Survey: Westlake Recovery Community Redevelopment Area. Prepared by LSA Associates, Inc. June 15, 2009. Available: https://planning.lacity.org/odocument/8cbace8b-a304-4e57-9fd3-800331d25939/Westlake_RRA_Report.pdf.

Notes:

1 Numbers correspond to Figure 4.3-1.

2 In addition to the properties included in this table, the buildings at 2200-2208 W. 7th Street (2200 W. 7th Street is currently the Southern California Surgery Center) were identified by LSA as Not Eligible/Merits Consideration.

3 The 7th Street Streetcar Commercial Zone is not a historic district but has retained some basic characteristics that contribute to a historic sense of place.

Key: CRHR = California Register of Historical Resources; LAHCM = Los Angeles Historic Cultural Monument; NRHP = National Register of Historic Places

Sources: Appendix D of this EIR; Base Layer Source: Los Angeles GeoHub, 2022
Prepared by: CDM Smith, 2024

Figure 4.3-1

MacArthur Lake Stormwater Capture Project

HISTORICAL RESOURCES WITHIN THE CULTURAL RESOURCES STUDY AREA OR NEAR PROPOSED CONSTRUCTION

Paleontological Records

Eight vertebrate fossil localities were identified within MacArthur Park, but none of these were located within the project site or the cultural resource study area. All of these locations varied in depths below the ground surface ranging from 5 feet to 80 feet. On average, the depth of the four localities within MacArthur Park were 60 feet below the ground surface. A summary of the types of fossils, approximate locations, and depth of discovery within MacArthur Park is provided in **Table 4.3-2.** In addition to the resources identified within MacArthur Park, other resources have been identified in the surrounding area.

Table 4.3-2 Paleontological Resources in Vicinity of Cultural Resource Study Area

Locality Number	Location	Formation	Taxa	Depth
LACM VP 6254	Northwest corner of intersection of Wilshire Boulevard & Alvarado Street	Puente Formation	Marine mammal (*Cetacea)*	Unrecorded elevation of 225 feet above sea level
LACM IP 16840-16842	Wilshire Boulevard in west MacArthur Park	Puente Formation	Invertebrates (unspecified)	60 feet below ground surface
LACM VP 6198	Beneath Wilshire Boulevard through MacArthur Park	Puente Formation (laminated siltstone)	Fish (*Osteichthyes)*	60 feet below ground surface
LACM VP 6199-6201	West of MacArthur Park pocket track; beneath Wilshire Boulevard	Puente Formation (laminated siltsone)	Fish (*Osteichthyes)*	60 feet below ground surface

Source: **Appendix D** of this EIR.

4.3.3.2.5 Results of Field Reconnaissance

Results of the field reconnaissance determined the area to be a predominately urbanized area with a large urban park (MacArthur Park). Natural and ornamental vegetation is concentrated within the park and consist of various flowering trees, hedges, and other flowering plants. MacArthur Park is home to a number of species of Heritage trees, including the African Sausage Tree (*Kigelia africana*), which is native to tropical areas of Africa.[133] Wildlife in the area consisted of squirrels, crows, Black-Crowned Night Herons, and various ducks. Several areas of the project site were capped by either asphalt or concrete, including all areas outside of the actual MacArthur Park location, so surface observation was mostly conducted within the confines of MacArthur Park. In areas where ground visibility was noted, the soil observed on the surface included alluvial silts, and sand with gravels of various origin. No paleontological or archaeological resources were observed or identified on the surface of the cultural resource study area during the field reconnaissance.

[133] City of Los Angeles Department of Recreation and Parks, Environmental Management Division. African Sausage Tree (*Kigelia africana).* Undated. Available: https://www.laparks.org/sites/default/files/forest/pdf/kigeliaAfricana_macArthurPk.pdf.

4.3.4 Thresholds of Significance

The proposed project would result in a significant impact related to cultural resources if it would:

Threshold 4.3-1 Cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines Section 15064.5.

Threshold 4.3-2 Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines Section 15064.5.

Threshold 4.3-3 Directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

These thresholds are from Appendix G of the State CEQA Guidelines.

4.3.5 Project Impacts

4.3.5.1 Impact 4.3-1

Summary Conclusion for Impact 4.3-1: Construction of the proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines Section 15064.5. This would be a *less than significant impact*.

4.3.5.1.1 Impacts

As shown in Table 4.3-1 and evaluated in **Appendix D**, six historic buildings and/or places were identified within or near the cultural resource study area. The potential for the proposed project to result in impacts to these resources is discussed below.

MacArthur Park

MacArthur Park is itself designated as LAHCM #100 and has been determined to be eligible for the National Register and the California Register. The park contains multiple historic statues and artwork. The park has undergone substantial changes over the years, as described in Section 4.3.3.2. The introduction of the proposed water feature would be an additive feature consistent with the historical function and use of the park. The water feature would not interfere or conflict with the reason that the park was designated as an LAHCM. The subsurface work would not have any visual presence nor change the function of the park. The proposed project would result in visible changes to parts of the park during the construction period, but these changes would be temporary and generally consistent with regular construction and maintenance activities occurring at the park and in the surrounding urbanized area. As the proposed project would not result in a substantial adverse change to MacArthur Park, the impact of the proposed project on MacArthur Park as a historical resource would be ***less than significant***.

Other Historical Resources

There are a number of older buildings located in proximity to the proposed project. Some of these have been identified as historical resources for the purposes of CEQA whereas others have not. None of the other historical resources identified in Table 4.3-1, besides MacArthur Park, would be directly affected by the proposed project. Construction of the proposed project would not cause any direct disturbance of, or changes to, any other historical resources, nor cause any direct permanent change to contributing features of any historic resource. With the exception of the water feature, all proposed project features would be subsurface. Construction activities would introduce new and temporary visual elements near historical resources (e.g., trenching, construction equipment, construction fencing); however, these

visual elements would be temporary and would not represent an indirect change to the environment so substantial as to interfere with the significance of a historical resource. Construction of the proposed project would generate noise and vibration; potential indirect effects of noise and vibration on historical resources are discussed in Section 4.6, *Noise and Vibration*. As the proposed project would not result in a substantial adverse change to the other historical properties, the impact of the proposed project on these historical resources and would be ***less than significant***.

Heritage Trees

As discussed in Section 4.3.3.2, there are Heritage trees present in MacArthur Park. The proposed project would not directly nor indirectly affect any Heritage trees at the park. Therefore, the proposed project would not result in a substantial change to any Heritage trees and there would be ***no impact***.

4.3.5.1.2 Mitigation Measures

Because the proposed project would result in a ***less than significant impact*** relative to historical resources, and ***no impact*** to Heritage trees, no mitigation is required.

4.3.5.1.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address historical resources. The proposed project would result in a ***less than significant impact*** to historical resources and ***no impact*** to Heritage trees.

4.3.5.2 Impact 4.3-2

Summary Conclusion for Impact 4.3-2: Construction of the proposed project could cause a substantial adverse change in the significance of an unknown archaeological resource pursuant to State CEQA Guidelines Section 15064.5. This would be a *significant impact*.

4.3.5.2.1 Impacts

As discussed in Section 4.3.3.2, no previously-recorded archaeological resources–including Native American or historic sites, features, or isolates–have been identified or recovered within the boundaries, or within a quarter-mile radius, of the cultural resource study area. The proposed project is located in roadway rights-of-way and in disturbed areas that are not likely to retain undiscovered archaeological resources because resources in disturbed soils may have been destroyed or displaced from prior disturbances (e.g., rough grading or trenching, road/sidewalk construction). Previous studies conducted within a half-mile radius of the project site concluded that no significant archaeological prehistoric or historic sites were found that would be directly or indirectly impacted by the proposed project. In addition, field reconnaissance yielded negative results for archaeological resources on the surface of the cultural resource study area. Despite the lack of recorded archaeological resources, the proposed project has the potential to disturb unidentified archaeological resources during construction excavation. This could result in a substantial adverse change in the significance of archaeological resources, which would be a ***significant impact***.

4.3.5.2.2 Mitigation Measures

- **MM-CR-1. Archaeological Resources Pre-construction Worker Training.**

  Prior to the commencement of ground disturbing activities, a professional qualified archaeologist shall be retained to provide construction personnel with a briefing in the identification of archaeological resources and information on regulatory requirements for the protection of cultural resources. The briefing shall include examples of cultural resources (i.e., archaeological, Native American, and paleontological resources) that may be onsite and protocols to follow if discoveries are made. The archaeologist shall develop the training program and any supplemental materials necessary for its implementation.

- **MM-CR-2. Archaeological Resources Monitoring.**

  Prior to initiation of any project-related grading or excavation activities, a qualified archaeologist and an archaeological monitor under the archaeologist's direction shall be retained to provide monitoring during ground disturbing (i.e., excavation) activities in native soils.

  Resource Identification. During construction, should subsurface archaeological resources be discovered, all activity within 50 feet of the find shall stop and the qualified archaeologist shall assess the significance of the find in accordance with State CEQA Guidelines Section 15064.5. Work shall not resume in the direct area of the discovery until it is assessed by the archaeologist and they indicate that construction can resume.

  Resource Evaluation and Recovery. If any find is determined to be significant, the archaeologist shall determine, in consultation with the implementing agency, appropriate avoidance measures or other appropriate mitigation. Per State CEQA Guidelines Section 15126.4(b)(3), preservation in place shall be the preferred means to avoid impacts to archaeological resources qualifying as historical resources. Consistent with State CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures, such as data recovery or other appropriate measures, in consultation with the implementing agency, as applicable. When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provisions for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared by the archaeologist prior to any excavation of the resource being undertaken. Any resulting data recovery reports shall be deposited with the California Historical Resources Regional Information Center or a legal repository.

  If an archaeological site does not qualify as a historical resource but meets the criteria for a unique archaeological resource as defined in Section 21083.2 of the Public Resources Code, then the site shall be treated in accordance with the provisions of Section 21083.2.

  Human Remains. If human remains are encountered at any point during project excavation, the contractor shall immediately cease all work on the project until the coroner deems it appropriate to resume. All procedures before and after the human remains are removed shall follow applicable laws and regulations, including Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98.

Reporting and Curation. Reporting shall be completed in conformance with the guidelines set forth by the California Department of Parks and Recreation Office of Historic Preservation for Archaeological Research Management Reports. Proper curation and archiving of artifacts shall be conducted in accordance with regulatory requirements and industry standards. Within three months of the completion of monitoring, a compliance report shall be submitted to the implementing agency that summarizes the monitoring efforts, including any artifacts that have been processed. The final report shall be submitted to the South Central Coastal Information Center.

4.3.5.2.3 Significance of Impact After Mitigation

With implementation of Mitigation Measures MM-CR-1 and MM-CR-2, the potential for the proposed project to result in significant impacts to archaeological resources would be reduced to a level that is ***less than significant***.

4.3.5.3 Impact 4.3-3

Summary Conclusion for Impact 4.3-2: Construction of the proposed project could directly or indirectly destroy a unique paleontological resource or site. This would be a *significant impact.*

4.3.5.3.1 Impacts

As discussed in the Initial Study prepared for the proposed project (included in **Appendix A** of this EIR), the project area does not contain any unique geologic features. Therefore, the analysis below focuses on paleontological resources.

As discussed in Section 4.3.3.2.4, there are no known fossil localities within the project site or the cultural resource study area although localities have been identified in MacArthur Park outside of the study area (see Table 4.3-2). The project area is located within a highly urbanized area and has been subject to disturbance by previous development that has likely displaced surficial paleontological resources, particularly the portions of the project site within roadways. However, there exists a potential to uncover unknown paleontological resources as the sediments present in the cultural resources study area consists of formations that have yielded significant vertebrate fossil remains at other nearby locations. While surficial sediment is unlikely to yield paleontological resources, fossiliferous sediment may be present at an unknown depth. Since the proposed project would include excavations of varying depths across the project site, the proposed project could directly or indirectly destroy previously unknown unique paleontological resources. This would be a ***significant impact***.

4.3.5.3.2 Mitigation Measures

- **MM-CR-3. Paleontological Resources Pre-construction Worker Training.**

  Prior to the commencement of ground disturbing activities, a qualified paleontologist shall be retained to create a Worker's Environmental Awareness Program pamphlet that will be provided as training to construction personnel to understand regulatory requirements for the protection of paleontological resources. This training shall include examples of paleontological resources to be aware of in the vicinity and protocols to follow if discoveries are made. The paleontologist shall develop the pamphlet and any supplemental materials necessary to implement the program.

- **MM-CR-4. Paleontological Resources Monitoring.**

  Prior to initiation of any project-related grading or excavation activities, a professional paleontologist and a paleontological monitor under the paleontologist's direction shall be retained. The paleontological monitor shall monitor all excavation in native soils.

  Monitoring. Monitoring will entail the visual inspection of excavated or graded areas as well as trenching, sidewalls, and entrance/exit pits during project excavation. If no significant fossils have been exposed, the paleontologist may determine that full time monitoring is no longer necessary, and periodic spot checks or no further monitoring may be recommended.

  Resource Identification, Evaluation, and Recovery. If a paleontological resource is encountered when a monitor is not onsite, all construction shall cease within at least 50 feet of the discovery and the paleontologist or paleontological monitor shall be notified immediately. If the monitor is present at the time of discovery, then the monitor will have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance. Work shall not resume in the direct area of the discovery until it is assessed, and the paleontologist indicates that construction can resume. If the resource is found to be significant, the paleontologist shall systematically remove and stabilize the specimen(s) in anticipation of preservation. If necessary, soil samples will be collected per Society of Vertebrate Paleontologists standards. After basic laboratory analysis and cataloging has been completed, the specimen(s) shall be curated at a qualified research facility, such as the Los Angeles County Natural History Museum or other legal repository. Within three months of the laboratory analysis, a compliance report shall be submitted to the implementing agency that summarizes the efforts and result. The final report shall be submitted to the Los Angeles County Natural History Museum or other legal repository.

4.3.5.3.3 Significance of Impact After Mitigation

With implementation of Mitigation Measures MM-CR-3 and MM-CR-4, the potential for the proposed project to result in significant impacts to paleontological resources would be reduced to a level that is ***less than significant***.

4.3.6 Cumulative Impacts

4.3.6.1 Historical Resources

Table 3-1 in Chapter 3, *Overview of Project Setting*, identifies planned and proposed development projects in the vicinity of the proposed project. These projects are shown in Figure 3-1. Two projects identified in Table 3-1 (MacArthur Park Playground Project and Westlake MacArthur Park Pedestrian Improvements) consist of improvements to MacArthur Park, which is a designated LAHCM. As with the proposed project, these projects would enhance the recreational value of the park and would be consistent with its historical function and use. These projects, in combination with the proposed project, would not interfere or conflict with the reason that the park was designated as an LAHCM. Therefore, the proposed project, in combination with other cumulative projects, would not cause a substantial adverse change in the significance of MacArthur Park as a historical resource and cumulative impacts to this resource would be ***less than significant.***

One cumulative project, the 7th Street Los Angeles Neighborhood Initiative [LANI] Westlake Transit Improvement Project, is located adjacent to several historical resources located on 7th Street (2126-2130 W. 7th Street, 2212-2228 W. 7th Street, 2410-2414 W. 7th Street, and 2416-2422 W. 7th Street). As discussed in Section 4.3.5.1.1, the proposed project would not directly affect these historical resources. Moreover, project-related construction activities would not result in substantial adverse changes to historical properties, including the resources on 7th Street. Similar to the proposed project, implementation of the 7th Street LANI Westlake Transit Improvement Project would not result in direct impacts to these historical resources. As with the proposed project, changes in the visual setting during construction would be temporary and would not result in substantial adverse changes to the historical resources. Therefore, the proposed project, in combination with other cumulative projects, would not cause a substantial adverse change in the significance of a historical resource and cumulative impacts to historical resources would be ***less than significant.***

4.3.6.2 Archaeological Resources

As noted above, cumulative projects are identified in Table 3-1 and shown in Figure 3-1. Four of the cumulative projects (MacArthur Park Playground Project, Westlake MacArthur Park Pedestrian Improvements, Westlake MacArthur Park Area Transit Improvements, and 7th Street LANI Westlake Transit Improvement Project) overlap or are located close to the footprint of the proposed project. Implementation of these projects, in combination with the proposed project, has the potential to result in a cumulative impact to archaeological resources.

The project area is located within a highly urbanized area and has been subject to disturbance by commercial and residential development, and other on-going construction activities. Thus, surficial archaeological resources that may have existed at one time have likely been displaced by these disturbances. As discussed in Section 4.3.5.2.1, previous studies conducted concluded that no significant archaeological prehistoric or historic sites were found within a half-mile radius of the project site, which includes all of the cumulative projects identified in Table 3-1. While discovery of archaeological resources in previously-disturbed areas and artificial fill deposits is unlikely, excavations associated with the proposed project and other cumulative projects could disturb unidentified archaeological resources during construction. Therefore, the proposed project, in combination with other cumulative projects, could cause a substantial adverse change in the significance of an archaeological resource. This would be a ***significant cumulative impact*** to archaeological resources. Because the proposed project, by itself, could result in a significant impact to unidentified archaeological resources during construction, as detailed in Section 4.3.5.2.1, the project's contribution to the significant cumulative impact could be ***cumulatively considerable***.

Mitigation Measures MM-CR-1 and MM-CR-2 would reduce project-related archaeological impacts to a level that is less than significant. Therefore, with implementation of these mitigation measures, the project's contribution to the significant cumulative impact to archaeological resources would ***not be cumulatively considerable***.

4.3.6.3 Paleontological Resources

As noted above, cumulative projects are identified in Table 3-1 and shown in Figure 3-1. Four of the cumulative projects (MacArthur Park Playground Project, Westlake MacArthur Park Pedestrian Improvements, Westlake MacArthur Park Area Transit Improvements, and 7th Street LANI Westlake Transit Improvement Project) overlap or are located close to the footprint of the proposed project. Implementation of these projects, in combination with the proposed project, has the potential to result in a cumulative impact to paleontological resources.

The project area is located within a highly urbanized area and has been subject to disturbance by commercial and residential development, and other on-going construction activities. Thus, surficial paleontological resources that may have existed at one time have likely been displaced by these disturbances. As discussed in Section 4.3.3.2.4 and in **Appendix D**, although previous studies conducted concluded that no known fossil localities within the cultural resource study area, eight vertebrate fossil localities were identified within MacArthur Park and six additional localities were identified nearby. While discovery of paleontological resources in previously disturbed areas and artificial fill deposits within the project area is unlikely, excavations in fossiliferous sediment associated with the proposed project and other cumulative development projects at/adjacent to the project site could directly or indirectly destroy a previously unknown unique paleontological resource or site. This would be a ***significant cumulative impact*** to paleontological resources. Because the proposed project, by itself, could result in a significant impact to unidentified paleontological resources during construction, as detailed in Section 4.3.5.3.1, the project's contribution to the significant cumulative impact could be ***cumulatively considerable***.

Mitigation Measures MM-CR-3 and MM-CR-4 would reduce project-related paleontological impacts to a level that is less than significant. Therefore, with implementation of these mitigation measures, the project's contribution to the significant cumulative impact to paleontological resources would ***not be cumulatively considerable***.

4.3.7 Summary of Impact Determinations

Table 4.3-3 summarizes the impact determinations of the proposed project relative to cultural resources, as described in Section 4.3.5. Identified impacts are based on the significance criteria presented in Section 4.3.4, the information and data sources cited throughout Section 4.3, and the professional judgment of the report's preparers, as applicable.

Table 4.3-3 Summary of Impacts and Mitigation Measures Associated with the Proposed Project Related to Cultural Resources

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Impact 4.3-1: Construction of the proposed project would not cause a substantial adverse change in the significance of a historical resource. This would be a ***less than significant impact***. The proposed project would have ***no impact*** on Heritage trees.	Historical Resources: Less than Significant Heritage Trees: No Impact	Historical Resources: No mitigation is required Heritage Trees: Not applicable	Historical Resources: Less than Significant Heritage Trees: No Impact
Impact 4.3-2: Construction of the proposed project could cause a substantial adverse change in the significance of an unknown archaeological resource. This would be a ***significant impact***.	Significant Impact	MM-CR-1. Archaeological Resources Pre-construction Worker Training. MM-CR-2. Archaeological Resources Monitoring.	Less than Significant
Impact 4.3-3: Construction of the proposed project could directly or indirectly destroy a unique paleontological resource or site. This would be a ***significant impact***.	Significant Impact	MM-CR-3. Paleontological Resources Pre-construction Worker Training. MM-CR-4. Paleontological Resources Monitoring.	Less than Significant
Cumulative Impact: Implementation of the proposed project, in conjunction with other development projects, could result in a ***significant cumulative impact*** to archaeological resources. The proposed project's contribution to this significant cumulative impact could be ***cumulatively considerable***.	Cumulatively Significant	MM-CR-1. Archaeological Resources Pre--construction Worker Training. MM-CR-2. Archaeological Resources Monitoring.	Contribution of the proposed project would not be cumulatively considerable
Cumulative Impact: Implementation of the proposed project, in conjunction with other development projects, could result in a ***significant cumulative impact*** to paleontological resources. The proposed project's contribution to this significant cumulative impact could be ***cumulatively considerable***.	Cumulatively Significant	MM-CR-3. Paleontological Resources Pre-construction Worker Training. MM-CR-4. Paleontological Resources Monitoring.	Contribution of the proposed project would not be cumulatively considerable

4.4 Greenhouse Gases

4.4.1 Introduction

This greenhouse gas (GHG) analysis examines direct and indirect GHG emission and global climate change (GCC) impacts that would result from activities associated with construction and operation of the proposed project.

This section describes applicable international, federal, state, and local regulations that address GHG emissions and GCC in California and the City of Los Angeles. Existing climate conditions that influence GCC are also described. GHG emissions from project activities are summarized and evaluated within this analysis. The analysis also assesses cumulative and project-related contributions to GCC that would result from the proposed project. GHG emission calculations are included in **Appendix B** of this EIR.

4.4.1.1 Predicted Global and Local Climate Change

Briefly stated, GCC is a change in the average climatic conditions of the earth, as characterized by changes in wind patterns; storm frequencies, strengths, or locations; precipitation; and temperature. The baseline by which these changes are measured originates in geological records identifying temperature changes that occurred in the past, such as during previous ice ages. Many of the recent concerns over GCC are based on research that has used these data to extrapolate a level of statistical significance, specifically focusing on temperature records and trends from the past 150 years (the Industrial Age) that differ from previous climate changes in terms of rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) developed several emission projections of GHGs needed to stabilize global temperatures and climate change impacts. The IPCC predicted that the global mean temperature change from 2005 to 2100, given six ambient carbon dioxide (CO_2) scenarios, could range from 1.5 to 4.8 degrees Celsius (°C) (2.7 to 8.6 degrees Fahrenheit [°F]). Regardless of analytical methodology, global average temperature and mean sea level are expected to rise under all scenarios.[134]

Climate models applied to California's conditions project that, under different scenarios, temperatures in California are expected to increase by 2.1 to 8.6 degrees Fahrenheit (°F). Almost all climate scenarios include a continuing trend of warming through the end of the century given the substantial amounts of GHGs already released, and the difficulties associated with reducing emissions to a level that would stabilize the climate. According to California's Fourth Climate Change Assessment, the following climate change effects are predicted in the Los Angeles region over the course of the next century.[135]

- Continued future warming will occur over the Los Angeles Region, with average maximum temperatures projected to increase approximately 4 to 5°F by mid-century and 5 to 8°F by late century.

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[134] Intergovernmental Panel on Climate Change. Climate Change 2014 – Mitigation of Climate Change Working Group III Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. 2014. Page 439. Available: https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter6.pdf.

[135] Hall, Alex, Neil Berg, and Katharine Reich. California's Fourth Climate Change Assessment –Los Angeles Summary Report. 2018. Page 6. Available: https://www.energy.ca.gov/sites/default/files/2019-11/Reg%20Report-%20SUM-CCCA4-2018-007%20LosAngeles_ADA.pdf.

- Extreme temperatures are expected to increase. The hottest day of the year might be 10°F warmer by the late century, while the number of extremely hot days is also expected to increase.
- Dry and wet extremes in precipitation are both expected to increase. The wettest day of the year is expected to increase across most of the region by the end of the century. Furthermore, the frequency and severity of atmospheric river events are also projected to increase.
- Sea levels are projected to rise, but there is an appreciable amount of uncertainty in the different modeled emission scenarios. By mid-century, approximately 1 to 2 feet of sea level rise is projected; by the end of the century—under extreme projections—approximately 8 to 10 feet of sea level rise is projected.

Climate change has increased the frequency and severity of wildfires in California; the area burned by wildfires has increased each year since 1950. The August Complex Fire (started in August 2020) is the largest recorded wildfire in California history, and the Dixie Fire (started in July 2021) is the second largest. Nearly half of the largest California wildfires (9 of 20) occurred in 2020 or 2021.[136] Of the 20 most destructive California wildfires on record, 12 have occurred since 2017.[137]

Temperature increases would lead to adverse environmental impacts in a wide variety of areas, including sea level rise, reduced snowpack (resulting in changes to existing water resources), increased risk of wildfires, and public health hazards associated with higher peak temperatures, heat waves, and decreased air quality.

4.4.1.2 Greenhouse Gases

A layer of Earth's atmosphere acts as an insulating blanket, trapping sufficient solar energy to keep the global average temperature in a suitable range. The blanket is a collection of atmospheric gases called GHGs. These gases—primarily water vapor, CO_2, methane (CH_4), nitrous oxide (N_2O), ozone, chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—collectively act as an effective global insulator by reflecting visible light and infrared radiation back to Earth. On a global scale, the dominant human activities that contribute to GHGs are electricity production and vehicle emissions. The USEPA tracks vehicular 'tailpipe emissions,' with a typical passenger vehicle emitting approximately 4.6 metric tons of CO_2 per year.[138] Both activities have elevated GHG concentrations within the atmosphere. Many scientists believe that these elevated levels are, in turn, causing Earth's temperature to rise, which is expected to lead to changes in rainfall patterns, a reduction in polar ice caps, a rise in sea level, and a wide range of impacts on plants, wildlife, and humans.

The global warming potential (GWP) of a GHG pollutant is defined as the amount of heat absorbed by a GHG pollutant over a particular time period, typically 100 years. Individual GHG pollutant species have

[136] California Department of Forestry and Fire Protection. Top 20 Largest California Wildfires. Available: https://www.fire.ca.gov/media/4jandlhh/top20_acres.pdf. Accessed February 7, 2022.

[137] California Department of Forestry and Fire Protection. Top 20 Most Destructive California Wildfires. Available: https://www.fire.ca.gov/media/t1rdhizr/top20_destruction.pdf. Accessed February 7, 2022.

[138] United States Environmental Protection Agency. Green Vehicle Guide–Greenhouse Gas Emissions from a Typical Passenger Vehicle. Available: https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle. Accessed May 6, 2022.

varying GWP and atmospheric lifetimes.[139] The carbon dioxide equivalent (CO_2e) is a metric measure used to compare the emissions from various GHGs based upon their GWP; CO_2e represents the amount of CO_2 that would be required to warm the planet as much as the pollutant being emitted. In other words, if a pollutant has a GWP of 25, then 1 ton of its emissions would equate to 25 tons of CO_2 emissions. The primary GHG emissions associated with proposed project construction and operation are CO_2, CH_4, and N_2O. These emissions would occur from direct and indirect fuel combustion by mobile sources (automobiles and construction equipment) or from electrical power generation. Compared to CO_2, CH_4 (with a GWP of 25) and N_2O (with a GWP of 298) have greater global warming effects on a molecule-per-molecule basis.[140]

GHG emissions are characterized by ownership and control of emissions from the sources. As a result, they are identified by 'scopes', ranging from GHGs produced directly by the business to more indirect sources of GHG emissions, such as employee travel and commuting. Direct and indirect emissions can be generally categorized into three broad scopes, as follows:

- Scope 1 – Direct emissions by sources owned and controlled by the reporting entity
- Scope 1 – Indirect GHG emissions from consumption of purchased electricity, heat, or steam (i.e., GHG emissions generated at the power plant that provides electricity at the demand of the site/facility)
- Scope 1 – Other indirect (optional) GHG emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g., transmission and distribution losses) not covered in Scope 2, outsourced activities, waste disposal, and construction

4.4.2 Methodology

Over the past several years, various agencies and jurisdictions in California have considered a number of methodologies and significance thresholds for analyzing the impacts of GHG emissions on GCC. However, at the time of this analysis, no definitive thresholds or methodologies that are applicable to the proposed project have been formally adopted for determining the significance of the project's contribution to GCC in CEQA documents.

Various guidance documents propose generally consistent methodologies for preparing GHG inventories, including The Climate Registry's (TCR) General Reporting Protocol;[141] the joint California Air Resources Board (CARB), California Climate Action Registry (CCAR), and International Council for Local Environmental Initiatives (ICLEI) Local Government Operations Protocol (LGOP);[142] the Association of

[139] United States Environmental Protection Agency. Understanding Global Warming Potentials. Available: https://www.epa.gov/ghgemissions/understanding-global-warming-potentials. Accessed February 7, 2022.

[140] Consistent with the USEPA Inventory of U.S. Greenhouse Gas Emissions and Sinks calculation methodology, the global warming potentials promulgated in the IPCC 4th Assessment Report are used in lieu of those in Assessment Reports 5 or 6 to maintain consistency in comparing GHG emissions of the proposed project and other historical GHG emission assessments.

[141] The Climate Registry. General Reporting Protocol. Version 3.0. May 2019. Available: https://www.theclimateregistry.org/protocols/General-Reporting-ProtocolV3.pdf.

[142] California Air Resources Board. Local Government Operations Protocol. Version 1.1. May 2010. Available: https://ww3.arb.ca.gov/cc/protocols/localgov/pubs/lgo_protocol_v1_1_2010-05-03.pdf.

Environmental Professionals (AEP) Community-Wide GHG Emissions Protocol;[143] and the World Resources Institute (WRI) Greenhouse Gas Protocol.[144] These methodologies were developed for varying purposes and are not specifically tailored to evaluating GHG emissions or climate impacts for CEQA. Nonetheless, these methodologies were applied to analyze direct and indirect GHG emissions of the proposed project, as reflected in the previously defined scope categories. The analysis considers only those GHG emissions that would result from the proposed project and lead to a net change (increase or decrease) in incremental emissions, as compared to baseline conditions.

4.4.2.1 Construction

Construction-related GHG emissions were quantified for each of the proposed project's constituent construction activities (construction tasks). The construction emission sources evaluated in this analysis include on- and off-road construction equipment exhaust, on-road hauling and vendor delivery vehicle exhaust, and worker vehicle exhaust.

The basis for construction emission estimates is the construction equipment schedule, which identifies each construction task's approximate start and end dates and required equipment. Construction of certain tasks would occur in the same geographic location of the proposed project site and overlapping tasks would use the same pool of workers and equipment.[145] Annual emissions were calculated using the California Air Pollution Control Officers Association's (CAPCOA) California Emissions Estimator Model (CalEEMod) Version 2020.4.0.35 for each construction task, based on a 5-day work week and an 8-hour per day single-shift schedule. CalEEMod modeling parameters are provided in **Appendix B** of this EIR.

As further described in Chapter 2, *Project Description*, construction of the proposed project would last approximately 1.5 years.

In accordance with guidance from the South Coast Air Quality Management District (SCAQMD), the principal agency responsible for monitoring and regulating air pollutant emissions in the SoCAB, GHG construction-related emissions were amortized over the estimated project lifetime and included in the project's annual emissions totals.[146,147]

4.4.2.2 Operations

Operations-related GHG emissions were quantified for the expected operation of equipment installed and operated as part of the proposed project and for project-related maintenance activities.

Direct sources of operations-related GHG emissions include exhaust from vehicles used for maintenance activities. Maintenance trips were assumed to occur periodically, requiring two workers and a single

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[143] Association of Environmental Professionals. Forecasting Community-Wide Greenhouse Gas Emissions and Setting Reduction Targets, Draft. May 2012. Available: https://califaep.org/docs/Forecasting_and_Target_Setting.pdf.

[144] World Resources Institute. The Greenhouse Gas Protocol Corporate Standard. Available: https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf. Accessed February 7, 2022.

[145] Overlapping construction tasks would not result in the need for additional equipment or workers (the only substantial project-related construction emission sources). When calculating total project emissions, only the greater GHG emissions from overlapping construction tasks were included in the summation of total project emissions.

[146] South Coast Air Quality Management District. Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold. October 2008. Page 3-9. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf. Accessed February 10, 2022.

[147] The proposed project lifetime is estimated as 30-years per SCAQMD guidance. Thus, total construction GHG emissions were divided by 30 and added to the annual operational emissions for the evaluation of GHG emissions.

maintenance truck or comparable vehicle. Default GHG emission factors for medium duty vehicles from CARB's Emission Factor Estimator Model (EMFAC) Version 2017 were used to calculate emissions on a per trip basis. For purposes of this analysis, it was conservatively estimated that maintenance activities would be required approximately 35 times per year. Specifically, as identified in Chapter 2, *Project Description*, maintenance activities would include inspection/cleaning of the pretreatment unit after every storm (average number of storms greater than or equal to 0.1 inch of rainfall is 20 per year), periodic inspection/cleaning of the stormwater treatment unit, quarterly wetlands cleaning, and separate biannual inspection and cleaning of subgrade pumping equipment.

Indirect GHG emissions would result from the operation of stationary equipment installed as part of the proposed project. Under the proposed project, one small variable-flow pump would operate almost continuously to recirculate the water in MacArthur Lake. Additionally, three variable-flow pumps in Lake Street would operate periodically. Two of these pumps would operate during wet weather rain flows, which are estimated to occur during 20 rain events each year. One of those pumps would operate approximately 75 percent of the time during rain events (approximately 360 hours per year); the other would operate approximately 50 percent of the time during rain events (approximately 240 hours per year). The third pump would operate during dry weather flows, operating approximately 1 hour per day (approximately 365 hours per year). The estimated horsepower for each pump was converted to kilowatts (kW) and multiplied by the annual hours of operation to determine the annual power demand of the pump. Carbon intensity factors for the project power supplier, the Los Angeles Department of Water and Power (LADWP), were then used to convert the annual power demand to GHG emissions.[148,149]

4.4.3 Existing Conditions

4.4.3.1 Regulatory Setting

4.4.3.1.1 International

Intergovernmental Panel on Climate Change

In 1988, the United Nations and the World Meteorological Organization established the IPCC to provide policymakers with regular scientific assessments on the current state of knowledge about climate change and "to provide governments…with scientific information that they can use to develop climate policies." The IPCC "provides regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation."[150] Since its inception, the IPCC has delivered five comprehensive scientific reports about climate change, with the latest complete report (the Fifth Assessment Report) released in four parts between September 2013 and November 2014.[151] The Sixth Assessment Report is currently in process. Three parts have been released to date, the first of which, *AR6 Climate Change 2021: The Physical Science Basis*, was released on August 7, 2021; parts two and three, *Climate Change 2022: Impacts, Adaptation and Vulnerability* and *Climate Change 2022:*

[148] Los Angeles Department of Water and Power, 2020 Power Content Label. Available: https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-power/a-p-powercontentlabel. Accessed February 10, 2022.

[149] The carbon intensity of a utility provider indicates the total GHG emissions (typically in metric ton [MT] CO_2e) per energy unit (typically in megawatt-hours [MWh]) generated by the aggregated operation of all power facilities under the utility network.

[150] Intergovernmental Panel on Climate Change. About the IPCC. Available: https://www.ipcc.ch/about/. Accessed August 19, 2020.

[151] Intergovernmental Panel on Climate Change. History of the IPCC. Available: https://www.ipcc.ch/about/history/. Accessed June 30, 2020.

Mitigation of Climate Change, were released on February 28, 2022 and April 4, 2022, respectively. Additional parts, including the Synthesis Report, are due to be released later in 2022.[152]

United Nations Framework Convention on Climate Change

The United Nations Framework Convention on Climate Change (UNFCCC) is an International Environmental Treaty that entered into force on March 21, 1994. It has been ratified by 197 countries, including the United States. Under the Convention, governments (1) gather and share information on GHG emissions, national policies, and best practices; (2) launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and (3) cooperatively prepare for adapting to climate change impacts.[153]

Kyoto Protocol

The Kyoto Protocol, which was adopted on December 11, 1997, and entered into force on February 16, 2005, extends the commitments made under the UNFCCC. More than 160 countries, which account for 55 percent of global emissions, have signed the protocol committing to reduce their emissions of GHGs or engage in emissions trading. The United States symbolically signed the Kyoto Protocol in 1998; however, the U.S. Senate has not ratified the protocol. The original GHG reduction commitments made under the Kyoto Protocol expired at the end of 2012. An extension of the commitment period to December 31, 2020, was agreed to at the Doha, Qatar, meeting held December 8, 2012.

Paris Agreement

Negotiations regarding measures to be taken after the end of the Kyoto Protocol commitment period resulted in the 2015 adoption of the Paris Agreement. The United States formally entered the Paris Agreement in September 2016 through an executive order; however, the agreement was not submitted to Congress for approval. The United States announced its intention to withdraw from the accord in March 2017, and officially did so on November 4, 2020. The United States officially rejoined the Paris Climate Accord on February 19, 2021.

4.4.3.1.2 Federal

U.S. Environmental Protection Agency Endangerment Findings

In 2010, the U.S. Environmental Protection Agency (USEPA) adopted an endangerment finding for GHGs under Clean Air Act (CAA) Section 202(a) through which the Administrator determined that: (1) six GHGs, taken in combination, endanger both the public health and welfare of current and future generations, and (2) the combined emissions of GHGs from new motor vehicles contribute to this GHG air pollution.[154] The Endangerment Finding itself is not a regulation, but it establishes a legal obligation for USEPA to regulate GHGs.

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[152] Intergovernmental Panel on Climate Change. Report. Available: https://www.ipcc.ch/report/sixth-assessment-report-cycle/#:~:text=The%20IPCC%20is%20currently%20in,due%20for%20release%20in%202022. Accessed May 6, 2022.

[153] United Nations. United Nations Framework Convention on Climate Change. 1998. Available: https://unfccc.int/resource/docs/convkp/kpeng.pdf.

[154] U.S. Environmental Protection Agency. Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, Final Rule. Federal Register, Vol. 74, No. 239. December 15, 2009. Pages 66496 - 66546. Available: https://www.govinfo.gov/content/pkg/FR-2009-12-15/pdf/E9-29537.pdf.

Greenhouse Gas and Fuel Efficiency Standards for Clean Vehicles

The USEPA and the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) finalized several joint and separate rules that establish programs designed to reduce GHG emissions and improve fuel economy for cars and trucks. These rules continue to respond to the U.S. Supreme Court's affirmation that GHG should be regulated as air pollutants.

Passenger Cars and Light-Duty Trucks

In April 2010, the USEPA and NHTSA finalized new standards for new (model years 2012 through 2016) passenger cars, light-duty trucks, and medium-duty passenger vehicles. Under these standards, CO_2 emission limits would decrease from 295 grams per mile (g/mi) in 2012 to 250 g/mi in 2016 for a combined fleet of cars and trucks. If all the necessary emission reductions were made from fuel economy improvements, then the standards would correspond to a combined fuel economy of 30.1 miles per gallon (mpg) in 2012 and 35.5 mpg in 2016.[155]

In August 2012, the USEPA and NHTSA issued a joint Final Rule for national program standards for future light-duty vehicles (model years 2017 through 2025), which would correspond to a combined fuel economy of 36.6 mpg in 2017 and 54.5 mpg in 2025. This rulemaking also established a regulatory commitment to conduct a mid-term evaluation of the standards for model years 2022 through 2025. A mid-term evaluation was finalized in April 2018 in the USEPA's Mid-term Evaluation Final Determination. This determination examined factors ranging from, but not limited to, the development in powertrain technology, vehicle electrification, light-weighting and vehicle safety impacts, penetration of fuel technologies in the marketplace, consumer adoption of fuel-efficient technologies, trends in fuel prices, and employment impacts. The determination found that the 2022 through 2025 model year GHG standards were no longer appropriate and should be revised.[156]

In August 2018, the USEPA and NHTSA proposed the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks" (SAFE Vehicles Rules). The SAFE Vehicles Rule amended Corporate Average Fuel Economy (CAFE) and tailpipe CO_2 emissions standards for light-duty vehicles and established new standards covering model years 2021 through 2026. The USEPA also proposed to withdraw the waiver previously provided to California under Section 209 of the CAA for the state's GHG and Zero-Emission Vehicle (ZEV) programs. The NHTSA proposed regulatory text implementing its statutory authority to set nationally-applicable fuel economy standards that explicitly stated that those state programs would also be preempted under NHTSA's authorities.[157] On September 27, 2019, the USEPA and NHTSA published its Final Rule to revoke California's waiver and

[155] U.S. Environmental Protection Agency. Regulatory Announcement: EPA and NHTSA Finalize Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks. April 2010. Available: https://nepis.epa.gov/exe/zypdf.cgi/p100akhw.pdf?Dockey=p100akhw.pdf.

[156] U.S. Environmental Protection Agency. Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emissions Standards for Model Years 2022-2025. April 13, 2018. Available: https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas#overview.

[157] U.S. Environmental Protection Agency and U.S. Department of Transportation, National Highway Traffic Safety Administration. Notice of Proposed Rule Making–The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks. 83 FR 42986. August 24, 2018. Available: https://www.govinfo.gov/content/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

establish the federal preemption in the Federal Register.[158] California and a coalition of other states sued both the USEPA and the NHTSA, challenging their decisions that would block states from setting tougher automobile emissions standards. On April 30, 2020, the SAFE standards for model years 2021 through 2026 light-duty vehicles were made final.[159]

On January 20, 2021, Presidential Executive Order 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, was published.[160] This order mandated the review of actions or policies taken between January 20, 2017 and January 20, 2021 for consistency with current national climate objectives and tasked agencies to suspend, revise, rescind, or amend these actions or policies as appropriate. In accordance with this order, on May 12, 2021, the NHTSA proposed to repeal the SAFE vehicle rule preemption on state fuel efficiency and GHG standards (referred to as the 'CAFE Preemption Notice of Proposed Rulemaking,' or NPRM),[161] and on September 3, 2021, new CAFE standards were proposed for 2024 through 2026 model year light-duty vehicles.[162] Around the same time, USEPA proposed revisions to GHG emission standards under the CAA for light-duty vehicles for 2023 and later model years (through 2026) to make the standards more stringent.[163] The Final Rule concerning the CAFE Preemption was published on December 29, 2021[164] and USEPA's Final Rule revising the GHG emissions standards for light-duty vehicles was published on December 30, 2021.[165] NHTSA's Final Rule covering CAFE standards was published on May 2, 2022. The new CAFE standards require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026 by increasing fuel efficiency by 8 percent annually for model years 2024 and 2025, and 10 percent annually for model year 2026. NHTSA believes that compliance with the CAFE standards and the GHG emission standards will be achievable with the same vehicle fleet.[166]

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[158] U.S. Environmental Protection Agency and U.S. Department of Transportation, National Highway Traffic Safety Administration. The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. 84 FR 51310. September 27, 2019. Available: https://www.govinfo.gov/content/pkg/FR-2019-09-27/pdf/2019-20672.pdf.

[159] U.S. Environmental Protection Agency and U.S. Department of Transportation, National Highway Traffic Safety Administration. The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks. 85-FR-24174. April 30, 2020. Available: https://www.govinfo.gov/content/pkg/FR-2020-04-30/pdf/2020-06967.pdf.

[160] Executive Order 13990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis. 86 FR 7037. January 25, 2021. Available: https://www.govinfo.gov/content/pkg/FR-2021-01-25/pdf/2021-01765.pdf.

[161] U.S. Department of Transportation, National Highway Traffic Safety Administration. Notice of Proposed Rule Making–Corporate Average Fuel Economy (CAFE) Preemption. 86 FR 25980. May 12, 2021. Available: https://www.govinfo.gov/content/pkg/FR-2021-05-12/pdf/2021-08758.pdf.

[162] U.S. Department of Transportation, National Highway Traffic Safety Administration. Notice of Proposed Rule Making–Corporate Average Fuel Economy Standards for Model Years 2024-2026 Passenger Cars and Light Trucks. 86 FR 49602. September 3, 2021. Available: https://www.govinfo.gov/content/pkg/FR-2021-09-03/pdf/2021-17496.pdf.

[163] U.S. Environmental Protection Agency. Proposed Rule–Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards. 86 FR 43726. August 10, 2021. Available: https://www.govinfo.gov/content/pkg/FR-2021-08-10/pdf/2021-16582.pdf.

[164] U.S. Department of Transportation, National Highway Traffic Safety Administration. Final Rule–Corporate Average Fuel Economy (CAFE) Preemption. 86 FR 74236. December 29, 2021. Available: https://www.govinfo.gov/content/pkg/FR-2021-12-29/pdf/2021-28115.pdf.

[165] U.S. Environmental Protection Agency. Final Rule–Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards. 86 FR 74434. December 30, 2021. Available: https://www.govinfo.gov/content/pkg/FR-2021-12-30/pdf/2021-27854.pdf.

[166] U.S. Department of Transportation, National Highway Traffic Safety Administration. Final Rule–Corporate Average Fuel Economy Standards for Model Years 2024-2026 Passenger Cars and Light Trucks. 87 FR 25710. May 2, 2022. Available: https://www.govinfo.gov/content/pkg/FR-2022-05-02/pdf/2022-07200.pdf.

Medium and Heavy-Duty Engines and Vehicles

In October 2010, the USEPA and NHTSA announced a program to reduce GHG emissions and to improve fuel efficiency for medium- and heavy-duty vehicles (model years 2014 through 2018). This program was adopted on August 9, 2011. In October 2016, Phase 2 GHG and fuel efficiency standards for medium- and heavy-duty vehicles were adopted. These standards were anticipated to reduce CO_2 emissions by approximately 1.1 billion metric tons and decrease oil consumption by as much as 2 billion barrels over the lifetime of the vehicles sold under the program.[167]

Fuel Efficiency Standards for Construction Equipment

The federal government sets fuel efficiency standards for nonroad diesel engines that are used in construction equipment. The regulations–contained in 40 Code of Federal Regulations (CFR) Parts 1039, 1065, and 1068–include multiple tiers of emission standards. In 2011, USEPA adopted a comprehensive national program to reduce emissions from nonroad diesel engines by integrating engine and fuel controls into one system to gain the greatest emission reductions. This program required the gradual phase-in of stricter emission regulations. Since 2015, all newly manufactured mobile nonroad diesel engines have been required to meet the strictest Tier 4 emission standards of this program. To meet these Tier 4 emission standards, engine manufacturers have produced new engines with advanced emission control technologies.

4.4.3.1.3 State

The legal framework for GHG emission reduction in California has come about through Executive Orders, legislation, and regulation. The major components of California's climate change initiatives are reviewed below.

California Environmental Quality Act

CEQA requires lead agencies to consider the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHG emissions have the potential to adversely affect the environment because they contribute to GCC. In turn, GCC has the potential to raise sea levels, affect rainfall and snowfall, and affect habitat.

Senate Bill (SB) 97, enacted in August 2007, required the Governor's Office of Planning and Research (OPR) to prepare guidelines for submittal to the California Natural Resources Agency (CNRA) regarding feasible mitigation of GHG emissions or the effects of GHG emissions as required by CEQA.[168] The CNRA adopted amendments to the State CEQA Guidelines addressing GHG emissions on December 30, 2009. The amendments became effective on March 18, 2010. The guidelines, including subsequent revisions in 2018, are reflected in this EIR.

The significance of GHG emissions is specifically addressed in State CEQA Guidelines Section 15064.4, which calls for a lead agency to make a "good-faith effort … to describe, calculate or estimate" GHG

[167] U.S. Environmental Protection Agency, U.S. Department of Transportation, Federal Highway Traffic Safety Administration. Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles — Phase 2. 81 FR 73478. October 25, 2016. Available: https://www.govinfo.gov/content/pkg/FR-2016-10-25/pdf/2016-21203.pdf.

[168] California Senate Bill 97. Chapter 185. Statutes of 2007.

emissions in CEQA environmental documents.[169] Section 15064.4 further states that the analysis of GHG impacts should include consideration of (1) the extent to which the project may increase or reduce GHG emissions, as compared to the existing environmental setting; (2) whether the project emissions would exceed a locally applicable threshold of significance; and (3) the extent to which the project would comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions." Other sections of the Guidelines state that "a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including … plans or regulations for the reduction of GHG emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located."[170] The State CEQA Guidelines do not, however, set a numerical threshold of significance for GHG emissions.

U.S. Climate Alliance

Considering the United States announcement to withdraw from the Paris Agreement in March 2017, California and two other states formed the U.S. Climate Alliance on June 1, 2017. The alliance is a coalition of states that will adhere to the tenets of the Paris Climate Agreement. The goals of the coalition are to reduce net GHG emissions by at least 26 to 28 percent from 2005 levels by 2025 and by 50 to 52 percent by 2030, and collectively achieve overall net-zero GHG emissions as soon as practicable and no later than 2050.[171] The U.S. Climate Alliance has since grown to 25 states or territories within the United States.

Executive Orders

California Governor Arnold Schwarzenegger—through California through Executive Order S-3-05, issued on June 1, 2005—announced the following GHG emission reduction targets: reduce GHG emissions to 2000 levels by 2010, reduce GHG emissions to 1990 levels by 2020, and reduce GHG emissions to 80 percent below 1990 levels by 2050.[172] In 2015, California Governor Edmund G. Brown issued Executive Order B-30-15 to establish a California GHG emissions reduction target of 40 percent below 1990 levels by 2030.[173]

These Executive Orders were followed in 2018 by Executive Order B-55-18, issued by Governor Jerry Brown, which established a new statewide goal to achieve carbon neutrality as soon as possible, and not later than 2045, and achieve and maintain negative emissions thereafter.[174] CARB is taking actions to achieve this executive order. The agency is working with relevant state agencies to define California's

[169] State of California. Guidelines for California Environmental Quality Act (State CEQA Guidelines). California Code of Regulations, Title 14, Chapter 3, Section 15064.4.
[170] State of California. Guidelines for California Environmental Quality Act (State CEQA Guidelines). California Code of Regulations, Title 14, Chapter 3, Section 15064(h)(3).
[171] United States Climate Alliance. United States Climate Alliance Fact Sheet. Updated April 19, 2022. Available: https://static1.squarespace.com/static/5a4cfbfe18b27d4da21c9361/t/625ee318f1cc0a389c5aa3df/1650385688929/USCA_2022+Fact+Sheet+220419.pdf.
[172] California Executive Order S-3-05. June 1, 2005.
[173] California Executive Order B-30-15. April 29, 2015.
[174] California Executive Order B-55-18. September 10, 2018.

carbon neutrality objective (both quantitatively and descriptively).[175] CARB is also researching emission reduction strategies that can be used to achieve carbon neutrality and studying the economic, policy, and other implications of potential strategies.[176] To date, CARB has not adopted a strategy to achieve carbon neutrality (e.g., via an amendment or an update to the Scoping Plan, as discussed below).

Executive Order N-79-20, issued by Governor Gavin Newsom in 2020, specifies that it is to be a goal of the state that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035; that 100 percent of medium- and heavy-duty vehicles in the state will be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks; and that the state will transition to 100-percent, zero-emission off-road vehicles and equipment by 2035, where feasible.[177,178]

California Assembly Bill 32

Assembly Bill 32 (AB 32), titled the California Global Warming Solutions Act of 2006 (Pavley) and signed by Governor Schwarzenegger in September 2006, required CARB to adopt regulations to required CARB to adopt regulations that mandate the reporting and verification of statewide GHG emissions and to monitor and enforce compliance with the program.[179] In general, the bill required CARB to affect reductions in statewide GHG emissions to the equivalent level of emissions estimated for 1990 by 2020 (consistent with Executive Order S-3-05).

CARB has taken numerous actions in response to the directives set forth in AB 32. For example, CARB adopted regulations in December 2007 for mandatory GHG emissions reporting. In December 2008, CARB approved the AB 32 Climate Change Scoping Plan (Scoping Plan) outlining the state's strategy to achieve the 2020 GHG emissions limit. The Scoping Plan proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California's energy sources, save energy, create new jobs, and enhance public health.[180] On August 24, 2011, the Scoping Plan was re-approved by CARB, including the final supplement to its functional equivalent document, as required by CEQA. The First Update to the Scoping Plan, which guided the continued development and implementation of the state's efforts to fight climate change, was approved by CARB on May 22, 2014.

In late 2017, CARB adopted an update to the Scoping Plan to reflect the Executive Order B-30-15 GHG reduction target of 40 percent below 1990 levels by 2030, a target also identified in SB 32, as described below.[181]

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[175] California Air Resources Board. Carbon Neutrality in California Context Webinar. January 23, 2019. Available: https://ww3.arb.ca.gov/cc/scopingplan/meetings/012319/cneutrality_ca.pdf.

[176] California Air Resources Board. AB 32 Scoping Plan Events. Available: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/scoping-plan-meetings-workshops. Accessed February 10, 2022.

[177] California Executive Order N-79-20. September 9, 2020.

[178] Drayage trucks are on-road, diesel-fueled, heavy-duty trucks that transport containers and bulk to and from ports and intermodal railyards, as well as to many other locations.

[179] California Assembly Bill 32. Chapter 488. Statutes of 2006.

[180] California Air Resources Board. Climate Change Scoping Plan: A Framework for Change. Pursuant to AB 32 The California Global Warming Solutions Act of 2006. December 2008. Available: https://ww3.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

[181] California Air Resources Board. California's 2017 Climate Change Scoping Plan. November 2017. Available: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

California Senate Bill 32

Senate Bill 32 (SB 32), which extends the California Global Warming Solutions Act of 2006 (AB 32) beyond 2020, was approved by Governor Brown on September 8, 2016.[182] SB 32 requires CARB to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective methods for reducing GHG emissions to thereby ensure that statewide GHG emissions are subsequently reduced to at least 40 percent below the 1990 statewide GHG emissions limit no later than December 31, 2030, the target established by Executive Order B-30-15. In its 2017 Scoping Plan, CARB adopted a strategy for achieving this goal, which takes into account the key programs associated with implementation of the AB 32 Scoping Plan—such as GHG reduction programs for cars, trucks, fuels, industry, and electrical generation—and builds upon, in particular, existing programs related to the Cap-and-Trade Regulation; the Low Carbon Fuel Standard; substantially cleaner cars, trucks, and freight movement; power generation for the state using cleaner renewable energy; and strategies to reduce methane emissions from agricultural and other wastes by using it to meet the state's energy needs. The 2017 Scoping Plan also addresses, for the first time, GHG emissions from natural and working lands, including the agriculture and forestry sectors.[183]

California Assembly Bill 1493

Enacted on July 22, 2002, Assembly Bill 1493 (AB 1493), commonly known as the Pavley Law (named for then-Assembly Member Fran Pavley, who sponsored the bill), required CARB to develop and adopt regulations that would lead to a reduction in GHGs emitted by passenger vehicles and light-duty trucks. Subsequent regulations adopted by CARB, often referred to as the Pavley regulations, applied to model year 2009 through 2016 vehicles. CARB estimated that the regulations would reduce GHG emissions from the light duty and passenger vehicle fleet by 18 percent in 2020 and by 27 percent in 2030, compared to prior years.[184] In 2011, the U.S. Department of Transportation, USEPA, and California announced a single timeframe for proposing fuel and economy standards, thereby aligning the Pavley regulations with the federal standards for passenger cars and light-duty trucks.[185]

California Advanced Clean Cars Program

In January 2012, CARB approved a new emissions-control program for vehicles of model years 2017 through 2025. The program combines the control of smog, soot, and GHG into a single package of standards referred to as the Advanced Clean Cars Program (13 CCR §1962.1 and 1962.2). The Advanced Clean Cars requirements include new GHG standards for vehicles with model years 2017 to 2025. The Advanced Clean Cars Program also includes amendments to the low emission vehicle (LEV) regulations (referred to as the LEV III regulations; 13 CCR §1900 et seq.), ZEV regulations, and the Clean Fuels Outlet Regulation. The LEV III regulations are aimed at reducing criteria pollutant and GHG emissions from light- and medium-duty vehicles. The ZEV regulation requires manufacturers to produce an increasing

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[182] California Senate Bill 32. Chapter 249. Statutes of 2016.

[183] California Air Resources Board. California's 2017 Climate Change Scoping Plan. November 2017. Available: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

[184] California Air Resources Board. Fact Sheet: Climate Change Emission Control Regulations. December 10, 2004. Available: https://www.arb.ca.gov/cc/ccms/factsheets/cc_newfs.pdf.

[185] U.S. Environmental Protection Agency. EPA, DOT and California Align Timeframe for Proposing Standards for Next Generation of Clean Cars. January 24, 2011. Available: https://archive.epa.gov/epapages/newsroom_archive/newsreleases/6f34c8d6f2b11e5885257822006f60c0.html.

number of the very cleanest cars available from an emissions standpoint, including battery electric, fuel cell, and plug-in hybrid electric vehicles. The Clean Fuels Outlet Regulation is designed to ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to market.[186]

Low Carbon Fuel Standard

California Executive Order S-01-07 established a statewide goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020, from 2005 levels. The executive order also mandated the creation of Low Carbon Fuel Standard (LCFS) for transportation fuels. The LCFS requires that the life cycle GHG emissions for the mix of fuels sold in California decline on average. Each fuel provider may meet the standard by selling fuel with lower carbon content, using previously banked credits from selling fuel that exceeded the LCFS, or purchasing credit from other fuel providers who have earned credits.[187] In 2018, CARB amended the implementing LCFS regulations to require a 20-percent reduction in the carbon intensity of transportation fuels by 2030.

Renewable Portfolio Standard

Established by Senate Bill 1078 (SB 1078; Chapter 516, Statutes of 2002), California's Renewable Portfolio Standard (RPS) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to obtain at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) accelerated the target date to 2010. In November 2008, the Governor signed Executive Order S-14-08, which expanded the RPS's renewable energy target to 33 percent renewable power by 2020. On September 15, 2009, the Governor issued Executive Order S-21-0911 requiring CARB, under its AB 32 authority, to adopt regulations consistent with the RPS target of 33 percent renewable power by 2020. The CARB regulations use a phased-in or tiered requirement to increase the amount of electricity from eligible renewable sources over an 8-year period beginning in 2012. CARB adopted the regulations in September 2010.

In March 2011, the Legislature passed Senate Bill XI-2 (SB XI-2), which was signed into law by Governor Brown the following month. SB XI-2 required utility entities to procure renewable energy products equal to 33 percent of retail sales by December 31, 2020, and also established interim targets of 20 percent by December 31, 2013, and 25 percent by December 31, 2016. According to LADWP, the utility provider for the City of Los Angeles, the City achieved the 25-percent renewable energy milestone in 2016.[188] SB 350 of 2015 (Chapter 547, Statutes of 2015) increased the renewable portfolio standard to 50 percent by the year 2030, and also established interim targets of 40 percent by December 31, 2024, and 45 percent by December 31, 2027. SB 100 (Chapter 312, Statutes of 2018) further increased the renewable portfolio standard and accelerated its timeframe for implementation to 50 percent by December 31, 2026, and 60 percent by December 31, 2030. SB 100 also established a policy requiring that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales

[186] California Air Resources Board. Advanced Clean Cars Program Homepage. Available: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about. Accessed February 11, 2022.
[187] California Code of Regulations, Section 95480 et seq. Low Carbon Fuel Standard. Amended January 4, 2019.
[188] Los Angeles Department of Water and Power. LADWP Achieves 25 Percent Renewable Energy Milestone. March 23, 2017. Available: http://www.ladwpnews.com/ladwp-achieves-25-percent-renewable-energy-milestone-2/.

of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

4.4.3.1.4 Local

Sustainable City pLAn/Green New Deal

In 2014, Mayor Eric Garcetti launched the City of Los Angeles's first-ever Sustainable City pLAn ('pLAn'). The pLAn was a comprehensive and actionable policy roadmap intended to prepare the City for an environmentally healthy, economically prosperous, and equitable future for all.[189] Mayor Garcetti released the pLAn in April 2015 along with corresponding Executive Directive No. 7 that incorporated the pLAn into citywide management.[190] Through the pLAn, Mayor Garcetti committed the City to becoming a national leader in carbon reduction and climate action by eliminating coal from the City's energy mix, prioritizing energy efficiency, and inspiring other cities to take similar action. The pLAn sets targets of reducing GHG emissions below 1990 levels by at least 45 percent by 2025, 60 percent by 2035, and 80 percent by 2050.

In 2019, Mayor Garcetti launched the *Green New Deal* as a comprehensive update to the Sustainable City pLAn (2015). The Green New Deal includes a number of new initiatives relating to GHG, including globally recognized adherence to a strict carbon budget that is consistent with the Paris Climate Agreement, adoption of a quantitative GHG reduction pathway that charts a course to carbon neutrality, and accelerated direct and indirect targets relating to GHG, including a 55-percent reduction target for municipal GHG emissions by 2025, and a 65 percent reduction by 2035, from 2008 baseline levels, thereby reaching carbon neutral by 2045.[191]

4.4.3.2 Environmental Setting

4.4.3.2.1 Statewide Greenhouse Gas Emissions

California, owing in part to its large size and population, is a substantial contributor to global and national GHG emissions and is the second largest contributor of energy-related GHG emissions in the United States (behind Texas).[192] As mandated by the Global Warming Solutions Act of 2006 (AB 32), CARB is required to compile GHG inventories for the State of California, including establishment of the 1990 Greenhouse Gas Emissions Level. Inventories have been prepared for 2000 through 2019. Based on the 2019 GHG inventory data (i.e., the latest year for which data are available), California emitted 418.13 million metric tons of CO_2e ($MMTCO_2e$) if emissions associated with imported electrical power are included, and approximately 396.43 $MMTCO_2e$ if these emissions are excluded.[193]

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189 City of Los Angeles, Office of the Mayor, Mayor Eric Garcetti. Sustainable City pLAn. April 8, 2015. Available: https://www.dropbox.com/s/e768n31r3k379w7/the-plan.pdf.

190 City of Los Angeles, Office of the Mayor, Mayor Eric Garcetti. Executive Directive No. 7, Subject: Sustainable City pLAn. April 8, 2015. Available: https://www.lamayor.org/sites/g/files/wph1781/files/page/file/ED7-SustainableCitypLAn.pdf.

191 City of Los Angeles, Office of the Mayor, Mayor Eric Garcetti. L.A.'s Green New Deal: Sustainable City pLAn. 2019. Available: http://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf.

192 U.S. Energy Information Administration. Energy-Related Carbon Dioxide Emissions by State, 2005-2016. Table 1. Available: https://www.eia.gov/environment/emissions/state/analysis/pdf/table1.pdf. Accessed February 11, 2022.

193 California Air Resources Board. Full Inventory by Scoping Plan Category. Available: https://ww3.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_by_scopingplan_00-19.xlsx. Accessed February 11, 2022.

Table 4.4-1 identifies and quantifies statewide anthropogenic (man-made) GHG emissions and sinks in 1990 and 2019.[194,195] Although a large overall contributor to GHG emissions, California had the third lowest CO_2 emissions per capita from fossil fuel combustion in the U.S. (including District of Columbia), owing to the success of its energy efficiency and renewable energy programs and commitments that have lowered the state's GHG emissions rate of growth.[196]

Table 4.4-1 California Statewide GHG Emissions (1990 and 2019)

Category	Total 1990 Emissions ($MMTCO_2e$)[1]	Percent of Total 1990 Emissions	Total 2019 Emissions ($MMTCO_2e$)	Percent of Total 2019 Emissions
Transportation	150.6	34%	166.1	40%
Industrial	105.3	24%	88.2	21%
Electric Power	110.5	25%	58.8	14%
Commercial and Residential	44.1	10%	43.8	11%
Agriculture	25.3	6%	31.8	8%
High GWP/Non-Specified[2]	1.3	<1%	20.6	5%
Recycling and Waste	--[3]	--[3]	8.9	2%
Net Total[4]	**437.2**	**100%**	**418.2**	**100%**

Sources: California Air Resources Board. 1990-2004 Inventory (AR4 GWPs) by Economic Sector – Full Detail. November 2007. Available: https://ww2.arb.ca.gov/sites/default/files/classic/cc/ghg_inventory_sector_all_90-04_AR4.pdf; California Air Resources Board. Current Inventory Documentation – 2000-2019 Emissions Trends Figure Data. Available: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/2000_2019_ghg_inventory_trends_figures.xlsx. Accessed February 11, 2022.

Notes:

1 Original 1990-2004 emissions inventory was prepared using the IPCC Second Assessment Report (SAR). IPCC periodically updates GWPs and CARB has been using the IPCC Fourth Assessment Report (AR4) since 2014. The 1990 emissions shown in this table were converted from SAR to AR4 GWPs to be consistent with current GHG inventory practices.

2 High GWP gases are not specifically identified in the 1990 emissions inventory.

3 Included in other categories for the 1990 emissions inventory

4 Numbers may not add due to rounding.

Key: $MMTCO_2e$ = million metric tons of carbon dioxide equivalent; GWP = global warming potentials

194 Per USEPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2017* (p. ES-1), "The term 'anthropogenic,' in this context, refers to greenhouse gas emissions and removals that are a direct result of human activities or are the result of natural processes that have been affected by human activities (IPCC 2006)." Available: https://www.epa.gov/sites/production/files/2019-04/documents/us-ghg-inventory-2019-main-text.pdf.

195 The term "sink," in this context, refers to a natural or artificial reservoir that accumulates and stores greenhouse gases for an indefinite period.

196 U.S. Energy Information Administration. Per capita energy-related carbon dioxide emissions by state (2000–2018). March 2021. Available: https://www.eia.gov/environment/emissions/state/excel/table5.xlsx.

Between 1990 and 2019, the population of California grew by approximately 9.7 million (29.8 to 39.5 million).[197] This represents an increase of approximately 32 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from $773 billion in 1990 to $3.14 trillion in 2019, representing an increase of approximately 306 percent (more than three times the 1990 gross state product).[198,199] Despite the population increase and economic growth, California's GHG emissions during that period decreased by approximately 4.3 percent.

4.4.4 Thresholds of Significance

A significant impact would occur if the proposed project would:

Threshold 4.4-1 Generate greenhouse gas emissions, either directly or indirectly,[200] that may have a significant impact on the environment.

Threshold 4.4-2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

These thresholds are from Appendix G of the State CEQA Guidelines.

Section 15064.7 of the State CEQA Guidelines defines a threshold of significance as an identifiable quantitative, qualitative, or performance level of a particular environmental effect, compliance with which determines the level of impact significance. CEQA leaves the determination of significance to the reasonable discretion of the lead agency and encourages lead agencies to develop and publish thresholds of significance to use in determining the significance of environmental effects.

When using thresholds of significance, a lead agency may consider thresholds that have been adopted or recommended by other public agencies. Nevertheless, as discussed previously, neither the State of California, SCAQMD, or the City of Los Angeles has established project-level specific quantitative (numeric) significance thresholds for GHG emissions.

However, in 2008, SCAQMD formed a GHG CEQA Significance Threshold Stakeholder Working Group for the purpose of developing acceptable interim thresholds of significance for project-level GHG emissions while CARB developed statewide guidance. In October 2008, SCAQMD proposed for adoption interim significance thresholds for stationary sources based on the proposed land use types. In December 2008, SCAQMD officially adopted a 10,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year screening level threshold for stationary source or industrial projects for which SCAQMD is the lead agency.[201] SCAQMD has not adopted any thresholds at this time for projects for which SCAQMD is not the lead agency.

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197 California Department of Finance. California Population Estimates, with Components of Change and Crude Rates. December 2021. Available: https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-7/documents/E-7_Report_1900-July_2021_w.xlsx.

198 California Department of Finance. Gross Domestic Product, California. Available: http://www.dof.ca.gov/Forecasting/Economics/Indicators/Gross_State_Product/.

199 Estimated gross state product for 1990 and 2019 are based on current dollars as of 2021.

200 The use of "direct" and "indirect" in the State CEQA Guidelines is not necessarily the same as the use of that terminology when referring to Scope 1, 2, and 3 emissions.

201 South Coast Air Quality Management. Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold. October 2008. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf.

Section 15064.7I of the CEQA Guidelines states that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency was to adopt such thresholds is supported by substantial evidence." The guidelines do not establish specific thresholds of significance, mandate specific mitigation measure, or promulgate specific methodologies for significance assessment. Instead, CEQA leaves determination of the precise methodologies to the discretion of lead agencies. Given the non-residential, non-commercial nature of the proposed project, in order to determine the significance of the project's potential to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, the project GHG emissions were compared to the SCAQMD's 10,000 $MTCO_2e$ threshold. Consistent with SCAQMD guidance, construction GHG emissions were amortized over the operational life of the project (assumed to be 30 years) and added to the yearly operational emissions for comparison against the threshold.

4.4.5 Project Impacts

As described previously, Section 15064.4 of the State CEQA Guidelines calls for a lead agency to make a "good-faith effort" to "describe, calculate or estimate" GHG emissions in CEQA environmental documents. Section 15064.4 further states that the analysis of GHG impacts should include consideration of: (1) the extent to which the project may increase or reduce GHG emissions, as compared to the existing environmental setting; (2) whether the project emissions would exceed a locally applicable threshold of significance; and (3) the extent to which the project would comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions." The State CEQA Guidelines do not, however, set a numerical threshold of significance for GHG emissions. Thus, the SCAQMD's GHG threshold of 10,000 $MTCO_2e$ per year for stationary or industrial sources was used.

4.4.5.1 Impact 4.4-1

Impact 4.4-1: Construction and operation of the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. This would be a *less than significant impact.*

4.4.5.1.1 Construction

Emissions of GHGs were estimated over the proposed project's two-year construction period for construction-related emission sources (e.g., worker vehicle exhaust, hauling and delivery truck exhaust, and exhaust from the operation of heavy-duty construction equipment). Construction assumptions are described in Chapter 2, *Project Description*, Section 4.4.2, and **Appendix B** of this EIR. Emissions were calculated using CalEEMod and were amortized over an assumed 30-year project lifetime. **Table 4.4-2** presents GHG emissions associated with construction of the proposed project.

Table 4.4-2 Annual GHG Emissions from Construction by Task

Construction Task	Task GHG Emissions ($MTCO_2e$)[1]	Task GHG Intensity ($MTCO_2e$ per day)	Percent Overlap of Higher-Intensity Tasks[2]	Project GHG Emissions ($MTCO_2e$)[2]
Year 1				
Diversion Structure	76	1.21	90%	7
Drain Line Upgrade	63	1.37	0%	63
Pretreatment Unit	44	1.22	14%	38
Pump Station	73	1.49	0%	73
Year 2				
Pump Station	46	1.49	16%	39
Actuated Valve and Meter Vaults	70	1.35	0%	70
Stormwater Treatment Unit	66	1.29	10%	59
Pipelines	77	1.26	25%	58
Electrical[3]	n/a	n/a	100%	n/a
Existing Equipment Upgrades[3]	n/a	n/a	100%	n/a
Water Feature	96	1.41	0%	96
Project Total (accounting for Construction Task overlap)[2,3]				
All Tasks				503
Amortized Construction Emissions[4]				17

Source: **Appendix B** of this EIR.

Notes:

1 GHG emissions calculated for each task without assuming for equipment and personnel sharing between construction tasks.

2 Overlapping construction tasks would utilize the same pool of workers and equipment. As presented in **Appendix B**, construction tasks would largely use the same equipment with minimal specialized equipment needed for specific parts of task construction; therefore, where construction tasks would overlap, only the emissions of the higher-intensity task were included in the project total.

3 The Electrical and Existing Equipment Upgrades tasks would utilize the least GHG-emitting equipment of all other construction tasks. These tasks would completely overlap other tasks and, as indicated in footnote 2 above, their activity is included in the emissions calculated for the higher intensity overlapping construction tasks.

4 Construction emissions are amortized over an assumed project lifetime of 30 years.

Key: GHG = greenhouse gases; $MTCO_2e$ = metric tons carbon dioxide equivalent

4.4.5.1.2 Operations

Emissions of GHG were estimated for sources associated with the proposed project's annual operational activities (i.e., direct emissions from maintenance vehicle exhaust and indirect emissions from electricity used to operate the project). Operations assumptions are described in Chapter 2, *Project Description*, Section 4.4.2, and **Appendix B** of this EIR. Emissions were calculated using EMFAC2017 for direct vehicle emissions and LADWP GHG intensity factors for indirect electrical generation-related emissions. **Table 4.4-3** presents GHG emissions associated with operation of the proposed project.

Table 4.4-3 Annual GHG Emissions from Operations

Operations Emission Source	Operation	Annual Electrical Demand (kWh/year)	GHG Intensity	Annual GHG Emissions ($MTCO_2e$)
Total Pumps[1]	Varying operating hours per year per pump[1]	57,074	579 pounds CO_2e per megawatt-hour	15
Maintenance Activities[2]	76 vehicle trips per year	n/a	6.9 pounds CO_2e per vehicle trip	<1
Amortized Construction[3]	n/a	n/a	n/a	17
			Total Annual GHG Emissions	**32**
Significance Threshold				10,000
Impact Determination				Less than significant

Source: **Appendix B** of this EIR.

Notes:

1 One small variable-flow recirculation pump would operate almost continuously as part of the project. Three additional pumps would operate periodically. Two variable-flow pumps would operate during wet weather rain flows (approximately 20 rain events per year). One of those pumps would operate approximately 75 percent of the time during rain events (approximately 360 hours/year). The other would operate approximately 50 percent of the time during rain events (approximately 240 hours per year). A third variable-flow pump would operate during dry weather flows, operating approximately 1 hour/day (approximately 365 hours/year).

2 For purposes of this analysis, it was conservatively estimated that maintenance activities would be required up to 38 days per year, including inspection/cleaning of the pretreatment unit after every storm (average number of storms is 20 per year), periodic inspection/cleaning of the stormwater treatment unit, quarterly wetlands cleaning, and separate biannual inspection and cleaning of subgrade pumping equipment. Each day of maintenance would require two vehicle trips.

3 Construction emissions are amortized over a 30-year presumed project lifetime and are added to operational emissions to determine total project impacts.

Key: GHG = greenhouse gases; $MTCO_2e$ = metric tons carbon dioxide equivalent

As indicated above, implementation of the proposed project would result in annual emissions of GHG that would not exceed the 10,000 $MTCO_2e$ per year threshold. Therefore, the impact of the proposed project related to GHG emissions would be ***less than significant***.

4.4.5.1.3 Mitigation Measures

Because the impact of the proposed project related to GHG emissions would be ***less than significant,*** no mitigation is required.

4.4.5.1.4 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address GHG emissions. Impacts would be ***less than significant***.

4.4.5.2 Impact 4.4-2

Impact 4.4-2: Construction and operation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This would be a *less than significant impact.*

4.4.5.2.1 Construction and Operations

Table 4.4-4 summarizes the various plans, policies, and regulations described in Section 4.4.3.1 adopted for the purpose of reducing GHG emissions that are applicable to the proposed project, summarizes the proposed project's relationship to them, and identifies whether the proposed project would conflict.

Table 4.4-4 Consistency with Applicable Plans, Policies, and Regulations Adopted to Reduce Greenhouse Gas Emissions

Regulatory Framework	Plan, Policy, or Regulation	Project Relationship	Would the Project Conflict?
International			
IPCC; UNFCCC; Kyoto Protocol; Paris Agreement	U.S. participation in international organizations and agreements	Not within the scope or control of the City or project.	No
Federal			
USEPA Endangerment Findings	Prerequisite for the USEPA to implement GHG emission standards for vehicles	Not within the scope or control of the City or project.	No
USEPA and NHTSA GHG and Fuel Efficiency Standards	Federal establishment of GHG standards for cars, trucks, medium- and heavy-duty engines, and construction equipment	Not within the scope or control of the City or project.	No
State			
U.S. Climate Alliance	State commitment to adhere to Paris Agreement	Not within the scope or control of the City or project.	No
Executive Order S-3-05	Establishes statewide GHG reduction targets for California, including reducing statewide GHG emissions to 1990 levels by 2020, and reducing statewide GHG emissions to 80 percent below 1990 levels by 2050	Not within the scope or control of the City or project.	No
Executive Order B-30-15	Establishes mid-term statewide GHG reduction target of 40 percent below 1990 levels by 2030	Not within the scope or control of the City or project.	No
Executive Order B-55-18	Establishes statewide GHG reduction target of carbon neutrality by 2045	Not within the scope or control of the City or project.	No
Executive Order N-79-20	Establishes statewide requirement that 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035, and 100 percent of in-state sales of new medium- and heavy-duty vehicles and off-road vehicles be zero-emission by 2045 where feasible	Not within the scope or control of the City or project.	No
AB 32; SB 32; Scoping Plan, including updates	AB 32 and SB 32 codify Executive Order S-3-05 and B-30-15 targets, respectively, and require CARB to develop and enforce regulations. The Scoping Plan and Scoping Plan Updates set forth the framework to facilitate said regulations.	Not within the scope or control of the City or project. Notwithstanding, the proposed project would comply with existing regulations applicable to the project, and would, by law, comply with future applicable requirements developed as part of the Scoping Plan or future updates.	No

Table 4.4-4 Consistency with Applicable Plans, Policies, and Regulations Adopted to Reduce Greenhouse Gas Emissions

Regulatory Framework	Plan, Policy, or Regulation	Project Relationship	Would the Project Conflict?
AB 1493	Requires CARB to adopt regulations for GHG reductions in passenger vehicles and light-duty trucks	Not within the scope or control of the City or project.	No
California Advanced Clean Cars Program	Requires emissions reductions from light- and medium-duty vehicles and requires manufacturers to produce an increasing number of ZEVs	Not within the scope or control of the City or project. Notwithstanding, the City promotes the use of alternative-fueled vehicles, including ZEVs, where appropriate.	No
Executive Order S-01-07 and Low Carbon Fuel Standard	Establishes statewide goal to reduce carbon intensity of transportation fuels sold in California	Not within the scope or control of the City or project.	No
Renewable Portfolio Standard	Requires retail sellers of electricity to provide designated percentages of their supply from renewable sources	Not within the scope or control of the City or project. However, LADWP, the proposed project's electricity provider, would be required to meet the Renewable Portfolio Standard's renewable percentages.	No
Local			
Sustainable City pLAn/Green New Deal	Establishes a roadmap to facilitate GHG reductions through 2035. Specifically, the Green New Deal sets targets of reducing municipal GHG emissions below 2008 levels by 55 percent by 2025, and by 65 percent by 2035, reaching carbon neutral by 2045.	The proposed project would provide the seasonal substitution of potable water with stormwater and dry weather flows to counteract evaporative water losses in MacArthur Lake. Reduction in the use of potable water, which is energy-intensive to generate and transport, may reduce GHG emissions.	No

Source: CDM Smith, May 2022.

Key: CARB = California Air Resources Board; GHG = greenhouse gases; USEPA = U.S. Environmental Protection Agency

As shown in Table 4.4-4 implementation of the proposed project would not conflict with or obstruct implementation of plans, policies, and regulations that have been adopted for the purpose of reducing the GHG emissions. Therefore, the impact of the proposed project would be ***less than significant***.

4.4.5.2.2 Mitigation Measures

Because the impact of the proposed project related to plans, policies, and regulations would be ***less than significant,*** no mitigation is required.

4.4.5.2.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address plans, policies, and regulations. Impacts would be ***less than significant***.

4.4.6 Cumulative Impacts

The GHG impacts addressed in this section are treated exclusively as cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. In its notice of proposed amendments to the CEQA Guidelines pertaining to GHG, the CNRA noted that the impacts of GHG emissions should be considered in the context of a cumulative impact, rather than a project impact. The public notice states:[202]

> "While the Proposed Amendments do not foreclose the possibility that a single project may result in greenhouse gas emissions with a direct impact on the environment, the evidence before [CNRA] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of greenhouse gas emissions should center on whether a project's incremental contribution of greenhouse gas emissions is cumulatively considerable."

It is the accumulation of GHGs in the atmosphere that may result in climate change impacts. Climate change impacts are cumulative in nature and, thus, no typical single project would result in emissions of such a magnitude that it, in and of itself, would be significant on a project basis. A typical single project's GHG emissions will be small relative to total global or even statewide GHG emissions. The analysis of the significance of potential impacts from GHG emissions related to a single project is already representative of the long-term impacts on a cumulative basis. As such, the assessment of significance under CEQA is based on a determination of whether the incremental GHG emissions from the proposed project represent a cumulatively considerable contribution to global climate change impacts. (See State CEQA Guidelines Section 15064.4(b).) As indicated in Section 4.4.5, implementation of the proposed project would result in a less than significant impact related to GHG emissions; hence, the proposed project's incremental contribution of GHG emissions, ***would not be cumulatively considerable***.

4.4.7 Summary of Impact Determinations

Table 4.4-5 summarizes the impact determinations of the proposed project relative to GHG emissions and plan consistency, as described in Section 4.4.5. Impact determinations are based on the significance criteria presented in Section 4.4.4, the information and data sources cited throughout Section 4.4, and the professional judgement of the report's preparers, as applicable.

[202] California Natural Resources Agency. Notice of Public Hearings and Notice of Proposed Amendment of Regulations Implementing the California Environmental Quality Act. 2009. Available: https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/Notice_of_Proposed_Action.pdf.

Table 4.4-5 Summary of Impacts and Mitigation Measures Associated with the Proposed Project Related to Greenhouse Gas Emissions

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Impact 4.4-1: Construction and operation of the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. This would be a ***less than significant impact*** for construction and operations.	Less than Significant	No mitigation is required	Less than Significant
Impact 4.4-2: Construction and operation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. This would be a ***less than significant impact*** for construction and operations.	Less than Significant	No mitigation is required	Less than Significant

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4.5 Hydrology/Water Quality

4.5.1 Introduction

The hydrology and water quality analysis in this EIR was informed by the Initial Study, as described below. The specific topic evaluated in this EIR includes impacts on surface water quality in MacArthur Park Lake and Ballona Creek from operation of the proposed project.

Prior to the preparation of this EIR, an Initial Study (included in **Appendix A** of this EIR) was prepared using the CEQA Environmental Checklist Form to assess potential environmental impacts associated with hydrology and water quality. The Initial Study (Section 4, Issue X) found that, for several of the Initial Study screening criteria, the proposed project would result in no impact or a less than significant impact and, thus, no further analysis of these topics in an EIR was required. Specifically, the Initial Study found that construction of the proposed project would have a less than significant impact on surface water quality in MacArthur Park Lake and Ballona Creek and construction and operation of the proposed project would have a less than significant impact on groundwater quality. Likewise, construction and operation of the proposed project were determined to have no impact on groundwater supplies and recharge and a less than significant impact on existing drainage patterns, including erosion and siltation, surface runoff, stormwater drainage capacity, and flood flows. Nor would construction and operation of the proposed project risk release of pollutants due to inundation; therefore, the project was determined to have a less than significant impact. The proposed project would not obstruct implementation of a water quality control plan and was determined to have no impact. Therefore, the hydrology and water quality analysis in this EIR is focused on impacts from operation of the proposed project on surface water quality in MacArthur Park Lake and Ballona Creek and conflicts with water quality control plans relevant to these water bodies.

4.5.2 Methodology

4.5.2.1 Project Site

As mentioned in Chapter 2, *Project Description*, once constructed, the proposed project would divert dry weather flows and a portion of wet weather flows (hereafter referred to collectively as 'urban stormwater') from the existing stormwater conveyance system and direct the treated flows into MacArthur Park Lake for storage or return it to the storm drain system downstream of the diversion. This strategy would divert and treat about 244 acre feet per year (AFY) of urban stormwater generated within the Ballona Creek watershed. A mass balance was conducted to determine the amount of water that would be discharged to the lake and the amount that would be discharged back to the storm drain system following treatment. The pollutant reductions that would be expected to be achieved by the proposed project were also estimated.[203] The results of this analysis is provided in **Appendix E.**

4.5.2.2 Ballona Creek

As mentioned in Chapter 2, once the treatment capacity of the stormwater treatment unit and/or the storage capacity of MacArthur Park Lake has been reached, stormwater would be returned back to the storm drain system and would flow to Ballona Creek. Proposed project impacts on water quality in

[203] Carollo, MacArthur Lake Stormwater Capture Project, Project Memorandum, Subject: Flow and Pollutant Removal Mass Balance Estimates, April 25, 2024.

Ballona Creek were analyzed qualitatively by assessing the effects of the pre-treatment and stormwater treatment unit on urban stormwater that would pass through these units before being discharged back to the storm drain system.

4.5.3 Existing Conditions

4.5.3.1 Regulatory Setting

The following section presents the federal, state, regional, and local regulations and programs that are applicable to the proposed project relative to hydrology and water quality.

4.5.3.1.1 Federal

Clean Water Act

The Clean Water Act (CWA) implemented requirements to set water quality standards for all known contaminants in surface waters. Section 303(d) of the 1972 CWA requires States, territories, and authorized tribes to develop a list of water quality-impaired segments of waterways. The Section 303(d) list includes water bodies that do not meet water quality standards for the specified beneficial uses of that waterway, even after point sources (e.g., wastewater treatment plant discharges) of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for water bodies on their Section 303(d) lists and implement a process, called Total Maximum Daily Loads (TMDLs), to meet water quality standards.[204]

Safe Drinking Water Act

The Safe Drinking Water Act authorized the U.S. Environmental Protection Agency (USEPA) to establish safe standards of purity for specified contaminants and required all owners or operators of public water systems to comply with primary (health-related) standards. Contaminants of concern in a domestic water supply are those that either pose a health threat or in some way alter the aesthetic acceptability of the water. These types of contaminants are currently regulated by USEPA through primary and secondary maximum contaminant levels.[205]

4.5.3.1.2 State

California Porter-Cologne Water Quality Control Act

The California Porter-Cologne Water Quality Act (Porter-Cologne Act) was enacted in 1969 and established the State Water Resources Control Board (SWRCB). The Porter-Cologne Act defines water quality objectives as the limits or levels of water constituents that are established for reasonable protection of beneficial uses. Unlike the CWA, the Porter-Cologne Act applies to both surface and groundwater. The Porter-Cologne Act requires that each of nine semi-autonomous Regional Water Quality Control Boards (RWQCBs) establish water quality objectives, while acknowledging that water quality may be changed to some degree without unreasonably affecting beneficial uses. Beneficial uses, together with the corresponding water quality objectives, are defined as standards, per federal CWA regulations. Therefore, the Regional Plans provide the regulatory framework for meeting state and

[204] U.S. Environmental Protection Agency. Overview of Total Maximum Daily Loads (TMDLs). 2018. Available: https://www.epa.gov/tmdl/program-overview-total-maximum-daily-loads-tmdl. Accessed February 10, 2022.

[205] U.S. Environmental Protection Agency. Safe Drinking Water Act. 2022. Available: https://www.epa.gov/sdwa. Accessed June 21, 2022.

federal requirements for water quality. Changes in water quality are only allowed if the change is consistent with the most restrictive beneficial use designation identified by the state, does not unreasonably affect the present or anticipated beneficial uses, and does not result in water quality less than that prescribed in the Basin Plans.[206]

Pursuant to the Porter-Cologne Water Quality Control Act, the RWQCBs also regulate water quality through oversight of water monitoring and contamination cleanup and abatement. The RWQCBs are primarily responsible for protecting the quality of the waters of the State for present and future beneficial uses.

California Water Code Section 13240, Regional Water Quality Control Plans

The California Water Code (Section 13240) requires the preparation and adoption of Water Quality Control Plans (Basin Plans), and the federal CWA (Section 303) supports this requirement. According to Section 13050 of the California Water Code, Basin Plans consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and an implementation program needed for achieving the objectives. The Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (LA Basin Plan) applies to the Ballona Creek Watershed and is discussed in more detail in Section 4.5.3.1.3.[207]

4.5.3.1.3 Regional

Los Angeles Regional Water Quality Control Board

The Los Angeles RWQCB (LARWQCB) is responsible for issuing the Los Angeles County Municipal Separate Storm Sewer System (MS4) Permit (Order R4-2021-0105, National Pollutant Discharge Elimination System [NPDES] No. CAS004004), which became effective on September 11, 2021.[208] The permit covers the Los Angeles County Flood Control District, County of Los Angeles, 85 incorporated cities within the coastal watersheds of Los Angeles County, Ventura County Watershed Protection District, the County of Ventura, and 10 incorporated cities within Ventura County. The permit covers the permittees for contributions to discharges of stormwater and urban runoff from MS4s, also called storm drain systems. The current permit supersedes the previous Los Angeles County MS4 permit (Order No. R4-2012-0175, NPDES No. CAS004001, as amended by State Water Board Order WQ 2015-0075 on June 16, 2015, and Los Angeles Water Board Order R4-2012-0175-A01 on September 8, 2016, and as modified by LARWQCB on July 9, 2018).[209] The objectives of MS4 permits are to effectively prohibit non-stormwater discharges through MS4s to the region's waterways, to reduce the discharge of pollutants in stormwater to the maximum extent practicable, and to implement other pollutant controls as necessary to achieve water quality standards. Operators of regulated MS4s are required to

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[206] State Water Resources Control Board. Porter-Cologne Water Quality Control Act. 2022. Available: http://www.swrcb.ca.gov/laws_regulations/docs/portercologne.pdf.

[207] Los Angeles Regional Water Quality Control Board. Water Quality Control Plan – Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. 2014. Available: https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html.

[208] California Regional Water Quality Control Board – Los Angeles Region. Regional Phase 1 MS4 NPDES Permit. Order R4-2021-0105. NPDES Permit No. CAS004004. Available: https://vcstormwater.org/images/stories/NPDES_Documents/R4-2021-0105_Regional_Permit/1_Order.pdf.

[209] California Regional Water Quality Control Board – Los Angeles Region. Order R4-2012-0175. NPDES Permit No. CAS004001. Available: https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/la_ms4/2012/Order%20R4-2012-0175%20-%20A%20Final%20Order%20revised.pdf.

develop a stormwater management program (SWMP) to achieve compliance with receiving water limitations. Stormwater management programs include stormwater best management practices (BMPs) to achieve these goals. NPDES regulations require assessment and revision of the stormwater management program in order to continue, to the maximum extent practicable, to protect water quality standards.

Permittees may participate in a Watershed Management Program (WMP) to address their highest watershed priorities. Watershed planning is emphasized because it allows permittees to focus on water quality results by analyzing the receiving waters within a watershed; additionally, TMDLs established by the USEPA and LARWQCB apply at a watershed scale. The current MS4 permit allows permittees to develop WMPs to identify, implement, and modify stormwater strategies, control measures, and BMPs; implement a stormwater monitoring and reporting program; engage appropriate stakeholders; and incorporate innovative technologies, such as green stormwater infrastructure (GSI). The previous order (Order No. R4-2012-0175) also included the term "Enhanced Watershed Management Programs (EWMP)" for plans that comprehensively evaluate opportunities for permittees to collaborate with other permittees and partners on regional stormwater management projects. This term has since been replaced with "Watershed Management Programs (WMPs)." The latest Ballona Creek WMP was amended in 2021 and 2023.

Watershed Management Programs

Under the current MS4 permit (Order R4-2021-0105, NPDES No. CAS004004), permittees have the flexibility to individually or collaboratively develop a WMP that includes customized strategies, control measures, and BMPs to comply with the MS4 permit requirements. Permittees who prepared WMPs or EWMPs under the previous MS4 permit were required to revise their plans in accordance with the current MS4 permit. The ultimate goal of WMPs is to ensure that discharges achieve applicable water quality-based effluent limitations that implement TMDLs, do not cause or contribute to exceedances of receiving water limitations, and ensure that non-stormwater discharges from the MS4 are not sources of pollutants to receiving waters.[210] The WMP allows permittees to develop and customize control measures to address water quality issues within their watershed management areas.

In 2016, the Ballona Creek Watershed Management Group (BCWMG) published the Ballona Creek Enhanced Watershed Management Program (Ballona Creek EWMP) to comply with the Los Angeles County MS4 permit in place at the time (Order R4-2012-0175), including the TMDLs that have been established for metals and bacteria. As mentioned above, the BCWMG was required by the current MS4 permit to update their EWMP in accordance with the current MS4 permit. Amendments to the EWMP (renamed the WMP) with revised capture volume targets were prepared in 2021 and 2023. The existing WMP presents a comprehensive stormwater management approach for the Ballona Creek watershed and addresses priority water quality conditions in the watershed.[211] Pollutants of concern within the watershed include trash, metals, toxics, and bacteria, with zinc being the limiting pollutant, as identified

[210] California Regional Water Quality Control Board – Los Angeles Region. Regional Phase 1 MS4 NPDES Permit. Order R4-2021-0105. NPDES Permit No. CAS004004. Page 77. Available: https://vcstormwater.org/images/stories/NPDES_Documents/R4-2021-0105_Regional_Permit/1_Order.pdf.

[211] Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

in the Ballona Creek WMP.[212] The WMP identifies three types of control measures that are intended to achieve required pollutant reductions while also providing multiple benefits to the community and leveraging sustainable GSI practices. One category of control measures consists of regional projects, which are centralized facilities located near the downstream ends of large drainage areas that are designed to receive stormwater from extensive upstream areas and can provide a cost-effective mechanism for infiltration and/or pollutant reduction.[213] The proposed project is one such regional project, per the Ballona Creek WMP.

LA Basin Plan

As discussed above, the Basin Plan that applies to the project area is the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (LA Basin Plan).[214] The LA Basin Plan sets forth the regulatory water quality standards for surface waters and groundwater within the region. The water quality standards address the designated beneficial uses for each water body and the narrative and numeric water quality objectives to meet those designated beneficial uses. Where multiple designated beneficial uses exist, water quality standards are written to protect the most sensitive use.

MacArthur Park Lake is not named as an inland surface water (or as any other water body type) in the LA Basin Plan and beneficial uses[215] for the lake are not defined.[216] Therefore, the LA Basin Plan water quality objectives for inland surface waters do not apply to MacArthur Park Lake. The Ballona Creek Watershed–including the Ballona Creek Estuary, Ballona Creek Reach 1 and Reach 2, Ballona Lagoon/Venice Canals, Ballona Wetlands, and Del Rey Lagoon–is identified in the LA Basin Plan as an inland surface water. Portions of the Ballona Creek Watershed are also identified as coastal features. Beneficial uses have been identified for each of the watershed components and Basin Plan water quality objectives apply to these waters.[217]

4.5.3.1.4 Local

County of Los Angeles Safe Clean Water Program

The Los Angeles County Safe Clean Water Program (SCWP) was created through the passage of ballot Measure W in 2018, which imposes a special tax upon parcels located within the Los Angeles County Flood Control District to fund projects and programs to increase stormwater capture and reduce stormwater and urban runoff pollution. The SCWP provides local dedicated funding to improve water quality, increase local water supply, protect public health, and provide community enhancements

[212] Per the Ballona Creek Enhanced Watershed Management Program, zinc is the limiting pollutant, meaning that if zinc is sufficiently managed in the watershed, all other pollutants of concern will be managed to levels below the allowable loadings.

[213] Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

[214] Los Angeles Regional Water Quality Control Board. Water Quality Control Plan – Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. 2014. Available: https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html.

[215] Beneficial uses reflect the goals for a specific water body and provide a framework for establishing water quality objectives to protect the water body from pollutants. Beneficial uses cover a broad range of uses, such as swimming, fishing, drinking water, wildlife habitat, and agriculture.

[216] Los Angeles Regional Water Quality Control Board. Water Quality Control Plan – Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. 2014. Available: https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html.

[217] Los Angeles Regional Water Quality Control Board. Water Quality Control Plan – Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. 2014. Available: https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html.

throughout the county. The program has set goals developed in collaboration with public health, environmental groups, cities, businesses, labor, and community-based organizations.[218]

Regional Program Transfer Agreement

The Los Angeles County Flood Control District and LASAN entered into a SCWP Regional Program Transfer Agreement for the proposed project on October 29, 2020. The agreement includes the scope of work for the project and identifies the project funding and disbursements. The agreement requires the City to submit a budget plan, operations and maintenance plan, and stakeholder and community outreach/engagement plan to the Los Angeles County Flood Control District for the proposed project and to conduct post-construction monitoring, among other requirements.[219]

4.5.3.2 Environmental Setting

In the project study area, the major surface water feature is MacArthur Park Lake. MacArthur Park Lake was originally a marshland and alkali lake, fed by runoff from the hills to the north, and was historically used primarily as a dump for nearby residents. As part of the development of the park in the late 1890s, a pipe was installed to transport fresh water to the lake, raising the water level and reducing the alkalinity. In the present, MacArthur Park Lake is a concrete-lined lake replenished by potable water to offset evaporative losses. Lake water quality sampling data was collected by Los Angeles Sanitation and Environment (LASAN) over five events in 2020 and 2021. These data show that current water quality conditions in MacArthur Park Lake are eutrophic[220] with frequent algae blooms (**Table 4.5-1**).

Table 4.5-1. Summary of MacArthur Lake Water Quality (2020-21 Samples)

Constituent	Sample Event Date				
	4/21/2020	8/04/2020	11/09/2020	04/26/2021	08/10/2021
Total Kjeldahl Nitrogen (mg/L)	2.70	2.97	3.97	5.13	6.93
Total Nitrogen (mg/L)	2.70	2.97	3.97	5.13	6.97
Total Phosphorous (mg/L)	0.20	0.08	0.21	0.31	0.39
Orthophosphate (mg/L)	0.11	0.02	0.21	0.09	0.13
Chlorophyll (µg/L)	109	110	187	113	297

Source: Data provided by Alfredo Magallanes, Watershed Protection Division/Project Manager, MacArthur Lake Stormwater Capture Project. City of Los Angeles Department of Public Works, LA Sanitation and Environment. Electronic Mail Message to Robin Ijams, CDM Smith. Subject: MacArthur Sampling Data. October 14, 2021.

Key: mg/L = milligrams per liter; µg/L = micrograms per liter

MacArthur Park is located in the Ballona Creek Watershed, which encompasses approximately 128 square miles. Stormwater from the project site enters the storm drain system and ultimately flows into Ballona Creek approximately 4.5 miles west-southwest of MacArthur Park. Ballona Creek transitions to

[218] County of Los Angeles. Safe Clean Water Program Vision, Mission, & Goals. 2021. Available: https://safecleanwaterla.org/about/vision-mission-goals/. Accessed February 10, 2022.

[219] Los Angeles County Flood Control District and City of Los Angeles Bureau of Sanitation. Transfer Agreement Between the Los Angeles County Flood Control District and City of Los Angeles, Bureau of Sanitation, Agreement No. 2020RPCSMB04, Safe, Clean Water Program – Regional Program.

[220] Eutrophic conditions exist when a water body is enriched with minerals and nutrients, particularly nitrogen and phosphorous, which can cause harmful algal blooms and low oxygen levels.

the Ballona Estuary at Centinela Boulevard, approximately 10 miles southwest of MacArthur Park; the estuary continues for approximately 3.5 miles to the Pacific Ocean. As noted previously, the Ballona Creek WMP identifies the pollutants of concern in the watershed as metals, toxics, and bacteria, with zinc being the limiting pollutant.[221] Nutrient pollutants (i.e., nitrogen and phosphorus), which are the source of the existing poor water quality in MacArthur Park Lake, are not included in the WMP. The LA Basin Plan designates beneficial uses for all waters within the Ballona Creek Watershed, including the creek, estuary, and wetlands.[222] MacArthur Park Lake is not specifically named in the WMP or the LA Basin Plan; no beneficial uses for the lake have been established.

4.5.4 Thresholds of Significance

The proposed project would result in a significant impact related to hydrology/water quality if it would:

Threshold 4.5-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Threshold 4.5-2 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

These thresholds are from Appendix G of the State CEQA Guidelines.

4.5.5 Project Impacts

4.5.5.1 Impact 4.5-1

Impact 4.5-1: Operation of the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality in MacArthur Park Lake or Ballona Creek. This would be a *less than significant impact* for MacArthur Park Lake and *beneficial impact* for Ballona Creek.

4.5.5.1.1 Impacts

Project Site

As mentioned in Chapter 2, *Project Description*, once constructed, the proposed project would divert dry weather flows and a portion of wet weather flows (hereafter referred to collectively as urban stormwater) from the stormwater system and route the flows into MacArthur Park Lake for storage or return it to the storm drain system. An estimated 130 AFY would be routed to the lake from the stormwater treatment unit in the park.[223]

To provide room for storage in the lake, the water level in MacArthur Park Lake would be lowered by approximately 8 inches when needed to accommodate up to 5 acre-feet (AF; approximately 1.63 million gallons) of stormwater. It is estimated that the lake drawdown would total, on average, approximately 95 acre feet (nearly 31 million gallons) per year, which would be discharged to the sanitary sewer. The actual volume of lake drawdown would vary depending on the frequency, sequencing, size, and

[221] Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

[222] Los Angeles Regional Water Quality Control Board. Water Quality Control Plan – Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. 2014. Available: https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html.

[223] Carollo, MacArthur Lake Stormwater Capture Project, Project Memorandum, Subject: Flow and Pollutant Removal Mass Balance Estimates, April 25, 2024.

duration of wet weather events, as well as temperatures. It is the intent to always have a few inches of storage capacity available in the lake to enable treated dry weather flows to be diverted to the lake year-round. Water discharged to the sanitary sewer would be treated at the Hyperion Water Reclamation Plant (HWRP). As HWRP is located outside of the Ballona Creek watershed, pollutants in the water discharged to the sanitary sewer would be removed from the watershed.

Once the storage capacity of MacArthur Park Lake has been reached, and after passing through the pretreatment unit and the stormwater treatment unit located within the park boundaries, the treated stormwater would be returned back to the storm drain system downstream of the diversion point. It is estimated that, of the 244 AFY that would be treated by the proposed project, 114 AFY would be returned to the storm drain system. During major storm events, stormwater flows that exceed the maximum capacity of the diversion structure pump station in Lake Street (i.e., 12.7 cfs) would bypass the proposed diversion structure and continue downstream to Ballona Creek as they do currently. Treated stormwater discharged back to the storm drain system would ultimately flow to Ballona Creek. Diagrams that illustrate the wet weather and dry weather flows are provided in Figure 2-4a and Figure 2-4b, respectively, in Chapter 2, *Project Description*.

The proposed project would change the operation of MacArthur Park Lake. Currently, rain falls directly in the lake, but any rain that falls in the area surrounding the lake flows directly into storm drains and does not enter the lake. Under the proposed project, the lake would be drawn down when needed and would subsequently be filled with treated urban stormwater. Therefore, with implementation of the proposed project, approximately 130 AFY of stormwater that would otherwise flow through the storm drain system would be discharged into the lake. This would reduce potable water inputs into the lake. Additionally, an average of 95 AFY of water in the lake would be discharged to the sanitary sewer system because of drawdown of the lake.

The proposed project would increase external loads of nutrients to MacArthur Park Lake by partially replacing additions of potable water with urban stormwater. Concentrations of nutrients in urban stormwater are greater than in potable water when comparing the quality of stormwater runoff from mixed urban watersheds to drinking water quality reported by the Los Angeles Department of Water and Power (LADWP). This would increase the potential for lake water quality impairment; however, water inflows would first go through the pretreatment unit and stormwater treatment unit, which would remove nutrients and other pollutants from the system prior to discharge to the lake, as discussed in Chapter 2, *Project Description*. The continually-operating, recirculating water feature would also remove nutrients and other pollutants. In addition, periodic drawdown of the lake would facilitate removal of nutrients and algae by flushing. Even with these proposed project elements, it is anticipated that nutrient levels in MacArthur Lake may increase with project implementation; however, given the current eutrophic conditions in the lake, it is not expected that increased nutrient levels would substantially degrade existing surface water quality.

As required by the Regional Program Transfer Agreement for the MacArthur Park Lake project, LASAN would prepare a detailed post-construction monitoring plan based on regulatory requirements, system performance, and water quality design targets. The plan would identify methods and materials that would be used to ensure that post-construction monitoring targets are achieved. As required by the Regional Program Transfer Agreement, post-construction stormwater quality monitoring data would be

collected and reported for a 3-year period. At the close-out of the project, LASAN would be required to demonstrate that the planned targets were achieved.

As discussed in Section 4.5.3.1, MacArthur Lake is not subject to any water quality standards or waste discharge requirements. Therefore, the proposed project would have no impact with respect to these significance threshold criteria. Moreover, as summarized in Section 4.5.1, the proposed project would not have any impacts on groundwater. With respect to surface water quality, given the currently degraded quality of water in the lake, the addition of treated stormwater is not expected to substantially degrade surface water quality in MacArthur Park Lake and impacts would be ***less than significant***.

Ballona Creek

The proposed project would divert and treat flows from the storm drain system from a roughly 200-acre catchment area (approximately 0.24 percent of the total watershed of Ballona Creek). As mentioned above, a substantial portion (approximately 46 percent) of the diverted flow would be treated and discharged back to the storm drain system, where it would ultimately flow to Ballona Creek. As described above and illustrated in Figure 2-4a, a portion of the flow that is returned to the storm drain system would be treated by both the pretreatment unit and the stormwater treatment unit prior to discharge, and some of the flow would be treated by the pretreatment unit only. As discussed in Chapter 2, *Project Description*, the pretreatment unit would reduce zinc by approximately 64 percent, sediment by approximately 80 percent, and trash by nearly 100 percent.[224] It is estimated that the stormwater treatment unit would remove approximately 80 percent of sediment, and 75 percent of zinc.[225] In total, the proposed project would remove approximately 93 percent of the zinc from the stormwater that would be diverted and returned to the storm drain system, approximately 96 percent of the sediment, and nearly 100 percent of the trash.[226] Thus, the stormwater that is returned to the storm drain system would have lower concentrations of pollutants as compared to existing conditions. In accordance with the Regional Program Transfer Agreement, following completion of construction, LASAN would be required to sample the discharge and monitor the effectiveness of the system to ensure that it meets its design targets. As a result, the proposed project would incrementally improve the water quality in Ballona Creek in a manner consistent with the WMP and would contribute to the goal of meeting the TMDL for metals. Implementation of the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Operation of the proposed project would result in a ***beneficial impact*** on surface water quality in Ballona Creek.

4.5.5.1.2 Mitigation Measures

Because the proposed project would result in a ***less than significant impact*** on water quality in MacArthur Park Lake and a ***beneficial impact*** on water quality in Ballona Creek, no mitigation is required.

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[224] Carollo, MacArthur Lake Stormwater Capture Project, Project Memorandum, Subject: Flow and Pollutant Removal Mass Balance Estimates, April 25, 2024.

[225] Carollo, MacArthur Lake Stormwater Capture Project, Project Memorandum, Subject: Flow and Pollutant Removal Mass Balance Estimates, April 25, 2024.

[226] Carollo, MacArthur Lake Stormwater Capture Project, Project Memorandum, Subject: Flow and Pollutant Removal Mass Balance Estimates, April 25, 2024.

4.5.5.1.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address impacts on water quality in MacArthur Park Lake or Ballona Creek. There would be a ***less than significant impact*** on water quality in MacArthur Park Lake and a ***beneficial impact*** on water quality in Ballona Creek.

4.5.5.2 Impact 4.5-2

Impact 4.5-2: Operation of the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. There would *no impact* to plans applicable to the project site and a *beneficial impact* on water quality control plans applicable to the Ballona Creek watershed.

4.5.5.2.1 Impacts

Project Site

As mentioned in Section 4.5.3.2, MacArthur Park Lake is not named in the LA Basin Plan. Additionally, the lake is not tributary to any downstream named waterbody, so it is not included in the Ballona Creek WMP. Lastly, the proposed project would not affect groundwater quality, as discussed in the Initial Study prepared for the project. Thus, operation of the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan and there would be ***no impact***.

Ballona Creek

As discussed in Section 4.5.3.1.3, water quality control plans applicable to Ballona Creek include the LA Basin Plan and the Ballona Creek WMP. Per the Ballona Creek WMP, the proposed project is considered a regional control or centralized facility, intended to treat large volumes of stormwater runoff from upstream areas to achieve require pollutant reductions. As discussed in Section 4.5.5.1, operation of the proposed project would result in a beneficial impact on surface water quality in Ballona Creek as it would divert and treat stormwater from a roughly 200-acre catchment area (approximately 0.24 percent of the total Ballona Creek Watershed). As a result, the proposed project would be consistent with the WMP and would contribute to the goal of meeting the TMDL for metals. Thus, operation of the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Because the proposed project would improve water quality in the Ballona Creek watershed and be considered a regional control measure in the Ballona Creek WMP, it would support implementation of the LA Basin Plan and the Ballona Creek WMP, resulting in a ***beneficial impact.***

4.5.5.2.2 Mitigation Measures

Because the proposed project would have ***no impact*** on water quality control plans applicable to the project site and a ***beneficial impact*** on water quality control plans applicable to Ballona Creek, no mitigation is required.

4.5.5.2.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address conflicts with water quality control plans. The proposed project would result in ***no impact*** on water quality control plans applicable to the project site and a ***beneficial impact*** on water quality control plans applicable to Ballona Creek.

4.5.6 Cumulative Impacts

4.5.6.1 Project Site

As discussed in Section 4.5.5, the impact of the proposed project during project operations on surface water quality in MacArthur Park Lake would be less than significant. There are a number of projects that have recently been completed or are expected to occur adjacent to or near the proposed project site, such as the MacArthur Park Playground Project, Westlake MacArthur Park Pedestrian Improvements, and Westlake MacArthur Park Area Transit Improvements, as discussed in Section 3.1.3 in Chapter 3, *Overview of Project Setting*. Although some of these projects may result in slight increases in impervious surface area, which could increase the rate and amount of stormwater runoff, these projects would comply with all regulatory requirements concerning stormwater. Moreover, the pathway that encircles MacArthur Lake is sloped such that runoff flows away from the lake into drains located surrounding the lake at the edge of the pathway adjacent to the landscaped areas. Thus, runoff from these projects would not enter MacArthur Park Lake and would not degrade surface water quality in the lake. Therefore, there would be no cumulative impacts on water quality in MacArthur Park Lake.

4.5.6.2 Ballona Creek

There are a number of regional programs and planning efforts aimed at addressing environmental conditions in the Ballona Creek Watershed, including the Ballona Creek WMP, LA Sanitation & Environment's Stormwater and Urban Water Facilities Plan (Volume 3 of the One Water 2040 Plan), the Los Angeles County SCWP, the City of Los Angeles Department of Water and Power's Stormwater Capture Master Plan, the City of Los Angeles Green New Deal (also referred to as the Sustainable City pLAn), the Central Santa Monica Bay Watershed Area Stormwater Investment Plan, and others. Some of these programs and plans address issues at a policy level, whereas others offer specific projects that are planned or proposed to be implemented. This cumulative impact analysis focuses on specific projects or programs that will implement individual projects that, together, have the potential to result in cumulative impacts to hydrology and water quality.

As identified in Chapter 3, *Overview of Project Setting*, this cumulative impact analysis focuses on specific projects and programs that have the potential to result in impacts to hydrology and water quality in the Ballona Creek. In particular, the following projects are evaluated in the analysis of cumulative hydrology/water quality impacts:

- Projects to be implemented in the Ballona Creek watershed under the Ballona Creek WMP[227]
- Ballona Creek Bacteria TMDL Project and its low-flow diversion facilities in the Ballona Creek watershed[228]
- The Ballona Wetlands Restoration Project[229]

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[227] Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

[228] City of Los Angeles Bureau of Sanitation Watershed Protection Division. Ballona Creek Bacteria Total Maximum Daily Load Project Draft Environmental Impact Report. Prepared by Catalyst Environmental Solutions Corporation. August 2017. Available: https://www.lacitysan.org/san/sandocview?docname=cnt019961.

[229] California Department of Fish and Wildlife. The Ballona Wetlands Restoration Project. 2022. Available: https://wildlife.ca.gov/Regions/5/Ballona-EIR.

4.5.6.2.1 Stormwater Diversion Projects

Numerous stormwater and/or dry weather flow diversion projects are planned or proposed for implementation within the Ballona Creek watershed to meet water quality TMDLs within Ballona Creek. The proposed project is one such project. As discussed in Section 4.5.5.1, operation of the proposed project would capture stormwater and dry weather flows from an approximate 200-acre drainage area (0.24 percent of the total watershed of Ballona Creek) that would normally drain into the Ballona Creek. Some of the captured flows would be treated and returned to the storm drain system whereas some of the flows would be stored in the lake. The proposed project would reduce flows from the storm drain system to Ballona Creek by less than 0.24 percent. Other diversion projects include the Ballona Creek TMDL Project, and individual projects associated with the Ballona Creek WMP. Implementation of these projects could result in cumulative impacts to hydrology/water quality in Ballona Creek and downstream, as discussed below.

Ballona Creek Watershed Enhanced Watershed Management Program

As discussed in Section 4.5.3.1.3, the Ballona Creek EWMP was developed to comply with the MS4 Permit Order R4-2012-0175 for Los Angeles County in effect at the time. The BCWMG amended the EWMP with revised capture volume targets in compliance with the new MS4 permit (Order R4-2021-0105) in 2021 and 2023 (and concurrently changed the nomenclature to WMP). The discussion herein refers to the most up-to-date WMP.

The WMP objective is to determine the control measures, referred to as BMPs, that will achieve required pollutant reductions while also providing community benefits in the Ballona Creek watershed. BMPs identified in the WMP include centralized regional projects and distributed BMPs, such as low-impact development (LID) and green streets. Regional projects are centralized facilities that treat large volumes of stormwater runoff from a large area (tens to hundreds of acres in size). Types of regional facilities include infiltration facilities, retention facilities, and constructed wetlands; thus, the proposed project is considered a regional facility under the WMP. LID projects include structural practices–such as permeable pavement or rain gardens–that capture, infiltrate, store, use, and/or treat runoff from smaller areas. Green streets are bioretention/bioinfiltration measures installed parallel to roadways.[230]

The WMP Implementation Strategy lays out a network of regional BMPs, LID, and green street measures that are designed to divert a substantial volume of stormwater runoff from MS4s upstream of Ballona Creek. The WMP identifies more than 68 regional BMPs, including 10 signature regional projects, four of which would retain the stormwater volume from the 85th percentile, 24-hour storm to comply with TMDL requirements. The signature projects were evaluated through detailed environmental, geotechnical, and engineering feasibility analyses; however, funding for design and construction has not been identified for all signature projects, and it is uncertain which projects will ultimately be implemented under the WMP.[231]

Impacts associated with the predecessor to the Ballona Creek WMP, the 2016 Ballona Creek EWMP, were addressed in an EIR prepared by the County of Los Angeles Department of Public Works titled the

[230] Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

[231] Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

Los Angeles County Flood Control District Enhanced Watershed Management Programs EIR (EWMP EIR).[232] As noted in the EIR, regional and distributed BMPs would provide source control treatment of stormwater runoff prior to discharge to receiving waters. These BMPs would provide improved water quality through infiltration and treatment that would minimize the off-site transport of typical urban runoff pollutants. Implementation of the proposed BMPs would have no adverse impacts to surface water quality and would not require mitigation. As BMPs are implemented, the watershed would experience reduced dry-weather runoff, improved surface water quality, and a more natural hydrology. Although the mix of projects that would be implemented under the WMP is uncertain, the EWMP Final EIR concluded that implementation of EWMP projects would have cumulatively beneficial impacts on local surface water quality. As noted above, the proposed project is considered a regional facility as defined by the Ballona Creek WMP. Therefore, the cumulative impacts of the proposed project on water quality are addressed in the cumulative impact analysis in the EWMP EIR, and the conclusions of that analysis apply to the proposed project.

Ballona Creek Bacteria Total Maximum Daily Load Project

The Ballona Creek Bacteria TMDL Project would involve two low-flow treatment facilities and one low-flow diversion to divert and treat polluted stormwater to improve downstream water quality in Ballona Creek, Ballona Estuary, Sepulveda Channel, and Centinela Creek during dry weather. This project is included in the Ballona Watershed WMP (as noted above) as well as the Central Santa Monica Bay Watershed Area Stormwater Investment Plan.[233] The Ballona Creek Bacteria TMDL Project EIR concluded that the diversion of flow from the project would result in a beneficial impact relative to water quality because of the discharges of treated water from the low-flow treatment facilities and diversion of polluted stormwater.[234] With respect to cumulative impacts, the Ballona Creek Bacteria TMDL EIR evaluated a list of cumulative projects, including all ten of the WMP signature regional projects as well as the Ballona Wetlands Restoration Project. The cumulative impact analysis did not identify any significant cumulative impacts to hydrology or water quality.[235]

Conclusions Regarding Cumulative Impacts from Stormwater Diversion Projects

As discussed in Section 4.5.5, operation of the proposed project would result in beneficial impact on surface water quality in Ballona Creek. Similarly, the impacts to surface water quality in the Ballona Creek watershed associated with the cumulative projects mentioned above (i.e., the Ballona Watershed WMP and the Ballona Creek Bacteria TMDL Project) were determined to be beneficial. The EIRs prepared for these projects took the regional projects into account in their analyses. In particular, as noted above, the analysis of cumulative impacts in the EWMP EIR included regional projects such as the proposed project. Therefore, the cumulative impacts of the proposed project are addressed in the

[232] County of Los Angeles Department of Public Works. Los Angeles County Flood Control District Enhanced Watershed Management Programs. EIS/R, State Clearinghouse No. 2014081106. 2015. Prepared by ESA. Available: https://ceqanet.opr.ca.gov/2014081106/3.

[233] Los Angeles County Safe Clean Water Program. Central Santa Monica Bay Stormwater Investment Plan. Fiscal Year 2021-2022. Available: https://safecleanwaterla.org/wp-content/uploads/2021/09/SIP-ROC-Transmittal-CSMB.pdf.

[234] Los Angeles Bureau of Sanitation Watershed Protection Division. Ballona Creek Bacteria Total Maximum Daily Load Project Final Environmental Impact Report. Prepared by Catalyst Environmental Solutions Corporation. 2018. Available: https://www.lacitysan.org/san/sandocview?docname=cnt024339.

[235] Los Angeles Bureau of Sanitation Watershed Protection Division. Ballona Creek Bacteria Total Maximum Daily Load Project Final Environmental Impact Report. Prepared by Catalyst Environmental Solutions Corporation. 2018. Available: https://www.lacitysan.org/san/sandocview?docname=cnt024339.

cumulative impact analysis in the EWMP EIR, and the conclusions of that analysis apply to the proposed project. As stated in the EWMP EIR, cumulative impacts on surface water quality would be beneficial. Therefore, the proposed project in combination with implementation of the projects in the Ballona Creek WMP and the Ballona Creek Bacteria TMDL project would have a ***beneficial cumulative impact*** on surface water quality in the Ballona Creek watershed.

4.5.6.2.2 Ballona Wetlands Restoration Project

The Ballona Wetlands Restoration Project seeks to restore the wetland and other ecological functions of the Ballona Reserve. The Ballona Reserve is a protected area extending roughly from Fiji Way to the north, Marina Freeway to the east, Westchester bluffs to the south, and Playa del Rey to the west, which includes approximately 153 acres of wetlands and approximately 83 acres of non-wetland waters of the U.S. Key components of the restoration project include reconnecting Ballona Creek to portions of its historic floodplain by constructing new engineered levees set back from the existing Ballona Creek channel, realigning the channel into a more natural meandering shape, and installing new hydraulic structures to improve tidal circulation into the Ballona Reserve.[236] The California Department of Fish and Wildlife (CDFW) certified the Final EIR for the project in December 2020. However, due to subsequent litigation, CDFW decertified the EIR in September 2023 and is currently revising the document as per the court order. The revised document will disclose and analyze new flood control design parameters and commit to additional environmental review if performance criteria change. According to CDFW's website, the deficiencies in the original EIR are expected to be easily rectified. CDFW anticipates completion and recertification of the revised EIR by the end of 2025, with project implementation following in 2026.[237] It is not expected that the revisions will substantially alter the project as it relates to the cumulative impact analysis provided herein.

The Ballona Wetlands Restoration Project would require restoration and post-restoration work within the Ballona Reserve. According to the original Final EIR for the project, the greatest potential for cumulative impacts with respect to water quality would occur if other land disturbing activities were to happen concurrently with and in the same geographic extent as the restoration or post-restoration (long-term) work required by Ballona Wetlands Restoration Project. Because the proposed project would not require land disturbance in the Ballona Reserve, the proposed project, in combination with the Ballona Wetlands Restoration Project, would result in ***no cumulative impacts*** on water quality in the Ballona Reserve.

4.5.7 Summary of Impact Determinations

Table 4.5-2 summarizes the impact determinations of the proposed project related to hydrology/water quality, as described in Section 4.5.5. Identified impacts are based on the significance criteria presented in Section 4.5.4, the information and data sources cited throughout 4.5, and the professional judgment of the report's preparers, as applicable.

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[236] U.S. Army Corps of Engineers, Los Angeles District, and California Department of Fish and Wildlife, South Coast Region (Region 9). Ballona Wetlands Restoration Project Environmental Impact Statement/Environmental Impact Report. Prepared by ESA. 2017. As described in Section 3.1.3.2, the EIR was subsequently decertified by CDFW and a revised EIR is currently being prepared. However, the revisions are not expected to materially alter the description of wetlands and non-wetland waters of the U.S. described herein.

[237] California Department of Fish and Wildlife. The Ballona Wetlands Restoration Project. 2022. Available: https://wildlife.ca.gov/Regions/5/Ballona-EIR.

Table 4.5-2 Summary of Impacts and Mitigation Measures Associated with the Proposed Project Related to Hydrology/Water Quality

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Impact 4.5-1: Operation of the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality in MacArthur Park Lake or Ballona Creek. This would be a ***less than significant impact*** for MacArthur Park Lake and ***beneficial impact*** for Ballona Creek.	MacArthur Park Lake: Less than Significant Ballona Creek: Beneficial	MacArthur Park Lake: No mitigation is required Ballona Creek: No mitigation is required	MacArthur Park Lake: Less than Significant Ballona Creek: Beneficial
Impact 4.5-2: Operation of the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. There would ***no impact*** to plans applicable to the project site and a ***beneficial impact*** to water quality control plans applicable to the Ballona Creek watershed.	MacArthur Park Lake: No Impact Ballona Creek: Beneficial	MacArthur Park Lake: No mitigation is required Ballona Creek: No mitigation is required	MacArthur Park Lake: No Impact Ballona Creek: Beneficial

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4.6 Noise and Vibration

4.6.1 Introduction

This noise analysis examines the noise and vibrations that would occur from construction of the proposed project. Noise and vibrations from construction sources (e.g., heavy-duty on-site construction equipment, hauling and delivery trucks, and worker commute vehicles) were calculated and were compared against a baseline of the existing ambient noise levels in the project area and a baseline of no vibration, for noise and vibration, respectively.

Prior to the preparation of this EIR, an Initial Study (included in **Appendix A** of this EIR) was prepared using the CEQA Environmental Checklist Form to assess potential environmental impacts on noise and vibration. The Initial Study (Section 4, Issue XIII) determined that, because the project is not located within the vicinity of a private airstrip or an airport land use plan, the project would not expose people residing or working in the project area to excessive noise levels from airport operations. The Initial Study also found that operational impacts from the proposed project would be less than significant and, thus, no further analysis of these topics in an EIR was required. Therefore, the noise and vibration analyses in this EIR is focused on impacts from construction.

This section describes the general characteristics of noise and vibration, the analytical approach and methodology, the regulatory framework, environmental setting, thresholds of significance, and the potential noise and vibration impacts associated with the proposed project. Noise and vibration calculations are included in **Appendix F** of this EIR.

4.6.1.1 Overview of Noise and Vibration

4.6.1.1.1 Noise Fundamentals

To understand the results of a noise analysis, it is important to establish a foundation in the basics of sound and metrics used to measure it. This section describes the physics of sound, the methods used to measure sound level and impact, and the effects of noise on humans.

Sound is defined as any pressure variations in the air that the human ear can detect. When transmitted through the air and upon reaching our ears, sound may be perceived as desirable or unwanted. People normally refer to unwanted sound as noise. The response to sound is subjective; individuals have different perceptions, sensitivities, and reactions to noise. Sounds that occur during sleeping hours are usually considered to be more objectionable than those that occur during waking hours and hours of activity (typically daytime). Noise is considered objectionable for a variety of reasons, including persistence and sudden changes in the intensity of the sound's pitch or loudness. Pitch is related to the frequency of vibrations by which the sound is produced; in general, intermediate pitched signals sound louder to humans than those with a higher or lower pitch. Loudness is the amplitude, or intensity, of the sound waves as perceived by the human ear; the higher the amplitude, the louder the sound.

Technical acoustical terms used in this section are defined in **Table 4.6-1**. Acoustics consists of a sound, a receptor, and the propagation path by which the sound reaches the receptor. The loudness of a sound source, and the obstructions or atmospheric (environmental) factors that affect the propagation path, determine the sound level and characteristics of the sound, as perceived by the receptor.

Table 4.6-1 Definitions of Common Technical Acoustical Terms	
Term	**Definition**
Sound	Vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
Noise	Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
Sound pressure level	Sound pressure is the sound force per unit area, usually expressed in micropascals, where 1 pascal is the pressure from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is more commonly expressed in decibels. Sound pressure level is the quantity that is measured directly by a sound level meter.
Decibel (dB)	Unit describing the amplitude of sound equal to 20 times the logarithm to base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micropascals.
Frequency, hertz (Hz)	Number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing ranges 20 Hz to 20,000 Hz.
A-weighted sound level (dBA)	Sound pressure level in decibels, as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low- and very high-frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent noise level (L_{eq})	Average A-weighted noise level during the measurement period. (The hourly L_{eq} used for this report is denoted as dBA L_{eq}[h].)
Community noise equivalent level (CNEL)	Average A-weighted noise level during a 24-hour day, which is calculated by adding 5 dB to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and 10 dB to sound levels between 10:00 p.m. and 7:00 a.m. CNEL is the standard metric used in California to represent cumulative noise exposure.
Day/night noise level (DNL, formerly L_{dn})	Average A-weighted noise level during a 24-hour day, which is calculated by adding 10 dB to sound levels measured at night between 10:00 p.m. and 7:00 a.m.
Maximum sound level (L_{max})	Maximum A-weighted noise level measured during the measurement period.
Minimum sound level (L_{min})	Minimum A-weighted noise level measured during the measurement period.
Ambient noise level	Composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive noise	Noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or informational content, as well as the prevailing ambient noise level.

The decibel (dB) scale is commonly used to characterize the loudness of sound; however, the dB scale alone does not adequately characterize how humans perceive noise. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, based on the sensitivity of the human ear to those frequencies. The A-weighted sound level (dBA) approximates the response of the average young ear to ordinary sounds, such as those listed in **Table 4.6-2**. Individual judgment regarding the loudness or annoyance of a sound tends to correlate well with the dBA scale of those sounds.

Table 4.6-2 Typical Sound Levels in the Environment		
Common Outdoor Noise Source	**Sound Level (dBA)**	**Common Indoor Noise Source**
	110 dBA	Rock music concert
Jet flyover at 1,000 feet		
	100 dBA	
Gas lawnmower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room (background)
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	
Source: California Department of Transportation (Caltrans). Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf.		

The dB and dBA measurement scale is logarithmic; sound levels are not combined by simple addition. On the dB scale, a doubling of sound energy corresponds to an approximate 3 dB increase in total sound level. Therefore, when two identical sources of sound each produce the sound at the same loudness under the same conditions, their combined sound level at a given distance would be 3 dB higher than either source individually. For example, if one excavator produces a sound pressure level of 80 dBA, two excavators operating simultaneously would produce a sound pressure level of 83 dBA. The cumulative sound level of any number of sources can be determined using logarithmic addition.

When sound propagates over a distance, it changes in both amplitude and frequency, and thus the sound's pitch and loudness decrease relative to its characteristics at the sound source. The manner in which sound is reduced over the sound's propagation path depends on factors such as geometric spreading from point or line sources, ground absorption, atmospheric effects (including temperature, humidity, and turbulence), and shielding from natural or man-made features.

Environmental sounds are commonly described in terms of an average level that has the same acoustical energy as the summation of all time-varying events. This equivalent noise level descriptor is referred to as the L_{eq}. Common averaging periods for L_{eq} are one and eight hours; however, L_{eq} can describe any series of noise events over any arbitrary duration.

Human Responses to Noise

In general, a change of 3 dBA in the normal environment is barely detectable to most people, a change of 5 dBA is readily perceptible to most people, and a change of 10 dBA is perceived as being twice (or half) as loud to the human ear.

A number of studies have linked increases in noise with negative health effects, including hearing impairment, sleep disturbance, cardiovascular effects, psychophysiological effects, and potential impacts to fetal development. Potential health effects may be caused by both short- and long-term exposure to very loud noises and long-term exposure to lower levels of sound (chronic exposure). Acute exposure to sound levels greater than 120 dBA can cause mechanical damage to the ear and hearing impairment.[238]

The World Health Organization (WHO) and the U.S. Environmental Protection Agency (USEPA) indicate that an L_{eq} of 70 dBA corresponds to a safe daily average noise level for the human ear.[239,240] However, exposure to L_{eq} 70 dBA may result in disturbance to sleep and concentration and can be linked to chronic health impacts, including hypertension and heart disease.[241]

Sensitive Receptors

Some land uses are considered more sensitive to noise than others. People in residences, motels and hotels, schools and day-care facilities, libraries, churches, hospitals, convalescent/retirement homes, auditoriums, natural areas, parks, and outdoor recreation areas are generally more sensitive to noise than are people at commercial and industrial establishments. Consequently, the noise standards for sensitive land uses are more stringent than for those at less sensitive uses. Notably, schools, parks, and recreational land uses are not considered as sensitive to noise as residences and places where people sleep.

4.6.1.1.2 General Characteristics of Construction Noise

General Characteristics of Construction Traffic Noise

As indicated in the noise fundamentals discussion, if a road has free-flowing uninterrupted traffic conditions, sound levels increase at a rate of 3 dBA each time the traffic volume doubles on that road. However, if a road has saturated or constrained traffic conditions, sound levels will progressively decrease (subsequent to an increase in traffic volume), as vehicle speed, engine operation level, drive-train and tire rotation, and wind-shear each decrease.

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238 Babish, Dr. Wolfgang. Umweltbundesamt (German Federal Environmental Agency). Transportation Noise and Cardiovascular Risk. January 2006. Available: https://www.umweltbundesamt.de/sites/default/files/medien/publikation/long/2997.pdf.

239 World Health Organization. Guidelines for Community Noise. 1999. Available: https://apps.who.int/iris/handle/10665/66217.

240 United States Environmental Protection Agency. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March 1974. Available: https://nepis.epa.gov/exe/zypdf.cgi/2000l3ln.pdf?Dockey=2000l3ln.pdf.

241 Babish, Dr. Wolfgang. Umweltbundesamt (German Federal Environmental Agency). Transportation Noise and Cardiovascular Risk. January 2006. Available: https://www.umweltbundesamt.de/sites/default/files/medien/publikation/long/2997.pdf.

General Characteristics of Construction Equipment Noise

Construction activities typically generate noise by operating equipment required for demolition, excavation, grading, construction of structures, and installation of non-structure equipment at the project site. Typical noise levels associated with common construction equipment types generally range from 70 dBA (portable generator measured at a distance of 50 feet) to 95 dBA (pile driver measured at a distance of 50 feet).[242,243] Details regarding noise levels, receptor distances, and specific types of construction equipment assumed during proposed project construction are included in **Appendix F** of this EIR.

Construction noise typically dissipates at a rate of approximately 6.0 dB for each doubling of distance (between the noise source and the receptor) independent of the background ambient noise levels. For example, construction equipment that results in an L_{eq} of 86 dBA at 50 feet from the equipment would result in an L_{eq} of 80 dBA at 100 feet from the equipment, an L_{eq} of 74 dBA at 200 feet, and so on. This sound drop-off rate does not take into account the effects of any natural or man-made intervening shielding, such as trees, hills, structures, or sound-dampening barriers. A barrier that breaks the line-of-sight between a source and a receptor will typically result in at least 5 dB of noise reduction, with higher and thicker barriers resulting in greater noise reduction.

4.6.1.1.3 Vibration Fundamentals

Vibration is the periodic movement of mass over time. Groundborne vibration is described in the California Department of Transportation (Caltrans) *Transportation and Construction Vibration Guidance Manual* as an oscillatory motion of a particle (i.e., a point in or on the ground or a structure) with respect to the equilibrium position, which can be quantified in terms of displacement, velocity, or acceleration.[244] Displacement is the distance that a point on the floor moves from its static position, velocity represents the instantaneous speed of the floor movement, and acceleration is the rate of change of the speed. The response to vibration is most commonly described using velocity or acceleration.

Groundborne vibration is the perceptible movement of building floors, rattling windows and doors, shaking of items on shelves or walls, and rumbling sounds. Construction-related sources of notable levels of vibration are relatively limited. One such source is the operation of heavy construction equipment, which can create vibrations that originate from the source as energy waves that travel through the soil mass and rock strata to the foundations of nearby buildings. The vibration then propagates from the foundation to the building structure. Vibrations from operation of construction equipment can, at certain levels, result in damage to buildings, including structural damage (e.g., cracking of floor slabs, foundations, columns, beams, or wells) or cosmetic architectural damage (e.g., cracked plaster, stucco, or tile). However, energy waves rapidly dissipate with distance from the vibration source, owing to spreading of the energy and frictional losses. Thus, groundborne vibrations

[242] Fifty feet is the standard reference distance used in the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA) guidance for the evaluation of construction equipment noise.

[243] U.S. Department of Transportation, Federal Highway Administration. FHWA Roadway Construction Noise Model, Version 1.0 User's Guide. January 2006. Available: https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf.

[244] California Department of Transportation. Transportation and Construction Vibration Guidance Manual. April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

from most construction activities rarely reach the levels that can damage buildings.[245] Soil and subsurface conditions also influence levels of groundborne vibration; for example, vibration levels are typically higher in stiffer clay soils as compared to loose sandy soil, and in areas where bedrock depth is 30 feet or less.

Construction that can result in notable levels of ground vibration generally falls into two categories that are best characterized by the cause of the vibration and its duration. Vibration that is steady-state and more or less continuous can be caused by vibratory compaction of soil, movement of large equipment, and other sources. In contrast, vibration that is more transient in nature and intermittent due to impulsive forces can be caused by pile driving and rock blasting. Neither pile driving nor rock blasting would be utilized during construction of the proposed project. Therefore, the potential for the proposed project to result in vibration impacts would be associated with equipment that can cause steady-state, continuous vibration.

There are several different methods that may be used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. PPV is most frequently used to describe vibrational impacts to buildings.

The root mean square (RMS) amplitude is often used to describe the effects of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the vibration signal over a given time, typically a 1-second period.[246] The duration of vibration events has an effect on human response, as does its frequency of occurrence. However, the response to vibration signals in humans—with respect to annoyance—is inherently subjective; thus, many of the studies—with respect to human annoyance—relate to the perceptibility of a vibration signal measured in PPV, rather than its overall effect. Therefore, PPV is used to evaluate vibration-related human annoyance in this analysis.

4.6.2 Methodology

4.6.2.1 Construction Traffic Noise

Project impacts relative to traffic noise were determined by identifying major roadways near the project area that may be used for construction-related worker commute trips and hauling or delivery truck routes, assessing their traffic volumes, and evaluating the potential for construction-related traffic to have a noticeable effect on nearby noise-sensitive receptors. Proposed construction haul routes are identified in Figure 2-11 in Chapter 2, *Project Description*. Existing traffic volumes were estimated using Caltrans Traffic Census annual average daily traffic (AADT) volumes for State Route 110 at 5th Street/6th Street (identified by Caltrans as 'Route 110 – Los Angeles 5th/6th Street') and NavigateLA for other roadways.[247,248,249] As discussed previously, traffic-related noise impacts were evaluated based on the

[245] California Department of Transportation. Transportation and Construction Vibration Guidance Manual. April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

[246] California Department of Transportation. Transportation and Construction Vibration Guidance Manual. April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

[247] The Los Angeles 5th/6th Street intersection along State Route 110 is the location nearest to the project site for which Caltrans aggregates AADT volumes.

[248] California Department of Transportation. Traffic Census Program Webpage: 2020 AADT. Available: https://dot.ca.gov/programs/traffic-operations/census. Accessed February 24, 2022.

[249] City of Los Angeles Department of Public Works, Bureau of Engineering. Navigate LA - LADOT Traffic Data. Available: https://navigatela.lacity.org/navigatela/.

increase in traffic associated with project construction relative to the existing traffic volumes. Each time the traffic volume is doubled, there would be a 3 dB (barely perceptible) increase in traffic-related noise. Consistent with Caltrans guidance, noise equivalency factors—based on the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA) Traffic Noise Model (TNM) reference energy mean emission levels —were applied to construction-related truck trips because noise generated by construction trucks is generally louder than that of typical passenger vehicles.[250]

4.6.2.2 Construction Equipment Noise

Project impacts relative to construction equipment noise were calculated consistent with the Caltrans-recommended FHWA *Roadway Construction Noise Model* (RCNM) calculation methodology.[251] The evaluation considered the different types of construction activities and their associated equipment, the locations of construction activities, and the locations of noise-sensitive uses.

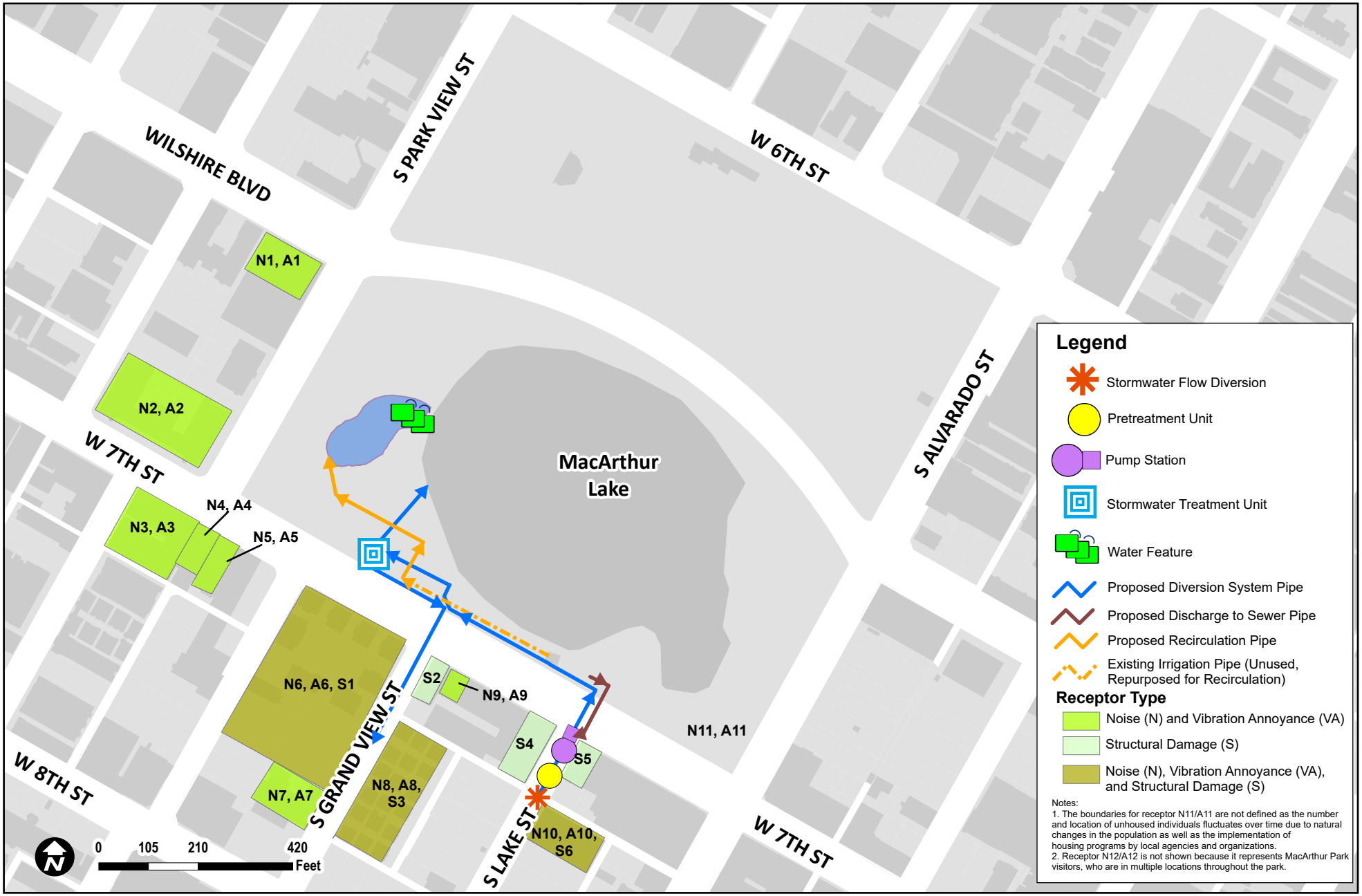
Noise-sensitive uses were identified as residences, transient lodgings, schools, libraries, churches, hospitals, nursing homes, auditoriums, concert halls, amphitheaters, playgrounds, and parks within 500 feet of the project site.[252] **Figure 4.6-1** identifies the noise-sensitive receptors located in the vicinity of construction areas for the proposed project. No noise attenuation from natural or man-made obstructions was assumed in L_{eq} calculations at noise-sensitive uses, although atmospheric attenuation from the distance between a noise source and a noise-sensitive use was assumed.

The dominant sources of noise from construction activities would include equipment engine operation, pavement-breaking activities, and bulldozing activities. Blasting and pile driving activities are among the noisiest construction-related activities; however, as noted previously, neither blasting nor pile driving would be required as part of the proposed project. **Table 4.6-3** summarizes typical noise levels for proposed project construction equipment at a reference distance of 50 feet.

[250] California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf

[251] U.S. Department of Transportation, Federal Highway Administration. Roadway Construction Noise Model, Version 1 User's Guide. January 2006. Available: https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf.

[252] City of Los Angeles. L.A. CEQA Thresholds Guide. 2006. Available: https://planning.lacity.org/odocument/cc8fb2f5-dc6c-47f1-bfc3-864b84621abb/CEQAThresholdsGuide.pdf.



Sources: CDM Smith, 2022; Base Layer Source: Los Angeles GeoHub, 2022
Prepared by: CDM Smith, 2024

Figure 4.6-1

MacArthur Lake Stormwater Capture Project

NOISE-SENSITIVE AND VIBRATION-SENSITIVE RECEPTORS

Table 4.6-3 Typical Noise Levels for Proposed Project Construction Equipment		
Construction Equipment	**RCNM Equipment Type**	**L_{max} at 50 feet**
Asphalt milling machine	Pavement scarifier	90
Backhoe	Backhoe	78
Bulldozer	Front end loader	79
Concrete truck	Concrete mixer truck	79
Crane	Crane	81
Excavator	Excavator	81
Paving equipment	Roller	80
Pickup truck	Pickup truck	75
Water truck	Dump truck	76
Source: **Appendix F** of this EIR; U.S. Department of Transportation, Federal Highway Administration. Roadway Construction Noise Model, Version 1 User's Guide. January 2006. Available: https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf. Key: RCNM = Roadway Construction Noise Model		

Overall, average site construction noise levels would vary with the counts and types of equipment operating on-site at any given time and with the proximity of the equipment to noise-sensitive receptors. Therefore, hourly average noise levels are estimated based on the typical complement of construction equipment that would be expected to operate on-site at any given time to complete the various proposed project components.

4.6.2.3 Construction Vibration

Construction vibrations impact structures (i.e., structural damage) as well as humans (i.e., human annoyance). Both impacts were evaluated; relative to traffic vibrations, both would be negligible. As discussed previously and shown in Table 4.6-3, worker commute and hauling or delivery truck operations on smooth roadways typical of the proposed project area would not result in substantial off-site vibrations that which would affect nearby buildings or noise-sensitive receptors.

Vibration impacts generated by construction equipment from the proposed project were evaluated using a methodology consistent with the Caltrans *Transportation and Construction Vibration Guidance Manual*.[253] In accordance with this guidance, each piece of construction equipment was identified, reference vibration levels (in PPV) were noted (reference vibration levels at a 25-foot distance are summarized in **Table 4.6-4**), and adjustments owing to propagation path distance were applied.

[253] California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

Table 4.6-4 Typical Vibration Levels for Proposed Project Construction Equipment		
Proposed Construction Equipment	**FTA Reference Equipment**	**PPV at 25 feet (in./sec)**
Asphalt milling machine	Jackhammer	0.035
Backhoe	Small bulldozer	0.003
Bulldozer	Large bulldozer	0.089
Concrete truck	Loaded trucks	0.076
Crane	n/a	n/a
Excavator	Large bulldozer	0.089
Paving equipment	Vibratory roller	0.21
Pickup truck	n/a	n/a
Water truck	Loaded trucks	0.076
Source: **Appendix F** of this EIR; U.S. Department of Transportation, Federal Transit Administration. Transit Noise and Vibration Impact Assessment. 2006. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf. Key: in. = inch; PPV = peak particle velocity; sec = second		

PPV vibration calculations were based on the peak amplitude of a given vibration wave; therefore, the maximum PPV was assumed for any piece of equipment operating at the project site that would cause vibrations. Caltrans' *guideline vibration damage potential threshold criteria* are presented in **Table 4.6-5**.

Table 4.6-5 Vibration Damage Susceptibility Criteria	
Structure and Condition	**Maximum PPV (in./sec)[1]**
Extremely fragile historic structures, ruins, or ancient monuments	0.08
Fragile structures	0.10
Historic and some old structures	0.25
Older residential structures	0.30
New residential structures	0.50
Modern industrial/commercial structures	0.50
Source: California Department of Transportation, Transportation and Construction Vibration Guidance Manual, April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf. Note: [1] Because construction would occur throughout the day, the criteria are presented for continuous, frequent, or intermittent sources, rather than for transient (relating to a single isolated vibration event) sources. Criteria for continuous, frequent, or intermittent sources are lower (more conservative) than those for transient sources. Key: in. = inch; PPV = peak particle velocity; sec = second	

For human annoyance, vibration criteria were based on the perceptibility of the vibrations by humans. Caltrans guidance indicates that vibrations from continuous, frequent, or intermittent sources with a PPV of 0.04 in./sec would be distinctly perceptible to human receptors and would, therefore, have the potential to result in annoyance.

4.6.3 Existing Conditions

4.6.3.1 Regulatory Setting

The following section presents the state, regional, and local regulations, plans, policies, or standards that are applicable to the proposed project, relative to noise and vibration.

4.6.3.1.1 State

California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, find that excessive noise is a serious hazard to the public health and welfare, and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. The act also finds that there is a continuous and increasing bombardment of noise in urban, suburban, and rural areas. The act declared that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Environmental Quality Act

Under CEQA, lead agencies are directed to assess conformance to local or other agency noise standards, measure and identify the potentially significant exposure of people to (or generation of) excessive groundborne vibration or noise levels, and measure and identify potentially significant permanent or temporary increases in ambient noise levels. Implementation of CEQA ensures that, during the decision-making stage of development, decision-makers and the public will be informed of any potentially excessive noise levels and available mitigation measures to reduce them to acceptable levels.

4.6.3.1.2 Local

City of Los Angeles General Plan Noise Element

The City of Los Angeles's General Plan contains 11 elements that provide guidance and policies to balance the needs of a growing City and the quality of life for its residents. The Noise Element of the General Plan provides goals and policies to guide compatible land uses and the incorporation of noise control (attenuation) measures for new uses to protect people living and working in the City from excessive noise levels. The Noise Element provides guidelines for noise management within Los Angeles and includes goals, objectives, and policies that facilitate consideration of noise and noise-mitigating measures when making land use planning decisions so as to minimize human exposure to excessive noise. The Noise Element also includes Guidelines for Noise Compatible Land Uses to help guide determination of appropriate land use and mitigation measures based on existing or anticipated ambient noise levels.

City of Los Angeles Municipal Code

Noise is addressed in Chapter IV, Article I, Section 41.40, and in Chapter XI, Articles 1 through 6 (Section 111 et seq., referred to as the City's Noise Ordinance) of the City of Los Angeles Municipal Code (LAMC). The Noise Ordinance establishes sound measurement and criteria, minimum ambient noise levels for different land use zoning classifications, and regulations regarding allowable increases in noise levels in terms of the noise criteria. Section 41.40 of the LAMC regulates construction power equipment that generates loud noise. This regulation includes various restrictions on noise-generating activities

and defines procedures for administering the regulations, including definitions of applicability and provisions for variances or exemptions. Section 41.40 prohibits exterior demolition and construction activities that generate noise between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, and between 6:00 p.m. and 8:00 a.m. on Saturday. Demolition and construction are prohibited on Sundays and all federal holidays unless written permission is given from the Board of Police Commissioners through its Executive Director. Additionally, the City of Los Angeles General Plan Noise Element states that all construction equipment must have silencers and mufflers on intake and exhaust openings.

The LAMC does not establish any standard, guideline or threshold relating to groundborne vibration.

4.6.3.2 Environmental Setting

4.6.3.2.1 Noise

The noise setting in the vicinity of the project site is typical of urban areas. The predominant noise sources include passenger vehicle activity on smooth roadways and pedestrian activities associated with recreation and light commercial activities in and around the project area. In 1974, the USEPA determined typical average noise levels for a variety of environmental land use settings, including the urban residential (60 dBA) and noisy urban residential (65 dBA) land uses. A given receptor near the project area could be characterized as either the typical urban residential or the noisy urban residential land use setting depending on its vicinity to Wilshire Boulevard, the dominant noise source in the area. The City of Los Angeles Noise Ordinance also establishes presumed ambient noise levels for defined zones within a city, wherein the P (park) zone and C2 (commercial) zones, which include and surround the park, fit into the 60 dBA presumed noise bracket. Because the predominant land uses in the vicinity of the proposed project area are within this bracket, and the 60 dBA threshold is consistent with USEPA expected noise levels, a 60 dBA noise baseline was assumed for the project area.

Noise-sensitive receptors in the vicinity of the project site include residential uses, a school, and several churches. MacArthur Park itself is considered a noise-sensitive receptor, as is the unhoused population that resides in the park. As indicated in Chapter 2, *Project Description*, Construction within MacArthur Park would require the temporary closure of a portion of the park to install the project components and to provide a construction staging area (Figure 2-11), which would displace the existing unhoused population in that portion of the park. Unhoused residents would be relocated to another area of the park or to off-site housing. For purposes of this analysis, it is assumed that the unhoused residents closest to the construction would be those located in the southeast corner of the park, approximately 250 feet from the closest construction activities.

4.6.3.2.2 Vibration

Existing sources of vibration in the vicinity of the project site include vehicle activities on smooth roadways. Therefore, it is expected that baseline vibration levels would be below residential annoyance levels.

Structures that are considered to be vibration-susceptible receptors include buildings that are in close proximity to proposed construction activities. Human annoyance receptors are the same as noise-sensitive receptors identified in the previous section.

4.6.4 Thresholds of Significance

Thresholds of significance for construction noise and vibration are contained in the *L.A. CEQA Thresholds Guide*.[254] With respect to the noise environmental topic, the guide recommends thresholds for noise impacts on noise-sensitive uses, including residences, and noise-sensitive locations in the vicinity of the proposed project. The guide does not recommend thresholds for vibration impacts.

4.6.4.1 Construction Traffic Noise

The proposed project would result in a significant impact related to construction traffic noise if:

Threshold 4.6-1 Ambient noise levels measured at the property line of noise-sensitive uses would increase by 3 dBA or more in CNEL.

This threshold is based on the *L.A. CEQA Thresholds Guide*'s significance thresholds for mobile vehicular sources.[255]

4.6.4.2 Construction Equipment Noise

The proposed project would result in a significant impact related to construction equipment noise if construction activities would:

Threshold 4.6-2 Exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use in association with the following:

- Construction activities lasting more than 10 days in a 3-month period; or
- Construction activities occurring between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

This threshold is based on the *L.A. CEQA Thresholds Guide*'s significance thresholds for construction noise.[256] It is anticipated that construction of most, if not all, of the improvements associated with the proposed project would involve activities lasting more than 10 days in a 3-month period; however, it is not anticipated that project-related construction would occur during evening/nighttime hours or on weekends.

4.6.4.3 Construction Equipment Vibration

The proposed project would result in a significant impact related to construction equipment vibration if construction activities would:

Threshold 4.6-3 Generate groundborne vibration that would exceed any of the following vibration damage criteria:

- 0.10 PPV at fragile structures;
- 0.30 PPV at older residential structures; or

[254] City of Los Angeles. L.A. CEQA Thresholds Guide. 2006. Available: https://planning.lacity.org/odocument/cc8fb2f5-dc6c-47f1-bfc3-864b84621abb/CEQAThresholdsGuide.pdf.
[255] City of Los Angeles. L.A. CEQA Thresholds Guide. 2006. Available: https://planning.lacity.org/odocument/cc8fb2f5-dc6c-47f1-bfc3-864b84621abb/CEQAThresholdsGuide.pdf.
[256] City of Los Angeles. L.A. CEQA Thresholds Guide. 2006. Available: https://planning.lacity.org/odocument/cc8fb2f5-dc6c-47f1-bfc3-864b84621abb/CEQAThresholdsGuide.pdf.

- 0.50 PPV at modern industrial or commercial structures.

The *L.A. CEQA Thresholds Guide* does not identify thresholds for vibration impacts. Instead, thresholds were determined based on the evaluation criteria from the Caltrans *Transportation and Construction Vibration Guidance Manual*.[257] Only the three types of structures listed above occur in proximity to the proposed project construction areas, as further described in Section 4.6-3.

Threshold 4.6-4 Generate groundborne vibration that would exceed the following human annoyance criterion:

- 0.04 PPV at a human annoyance vibration-sensitive receptor

This threshold is based on the Caltrans *Transportation and Construction Vibration Guidance Manual*.[258]

4.6.5 Project Impacts

4.6.5.1 Impact 4.6-1

Summary Conclusion for Impact 4.6-1: Ambient noise levels measured at the property line of noise-sensitive uses would not increase by 3 dBA or more in CNEL owing to construction traffic. This would be a *less than significant impact*.

4.6.5.1.1 Impacts

The proposed project would generate construction-related traffic along major roadways and access routes to and from the project site during the construction period. Construction-related traffic would consist of hauling and vendor delivery vehicle trips and construction worker vehicle trips. Proposed haul routes are identified in Figure 2-11 in Chapter 2, *Project Description*. As shown in that figure, the construction haul routes would be located along major roadways and away from residential areas. Construction staging areas would be located within the park or nearby and would include areas for construction trailers and construction equipment storage.

As described in Section 4.6.4.1, construction-related traffic would result in a significant impact relative to noise if ambient noise levels would increase by 3 dBA or more at the property line of noise-sensitive uses using the CNEL metric.[259] As discussed in Section 4.6.2.1, a 3 dBA increase in volume is equivalent to a doubling of sound energy regardless of the existing sound level. Therefore, in order for the proposed project's construction-related traffic to cause an increase in ambient noise levels of 3 dBA CNEL or more, the daily traffic volumes on the major roadways near noise-sensitive uses would need to double.

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[257] California Department of Transportation. Transportation and Construction Vibration Guidance Manual. April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

[258] California Department of Transportation. Transportation and Construction Vibration Guidance Manual. April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

[259] CNEL is a metric used to express cumulative noise exposure as a single-number description of the sound energy to which a person or community is exposed over a period of 24 hours.

As presented in **Table 4.6-6**, traffic volumes on surrounding roads are high. For example, traffic volumes at the intersection of State Route 110 and 5th Street/6th Street are 516,000 AADT.[260] Traffic volumes on roadways closer to the project site are lower but still substantial. Volumes range from 5,909 daily trips on 7th Street at Park View Street to 33,944 daily trips on Alvarado Street at 3rd Street.[261] It is estimated that the peak daily truck trips associated with project construction would be approximately 24 trips and peak daily worker commute trips would be approximately 13 trips. In applying a 'passenger car equivalent' adjustment factor of 10.4 to all truck trips (i.e., each truck trip is considered to be comparable to 10.4 passenger car trips with respect to traffic noise),[262] the peak daily vehicle trip generation of trucks and workers combined would be 263 daily trips. These trips would be distributed across various roadways near the project site. Even if all the trips were to occur on one roadway, traffic volumes would not double as a result of project-related construction traffic; therefore, ambient noise levels from traffic would increase by less than 3 dBA CNEL as a result of proposed project construction and construction traffic noise impacts would be ***less than significant***.

Table 4.6-6 Construction Traffic – Equivalent Noise Levels

Roadway	Existing Traffic Volumes[a]	Max Daily Project Truck Trips	Max Daily Project Worker Trips	Speed (mph)	Equivalency Factor for Trucks	Project Equivalent Vehicles	Total With Project	Increase Ratio[b]
6th Street at Lake Street	26,002	24	13	55	10.4	263	26,265	1.01
7th Street at Parkview Street	5,909	24	13	55	10.4	263	6,172	1.04
8th Street at Alvarado Street	21,122	24	13	55	10.4	263	21,385	1.01
Alvarado Street at 3rd Street	33,944	24	13	55	10.4	263	34,207	1.01
Alvarado Street at Wilshire Boulevard	24,385	24	13	55	10.4	263	24,648	1.01
Alvarado Street at 6th Street	22,035	24	13	55	10.4	263	22,298	1.01
Alvarado Street at Olympic Boulevard	27,297	24	13	55	10.4	263	27,560	1.01

[260] California Department of Transportation. Traffic Census Program Webpage: 2020 AADT. Available: https://dot.ca.gov/programs/traffic-operations/census. Accessed February 24, 2022.

[261] City of Los Angeles Department of Public Works, Bureau of Engineering. Navigate LA - LADOT Traffic Data. Available: https://navigatela.lacity.org/navigatela/.

[262] California Department of Transportation. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf.

Table 4.6-6 Construction Traffic – Equivalent Noise Levels

Roadway	Existing Traffic Volumes[a]	Max Daily Project Truck Trips	Max Daily Project Worker Trips	Speed (mph)	Equivalency Factor for Trucks	Project Equivalent Vehicles	Total With Project	Increase Ratio[b]
Pico Boulevard at Alvarado Street	18,433	24	13	55	10.4	263	18,696	1.01
Vermont Avenue at Venice Boulevard	25,077	24	13	55	10.4	263	25,340	1.01
State Route 110 at 5th Street/6th Street	516,000[c]	24	13	55	10.4	263	516,263	1.00

Sources: **Appendix F** of this EIR; City of Los Angeles Department of Public Works, Bureau of Engineering. Navigate LA - LADOT Traffic Data; California Department of Transportation. Traffic Census Program 2020 AADT. Available: https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/census/aadt/2020-traffic-volumes.xlsx. California Department of Transportation. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf.

Notes:

[a] Data from NavigateLA, unless otherwise noted.

[b] Doubling of a noise source produces a 3 dB increase in noise, which is a barely perceptible change; if the increase ratio is less than 2.0, there would be no audible change in traffic noise.

[c] Data from Caltrans.

4.6.5.1.2 Mitigation Measures

Because the proposed project would result in a ***less than significant impact*** relative to construction traffic noise, no mitigation is required.

4.6.5.1.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address construction traffic noise. The proposed project would result in a ***less than significant impact***.

4.6.5.2 Impact 4.6-2

Summary Conclusion for Impact 4.6-2: Use of construction equipment in association with construction activities would exceed existing ambient exterior noise levels by 5 dBA or more at noise-sensitive uses. This would be a *significant impact*.

4.6.5.2.1 Impacts

Construction noise would be generated by project construction activities along roadways and within the park. The majority of construction activities would occur Monday through Friday between the hours of 7:00 a.m. and 5:00 p.m., which would comply with the City's Noise Ordinance requirements for urban construction. No regular work is anticipated on weekends or holidays or during nighttime hours. Should nighttime construction be required, written permission would be obtained in advance from the Board of Police Commissioners.

The proposed project would require construction activity on Lake Street, Grand View Street, 7th Street, and within MacArthur Park. Noise-sensitive uses that are located in proximity to the proposed construction activities are listed in **Table 4.6-7**. The table also presents the construction-related noise at each noise-sensitive receptor and identifies whether the noise level would exceed the threshold of significance. As described in Section 4.6.2.2, parks are considered to be noise-sensitive receptors. Therefore, MacArthur Park itself is a noise-sensitive receptor. Construction-related noise levels within MacArthur Park are shown in **Table 4.6-8**. Note, the construction-related noise levels presented in Table 4.6-7 and Table 4.6-8 do not account for noise reduction/attenuation from any intervening structures. Detailed calculations of the construction equipment noise impacts are presented in **Appendix F** of this EIR.

Table 4.6-7 Construction Equipment Noise Levels at Noise-Sensitive Receptors

ID	Noise-Sensitive Use	Distance from Loudest Construction Activity (feet)[1]	Construction Element	Highest 8-Hour Construction Noise Level at the Receptor (dBA)	Highest Daytime Unmitigated L_{eq} (Construction + Existing Ambient)[2] (dBA)	Highest Daytime Unmitigated Increase over Existing Ambient (dBA)	Increase Exceeds 5 dBA Threshold?
N1	American Cement Building Apartments	315	MacArthur Park	66	67	7	**Yes**
N2	Parkview Terrace Apartments	265	Grand View Street, MacArthur Park	68	68	8	**Yes**
N3	Iglesia Pentecostes Unidos Por Cristo (Church)	335	Grand View Street, MacArthur Park	65	67	7	**Yes**
N4	2416-2422 7th Street residences	310	Grand View Street, MacArthur Park	66	67	7	**Yes**
N5	Churchill Lofts Apartments	280	Grand View Street, MacArthur Park	67	68	8	**Yes**
N6	MacArthur Park Elementary School	25	Lake Street, Grand View Street, MacArthur Park	92	92	32	**Yes**
N7	LA New Times Western School/ LA Onnuri Community Church	175	Lake Street, Grand View Street	74	75	15	**Yes**
N8	714-760 Grand View Street residences	35	Lake Street, Grand View Street, MacArthur Park	89	89	29	**Yes**
N9	Cristo Salva Bilingual Church	75	Lake Street, Grand View Street, MacArthur Park	82	82	22	**Yes**
N10	La Viña en Los Angeles (Church)	19	Lake Street, Grand View Street, MacArthur Park	94	94	34	**Yes**

Table 4.6-7 Construction Equipment Noise Levels at Noise-Sensitive Receptors

ID	Noise-Sensitive Use	Distance from Loudest Construction Activity (feet)[1]	Construction Element	Highest 8-Hour Construction Noise Level at the Receptor (dBA)	Highest Daytime Unmitigated L_{eq} (Construction + Existing Ambient)[2] (dBA)	Highest Daytime Unmitigated Increase over Existing Ambient (dBA)	Increase Exceeds 5 dBA Threshold?
N11	Southeast park unhoused population[3]	250	Lake Street, MacArthur Park	72	72	12	**Yes**
N12	MacArthur Park visitors	—[4]	Lake Street, Grand View Street, MacArthur Park	—[4]	—[4]	—[4]	**Yes[4]**

Source: **Appendix F** of this EIR; City of Los Angeles. *L.A. CEQA Thresholds Guide*. 2006. Available: https://planning.lacity.org/odocument/cc8fb2f5-dc6c-47f1-bfc3-864b84621abb/CEQAThresholdsGuide.pdf.

Notes:

1 Detailed calculations for noise levels associated with construction activities at each construction location are presented in **Appendix F**.

2 Existing daytime ambient noise level for entire project area (i.e., at all noise-sensitive uses) is conservatively estimated at 60 dBA consistent with the L.A. Noise Ordinance presumed noise levels, even though actual background noise levels may be higher in portions of the project area.

3 Southeast park unhoused population refers to all unhoused individuals residing within the portion of MacArthur Park nearest to project construction activities. This area extends throughout the portion of the park bounded by Alvarado Street, 7th Street between Alvarado Street and Lake Street, MacArthur Park Lake, and Wilshire Boulevard. During project construction, portions of the park in the immediate vicinity of project construction would be closed, and the unhoused would be relocated to another area of the park or to off-site housing.

4 Because construction would occur within MacArthur Park, certain areas of the park would be louder than others during different elements of proposed project construction. See Table 4.6-8 for a summary of construction noise impacts in the park.

Key: dBA = A-weighted sound level in decibels; L_{eq} = equivalent noise level

Table 4.6-8 Construction Noise Levels in MacArthur Park

Construction Element	Lake Street Diversion, Pretreatment Unit, Pump Station, and Pipeline[1]	Grand View Street Pipeline[1]	Park Pipelines[2]	Park Stormwater Treatment Unit[2]	Water Feature[2]
Distance from construction activity to <5 dBA increase	630 feet	605 feet	335 feet	380 feet	420 feet

Source: **Appendix F** of this EIR; City of Los Angeles. *L.A. CEQA Thresholds Guide*. 2006. Available: https://planning.lacity.org/odocument/cc8fb2f5-dc6c-47f1-bfc3-864b84621abb/CEQAThresholdsGuide.pdf.

Notes:

[1] Although the Lake Street and Grand View Street elements of the proposed project construction would occur outside of MacArthur Park, these project elements would each include construction that would cross 7th Street, ending at a point directly abutting the park edge. Noise from construction activities associated with these project elements would result in significant impacts to areas of the park within the indicated distance.

[2] Construction elements would occur within MacArthur Park. Noise from construction activities would result in significant impacts to areas of the park within the indicated distance.

Key: dBA = A-weighted sound level in decibels

As shown in the tables above, noise-sensitive receptors in the project vicinity would experience a greater than 5 dBA increase in L_{eq} during project construction, which would be a significant impact without the application of mitigation. The potential noise impacts from each project element on the nearest noise-sensitive receptors are discussed in greater detail in the following sections.

Lake Street Construction (Stormwater Diversion, Pretreatment System, Pump Station, and Pipelines)

The Lake Street construction element would involve asphalt removal, trenching, pipelaying, and the paving of a portion of Lake Street to install a tie-in to the existing storm drain system. The underground pretreatment system, pump vault, and pipelines necessary for project operation would also be installed in Lake Street as part of this element. Proposed project construction along Lake Street is anticipated to last between 7 and 10 months. Throughout this time, ambient noise levels at nearby noise-sensitive uses are expected to increase intermittently by more than 5 dBA owing to construction activities, including at the MacArthur Park Elementary School for the Visual and Performing Arts (+9 dBA), the LA New Times Western School/LA Onnuri Community Church (+8 dBA), the 714-760 Grand View Street residences (+15 dBA), Cristo Salva Bilingual Church (+13 dBA), La Viña en Los Angeles (+34 dBA), the southeast park unhoused population (+12 dBA), and areas in MacArthur Park not closed for construction and within 630 feet from construction activities in Lake Street. Detailed calculations for noise levels associated with construction activities at each construction location are presented in **Appendix F**.

These ambient noise increases are considered conservative because, as noted above, they do not account for any attenuation or decrease in construction-related noise associated with intervening structures located between the construction noise sources and the noise receptors, such as the building located at 2200 7th Street. This building would completely shield MacArthur Park Elementary School for the Visual and Performing Arts, LA New Times Western School/LA Onnuri Community Church, Cristo Salva Bilingual Church, and the 714-760 Grand View Street residences for the majority, but not all of, the Lake Street element construction period. Complete shielding of a noise-sensitive use from a

noise source by a building would result in a 15 dBA decrease in ambient noise levels attributable to that source.[263] Thus, it is likely that, for most of the Lake Street construction element, noise impacts to the shielded receptors would be below the 5 dBA threshold. Notwithstanding, noise from construction equipment activity related to the Lake Street construction element would result in a ***significant impact***.

Grand View Street Construction (Pipeline)

The Grand View Street construction element would involve asphalt removal, trenching, pipelaying, and the paving of a portion of Grand View Street to install a tie-in to the existing storm drain system. Proposed project construction along Grand View Street would be anticipated to last between 3 and 6 weeks. Throughout this time, ambient noise levels at nearby noise-sensitive uses are expected to increase intermittently by more than 5 dBA owing to construction activities, including the Parkview Terrace Apartments (+5 dBA), Iglesia Pentecostes Unidos Por Cristo (+6 dBA), the 2416-2422 7th Street residence (+7 dBA), the Churchill Lofts Apartments (+7 dBA), MacArthur Park Elementary School for the Visual and Performing Arts (+32 dBA), LA New Times Western School/LA Onnuri Community Church (+15 dBA), the 714-760 Grand View Street residences (+29 dBA), Cristo Salva Bilingual Church (+22 dBA), La Viña en Los Angeles (+8 dBA), and areas in MacArthur Park within 605 feet from construction activities in Grand View Street. (Note that some of the park area within this distance may be closed during construction; closed portions of the park would not be considered to be affected by construction noise.) Detailed calculations for noise levels associated with construction activities at each construction location are presented in **Appendix F**.

These ambient noise increases are considered conservative because they do not account for any noise attenuation or decrease in construction-related noise from intervening structures located between the construction noise sources and the noise receptors, such as the buildings located at 2228 7th Street, 712 Grand View Street, 103 Park View Street, and at MacArthur Park Elementary School for the Visual and Performing Arts, which would partially or completely shield the Parkview Terrace Apartments, Iglesia Pentecostes Unidos Por Cristo, the 2416-2422 7th Street residences, the Churchill Lofts Apartments, Cristo Salva Bilingual Church, and La Viña en Los Angeles for the majority, but not all of, the Grand View Street element construction period. Complete shielding of a noise-sensitive use from a noise source by a building would result in a 15 dBA decrease in ambient noise levels attributable to that source.[264] Thus, it is likely that for most of the Grand View Street construction element, noise impacts to many of these receptors would be below the 5 dBA threshold. Notwithstanding, noise from construction equipment activity related to the Grand View Street construction element would result in a ***significant impact***.

MacArthur Park Construction (Stormwater Treatment Unit, Pipelines, and Water Feature)

The MacArthur Park construction element would involve earth moving, pipelaying, and concrete pouring at various locations throughout the southwest area of MacArthur Park to install the stormwater treatment unit, water feature, and related pipelines. Proposed project construction within the park is

[263] U.S. Department of Transportation, Federal Highway Administration. Roadway Construction Noise Model User's Guide, Appendix A: Best Practices for Calculating Estimated Shielding for Use in RCNM. December 2006. Available: https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm10.cfm#appa. Accessed March 3, 2022.

[264] U.S. Department of Transportation, Federal Highway Administration. Roadway Construction Noise Model User's Guide, Appendix A: Best Practices for Calculating Estimated Shielding for Use in RCNM. December 2006. Available: https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm10.cfm#appa. Accessed March 3, 2022.

anticipated to last between 8 and 12 months. Throughout this time, ambient noise levels at nearby noise-sensitive uses are expected to increase intermittently by more than 5 dBA owing to construction activities, including at the American Cement Building Apartments (+7 dBA), the Parkview Terrace Apartments (+8 dBA), Iglesia Pentecostes Unidos Por Cristo (+7 dBA), the 2416-2422 7th Street residences (+7 dBA), the Churchill Lofts Apartments (+8 dBA), MacArthur Park Elementary School for the Visual and Performing Arts (+15 dBA), the 714-760 Grand View Street residences (+7 dBA), Cristo Salva Bilingual Church (+15 dBA), La Viña en Los Angeles (+7 dBA), the southeast park unhoused population (+7 dBA), and areas in MacArthur Park not closed for construction and within 335 feet from pipeline installation activities, 380 feet from stormwater treatment unit installation activities, and 420 feet from water feature installation activities. Detailed calculations for noise levels associated with construction activities at each construction location are presented in **Appendix F**.

Similar to the Lake Street and Grand View Street construction elements discussed above, these ambient noise increases are conservative in that they do not account for any noise attenuation or decrease in construction-related noise associated with obstructions, such as the buildings located at 2228 7th Street, 2220 7th Street, and at MacArthur Park Elementary School for the Visual and Performing Arts, which would shield the 714-760 Grand View Street residences and La Viña en Los Angeles for the majority, but not all of, the in-park construction period. Complete shielding of a noise-sensitive use from a noise source by a building would result in a 15 dBA decrease in ambient noise levels attributable to that source.[265] Thus, it is likely that, for most of the in-park construction elements, noise impacts to these receptors would be below the 5 dBA threshold. Notwithstanding, noise from construction equipment activity related to the in-park construction elements would result in a ***significant impact***.

4.6.5.2.2 Mitigation Measures

As noted above, the proposed project may generate construction-related noise that results in significant impacts to noise-sensitive uses, consisting of residences, schools, churches, the unhoused population, and park users. These impacts would occur during construction of various construction elements with the magnitude of impacts at any given noise-sensitive use varying throughout the construction period. Mitigation proposed to reduce significant impacts from construction equipment noise is provided below.

- **MM-NV-1. Construction Noise Control and Mitigation Plan.**

  The City will require its construction contractor(s) working on proposed project improvements to develop a noise control plan to address construction equipment noise at noise-sensitive uses where construction noise impacts may be significant. The noise control plan must be approved by the City prior to implementation and will require the construction contractor(s) to specify noise-reducing construction measures and practices that will be employed to reduce noise from construction activities to the maximum extent feasible. Measures that can be used to limit construction-related noise include, but are not limited to, the following:

[265] U.S. Department of Transportation, Federal Highway Administration. Roadway Construction Noise Model User's Guide, Appendix A: Best Practices for Calculating Estimated Shielding for Use in RCNM. December 2006. Available: https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm10.cfm#appa. Accessed March 3, 2022.

- **Construction hours.** Limit construction to the hours of 7:00 a.m. to 9:00 p.m. on weekdays and between 8:00 a.m. and 6:00 p.m. on Saturdays, and prohibit construction equipment noise anytime on Sundays and holidays. Prevent construction personnel from being on the project site (including laydown and storage areas), and prohibit material or equipment deliveries and collections, during the prohibited hours.
- **Construction equipment.** Properly muffle and maintain all construction equipment powered by internal combustion engines. Ensure that all construction equipment powered by gasoline or diesel engines has sound control devices that are at least as effective as those originally provided by the manufacturer and that all equipment is operated and maintained to minimize noise generation.
- **Stationary equipment.** Locate stationary noise-generating construction equipment, such as air compressors and portable power generators, as far as practical from existing noise-sensitive land uses; muffle and enclose such equipment within temporary enclosures and shielded by barriers, to the extent feasible.
- **Quiet equipment.** Use the quietest equipment available, equip internal combustion powered equipment with properly operating mufflers, and keep equipment in tune to avoid backfires. In addition, if exposed, fit engines with protective shrouds to reduce motor noise.
- **Electrical power.** Use local electrical grid-power when feasible to avoid the use of portable generators.
- **Temporary noise barriers.** Erect temporary noise attenuation barriers adjacent to stationary construction equipment directly between the equipment and noise-sensitive use, where necessary and feasible. Shield construction equipment that is to be stationary for extended periods (e.g., compressors, generators), if appropriate, by erecting temporary noise attenuation barriers. Evaluate the need for, and feasibility of, noise attenuation barriers on a case-by-case basis considering the distance to noise-sensitive receptors, the available space at the construction location, and safety and operational considerations. If used, install the barriers directly between the equipment and the nearest noise-sensitive use to the construction site.
- **Noise enclosures.** Use noise-reducing enclosures around noise-generating equipment that has the potential to disturb nearby off-site land uses or where otherwise necessary to comply with City Code noise limits for receiving zones.
- **Noise Best Available Control Technology (BACT).** Ensure that equipment and trucks used for project construction use the best available noise control techniques (e.g., improved mufflers, equipment redesign, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) wherever feasible.
- **Noise signals.** Use noise-producing signals (e.g., horns, whistles, alarms, and bells) for safety warning purposes only.

- **Impact tools.** Power impact tools (e.g., pavement breakers) for project construction hydraulically or electrically (where feasible) to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, use an exhaust muffler on the compressed air exhaust. Use quieter procedures, such as drills rather than impact equipment, where feasible.
- **Regulatory compliance.** Ensure that all construction equipment used on the proposed project that is regulated for noise by a local, state, or federal agency complies with such regulation while in the course of project activity and use on-site.
- **Noise-considerate operation training.** Train construction employees in the proper operation and use of the equipment. (Careless or improper operation or inappropriate use of equipment can increase noise levels. Poor loading, unloading, excavation, and hauling techniques are examples of how a lack of adequate guidance and training may lead to increased noise levels.)
- **Noise-considerate staging and laydown.** Store construction equipment on the project site or designated laydown areas while in use, to the extent feasible. This will eliminate noise associated with repeated transportation of the equipment to and from the site.
- **Noise monitoring.** Monitor the effectiveness of noise attenuation measures by taking noise measurements.

In addition to these measures, prior to the start of construction, the City or its construction contractor will develop a list of measures for controlling noise and for responding to and tracking complaints pertaining to construction noise. These measures include:

- Identification of measures that will be implemented to control construction noise.
- Identification of locations where it is infeasible to limit noise to be in compliance with applicable City standards.
- Procedure and phone numbers for notifying the City Department of Health or the Police Department (for complaints).
- Designation of a disturbance coordinator for responding to noise complaints, with their name and telephone complaint number to be clearly posted at the construction site; the telephone must be answered at all times during construction.
- Plan for notification of neighboring noise-sensitive land uses and non-residential building managers—within 300 feet of the project construction area at least 30 days in advance of high noise-generating activities (defined as activities that generate noise levels of 90 dBA or greater at 50 feet from the source)—regarding the estimated duration of activity and the associated control measures that will be implemented to reduce noise levels.

4.6.5.2.3 Significance of Impact After Mitigation

While implementation of mitigation and control measures are likely to reduce construction noise, functional constraints on their implementation, and uncertainties as to their effectiveness or availability, may limit the noise-reducing benefits of mitigation. Moreover, the proximity of some of the construction activities to the noise-sensitive uses would further limit the efficacy and feasibility of noise-attenuating measures. Accordingly, the noise attenuation and control measures in Mitigation Measure MM-NV-1 would likely not result in a reduction in construction noise to below significant levels for all receptors during all elements of construction. Therefore, construction-related noise impacts would remain ***significant and unavoidable***.

4.6.5.3 Impact 4.6-3

Summary Conclusion for Impact 4.6-3: Construction would generate groundborne vibration that would exceed Caltrans' structural damage criteria for vibration-sensitive buildings in the project area. This would be a *significant impact*.

4.6.5.3.1 Impacts

The proposed project would generate groundborne vibration during construction activity throughout the construction period. While construction of the proposed project would not require pile driving, blasting, or other extreme sources of vibration, it would involve the operation of heavy construction equipment, including bulldozers, vibratory rollers (e.g., paving equipment, compactors), excavators, and loaded trucks.

Construction vibration is a localized event and is typically only perceptible to a receptor that is close to the vibration source. Moreover, the susceptibility of a building to damage depends on the type and age of the structure (**Table 4.6-9**). The type of equipment proposed to be used during project construction that would generate the greatest amount of vibration is the paving equipment (i.e., vibratory roller), which would result in a significant vibration impact to 'fragile buildings' (as defined by Caltrans) that are located within 41 feet of the roller. Thus, under these evaluation criteria, only buildings within 41 feet of proposed construction activity would have the potential to incur significant impacts related to vibration damage. However, to provide a conservative analysis, all buildings located within 50 feet of any proposed construction activity were evaluated in the vibration damage analysis to ensure that all potential impacts would be identified. Buildings located within this distance of proposed construction activities are listed in Table 4.6-9.

Table 4.6-9 Vibration-Susceptible Structures in Proximity to Construction Activity

ID	Property	Address	Structure Category	Year of Construction	Distance to Nearest Construction (feet)
S1	MacArthur Park Elementary School	2300 7th Street	Modern industrial or commercial structures	Unknown	25
S2	Building located at 2228 7th Street	2228 7th Street	Fragile structures	1930	35
S3	714-728 Grand View Street residences[1]	714-728 Grand View Street	Older residential structures	1940	35
S4	Southern California Surgery Center	2200 7th Street	Fragile structures	Unknown	16
S5	Jimenez Arcade	2126 7th Street	Fragile structures	1935	13
S6	La Viña en Los Angeles	720 Lake Street	Fragile structures	1937	19

Sources: CDM Smith 2022; City of Los Angeles, Department of Planning. ZIMAS Website. Available: http://zimas.lacity.org/. Accessed March 2022. California Department of Transportation. *Transportation and Construction Vibration Guidance Manual*. April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

Note:

[1] Only the subset of residences located on Grand View Street that would be nearest to construction activity (i.e., the units numbered 714 to 728 located within 50 feet of the roadway) would have the potential to experience meaningful construction-related structural vibrations.

As shown in the table, MacArthur Park Elementary School for the Visual and Performing Arts meets the Caltrans definition of a 'modern industrial or commercial structure,' and the residences on Grand View Street are classified as 'older residential structures.' With regard to the other structures, given the identified ages of affected structures, with known ages ranging from 85 to 92 years old, and the unknown status of the structural conditions of the buildings, the Caltrans 'fragile' building category was used instead of the less conservative 'historic and older non-residential structures' category.

The evaluation of vibration impacts to nearby structures is based on typical vibration levels during construction activities, as detailed in Table 4.6-4, and the structure category of the applicable structures, as presented in Table 4.6-9. The typical vibration levels are based on measured data compiled by the U.S. Department of Transportation, Federal Transit Administration (FTA). Using these FTA data, approximate vibration levels were calculated for all construction activities based on the actual distance from the proposed construction activity to each structure. Estimated vibration levels in PPV (inches per second) are presented in **Table 4.6-10**. Detailed calculations of the structural vibration impacts are presented in **Appendix F** of this EIR.

Table 4.6-10 Structural Vibration Levels at Vibration-Susceptible Buildings

ID	Construction Area	Maximum Vibration (PPV) (in./sec)	Construction Element	Building Category	Threshold for Building Type	Exceeds Threshold?
S1	MacArthur Park Elementary School	0.210	Grand View Street	Modern industrial or commercial structures	0.50	No
S2	2228 7th Street	0.127	Grand View Street	Fragile structures	0.10	**Yes**
S3	714-728 Grand View Street residences[1]	0.127	Grand View Street	Older residential structures	0.30	No
S4	Southern California Surgery Center	0.404	Lake Street	Fragile structures	0.10	**Yes**
S5	Jimenez Arcade	0.551	Lake Street	Fragile structures	0.10	**Yes**
S6	La Viña en Los Angeles (Church)	0.320	Lake Street	Fragile structures	0.10	**Yes**

Sources: **Appendix F** of this EIR; California Department of Transportation. Transportation and Construction Vibration Guidance Manual. April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

Note:

[1] Only the subset of residences located on Grand View Street that would be nearest to construction activity (i.e., the units numbered 714 to 728 located within 50 feet of the roadway) would have the potential to experience meaningful construction-related structural vibrations.

Key: in. = inch; PPV = peak particle velocity; sec = second

As shown in Table 4.6-10, vibration from proposed project construction at the Southern California Surgery Center, Jimenez Arcade, La Viña en Los Angeles, and the building located at 2228 7th Street would exceed the applicable structural damage criteria. As a result, project-related construction vibration would result in a ***significant impact*** relative to potential structural damage at these buildings.

4.6.5.3.2 Mitigation Measures

As noted above, the proposed project may generate construction-related vibrations that results in significant impacts to vibration-susceptible buildings. Mitigation proposed to reduce significant impacts relative to construction equipment vibration is described below.

- **MM-NV-2. Construction Vibration Control and Mitigation Plan.**

  To limit the impacts of construction-related vibration on nearby structures where significant vibration impacts would be anticipated, the City or its construction contractor will prepare and implement a project-specific Construction Vibration Control and Mitigation Plan. Specifically, prior to construction of project elements that would result in significant vibration impacts to nearby structures, the City or its construction contractor will retain a professional structural engineer with experience in structural vibration analysis to perform the following tasks:

  – Review the project plans to determine the potential construction impact zone and conduct pre- and post-construction surveys of the structures that would be subject to significant vibration to document the pre- and post-construction conditions of the surveyed structures.

- Prepare a detailed vibration analysis demonstrating that the use of vibratory equipment at the construction site boundary closest to adjacent vibration-sensitive buildings would not result in the potential for building damage. This analysis will take into account other projects whose construction may be planned in the immediate project area and that might overlap with construction of the proposed project. The analysis must detail the safe distances or measures to be undertaken at which the anticipated construction equipment can operate without resulting in vibration levels greater than 0.10 PPV (inches per second) at the buildings located at 2228 7th Street, 2200 7th Street, 2126 7th Street, and 720 Lake Street; 0.30 PPV at the residential units on Grand View Street; 0.50 PPV at the MacArthur Park Elementary School for the Visual and Performing Arts; or as otherwise determined by the professional structural engineer to not result in structural damage, based on building conditions, soil conditions, and planned construction, demolition, or excavation methods. Such measures, as determined by the professional structural engineer, could include, but are not be limited to, prohibiting the use of certain vibratory equipment in proximity to vibration-sensitive buildings, requiring the use of the lightest practical tracked or wheeled construction equipment, requiring the phasing of construction elements to avoid simultaneous operation of heavy vibration-generating equipment, requiring that the demolition of concrete be completed using non-impact methods (e.g., sawing), and requiring monitoring at applicable vibration-sensitive buildings during construction.
- Prepare and submit a report to the City's project manager that includes, but is not limited to, the description of pre- and post-construction conditions of all surveyed structures.

  If construction-related vibration causes damage to a surveyed structure, the structural engineer will recommend necessary repairs based on the pre- and post-construction conditions (as documented in the structural engineer's report). The City's construction contractor will be responsible for remedying vibration-caused damage as a result of construction of the project to pre-construction conditions, as documented in the structural engineer's report. Such repairs must be undertaken and completed as required to conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68), where applicable, and must apply the California Historical Building Code (24 CCR Part 8) and other applicable codes. The City will confirm that the contractor has completed all remedies associated with vibration impacts prior to close of the construction contract.

4.6.5.3.3 Significance of Impact After Mitigation

With implementation of Mitigation Measure MM-NV-2, significant impacts associated with construction-related structural vibration would be reduced to a level that is ***less than significant***.

4.6.5.4 Impact 4.6-4

Summary Conclusion for Impact 4.6-4: Construction would generate groundborne vibration that would exceed Caltrans' human annoyance criteria. This would be a *significant impact*.

4.6.5.4.1 Impacts

The proposed project would generate groundborne vibrations during construction activity throughout the construction period. While construction of the proposed project would not require pile driving, blasting, or other extreme sources of vibration, it would involve the operation of heavy construction

equipment, including bulldozers, vibratory rollers (e.g., paving equipment, compactors), excavators, and loaded trucks.

Construction vibration is a localized event that is typically only detectable at meaningful levels near to the vibration source. Uses located in the vicinity of proposed project construction activity that may be sensitive to vibration-related human annoyance are the same as the construction equipment noise-sensitive receptors (Table 4.6-7).

The evaluation of vibration impacts relative to human annoyance is based on typical vibration levels during construction activities and an annoyance threshold of 0.04 PPV at the vibration-sensitive use. Approximate vibration levels were calculated for all construction activities based on the actual distance from the proposed construction activity to each vibration-sensitive use. The calculations are based on FTA measures data of typical vibration levels at 25 feet. Estimated vibration levels in PPV at each receptor are presented in **Table 4.6-11**. Owing to their proximity to sensitive receptors, vibration impacts related to human annoyance at all non-park receptors would be driven by construction activities on Lake Street and Grand View Street and would be limited to times during which the vibratory roller or heavy-loaded trucks are in use in proximity to the identified vibration-sensitive uses. Vibration impacts related to human annoyance to MacArthur Park visitors would be driven by construction activities occurring within the park. Detailed calculations of the vibration annoyance impacts are presented in **Appendix F** of this EIR.

Table 4.6-11 Construction Vibration Annoyance Level Summary at Vibration-Sensitive Uses[1]

ID	Construction Area	Lake Street Construction Elements	Grand View Street Pipeline	MacArthur Park Construction Elements	Maximum Vibration	Exceeds 0.04 PPV Threshold?
A1	American Cement Building Apartments	0.001 PPV	0.001 PPV	0.002 PPV	0.002 PPV	No
A2	Parkview Terrace Apartments	0.001 PPV	0.002 PPV	0.003 PPV	0.003 PPV	No
A3	Iglesia Pentecostes Unidos Por Cristo	0.001 PPV	0.002 PPV	0.002 PPV	0.002 PPV	No
A4	2416-2422 7th Street residence	0.001 PPV	0.002 PPV	0.002 PPV	0.002 PPV	No
A5	Churchill Lofts Apartments	0.001 PPV	0.003 PPV	0.003 PPV	0.003 PPV	No
A6	MacArthur Park Elementary School	0.004 PPV	**0.210 PPV**	0.012 PPV	**0.210 PPV**	**Yes**
A7	LA New Times Western School/LA Onnuri Community Church	0.003 PPV	0.011 PPV	0.001 PPV	0.011 PPV	No
A8	714-760 Grand View Street residences	0.010 PPV	**0.127 PPV**	0.003 PPV	**0.127 PPV**	**Yes**
A9	Cristo Salva Bilingual Church	0.008 PPV	0.040 PPV	0.013 PPV	0.040 PPV	No
A10	La Viña en Los Angeles	**0.320 PPV**	0.003 PPV	0.003 PPV	**0.320 PPV**	**Yes**
A11	Southeast park unhoused population	0.007 PPV	0.002 PPV	0.003 PPV	0.007 PPV	No

Table 4.6-11 Construction Vibration Annoyance Level Summary at Vibration-Sensitive Uses[1]

ID	Construction Area	Lake Street Construction Elements	Grand View Street Pipeline	MacArthur Park Construction Elements	Maximum Vibration	Exceeds 0.04 PPV Threshold?
A12	MacArthur Park visitors	**>0.040 PPV within 75 feet[1]**	**>0.040 PPV within 75 feet[1]**	**>0.040 PPV within 43 feet[1]**	**>0.040 PPV within 75 feet[1]**	**Yes[1]**

Sources: **Appendix F** of this EIR; California Department of Transportation. Transportation and Construction Vibration Guidance Manual. April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

Note:

[1] Construction activities on 7th Street adjacent to MacArthur Park associated with the Lake Street and Grand View Street construction elements would result in significant vibration annoyance impacts to parkgoers in areas of the park not closed for construction and up to 75 feet from the construction area. Construction activities within MacArthur Park would result in significant vibration annoyance impacts to parkgoers in areas of the park not closed for construction and up to 43 feet from the construction area.

Key: PPV = peak particle velocity

As shown in the table, vibration from proposed project construction—relative to human annoyance at MacArthur Park Elementary School for the Visual and Performing Arts, the 714-760 Grand View Street residences, and La Viña en Los Angeles—would exceed 0.04 PPV. The potential vibration annoyance impacts from each project element on the nearest sensitive receptors are discussed in greater detail in the following sections.

Lake Street Construction (Stormwater Diversion, Pretreatment System, Pump Station, and Pipelines)

The Lake Street construction element would involve asphalt removal, trenching, pipelaying, and the paving of a portion of Lake Street to install a tie-in to the existing storm drain system. The underground pretreatment system, pump vault, and pipelines necessary for project operation would also be installed in Lake Street as part of this element. Proposed project construction along Lake Street is anticipated to last between 7 and 10 months. Only the elements of Lake Street construction activity that would occur within 75 feet of nearby vibration sensitive receptors (i.e., La Viña en Los Angeles) would result in significant impacts relative to human annoyance. These elements include installation of the stormwater diversion structure, pretreatment system, pump station, and approximately one third of the installed pipeline on Lake Street. Additionally, a small portion of Lake Street construction activities would occur at the crossing of 7th Street near the park and would result in significant vibration annoyance impacts to parkgoers in areas of the park not closed for construction and up to 75 feet from the construction area. Vibration from construction equipment activity related to the Lake Street construction element would result in a ***significant impact*** with respect to human annoyance.

Grand View Street Construction (Pipeline)

The Grand View Street construction element would involve asphalt removal, trenching, pipelaying, and the paving of a portion of Grand View Street to install a tie-in to the existing storm drain system. Proposed project construction along Grand View Street would be anticipated to last between 3 and 6 weeks. Only the elements of Grand View Street construction activity that would occur within 75 feet of nearby vibration sensitive receptors (i.e., MacArthur Park Elementary School and the 714-760 Grand

View Street residences) would result in significant impacts relative to human annoyance. Approximately one third of the installed pipeline on Grand View Street would occur within 75 feet of one or more of the 714-760 Grand View Street residences. The majority of Grand View Street pipeline installation would occur within 75 feet of MacArthur Park Elementary School. Additionally, a small portion of Grand View Street construction activities would occur at the crossing of 7th Street near the park and would result in significant vibration annoyance impacts to parkgoers in areas of the park not closed for construction and up to 75 feet from the construction area. Vibration from construction equipment activity related to the Grand View Street construction element would result in a ***significant impact*** with respect to human annoyance.

MacArthur Park Construction (Stormwater Treatment Unit, Pipelines, and Water Feature)

The MacArthur Park construction element would involve earth moving, pipelaying, and concrete pouring at various locations throughout the southwest area of MacArthur Park to install the stormwater treatment unit, water feature, and related pipelines. Proposed project construction within the park is anticipated to last between 8 and 12 months. Throughout the duration, construction activities would result in vibration annoyance impacts to parkgoers in areas of the park not closed for construction and up to 43 feet from the construction area. Vibration from construction equipment activity related to the in-park construction elements would result in a ***significant impact*** with respect to human annoyance

4.6.5.4.2 Mitigation Measures

As noted above, the proposed project would generate construction-related vibration that would result in significant impacts with respect to human annoyance at vibration-sensitive uses. These impacts would occur during construction of the Lake Street and Grand View Street construction elements, depending upon the receptor. Mitigation measures proposed to reduce significant impacts on structures from construction equipment vibration are presented Section 4.6.5.3.2. The mitigation measures that would reduce construction equipment vibration impacts on structures would also serve to reduce impacts related to human annoyance.

4.6.5.4.3 Significance of Impact After Mitigation

While implementation of mitigation and control measures would reduce construction vibration, the significance threshold for human annoyance is much lower than the threshold for structural damage (i.e., 0.04 PPV as compared to 0.10 PPV at fragile structures). Moreover, the proximity of the construction activities to the vibration-sensitive uses would limit the efficacy of vibration-reducing measures with respect to human annoyance. Accordingly, the vibration control measures in Mitigation Measure MM-NV-2 would likely not reduce construction vibration to a level that is below the threshold of significance for human annoyance during the Lake Street and Grand View Street construction elements. Therefore, construction-related vibration impacts would remain ***significant and unavoidable***. Note, such impacts would be temporary and are anticipated to be short-term, occurring only when vibratory equipment is operating in close proximity to nearby sensitive uses (i.e., would not occur over the entirety of construction).

4.6.6 Cumulative Impacts

4.6.6.1 Construction Traffic Noise

The geographical area of the cumulative impacts analysis for construction traffic noise includes the proposed haul routes that are located in proximity to noise-sensitive receptors (Figure 2-11 in Chapter 2, *Project Description)*. As shown in the figure, the construction haul routes for the proposed project would be located along major roadways and away from residential areas. Table 3-1 in Chapter 3, *Overview of Project Setting*, identifies planned and proposed development projects in the vicinity of the proposed project. These projects are shown in Figure 3-1 in Chapter 3, *Overview of Project Setting*. Any of the projects identified in Table 3-1 could generate construction traffic that would use the same roads as the proposed project. As with the proposed project, the cumulative development projects would employ construction traffic management techniques. Nevertheless, the combination of these cumulative projects and the proposed project would result in increased construction-related traffic on roadways within the project area. These cumulative trips would add to construction traffic-related noise at nearby noise-sensitive receptors. However, the cumulative increase in construction-related traffic would not result in a doubling of existing daily traffic volumes on any area roads. As noted, construction traffic routes would be located along major roadways. As indicated in Table 4.6-6, existing daily traffic volumes on nearby roads range from 12,771 vehicles on 7th Street at Parkview Street to 516,000 vehicles on State Route 110 at 5th Street and 6th Street. It is not anticipated that additional construction traffic from the aforementioned cumulative projects would result in a doubling of traffic on the subject construction traffic routes. Therefore, the increase in noise levels from cumulative construction-related traffic would not exceed 3 dBA CNEL and cumulative construction traffic noise impacts would be ***less than significant***.

4.6.6.2 Construction Equipment Noise

As discussed in Section 4.6.1.1.2, noise attenuates with distance. For sources of noise to meaningfully increase overall noise levels at a given noise-sensitive receptor, the sources of noise must both be fairly close to the use. For every doubling of noise energy at a given location, there is an approximate 3 dBA increase (a small but perceptible increase to the human ear). Additionally, for every doubling of the distance from a given location, the noise level decreases by approximately 6 dBA. Therefore, for cumulative noise sources to increase the overall noise level by a perceptible amount at a given noise-sensitive receptor, those sources must be similarly loud and at similar distances to the receptor, or they must have at least 4 times the sound energy for every doubling of the distance from the receptor relative to the distance and volume of a closer noise source.

As noted above, a list of planned and proposed development projects in the vicinity of the proposed project—whose construction could occur concurrently with the proposed project—is identified in Chapter 3, *Overview of Project Setting*. These projects have the potential to increase noise levels in the project vicinity, potentially contributing to cumulative noise levels at noise-sensitive receptors. Unscheduled or unanticipated projects or activities, such as road or utility work or increased traffic owing to detours from road or utility work elsewhere in the City, could also occur in the vicinity of the proposed project and would affect ambient noise levels.

Therefore, the proposed project, in conjunction with other development projects, could have a ***significant cumulative impact*** with respect to construction equipment noise. Because the proposed

project, by itself, would have significant impacts on noise-sensitive receptors, as detailed in Section 4.6.5.1, the project's contribution to the significant cumulative impact would be ***cumulatively considerable***.

Mitigation Measure MM-NV-1 would reduce project-related construction noise. However, even with implementation of this measure, project-related impacts associated with construction noise would remain significant. Therefore, the project's contribution to the significant cumulative impact would remain ***cumulatively considerable***.

4.6.6.3 Construction Vibration Related to Structural Damage

The geographic scope of construction vibrational impacts is very limited, given the rate of vibrational attenuation. As identified in Section 4.6.5.4, construction of the improvements on Grand View Street and Lake Street could result in vibration damage impact to vibration-susceptible buildings in the project area. The only project that is in close enough proximity to these proposed improvements that could also result in vibration impacts to vibration-sensitive structures is the 7th Street Los Angeles Neighborhood Initiative (LANI) Westlake Transit Improvement Project. This project, which is anticipated to be constructed in 2023, would add streetscape and related improvements to pedestrian areas adjacent to existing transit stops along 7th Street between Carondelet Street and Westlake Avenue. It is possible that the proposed project, in combination with the 7th Street LANI Westlake Transit Improvement Project, could result in cumulative vibration levels at nearby vibration-sensitive structures. This would be a ***significant cumulative impact***. Because the proposed project, by itself, would result in a significant vibration impact to nearby structures, as detailed in Section 4.6.5.3, the project's contribution to the significant cumulative impact would be ***cumulatively considerable***.

Mitigation Measure MM-NV-2 would require the preparation of a Construction Vibration Control and Mitigation Plan to ensure that vibration impacts from the proposed project on surrounding structures would be less than significant. This measure includes a provision whereby the Mitigation Plan must take into account project-related activities that would occur concurrently with construction of other projects in the immediate vicinity. Implementation of this measure would reduce cumulative vibration impacts to nearby structures to a level that is ***less than significant***.

4.6.6.4 Construction Vibration Impacts Related to Human Annoyance

As noted in Section 4.6.5.4.3, the significance threshold for human annoyance is much lower than the threshold for structural damage (i.e., 0.04 PPV as compared to 0.10 PPV at fragile structures). Therefore, the evaluation of cumulative projects is broader. As identified in Chapter 3, *Overview of Project Setting*, there are a number of development projects in the project area whose construction may overlap with the proposed project. Therefore, the proposed project, in conjunction with other development projects, could have a ***significant cumulative impact*** with respect to human annoyance from vibration. Because the proposed project, by itself, would result in a significant impact with respect to human annoyance from vibration to vibration-sensitive uses in the project area, as detailed in Section 4.6.5.4, the project's contribution to the significant cumulative impact would be ***cumulatively considerable***.

Mitigation Measure MM-NV-2 would reduce project-related vibration. However, even with implementation of this measure, project-related human annoyance impacts associated with construction vibration may remain significant. Therefore, the project's contribution to the significant cumulative impact would remain ***cumulatively considerable***.

4.6.7 Summary of Impact Determinations

Table 4.6-12 summarizes the impact determinations and applicable mitigation measures of the proposed project relative to noise and vibration, as described in Section 4.6.5. Identified impacts are based on the significance criteria presented in Section 4.6.4, the information and data sources cited throughout Section 4.6, and the professional judgment of the report's preparers, as applicable.

Table 4.6-12 Summary of Impacts and Mitigation Measures Associated with the Proposed Project Related to Noise and Vibration

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Impact 4.6-1: Construction traffic would not cause existing ambient noise levels measured at the property line of noise-sensitive uses to increase by 3 dBA or more in CNEL. This would result in a ***less than significant impact***.	Less than Significant	Not applicable	Less than Significant
Impact 4.6-2: Use of construction equipment in association with construction activities would exceed existing ambient exterior noise levels by 5 dBA or more at noise-sensitive uses. This would be a ***significant impact***.	Significant	MM-NV-1. Construction Noise Control and Mitigation Plan.	Significant and Unavoidable
Impact 4.6-3: Construction of the proposed project would generate groundborne vibration that would exceed structural damage criteria. This would be a ***significant impact***.	Significant	MM-NV-2. Construction Vibration Control and Mitigation Plan.	Less than Significant
Impact 4.6-4: Construction of the proposed project would generate groundborne vibration that would exceed human annoyance criteria. This would be a ***significant impact***.	Significant	MM-NV-2. Construction Vibration Control and Mitigation Plan.	Significant and Unavoidable
Cumulative Impact: With respect to construction equipment noise, implementation of the proposed project, in conjunction with other development projects, would result in a ***significant cumulative impact*** for construction. The proposed project's contribution to this significant cumulative impact would be ***cumulatively considerable***.	Cumulatively Significant	MM-NV-1. Construction Noise Control and Mitigation Plan.	Cumulatively Considerable

Table 4.6-12 Summary of Impacts and Mitigation Measures Associated with the Proposed Project Related to Noise and Vibration

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Cumulative Impact: With respect to construction vibration, implementation of the proposed project, in conjunction with other development projects, would result in a ***significant cumulative impact*** related to structural damage. The proposed project's contribution to this significant cumulative impact would be ***cumulatively considerable***.	Cumulatively Significant	MM-NV-2. Construction Vibration Control and Mitigation Plan.	Less than Significant
Cumulative Impact: With respect to construction vibration, implementation of the proposed project, in conjunction with other development projects, would result in a ***significant cumulative impact*** related to human annoyance. The proposed project's contribution to this significant cumulative impact would be ***cumulatively considerable***.	Cumulatively Significant	MM-NV-2. Construction Vibration Control and Mitigation Plan.	Cumulatively Considerable

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4.7 Tribal Cultural Resources

4.7.1 Introduction

The Los Angeles basin was historically occupied by many Native American tribes; thus, tribal cultural resources may be present in soil layers from the thousands of years of human activity within the basin. This section examines the potential for the proposed project to result in impacts on tribal cultural resources. The known or potential tribal cultural resources in the project area are described below, along with the methodology and the regulatory framework guiding the evaluation of tribal cultural resources. Impacts to tribal cultural resources that would result from the proposed project are identified.

Prior to the preparation of this EIR, an Initial Study (included in **Appendix A** of this EIR) was prepared using the CEQA Environmental Checklist Form to assess potential environmental impacts on tribal cultural resources. The Initial Study (Section 4, Issue XVIII) determined that, since operation of the proposed project would occur primarily underground with only the water feature and some equipment and equipment housing located aboveground, project operations would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in the Public Resources Code. The Initial Study concluded that operational impacts from the proposed project would be less than significant and, thus, no further analysis of these topics in an EIR was required. Therefore, the tribal cultural resources analysis in this EIR is focused on impacts from construction.

4.7.2 Methodology

CEQA requires that lead agencies consult with interested tribes traditionally and culturally affiliated with a project area that request such consultation to determine whether tribal cultural resources as defined by CEQA exist on a project site; whether tribal cultural resources would be adversely affected by a proposed project; and, if so, the best means to mitigate the anticipated impact and protect the resources in question. (See Public Resources Code Section 21080.3.2.)

As discussed in Section 4.7.3.1.1 below, Assembly Bill 52 (AB 52) establishes a consultation process between California Native American tribal governments and lead agencies. Under AB 52, tribes that are traditionally and culturally affiliated with the geographic area may request from a lead agency, in writing, to be informed by the lead agency of any proposed project that may require a negative declaration, mitigated negative declaration, or environmental impact report. At the time LASAN initiated preparation of the Notice of Preparation for the proposed project, the City had received written requests from nine tribes[266] indicating their wish to be notified of City projects within their traditionally and culturally affiliated areas, as required by Public Resources Code Section 21080.3.1(b). In accordance with the requirements of AB 52, LASAN sent letters to these nine Native American tribes by certified mail and electronic mail on February 16, 2022, providing formal notification of the City's intent to undertake the proposed project and identifying the opportunity to request consultation. The results of the AB 52 consultation process are discussed in Section 4.7.3.2.3 below.

[266] The City's AB 52 Native American Heritage Commission Tribal Consultation List includes the names and addresses of ten individuals. However, two of the individuals appear to have the same Tribal affiliation (their contact information lists the same address, phone number, and email domain name).

In addition to information from the AB 52 consultation process, a Sacred Lands File (SLF) records search for the project site was requested from the California Native American Heritage Commission (NAHC) to determine whether any Native American cultural resources in the NAHC database are located within the project site or within a half-mile radius. An SLF records search is one tool a lead agency can use to determine whether tribal cultural resources may exist within the vicinity of a project. In addition, information from the California Historical Resources Information System (CHRIS) was requested from the South Central Coastal Information Center (SCCIC). The results of the SLF and CHRIS records searches are discussed in Section 4.7.3.2.2 below.

4.7.3 Existing Conditions

4.7.3.1 Regulatory Setting

The following section presents the state law that is applicable to the proposed project, relative to tribal cultural resources.

4.7.3.1.1 State

AB 52, approved by Governor Brown on September 25, 2014, established a new category of resources in CEQA called "tribal cultural resources" that considers tribal cultural values in addition to scientific and archaeological values when determining impacts and mitigation. Further, AB 52 establishes a consultation process between California Native American tribal governments and lead agencies applicable to any project for which a Notice of Preparation, Notice of Intent to Adopt a Mitigated Negative Declaration, or Notice of Intent to Adopt a Negative Declaration is filed on or after July 1, 2015.

Section 1 of AB 52 states the legislature's intent as follows:

> In recognition of California Native American tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American tribal governments, and respecting the interests and roles of project proponents, it is the intent of the Legislature, in enacting this act, to accomplish all of the following:
>
> 1. Recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities.
> 2. Establish a new category of resources in the California Environmental Quality Act called "tribal cultural resources" that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation.
> 3. Establish examples of mitigation measures for tribal cultural resources that uphold the existing mitigation preference for historical and archaeological resources of preservation in place, if feasible.
> 4. Recognize that California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated. Because the California Environmental Quality Act calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources.

5. In recognition of their governmental status, establish a meaningful consultation process between California Native American tribal governments and lead agencies, respecting the interests and roles of all California Native American tribes and project proponents, and the level of required confidentiality concerning tribal cultural resources, at the earliest possible point in the California Environmental Quality Act environmental review process, so that tribal cultural resources can be identified, and culturally appropriate mitigation and mitigation monitoring programs can be considered by the decision making body of the lead agency.
6. Recognize the unique history of California Native American tribes and uphold existing rights of all California Native American tribes to participate in, and contribute their knowledge to, the environmental review process pursuant to the California Environmental Quality Act (Division 13 (commencing with § 21000) of the Public Resources Code).
7. Ensure that local and tribal governments, public agencies, and project proponents have information available, early in the California Environmental Quality Act environmental review process, for purposes of identifying and addressing potential adverse impacts to tribal cultural resources and to reduce the potential for delay and conflicts in the environmental review process.
8. Enable California Native American tribes to manage and accept conveyances of, and act as caretakers of, tribal cultural resources.
9. Establish that a substantial adverse change to a tribal cultural resource has a significant effect on the environment.[267]

Tribal cultural resources, as defined in Public Resources Code Section 21074, are either of the following:

- Sites, features, places, cultural landscapes that are geographically defined in terms of the size and scope of the landscape, sacred places, and objects with cultural value to a California Native American Tribe, and that are either:
  - Listed or eligible for listing in the California Register of Historical Resources (CRHR), or
  - Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c). In applying the criteria set forth in Public Resource Code Section 5024.1(c) for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

A historical resource described in Public Resources Code Section 21084.1, a unique archaeological resource as defined in Section 21083.2(g), or a "nonunique archaeological resource" as defined in Section 21083.2(h) may also be a tribal cultural resource if it conforms with the criteria of Section 21074(a).

[267] California Assembly Bill 52, September 2014. Available: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB52.

The specific steps and timelines governing the notice and consultation process under AB 52 are as follows:

1. The Native American Heritage Commission provided each tribe with a list of all public agencies that may be lead agencies under CEQA within the geographic area with which the tribe is traditionally and culturally affiliated, the contact information of those public agencies, and information on how the Tribe may request consultation (Public Resources Code Section 5097.94(m)).
2. If a tribe wishes to be notified of projects within its traditionally and culturally affiliated area, the tribe must submit a written request to the relevant lead agency (Public Resources Code Section 21080.3.1(b)).
3. Within 14 days of determining that a project application is complete, or to undertake a project, the lead agency must provide formal notification, in writing, to the tribes that have requested notification of proposed projects as described in step 2, above. That notice must include a description of the project, its location, and must state that the tribe has 30 days to request consultation.
4. If it wishes to engage in consultation on the project, the tribe must respond to the lead agency within 30 days of receipt of the formal notification described in step 3, above. The tribe's response must designate a lead contact person. If the tribe does not designate a lead contact person, or designates multiple people, the lead agency shall defer to the individual listed on the contact list maintained by the Native American Heritage Commission.
5. The lead agency must begin the consultation process with the tribes that have requested consultation within 30 days of receiving the request for consultation.
6. Consultation concludes when either: 1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource, or 2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (Public Resources Code Section 21080.3.2(b)(1) and (2)). Note that consultation can also be ongoing throughout the CEQA process.[268]

4.7.3.2 Environmental Setting

4.7.3.2.1 Previously Recorded Archaeological Resources

Information about previously recorded archaeological resources is provided in **Appendix D** and is summarized below.

Ethnographic Background

Since physical borders did not exist between tribes and other entities, the project area and surrounding vicinity included many tribal groups. While the Chumash and Kitanemuk generally lived outside the project area's territory, many of the people from those tribes have been listed by the NAHC as part of their ancestral homeland. The project area is located in a region where prehistoric cultural history is historically minimally documented and/or understood. At the time of the arrival of the Spanish, the

[268] State of California, Governor's Office of Planning and Research, Technical Advisory: AB 52 and Tribal Cultural Resources in CEQA, June 2017. Available: https://opr.ca.gov/ceqa/docs/20200224-AB_52_Technical_Advisory_Feb_2020.pdf.

Native American people, named the Tataviam, occupied various locales in the Los Angeles area, which included the Santa Clara River Valley and northward to the southern Antelope Valley. However, other Native American culture groups, including the Chumash to the west, and the Gabrieliño/Tongva/Kizh Nation tribes to the south and southeast, include this area as part of their territory.

Archival Tribal Research

Through archival research for Native American presence in the region, it was concluded that the closest Gabrielino/Tongva villages were located approximately 2 to 3 miles east of the project area. These two villages, named the Yaanga and Geveronga, are documented through ethnographic accounts. For many reasons the actual village locations are not clearly known, but the Yaanga (also called Yang-Ya, Yangna, and Yabit) and Geveronga are thought to have been located near Los Angeles's original plaza, near present-day Union Station. Only ethnographic accounts and a small amount of direct archaeological evidence currently exists regarding the location of the villages and thus the geographical extent of the is unknown.

Prehistoric and Historic Sites and Isolates

As mentioned in Section 4.7.2, a request was made to the SCCIC for records from the CHRIS database. According to the results provided by SCCIC,[269] no previously recorded archaeological sites or isolates are located on, or within ¼ mile of, the project area. During the construction of the Metro Red Line Subway Project, which runs through MacArthur Park along its route from Downtown Los Angeles to North Hollywood), no significant archaeological resources were encountered within 0.25 mile of the project area. Although the Metro Red Line runs underneath MacArthur Park and connects to the underground Westlake/MacArthur Station, the SCCIC results state that no resources were encountered during the construction of the station. The letter from the SCCIC notes that Native American tribes have historical resource information that is not in the CHRIS Inventory.

4.7.3.2.2 Sacred Lands File Search

As noted in Section 4.7.2, an SLF records search for the project site was requested from the NAHC. On January 26, 2022, the NAHC indicated that the SLF records search was completed with negative results. The NAHC results also noted, however, that the absence of site specific resource information in the SLF inventory does not indicate the absence of cultural resources within any project area.[270]

4.7.3.2.3 AB 52 Tribal Consultation

As discussed in Section 4.7.2 above, the following tribes and/or tribal representatives requested that the City of Los Angeles, as a lead agency, provide written notification of projects with the geographical area that are subject to CEQA:

- Fernandeño Tataviam Band of Mission Indians (Tribal Historic and Cultural Preservation Officer);

[269] Kott, Isabela, Assistant Coordinator, GIS Program Specialist, South Central Coastal Information Center. Letter to Robin Turner, ArchaeoPaleo Resource Management, Inc. Subject: California Historical Resource Information System Records Search Results for the MacArthur Lake Rehabilitation Project. February 14, 2022.

[270] Green, Andrew, Cultural Resources Analyst, State of California Native American Heritage Commission. Letter to Robin Turner, ArchaeoPaleo Resource Management, Inc. Subject: MacArthur Lake Rehabilitation Project, Los Angeles County. January 26, 2022.

- Fernandeño Tataviam Band of Mission Indians (Tribal President);[271]
- Gabrieleño Band of Mission Indians – Kizh Nation;
- Gabrielino/Tongva San Gabriel Band of Mission Indians;
- Gabrielino/Tongva Nation;
- Gabrielino Tongva Indians of California Tribal Council;
- Gabrielino-Tongva Tribe;
- San Fernando Band of Mission Indians;
- Soboba Band of Luiseño Indians; and
- Torres Martinez Desert Cahuilla Indians.

Consistent with AB 52, letters were sent via certified mail on February 16, 2022 to the ten Native American individuals and organizations identified above, representing a total of nine tribes. Each Native American group and/or individual listed was sent a project notification letter notifying them of the opportunity for consultation pursuant to AB 52. In addition, the letter requested that the recipient convey any knowledge regarding prehistoric or Native American resources (archaeological sites, sacred lands, or artifacts) located within the project area or surrounding vicinity. The letter identified the project location and a included brief description of the proposed project.

On February 17, 2022, the Gabrieleño Band of Mission Indians – Kizh Nation responded in a letter sent via electronic mail that the proposed project location is within their Ancestral Tribal Territory and requesting consultation with the lead agency to discuss the project and surrounding location in further detail. A virtual consultation meeting was held between representatives of the Kizh Nation and representatives of LASAN on June 2, 2022. During this meeting, the Kizh Nation discussed tribal archive information, including historic books, historic maps, and textual explanation of the cultural significance of the area and the high amount of pre-historic human activity that occurred there. The tribe subsequently provided copies of tribal records, including tribal archive information that indicates that the project site is located within the boundaries of Kizh ancestral territory.[272] At the consultation meeting, the Kizh Nation noted that they do not have knowledge of tribal cultural resources that are present within the project boundaries; however, the tribe stated that there is a possibility that unknown, yet significant, tribal cultural resources could be encountered during ground disturbance activities.

Notwithstanding that no known tribal cultural resources have been identified at the project site, LASAN has voluntarily agreed to grant the Kizh Nation's request to have a monitor onsite to observe construction-related ground disturbing activities for Native American tribal cultural resources. As

[271] As noted previously in this section, the City's AB 52 Native American Heritage Commission Tribal Consultation List includes the names and addresses of two individuals who appear to have the same Tribal affiliation (their contact information lists the same address, phone number, and email domain name).

[272] Copies of correspondence with the Gabrieleño Band of Mission Indians – Kizh Nation are on file with LASAN. This includes confidential materials which are not part of the EIR pursuant to Public Resources Code Section 21082.3(c)(1)).

discussed in Chapter 2, *Project Description*, LASAN will incorporate the following commitments into the construction program for the proposed project:

- **Project Commitment TCR-1. Retain a Tribal Cultural Resources Monitor Prior to Commencement of Ground-Disturbing Activities.**

  A. The lead agency shall retain a qualified monitor whose responsibility it will be to monitor construction activities for Native American tribal cultural resources (TCR). The monitor may be, but is not required to be, affiliated with a tribe that has ancestral ties to the project location as identified by the Native American Heritage Commission and that has engaged in consultation with the lead agency. In the case of this project, the only tribe that meets these criteria is the Gabrieleño Band of Mission Indians – Kizh Nation. The lead agency shall make a good faith effort to coordinate with the Gabrieleño Band of Mission Indians – Kizh Nation in the selection of the monitor. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, the following: demolition, pavement removal, grading, excavation, and trenching.

  B. Prior to the commencement of monitoring, the lead agency and the Tribal Cultural Resources Monitor shall meet to agree upon the activities to be monitored and the conditions under which monitoring shall no longer be required. This agreement will cover TCR monitoring during the actual time that such monitoring has the potential to identify disturbance to tribal cultural resources resulting from ground-disturbing activities, as defined in subsection A above. Such periods shall be determined by the daily log of onsite activities maintained by the construction contractor or a City of Los Angeles Department of Public Works inspector, or by another similar source. The lead agency or their representative shall provide access to the Tribal Cultural Resource Monitor during the remainder of the construction period–including during non-ground disturbing activities, or activities that are not within the scope of agreed-upon monitoring–however, such voluntary monitoring will not be subject to this agreement.

  C. A copy of the executed monitoring agreement shall be submitted by the Tribal Cultural Resources Monitor to the lead agency or their representative prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

  D. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance. Monitor logs will identify and describe any discovered TCRs, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, TCRs), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the lead agency or their representative.

E. On-site TCR monitoring subject to this agreement shall conclude upon the following: (1) written confirmation to the Tribal Cultural Resource Monitor from a designated point of contact for the lead agency that all ground-disturbing activities, as defined in subsection A above, and phases that may involve ground-disturbing activities, on the project site or in connection with the project are complete; or (2) a determination and written notification by the Tribal Cultural Resource Monitor to the lead agency or their representative that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact TCRs.

- **Project Commitment TCR-2. Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial).**

  Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Tribal Cultural Resources Monitor and/or archaeologist in accordance with State CEQA Guidelines Section 15064.5. The lead agency shall, in good faith, consult with the Tribal Cultural Resource Monitor and/or the Gabrieleño Band of Mission Indians – Kizh Nation on the disposition of any TCRs encountered. Any resulting data recovery reports shall be deposited with the California Historical Resources Regional Information Center or a legal repository, as appropriate.

- **Project Commitment TCR-3. Unanticipated Discovery of Human Remains and Associated Funerary Objects.**

  A. Native American human remains are defined in Public Resources Code Section 5097.98(d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.

  B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code Section 5097.98 and Health and Safety Code Section 7050.5 shall be followed. Among other provisions, Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and all ground-disturbing activities shall immediately halt and shall remain halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe they are Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission, and Public Resources Code Section 5097.98 shall be followed.

  C. Human remains and grave/burial goods shall be treated alike per Public Resources Code Section 5097.98(d)(1) and (2).

  D. Construction activities may resume in other parts of the project site in accordance with CEQA Guidelines Section 15064.5(f) at a distance from discovered human remains and/or burial goods to be determined by the Tribal Cultural Resource Monitor in consultation with the lead agency or their representative. The Tribal Cultural Resource Monitor shall provide the lead agency or its representative consent of that determination or justification why the monitor believes that construction activities may not resume in other parts of the project site.

  E. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.

F. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

Tribal consultation with the Kizh Nation concluded in March 2024.

4.7.4 Thresholds of Significance

A significant impact on tribal cultural resources would occur if the proposed project would:

Threshold 4.7-1 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:

- Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).
- 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

This threshold is from Appendix G of the State CEQA Guidelines.

4.7.5 Project Impacts

4.7.5.1 Impact 4.7-1

Impact 4.7-1: Construction of the proposed project would not result in a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code Section 21074. This would be a *less than significant impact.*

4.7.5.1.1 Impacts

As noted in Section 4.7.3.2, there are no known tribal cultural resources, as defined in Public Resources Code Section 21074, on the project site or the proposed construction staging area, or in their immediate vicinity. As such, the proposed project would not cause a substantial adverse change in the significance of a known tribal cultural resource as defined in Public Resources Code Section 21074. Thus, impacts on known tribal cultural resources from construction of the proposed project would be ***less than significant***.

However, as noted in Section 4.7.3.2.3, based on formal consultation with the Kizh Nation, ground disturbance associated with construction of the proposed project could disturb previously unidentified tribal cultural resources on the project site. To address this contingency, LASAN has voluntarily agreed to grant the Kizh Nation's request to have a qualified monitor onsite to observe ground disturbing activities during project construction. Under the agreed-upon monitoring program, a monitor would be present during ground disturbing activities. Such monitoring would serve to address the potential, if any, for tribal cultural resources to be unexpectedly encountered during project-related excavation activities.

4.7.5.1.2 Mitigation Measures

Because the proposed project would result in ***a less than significant impact*** relative to tribal cultural resources, no mitigation is required.

4.7.5.1.3 Significance of Impact After Mitigation

As indicated above, no mitigation is required to address construction tribal cultural resources. The proposed project would result in a ***less than significant impact***.

4.7.6 Cumulative Impacts

Table 3-1 in Chapter 3, *Overview of Project Setting*, identifies planned and proposed development projects in the vicinity of the proposed project. These projects are shown in Figure 3-1. Four projects identified in Table 3-1 (MacArthur Park Playground Project, Westlake MacArthur Park Pedestrian Improvements, Westlake MacArthur Park Area Transit Improvements, and 7th Street Los Angeles Neighborhood Initiative [LANI] Westlake Transit Improvement Project) overlap or are located close to the footprint of the proposed project. Implementation of these projects, in combination with the proposed project, have the potential to result in a cumulative impact to tribal cultural resources. As discussed in Section 4.7.3.2.3, no tribal cultural resources are known to be present in the project area (i.e., within 0.5-mile of the project site). As a result, tribal cultural resources are not anticipated to be encountered during ground disturbing activities associated with the proposed project or with the other cumulative projects identified above. LASAN has agreed to have a monitor present during ground disturbing activities in the event unanticipated tribal cultural resources are encountered during construction activities. Other cumulative projects would be required to comply with state laws and regulations that govern the discovery of cultural resources, including tribal cultural resources. Therefore, the proposed project, in combination with other cumulative projects, would not cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 and cumulative impacts to tribal cultural resources would be ***less than significant.***

4.7.7 Summary of Impact Determinations

Table 4.7-1 summarizes the impact determinations of the proposed project relative to tribal cultural resources, as described in Section 4.7.5. Identified impacts are based on the significance criteria presented in Section 4.7.4, the information and data sources cited throughout Section 4.7, and the professional judgment of the report's preparers, as applicable.

Table 4.7-1 Summary of Impacts and Mitigation Measures Associated with the Proposed Project Related to Tribal Cultural Resources

Environmental Impacts	Impact Determination	Mitigation Measures	Level of Significance After Mitigation
Impact 4.7-1: Construction would not occur on or in the vicinity of known tribal cultural resources and would not result in a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code Section 21074. This would result in a ***less than significant impact***.	Less than Significant	Not applicable	Less than Significant

Chapter 5
Alternatives

5.1 Introduction

Section 15126.6 of the State CEQA Guidelines requires that an EIR include a discussion of a reasonable range of project alternatives that would "feasibly attain most of the basic objectives of the project, and evaluate the comparative merits of the alternatives." Within that context, this chapter discusses alternatives to the proposed project.

The following sections discuss the significant impacts of the proposed project as identified in Chapter 4, *Environmental Impact Analysis*; the objectives of the proposed project; alternatives considered but rejected; and alternatives carried forward for further consideration in the EIR and the respective environmental impacts of such alternatives, including whether such alternatives would avoid or substantially lessen any of the significant environmental impacts associated with the proposed project. Also included in this chapter is the identification of the environmentally superior alternative.

5.2 Significant Impacts of the Proposed Project

The alternatives in this chapter have been selected to evaluate potential means for avoiding or substantially lessening the significant impacts of the proposed project identified in Chapter 4, *Environmental Impact Analysis*, with a focus on impacts that would be significant and unavoidable. As summarized in Chapter 1, *Introduction and Executive Summary*, impacts related to two noise and vibration criteria would be significant and unavoidable and impacts to a second vibration criteria would be significant but mitigable. As further described in Section 4.6, *Noise and Vibration*, construction of the proposed project would result in significant and unavoidable temporary impacts related to construction equipment noise and vibration relative to human annoyance, even with the implementation of mitigation measures. Short-term vibration impacts on nearby structures would be significant but mitigable. The construction equipment noise and vibration impacts to specific sensitive receptors–including both significant and unavoidable noise and human annoyance impacts as well as significant but mitigable vibration-related impacts to structures–are identified in **Table 5-1**.

Table 5-1 Summary of Proposed Project Construction Equipment Noise and Vibration Impacts at Sensitive Receptors

Receptor ID[1]	Noise-Sensitive Use	Significant Unavoidable Noise Impact	Significant Unavoidable Vibration-Related Human Annoyance Impact	Significant but Mitigable Vibration-Related Structural Impact
N1, A1	American Cement Building Apartments	**Yes**	No	NA
N2, A2	Parkview Terrace Apartments	**Yes**	No	NA
N3, A3	Iglesia Pentecostes Unidos Por Cristo (Church)	**Yes**	No	NA

Table 5-1 Summary of Proposed Project Construction Equipment Noise and Vibration Impacts at Sensitive Receptors

Receptor ID[1]	Noise-Sensitive Use	Significant Unavoidable Noise Impact	Significant Unavoidable Vibration-Related Human Annoyance Impact	Significant but Mitigable Vibration-Related Structural Impact
N4, A4	2416-2422 7th Street residences	**Yes**	No	NA
N5, A5	Churchill Lofts Apartments	**Yes**	No	NA
N6, A6, S1	MacArthur Park Elementary School	**Yes**	**Yes**	No
N7, A7	LA New Times Western School/LA Onnuri Community Church	**Yes**	No	NA
N8, A8, S3	714-760 Grand View Street residences[2]	**Yes**	**Yes**	No
S2	Building located at 2228 7th Street	NA	NA	**Yes**
N9, A9	Cristo Salva Bilingual Church	**Yes**	No	NA
S4	Southern California Surgery Center	NA	NA	**Yes**
S5	Jimenez Arcade	NA	NA	**Yes**
N10, A10, S6	La Viña en Los Angeles (Church)	**Yes**	**Yes**	**Yes**
N11, A11	Southeast park unhoused population[3]	**Yes**	No	NA
N12, A12	MacArthur Park visitors	**Yes[4]**	**Yes[4]**	NA

Source: Section 4.6 and **Appendix F** of this EIR.

Notes:

1 Receptor IDs correspond to Figure 4.6-1 in Section 4.6, *Noise and Vibration*.

2 Only the subset of residences located on Grand View Street that would be nearest to proposed project construction activity (i.e., the units numbered 714 to 728 located within 50 feet of the roadway) would have the potential to experience meaningful construction-related structural vibrations.

2 Southeast park unhoused population refers to all unhoused individuals residing within the portion of MacArthur Park nearest to project construction activities. This area extends throughout the portion of the park bounded by Alvarado Street, 7th Street between Alvarado Street and Lake Street, MacArthur Park Lake, and Wilshire Boulevard. During project construction, portions of the park in the immediate vicinity of project construction would be closed, and the unhoused would be relocated to another area of the park or to off-site housing.

3 Because construction would occur within MacArthur Park, certain areas of the park would be louder and experience greater vibration levels than others during different elements of proposed project construction. See Table 4.6-8 for a summary of construction noise impacts and Table 4.6-11 for a summary of construction vibration annoyance impacts in the park.

Key: N = noise receptor; A = vibration annoyance receptor; S = vibration-related structural receptor

5.3 Project Objectives

As identified in the State CEQA Guidelines, the achievement of project objectives was considered in determining potentially feasible alternatives that would avoid or substantially lessen any significant effects of the proposed project.

The objectives of the proposed project are to:

- Incrementally improve the water quality in the Ballona Creek Watershed in a manner consistent with the Watershed Management Plan's (WMP)[273] customized compliance pathway[274] for Los Angeles County's MS4 Permit.[275]
- Incrementally improve the water quality in the Ballona Creek Watershed via regional best management practices (BMPs) as defined in the Ballona Creek WMP and as measured against the Total Maximum Daily Load (TMDL) for metals.
- Reduce the use of potable water used to refill MacArthur Lake.
- Provide community investment benefits and nature-based solutions as required by the County of Los Angeles Safe Clean Water Program (SCWP).
- Minimize disruption of existing social and commercial activity at MacArthur Park, on sidewalks, at transit stops, and at local businesses and gathering places during both construction and operations to the extent feasible.

5.4 Alternatives

Alternatives to the proposed project were formulated in an attempt to avoid or substantially lessen the site-specific significant impacts of the project, primarily the significant and unavoidable impacts related to noise and vibration annoyance, and the significant but mitigable impacts related to structural vibration. Alternatives presented in this section include (1) alternatives that were initially considered but were screened-out from further consideration due to their infeasibility or inability to avoid or substantially reduce the significant impacts of the project, and (2) alternatives that were carried forward for analysis. As required by CEQA, the "No Project" Alternative is described in this section.

5.4.1 Alternatives Considered but Rejected

Per Section 15126.6(c) of the State CEQA Guidelines, this section describes preliminary alternatives that were considered but screened-out from detailed consideration in the Draft EIR.

5.4.1.1 Alternative Locations

An alternative location, wherein the project would be constructed at a different site elsewhere in the Ballona Creek watershed, was considered but not carried forward for further evaluation. (An alternative location outside of the Ballona Creek watershed would not fulfill any of the basic project objectives.) As discussed in Chapter 2, *Project Description*, the proposed project would be one component of a network of control measures, referred to as BMP projects, intended as part of the Ballona Creek WMP. The objective of the BMPs is to achieve required pollutant reductions while also providing community

[273] Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

[274] The MS4 Permit allows Permittees the flexibility to develop WMPs to implement the requirements of the Permit on a watershed scale through customized strategies, control measures, and BMPs.

[275] MS4 Permit Order R4-2012-0175 for Los Angeles County (NPDES Permit No. CAS004001), which was the basis for the preparation of the Enhanced WMP approved in 2016, has since been superseded by Order R4-2021-0105 (NPDES Permit No. CAS004004). The Ballona Creek Watershed Management Group updated their WMP in accordance with the current MS4 Permit; the WMP was amended in February 2021, June 2021, and July 2023 with revised capture volume targets. The revised WMP was approved by the LARWQCB on August 14,2023.

benefits in the Ballona Creek watershed. BMPs identified in the Ballona Creek WMP include centralized regional projects and distributed BMPs, such as low-impact development and green streets. Regional projects, including the proposed project, are centralized facilities, such as retention facilities and constructed wetlands, that treat large volumes of stormwater runoff from extensive upstream areas in order to provide pollutant load reduction through infiltration or capture and reuse.[276] Thus, constructing the proposed project at an alternate location would merely implement another component of the planned network of control measures. Such an alternative would not be in lieu of the proposed project; rather, it would be in addition to the proposed project as part of the Ballona Creek WMP. Therefore, an alternative location is not practicable as a CEQA alternative for the proposed project as similar BMP projects in alternative locations are already part of the Ballona Creek WMP.

5.4.1.2 Reduced Design

A reduced design alternative, wherein a version of the proposed project with reduced features or construction requirements would be implemented, was considered but not carried forward for further evaluation. This alternative was not carried forward because the proposed project already represents the minimum reasonable construction activity necessary to achieve comparable levels of stormwater capture, pre-treatment, and capacity. If project features–such as the diversion structure, pipelines, treatment unit, pump station, or water feature–were reduced in size, this reduced design alternative would still result in similar construction impacts, particularly noise and vibration impacts, as the proposed project. Therefore, such an alternative would not reduce or substantially avoid any of the significant impacts associated with the proposed project. Moreover, a reduced design alternative would not achieve the core project objectives, as enumerated in Section 5.3, to the same extent as the proposed project.

5.4.2 Alternatives Carried Forward for Further Consideration

As noted previously, the process of formulating alternatives to the proposed project focused on avoiding or substantially reducing the site-specific significant impacts of the project, primarily significant unavoidable impacts associated with construction equipment noise and vibration-related human annoyance as well as significant but mitigable impacts associated with vibration-related structural damage. One build alternative was carried forward for evaluation, the Alvarado Street Alternative (Alternative 2). In addition, as required by CEQA, a "no project" alternative is also addressed in this section (Alternative 1). The alternatives carried forward are described below. The environmental impacts of the alternatives are evaluated in Section 5.4.3.

5.4.2.1 Alternative 1 - No Project

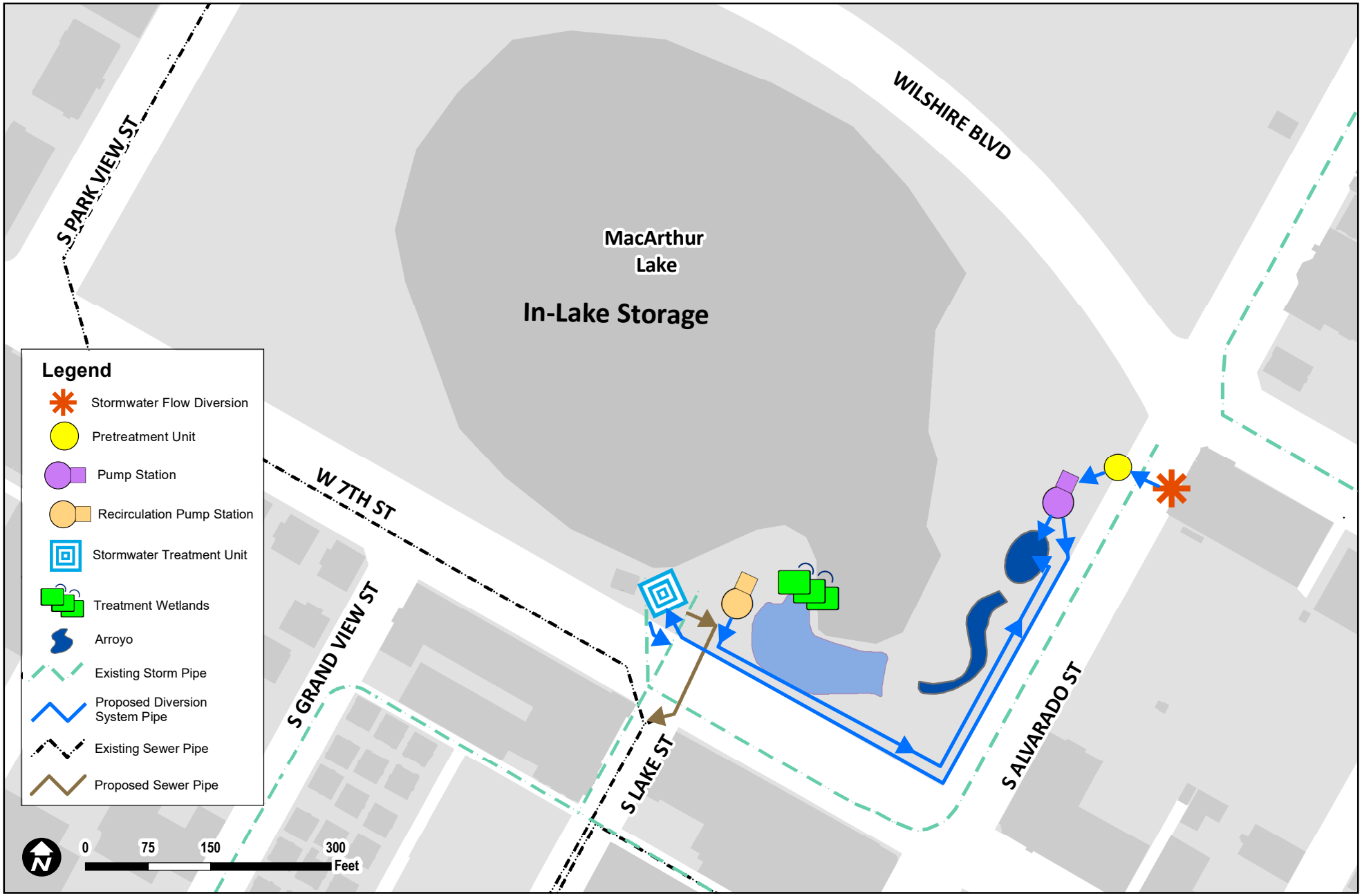
Under the No Project Alternative (Alternative 1), construction of the proposed project–including the stormwater diversion structure, treatment unit, pump station, pipelines, and water feature–would not occur. The project site would remain in its existing condition and no BMPs to improve water quality in Ballona Creek would be implemented in/adjacent to MacArthur Park.

[276] Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

5.4.2.2 Alternative 2 – Alvarado Street

Similar to the proposed project, Alternative 2 would divert a portion of wet weather stormwater flows as well as dry weather flows (collectively referred to herein as "urban stormwater") from the existing underground storm drain system, treat the water, and discharge it into MacArthur Lake for storage or return it to the storm drain system. This process would reduce the amount of stormwater and associated pollutant loads that enter Ballona Creek, the Ballona Creek Wetlands (also referred to as Ballona Reserve), and ultimately, Santa Monica Bay. This alternative would divert urban stormwater from a 185-acre drainage area as compared to the 200-acre drainage area associated with the proposed project. The treatment processes associated with this alternative would be similar to the proposed project, as described in Chapter 2, *Project Description*, and illustrated in Figure 2-4a, Figure 2-4b, and Figure 2-5.

Alternative 2 would include a stormwater flow diversion structure, pretreatment unit, two pump stations, stormwater treatment unit, a constructed arroyo and treatment wetlands, pipelines to convey stormwater to and from the existing storm drain system and between the project components, and a pipeline to convey water from MacArthur Lake to the sanitary sewer system. An illustration of the components associated with this alternative is provided in **Figure 5-1**. Under Alternative 2, stormwater would be diverted from a storm drain located on the east side of Alvarado Street. Other than the stormwater diversion structure, the remaining project components–including the treatment units, natural stormwater treatment systems, pump stations, and a majority of the pipelines–would occur in the southeast quadrant of MacArthur Park or in the sidewalks adjacent to Alvarado Street and 7th Street. Installation of the storm drain diversion structure would occur at a City-owned 36-inch diameter storm drain located on the east side of Alvarado Street approximately 50 feet south of the intersection of Alvarado Street and Wilshire Boulevard. Stormwater conveyance pipes would be installed crossing Alvarado Street from the diversion structure into MacArthur Park. Stormwater pumps would be installed within the park near the intersection of Wilshire Boulevard and Alvarado Street that would convey stormwater from the pre-treatment unit to stormwater treatment units located on the south side of the park near 7th Steet and Lake Street or to a nature-based treatment system consisting of an arroyo and treatment wetlands. The arroyo would consist of a sloped stream bed containing rocks and boulders designed to transport the flow to the treatment wetlands. A recirculation pump station would recirculate water from the lake and to the top of the arroyo, where it would flow into the treatment wetlands and back into the lake. The recirculation pump station would be located to the west of the proposed treatment wetlands. The stormwater treatment units would also be located west of the proposed treatment wetlands near the existing pump house. A stormwater discharge conveyance pipe would be installed from the stormwater treatment units to an existing 30-inch storm drain located in 7th Street that continues south on Lake Street where it connects to the 54-inch storm drain in the alley. In addition, to enable discharge of water from the lake to the sanitary sewer system, a pipeline would connect from an existing lake drain line located near the existing pump house to an existing sewer maintenance hole located in Lake Street.



Sources: Cordoba Corporation, 2022; Navigate LA, 2022; Base Layer Source: Los Angeles GeoHub, 2022
Prepared by: CDM Smith, 2024

Figure 5-1

ALTERNATIVE 2: ALVARADO ALTERNATIVE

The arroyo and treatment wetlands associated with Alternative 2 would be located in the southeast corner of the park in an area that currently has a number of trees. Removed trees would be replanted or replaced elsewhere in the park in accordance with City of Los Angeles Department of Recreation and Parks (RAP) policies.[277] Additional discussion of the tree removals is provided in Section 5.4.3.2.2 below.

5.4.3 Evaluation of Project Alternatives

5.4.3.1 Alternative 1 - No Project Alternative

5.4.3.1.1 Air Quality

As discussed in Section 4.1.5 in Section 4.1, *Air Quality*, construction of the proposed project would not result in incremental increases to daily construction emissions that would exceed the regional daily construction mass emission thresholds or the localized daily construction mass emission thresholds established by South Coast Air Quality Management District (SCAQMD). This would be a less than significant impact.

The No Project Alternative would avoid the construction-related and operational air pollutant emissions associated with the proposed project. The No Project Alternative would not conflict with or obstruct implementation of an air quality plan, result in a cumulatively considerable net increase of any non-attainment pollutants, expose sensitive receptors to substantial pollutant concentrations, or result in other emissions (such as odors) that could adversely affect a substantial number of people. Therefore, the No Project Alternative would have ***no impact*** on air quality.

5.4.3.1.2 Biological Resources

As discussed in Section 4.2.5 in Section 4.2, *Biological Resources*, construction and operation of the proposed project could have a significant, but mitigable, impact on migratory birds on the project site by disturbing vegetation during the nesting bird season. Operation of the proposed project would have a less than significant impact on biological resources (including special-status species, migratory birds, riparian habitat or sensitive natural communities, state and federally protected wetlands, and the movement of fish and wildlife species) and adopted habitat conservation plans associated with the Ballona Estuary and Ballona Reserve downstream of the project site, as the proposed project would not substantially reduce flows or alter the hydraulics downstream in the Ballona Estuary and the Ballona Reserve. As described in Section 4.2.5, the project-related improvement of water quality in Ballona Creek could improve habitat conditions for special-status species and migratory birds in the Ballona Estuary and Ballona Reserve. This would be a beneficial impact.

Under the No Project Alternative, there would be no impact on migratory birds as no construction or maintenance work would occur. Because the proposed project would not be implemented, there would be no change in flows to the Ballona Estuary and Ballona Reserve as compared to existing conditions. As a result, the No Project Alternative would not have a beneficial impact on water quality and aquatic habitat for biological resources in the Ballona Estuary and Ballona Reserve, as no stormwater BMP would be implemented. Therefore, the No Project Alternative would ***not have an adverse impact*** on

[277] City of Los Angeles Department of Public Works, Recreation and Parks. Urban Forest Program. October 2004. Available: https://www.laparks.org/sites/default/files/forest/pdf/UrbanForestProgram.pdf.

biological resources in the Ballona Estuary and Ballona Reserve, but it would also not have the potential beneficial impact to biological resources that would otherwise be achieved by the proposed project.

5.4.3.1.3 Cultural Resources

As discussed in Section 4.3.5 in Section 4.3, *Cultural Resources*, construction of the proposed project would not cause a substantial adverse change in the significance of a historical resource and impacts would be less than significant. However, construction of the proposed project could result in significant but mitigable impacts to presently-unknown archaeological resources or paleontological resources that could be encountered during excavation.

Under the No Project Alternative, there would be no construction or excavation activities; therefore, the No Project Alternative would not result in any adverse changes in the significance of a historical or archaeological resource or directly or indirectly destroy a unique paleontological resource or site. Therefore, the No Project Alternative would have ***no impact*** on cultural resources.

5.4.3.1.4 Greenhouse Gases

As discussed in Section 4.4.5 in Section 4.4, *Greenhouse Gases*, construction and operation of the proposed project would not generate greenhouse gas (GHGs) emissions, either directly or indirectly, that may have a significant impact on the environment. Construction and operation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Thus, impacts of the proposed project related to GHGs would be less than significant.

The No Project Alternative would avoid the construction- and operations-related GHG emissions associated with the proposed project. Therefore, the No Project Alternative would not generate GHGs, either directly or indirectly, that may have a significant impact on the environment and would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs. Thus, the No Project Alternative would have ***no impact*** related to GHG emissions.

5.4.3.1.5 Hydrology and Water Quality

As discussed in Section 4.5.5 in Section 4.5, *Hydrology and Water Quality*, operation of the proposed project would have a less than significant impact on surface water quality in MacArthur Park Lake. Project elements, including the pretreatment unit, stormwater treatment unit, water feature, and lake drawdown, would reduce pollutant loads of some pollutants and the city would monitor water quality post construction. Although it is expected that the proposed project may increase nutrient levels within MacArthur Lake, lake water quality is currently poor and the proposed project is not anticipated to substantially degrade existing water quality. Therefore, impacts of the proposed project on lake water quality would be less than significant. The proposed project would have a beneficial impact on water quality in Ballona Creek as it would retain some of the captured urban stormwater, which would remain in MacArthur Lake or be discharged to the sanitary sewer, and it would treat the remaining captured urban stormwater prior to discharging it back to the storm drain system. Because the proposed project would improve water quality in the Ballona Creek watershed and be considered a control measure in the Ballona Creek WMP, as discussed in Section 5.4.1.1, it would support implementation of the LA Basin Plan and the Ballona Creek WMP. This would be a beneficial impact.

Under the No Project Alternative, the proposed project would not be implemented and, thus, there would be ***no impacts*** to surface water quality in MacArthur Park Lake. However, because the proposed

project would not be implemented, there would be no improvement to stormwater quality entering the Ballona Estuary and Ballona Reserve as compared to existing conditions. As a result, the No Project Alternative would not have a beneficial impact on water quality in Ballona Creek. As noted in Section 5.4.1.1, the proposed project is a component in a network of control measures proposed as part of the WMP and is consistent with regional efforts to improve water quality within Ballona Creek in order to address Ballona Creek TMDLs. Because the No Project Alternative would not implement the proposed project, this alternative would not contribute to water quality benefits in Ballona Creek. Consequently, the No Project Alternative would not support the LA Basin Plan or the Ballona Creek WMP. However, the No Project Alternative would not obstruct implementation of the Basin Plan or the WMP; therefore, there would be ***no impact*** with respect to these plans.

5.4.3.1.6 Noise and Vibration

As discussed in Section 4.6.5 in Section 4.6, *Noise and Vibration*, construction of the proposed project would have significant and unavoidable temporary impacts related to construction equipment noise and human annoyance from vibration, even with the implementation of mitigation measures. In addition, construction of the proposed project would cause significant but mitigable impacts to several structures due to vibration during construction. Impacts of the proposed project related to construction traffic noise would be less than significant.

Under the No Project Alternative, no construction would occur and there would be ***no impacts*** related to noise and vibration.

5.4.3.1.7 Tribal Cultural Resources

As discussed in Section 4.7.5 in Section 4.7, *Tribal Cultural Resources*, the proposed project would not result in a substantial adverse change in the significance of a known tribal cultural resource, as defined in Public Resources Code Section 21074. This would be a less than significant impact. LASAN would grant a request to have a monitor onsite to observe ground disturbing activities for tribal cultural resources.

The No Project Alternative would not require any construction or ground-disturbing activities and, consequently, would not result in any adverse changes in the significance of a tribal cultural resource. Therefore, the No Action Alternative would have ***no impact*** on tribal cultural resources.

5.4.3.2 Alternative 2 - Alvarado Street

5.4.3.2.1 Air Quality

Alternative 2 would require construction activities that would be comparable in magnitude and duration to those of the proposed project. Construction of Alternative 2 would differ from that of the proposed project in that it would occur in a different portion of MacArthur Park, with construction activities and roadway work occurring primarily within or adjacent to Alvarado Street and 7th Street instead of Lake Street, Grand View Street, and 7th Street. Because the same general construction activities would occur under Alternative 2 as under the proposed project, the estimated maximum regional daily construction emissions and maximum localized daily construction emissions under Alternative 2 would be comparable to the proposed project. Similarly, the same SCAQMD localized construction mass emissions thresholds (corresponding to a 1-acre disturbed construction site and 25-meter receptor distance in SCAQMD source receptor area [SRA] 1) would be applicable to construction under Alternative 2. Therefore, regional and localized construction daily mass emissions would not exceed the

mass emission thresholds established by SCAQMD with implementation of Alternative 2 and this alternative would have a ***less than significant impact*** on air quality.

5.4.3.2.2 Biological Resources

Under Alternative 2, construction and operational (maintenance) activities have the potential to disturb vegetation during the nesting bird season. Similar to the proposed project, Alternative 2 would be required to comply with state and federal laws pertaining to the protection of migratory birds. In addition, Mitigation Measure MM-BIO-1 would apply to Alternative 2 and would reduce significant impacts on migratory birds during construction and operation. With implementation of this mitigation measure, impacts related to migratory birds under Alternative 2 would be ***less than significant***.

As noted in Section 5.4.2.2, the arroyo and treatment wetlands associated with Alternative 2 would be located in the southeast corner of the park in an area that currently has a number of trees. Ordinance No. 177404 of the City's Municipal Code assures protection, and regulates removal, of protected native tree species. In addition to the City's ordinance, RAP is responsible for trees growing in the City's parkland. RAP designates some park trees as Heritage trees, which are individual trees of any size or species that are specially designated because of their historical, commemorative, or horticultural significance.[278] RAP has also developed an Urban Forest Program, which outlines procedures and standards that include criteria for the maintenance, removal, replacement, and planting of diverse tree species and the care of California native trees. No native tree species protected under the City's ordinance occur within the footprint of Alternative 2, however, a number of Heritage and common park trees are located in the southeastern portion of MacArthur Park in the vicinity of the arroyo and treatment wetlands that would be required to be removed to implement Alternative 2. The arroyo and treatment wetlands could be designed to minimize impacts to Heritage trees; however, it may not be possible to completely avoid Heritage trees. In accordance with the RAP's Urban Forest Program and/or Tree Preservation Policy, LASAN would obtain approval from RAP prior to removing any common park or Heritage trees. By complying with the Urban Forest Program and Tree Preservation Policy, Alternative 2 would not conflict with any local policies or ordinances protecting biological resources, specifically the City's Tree Ordinance or RAP's tree policy and Urban Forest Program. Therefore, impacts on local policies or ordinances protecting biological resources would be ***less than significant.***

As with the proposed project, operation of Alternative 2 would slightly reduce flows from the storm drain system to Ballona Creek. Because of the location of the diversion structure under Alternative 2, this alternative would capture urban stormwater from a smaller catchment area than the proposed project (185 acres compared to 200 acres under the proposed project). Thus, the reduction in downstream flows would be marginally smaller under Alternative 2 than under the proposed project. As with the proposed project, the reduction in flows would not be substantial and would not alter the hydraulics downstream in the Ballona Estuary and the Ballona Reserve. Therefore, the impacts Alternative 2 during operations on biological resources (including special-status species, migratory birds, riparian habitat or sensitive natural communities, state and federally protected wetlands, and the movement of fish and wildlife species) and adopted habitat conservation plans associated with the Ballona Estuary and Ballona Reserve downstream of the project site would be ***less than significant***. As

[278] City of Los Angeles Department of Recreation and Parks. Heritage Trees. Available: https://www.laparks.org/forest/heritage-trees. Accessed March 1, 2022.

with the proposed project, the improvement of water quality in Ballona Creek associated with Alternative 2 could improve habitat conditions for special-status species and migratory birds in the Ballona Estuary and Ballona Reserve, although to a lesser extent than under the proposed project. This would be a ***beneficial impact***.

5.4.3.2.3 Cultural Resources

Alternative 2 would be constructed in the same general location as the proposed project but would disturb a different portion of MacArthur Park and different roadways. As discussed in Section 4.3.3.2, MacArthur Park is a designated Los Angeles Historic-Cultural Monument (LAHCM). However, the park has undergone substantial changes over the years. Similar to the proposed project, the introduction of the arroyo and treatment wetlands would be an additive feature consistent with the historical function and use of the park as a recreational gathering place. The underground features and the arroyo/treatment wetlands would not interfere or conflict with the reason that the park was designated as a LAHCM. Therefore, Alternative 2 would not result in a substantial adverse change in the significance of MacArthur Park. Several of the historic or potentially historic buildings on 7th Street near Lake Street identified in Section 4.3, *Cultural Resources,* are located in proximity to proposed Alternative 2 construction activities. In addition, there are historic or potentially historic buildings on Alvarado Street that are located in proximity to Alternative 2 construction activities. However, as with the proposed project, none of these historic resources would be directly affected by the proposed project. For these reasons, Alternative 2 would not result in a substantial adverse change in the significance of any historical resources and impacts on historical resources would be ***less than significant.***

As discussed in Section 4.3.3.2, no previously recorded archaeological sites or isolates are located on, or within 0.25 mile of, the cultural resource study area, which generally includes the Alternative 2 project site. However, the potential exists for previously unknown archaeological resources to be encountered during construction. As also mentioned in Section 4.3.3.2, several vertebrate fossil localities have been identified within MacArthur Park, although, where the depth of the find was recorded, the localities were found at depths that would far exceed excavation that would occur with implementation of Alternative 2. Nevertheless, as with archaeological resources, Alternative 2 would have the potential to directly or indirectly destroy a unique paleontological resource or site. Mitigation measures identified for the proposed project would apply to Alternative 2. Specifically, Mitigation Measures MM-CR-1 and MM-CR-2 would address the potential for impacts to archaeological resources and Mitigation Measures MM-CR-3 and MM-CR-4 would address the potential for impacts to paleontological resources. With implementation of these mitigation measures, impacts related to archaeological and paleontological resources under Alternative 2 would be ***less than significant***.

As discussed in Section 4.3.5.1.1., the proposed project would not affect any Heritage trees located within MacArthur Park. However, as described in Section 5.4.3.2.2 above, under Alternative 2, implementation of the arroyo and treatment wetlands may affect a number of Heritage trees and common park trees located in the southwestern portion of the park. LASAN would comply with the requirements of RAP's Urban Forest Program and/or Tree Preservation Policy. Therefore, impacts on Heritage trees as a historical resource would be ***less than significant***.

5.4.3.2.4 Greenhouse Gases

Alternative 2 would require construction activities that would be comparable in magnitude and duration to those of the proposed project. Construction of Alternative 2 would differ from that of the proposed

project in that it would occur in a different portion of MacArthur Park, with construction activities and roadway work occurring primarily within or adjacent to Alvarado Street and 7th Street instead of Lake Street, Grand View Street, and 7th Street. Because Alternative 2 would require the same general construction activities as the proposed project, total construction-related GHG emissions under Alternative 2 would be comparable to those of the proposed project. During operations, Alternative 2 would require the operation of various pumps. The recirculation pump associated with Alternative 2 would be larger than those associated with the proposed project, which would result in marginally higher GHG emissions. Maintenance activities associated with Alternative 2 would be comparable to those of the proposed project. Overall, operational GHG emissions under Alternative 2 would be comparable to those of the proposed project. Thus, the combined operations and amortized construction GHG emissions of Alternative 2 would be similar to the GHG emissions of the proposed project (i.e., approximately 32 metric tons carbon dioxide equivalent [$MTCO_2e$]). The anticipated combined GHG emissions would be well below the SCAQMD significance threshold of 10,000 $MTCO_2e$ per year. Therefore, impacts of Alternative 2 with respect to GHG emissions would be ***less than significant***.

As noted above, construction and operation of Alternative 2 would be very similar to the proposed project. As with the proposed project, Alternative 2 would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing the emissions of GHGs. Thus, Alternative 2 would have a ***less than significant impact***.

5.4.3.2.5 Hydrology and Water Quality

As described in Section 5.4.2.2, Alternative 2 would operate similarly to the proposed project. While some of the design features of the alternative would vary slightly–for example, Alternative 2 would include an arroyo that is not part of the proposed project–most of the project components would be the same, and the treatment pathways would be similar. As with the proposed project, under Alternative 2, a portion of the captured urban stormwater would be diverted into MacArthur Park Lake for storage. However, in a departure from the proposed project, after passing through the pretreatment unit, water would be circulated through the arroyo and treatment wetlands before entering MacArthur Park Lake. (Under the proposed project, water from the pretreatment unit and stormwater treatment unit would be discharged directly to the lake; subsequently, lake water would be recirculated through a water feature). Due to the rate of stormwater flows through these features, this is not expected to materially alter water quality discharges to the lake compared to the proposed project. Alternative 2 would capture urban stormwater from a smaller drainage area as compared to the proposed project. Therefore, this alternative may introduce a lower volume of treated stormwater into the lake during smaller storm events. For these reasons, it is possible that fewer nutrients would be added to the lake under Alternative 2 as compared to the proposed project, although any difference is expected to be negligible. Additionally, as explained in Section 4.5.5, introduction of stormwater to the lake under the proposed project is not expected to substantially degrade surface water quality in the lake. For these same reasons, Alternative 2 would not be expected to substantially degrade surface water quality in the lake and operation of Alternative 2 would have a ***less than significant impact*** on lake water quality.

Similar to the proposed project, Alternative 2 would have a ***beneficial impact*** on water quality in Ballona Creek as this alternative would retain some of the captured urban stormwater, which would remain in MacArthur Lake or be discharged to the sanitary sewer, and it would treat and release the remaining

captured urban stormwater prior to discharging it back to the storm drain system. However, because Alternative 2 would capture water from a smaller drainage area (i.e., 185 acres instead of 200 acres, a decrease of 7.5 percent), the beneficial impact would be reduced compared to the proposed project.

As discussed in Section 4.5.3.1.3, applicable water quality control plans for Ballona Creek include the LA Basin Plan and the Ballona Creek WMP. Per the Ballona Creek WMP, Alternative 2 is considered a regional control measure, or centralized facility, intended to treat large volumes of stormwater runoff from upstream areas to achieve require pollutant reductions.[279] Furthermore, as mentioned above, Alternative 2 would have a beneficial impact on water quality in Ballona Creek. Thus, Alternative 2 would not conflict with or obstruct implementation of the LA Basin Plan or the Ballona Creek WMP. Rather, because Alternative 2 would improve water quality in the Ballona Creek watershed and would be considered a control measure in the Ballona Creek WMP, it would support implementation of the LA Basin Plan and the Ballona Creek WMP, resulting in a ***beneficial impact***.

5.4.3.2.6 Noise and Vibration

As discussed in Section 4.6.5, the proposed project would have significant and unavoidable temporary impacts related to construction equipment noise and vibration-related human annoyance, even with implementation of mitigation measures. In addition, construction of the proposed project would cause significant but mitigable impacts to several structures due to vibration during construction.

Under Alternative 2, construction would be similar in scope to the proposed project, except that it would occur in a different portion of MacArthur Park and along different roadways (i.e., Alvarado Street and 7th Street instead of Lake Street, Grand View Street, and 7th Street). Generally, under Alternative 2, the following construction elements would be required:

- Installation of a diversion structure and other supporting infrastructure in Alvarado Street just south of the intersection of Alvarado Street and Wilshire Boulevard (utilizing equipment similar to the equipment assumed for Lake Street construction activity analyzed under the proposed project)
- Installation of stormwater conveyance pipes in the roadway and/or sidewalk of Alvarado Street (utilizing equipment similar to the equipment assumed for Grand View Street construction activity analyzed under the proposed project)
- Installation of stormwater conveyance pipes in the roadway and/or sidewalk of 7th Street (utilizing equipment similar to the equipment assumed for Grand View Street construction activity analyzed under the proposed project)
- Installation of stormwater conveyance pipes in the roadway of Lake Street (utilizing equipment similar to the equipment assumed for Grand View Street construction activity analyzed under the proposed project)
- Installation of auxiliary treatment structures and stormwater conveyance pipes within MacArthur Park (utilizing equipment similar to the equipment assumed for MacArthur Park [Treatment Structures] construction activity analyzed under the proposed project)

[279] Ballona Creek Watershed Management Group. Watershed Management Program for the Ballona Creek Watershed. January 2016. Amended February 2021, June 2021, and July 2023.

- Installation of primary treatment structures (treatment wetlands and arroyo) within MacArthur Park (utilizing equipment similar to the equipment assumed for MacArthur Park [Treatment Wetlands] construction activity analyzed under the proposed project)

The impacts of these activities on construction noise and vibration are discussed below.

Construction Traffic Noise Impacts

Construction of Alternative 2 would not be expected to result in construction traffic that would meaningfully differ from that of the proposed project. Therefore, as with impacts associated with the proposed project, impacts under Alternative 2 relative to ambient noise levels associated with construction traffic at the property line of noise-sensitive uses would be ***less than significant***.

Construction Equipment Noise Impacts

Construction of Alternative 2 would be generally similar in scope and utilize similar equipment as comparable construction elements of the proposed project. Due to the different location within the park, however, construction noise impacts associated with Alternative 2 would differ from those of the proposed project. Noise levels from operation of construction equipment were estimated using the methodology presented in Section 4.6.2.2.

The proposed project would require construction activity on Alvarado Street, 7th Street, and Lake Street, and within MacArthur Park. **Table 5-2** presents noise impacts of Alternative 2 construction activities at the nearest Alternative 2 impacted receptors to the north, east, and south of the Alternative 2 site; to unhoused populations residing within MacArthur Park; and to receptors N6, N9, N10, and N12 (which are the receptors associated with the proposed project that would also be affected by noise and/or vibration associated with Alternative 2). Receptor numbers correspond to Figure 4.6-1 in Section 4.6, *Noise and Vibration*. The construction-related noise levels presented in Table 5-2 do not account for noise reduction/attenuation from any intervening structures. Detailed calculations of the Alternative 2 construction equipment noise impacts are presented in **Appendix F** of this EIR.

As demonstrated in Table 5-2 above, construction of Alternative 2 would avoid the otherwise significant and unavoidable noise impacts to receptors N1 through N5, N7, N8, and N11 that would occur under the proposed project (receptor locations are shown in Figure 4.6-1 in Section 4.6, *Noise and Vibration*). Due to the geographic location of Alternative 2, construction noise impacts to receptor N6 (MacArthur Park Elementary School) would be substantially reduced both in maximum noise level and in duration as compared to the proposed project. Noise impacts to receptors N9 and N10 (Cristo Salva Bilingual Church and La Viña en Los Angeles church, respectively) would be substantially reduced only in the maximum noise levels (i.e., duration of construction noise impacts would be similar). However, construction of Alternative 2 would result in new significant noise impacts to a variety of noise-sensitive receptors in the vicinity of the park, including the Park Wilshire Apartments (200 Wilshire Avenue), the Parkview on the Park Senior Apartments (626 Alvarado Street), the multi-family residence at 622 Alvarado Street, the MPM Apartments (681 Bonnie Brae Street), and upper-story residences at 718 Alvarado Street through 724 Alvarado Street.

Table 5-2 Construction Equipment Noise Levels at the Nearest Noise-Sensitive Receptors under Alternative 2[1]

ID	Noise-Sensitive Use	Distance from Loudest Construction Activity (feet)	Construction Element	8-Hour Construction Noise Level at the Receptor (dBA)	Daytime Unmitigated L_{eq} (Construction + Existing Ambient)[2] (dBA)	Daytime Unmitigated Increase over Existing Ambient (dBA)	Increase Exceeds 5 dBA Threshold?
N6	MacArthur Park Elementary School	290	7th Street; MacArthur Park	70	70	10	**Yes**
N9	Cristo Salva Bilingual Church	165	7th Street; MacArthur Park	75	75	15	**Yes**
N10	La Viña en Los Angeles (Church)	200	7th Street; Lake Street; MacArthur Park	73	74	14	**Yes**
N12	MacArthur Park visitors	630	Alvarado Street near the intersection of Wilshire Boulevard; Alvarado Street; 7th Street; Lake Street; MacArthur Park	—[3]	—[3]	—[3]	**Yes[3]**
--	Nearest Receptor north of Alternative 2 Site (multi-family residence at 622 Alvarado Street)	335	Alvarado Street near the intersection of Wilshire Boulevard; Alvarado Street; MacArthur Park	69	70	10	**Yes**
--	Nearest receptor east of Alternative 2 site (MPM Apartments at 681 Bonnie Brae Street)	475	Alvarado Street near the intersection of Wilshire Boulevard; Alvarado Street; MacArthur Park	66	67	7	**Yes**
--	Nearest receptor south of Alternative 2 site (upper-story residences at 718 Alvarado Street)	265	Alvarado Street; 7th Street; Lake Street; MacArthur Park	71	71	11	**Yes**
--	Northeast park unhoused population[4]	180	Alvarado Street near the intersection of Wilshire Boulevard; Alvarado Street; MacArthur Park	75	75	15	**Yes**

Source: **Appendix F** of this EIR; City of Los Angeles. *L.A. CEQA Thresholds Guide*. 2006. Available: https://planning.lacity.org/odocument/cc8fb2f5-dc6c-47f1-bfc3-864b84621abb/CEQAThresholdsGuide.pdf.

Notes:

[1] In addition to the nearest noise-sensitive receptors included in this table, Alternative 2 would result in new significant noise impacts to other residential receptors in the project area, although the increases in construction noise at these receptors would be less than those at the receptors included in the table. These receptors are identified in the text.

[2] Existing daytime ambient noise level for entire project area (i.e., at all noise-sensitive uses) is conservatively estimated at 60 dBA consistent with the L.A. Noise Ordinance presumed noise levels, even though actual background noise levels may be higher in portions of the project area.

Table 5-2 Construction Equipment Noise Levels at the Nearest Noise-Sensitive Receptors under Alternative 2[1]

ID	Noise-Sensitive Use	Distance from Loudest Construction Activity (feet)	Construction Element	8-Hour Construction Noise Level at the Receptor (dBA)	Daytime Unmitigated L_{eq} (Construction + Existing Ambient)[2] (dBA)	Daytime Unmitigated Increase over Existing Ambient (dBA)	Increase Exceeds 5 dBA Threshold?

[3] Because construction would occur within MacArthur Park, certain areas of the park would be louder than others during different elements of Alternative 2 construction. The distance from the loudest construction activity presented (i.e., 630 feet) represents the distance within which all parkgoers would experience significant noise impacts during the loudest portion of Alternative 2 construction.

[4] Northeast park unhoused population refers to all unhoused individuals residing within the portion of MacArthur Park nearest to project construction activities. This area extends throughout the portion of the park bounded by Alvarado Street, 6th Street between Alvarado Street and Lake Street, and Wilshire Boulevard. During project construction, portions of the park in the immediate vicinity of project construction would be closed, and the unhoused would be relocated to another area of the park or to off-site housing.

Key: dBA = A-weighted sound level in decibels; L_{eq} = equivalent noise level

As with the proposed project, Alternative 2 would result in significant noise impacts to park users (receptor N12). The portions of the park that would be subject to the highest noise levels would be closed during construction; closed portions of the park would not be affected by construction noise. However, because Alternative 2 would occur in a busier portion of the park, it is anticipated that construction noise associated with this alternative would affect a greater number of users in portions of the park that would remain open during construction compared to the proposed project. Unhoused populations residing in the southeast portion of MacArthur Park (receptor N11) would be relocated under Alternative 2. However unhoused populations residing in the northeast portion of MacArthur Park (i.e., the eastern half of the park north of Wilshire Boulevard) would be impacted by project construction noise under Alternative 2 construction similar to impacts to unhoused populations in the southeast portion of the park under the proposed project. In addition, the Westlake/MacArthur Park Metro station (directly across Alvarado Street from the site) and the sidewalks on both the east and west sides of Alvarado Street are highly utilized by the local community, including street vendors. These uses are not considered to be noise-sensitive receptors (as defined in Section 4.6.2.2); they are discussed herein for informational purposes only. The pedestrians and street vendors along Alvarado Street, which would not be affected under the proposed project, would be subject to noise from Alternative 2 construction. Unlike impacts to residents, businesses, and institutional uses, whose structures would provide noise reduction/attenuation, these receptors are located outside. However, these receptors are currently subject to high levels of noise from Alvarado Street and surrounding activities; therefore, noise associated with Alternative 2 would not be as noticeable as it would be in quieter areas of the park.

In summary, while Alternative 2 would avoid or substantially reduce certain construction noise impacts associated with the proposed project, it would do so at the expense of noise impacts to different noise-sensitive receptors elsewhere in the vicinity of MacArthur Park. Due to the location of Alternative 2 within and adjacent to the busy Alvarado Street and the more heavily utilized areas of the park, and the fact that noise experienced by outdoor receptors such as pedestrians and street vendors would not be reduced/attenuated by structures, it is anticipated that a greater number of people would be adversely affected by construction noise for a longer duration of time as compared to the proposed project. Similar to the proposed project, construction noise impacts under Alternative 2 would be mitigated by MM-NV-1, but not to a level that would be expected to be less than significant after application of the mitigation measure. Overall, as with the proposed project, impacts relative to construction equipment noise under Alternative 2 would remain ***significant and unavoidable***.

Construction Equipment Structural Vibrations

As described above, construction of Alternative 2 would be similar in scope and utilize similar equipment as comparable construction elements of the proposed project. Due to the different location within the park however, construction-related structural vibration impacts associated with Alternative 2 would differ from those of the proposed project. Vibration levels from operation of construction equipment were estimated using the methodology presented in Section 4.6.2.3.

Construction of Alternative 2 would avoid the otherwise significant but mitigable vibration impacts to receptors S2 and S6 (building at 2228 7th Street and La Viña en Los Angeles Church, respectively) that would occur under the proposed project, and would substantially reduce significant but mitigable

structural vibration impacts to receptors S4 and S5 (Southern California Surgery Center and Jimenez Arcade, respectively) both in maximum vibration level and in duration. However, construction of Alternative 2 would result in a new significant structural vibration impact to the building located at 658 Alvarado Street. This structure, which would not be significantly impacted under the proposed project, would be impacted by vibrations from Alternative 2 construction. **Table 5-3** presents structural vibration impacts of Alternative 2 construction activities at those receptors for which structural vibration impacts would be significant under the proposed project and at new structures in the vicinity of Alternative 2 construction.

Table 5-3 Structural Vibration Levels at Vibration Susceptible Buildings under Alternative 2

ID	Construction Area	Maximum Vibration (PPV) (in./sec)	Construction Element	Building Category	Threshold for Building Type (PPV) (in./sec)	Exceeds Threshold ?
S2	Building located at 2228 7th Street	0.07	7th Street	Fragile Structures	0.10	No
S4	Southern California Surgery Center	0.29	Lake Street	Fragile Structures	0.10	**Yes**
S5	Jimenez Arcade	0.16	Lake Street	Fragile Structures	0.10	**Yes**
S6	La Viña en Los Angeles (Church)	0.02	Lake Street	Fragile Structures	0.10	No
--	Building located at 658 Alvarado Street	0.83	Alvarado Street near the intersection of Wilshire Boulevard	Fragile Structures	0.10	**Yes**

Sources: **Appendix F** of this EIR; California Department of Transportation. Transportation and Construction Vibration Guidance Manual. April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

Key: in. = inch; PPV = peak particle velocity; sec = second

While Alternative 2 would avoid or substantially reduce certain structural vibration impacts associated with the proposed project, it would do so at the expense of new structural vibration impacts elsewhere in the vicinity of MacArthur Park. Similar to the proposed project, structural vibration impacts under Alternative 2 would be mitigated to a less than significant level after the application of mitigation measures (i.e., MM-NV-2). Overall, as with the proposed project, impacts relative to structural vibration under Alternative 2 would be ***less than significant***.

Construction Equipment Vibration Annoyance

As previously described, construction of Alternative 2 would be similar in scope and utilize similar equipment as comparable construction elements of the proposed project. Due to the different location within the park however, construction vibration annoyance impacts associated with Alternative 2 would differ from those of the proposed project. Vibration levels from operation of construction equipment were estimated using the methodology presented in Section 4.6.2.3.

As with the proposed project, construction of Alternative 2 would result in significant and unavoidable vibration annoyance impacts to MacArthur Park visitors. However, construction of Alternative 2 would avoid the otherwise significant and unavoidable vibration annoyance impacts to receptors A6, A8, and

A10 (MacArthur Park Elementary School, Grand View Street residences, and La Viña en Los Angeles Church, respectively) that would occur under the proposed project. Construction of Alternative 2 would not result in significant vibration annoyance impacts to any new sensitive receptors in the vicinity of the construction site. **Table 5-4** presents vibration annoyance impacts of Alternative 2 construction activities at those receptors for which vibration annoyance impacts would be significant under the proposed project and at new sensitive receptors in the vicinity of the Alternative 2 construction site.

Table 5-4 Vibration Annoyance Levels at Vibration-Sensitive Uses under Alternative 2

ID	Construction Area	Maximum Vibration Impact	Construction Element	Threshold (PPV) (in./sec)	Exceeds Threshold?
A6	MacArthur Park Elementary School	0.01 PPV (in./sec)	7th Street	0.04	No
A8	714-760 Grand View Street Residences	0.01 PPV (in./sec)	7th Street	0.04	No
A10	La Viña en Los Angeles	0.01 PPV (in./sec)	Lake Street	0.04	No
A12	MacArthur Park visitors	>0.04 PPV (in./sec) within 43 feet of in-park construction and >0.04 PPV (in./sec) within 75 feet of park-adjacent roadway or sidewalk construction[1]	Alvarado Street near the intersection of Wilshire Boulevard; Alvarado Street; 7th Street; Lake Street; MacArthur Park	0.04	**Yes**
--	Nearest Receptor North of Alternative 2 Site (multi-family residence at 622 S. Alvarado Street)	<0.01 PPV (in./sec)	Alvarado Street near the intersection of Wilshire Boulevard	0.04	No
--	Nearest Receptor East of Alternative 2 Site (MPM Apartments)	<0.01 PPV (in./sec)	Alvarado Street	0.04	No
--	Nearest Receptor South of Alternative 2 Site (Upper-story residences at 718 Alvarado Street)	<0.01 PPV (in./sec)	Alvarado Street	0.04	No
--	Northeast Park Unhoused Population[3]	<0.01 PPV (in./sec)	Alvarado Street near the intersection of Wilshire Boulevard	0.04	No

Sources: **Appendix F** of this EIR; California Department of Transportation. Transportation and Construction Vibration Guidance Manual. April 2020. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

Note:

[1] Construction activities on 7th Street and on Alvarado Street adjacent to MacArthur Park associated with the 7th Street, Alvarado Street, and Lake Street construction elements would result in significant vibration annoyance impacts to parkgoers in areas of the park not closed for construction and up to 75 feet from the construction area. Construction activities within MacArthur Park would result in significant vibration annoyance impacts to parkgoers in areas of the park not closed for construction and up to 43 feet from the construction area.

Key: in. = inch; PPV = peak particle velocity; sec = second

In summary, while Alternative 2 would avoid certain vibration annoyance impacts associated with the proposed project and would not result in impacts to new sensitive receptors, construction of Alternative 2 would result in significant impacts to MacArthur Park visitors similar to those associated with the proposed project. As with the proposed project, construction vibration impacts under Alternative 2 would be mitigated by MM-NV-2, but not to a level that would be expected to be less than significant after application of the mitigation measure. Overall, as with the proposed project, impacts relative to vibration annoyance under Alternative 2 would remain ***significant and unavoidable***.

5.4.3.2.7 Tribal Cultural Resources

Alternative 2 would have similar impacts to tribal cultural resources as the proposed project, as Alternative 2 project components would be constructed in the same general location as the proposed project. As with the proposed project, the impacts of Alternative 2 on tribal cultural resources would be ***less than significant***. Nevertheless, the City would grant a request to have a monitor onsite to observe ground disturbing activities for tribal cultural resources.

5.4.4 Environmentally Superior Alternative

Section 15126.6(e)(2) of the State CEQA Guidelines indicates that an analysis of alternatives to a proposed project shall identify an environmentally superior alternative among the alternatives evaluated in an EIR. The State CEQA Guidelines also state that, should it be determined that the No Project Alternative is the environmentally superior alternative, the EIR shall identify another environmentally superior alternative among the remaining alternatives. With respect to identifying an environmentally superior alternative among those analyzed in this EIR, the range of alternatives includes Alternative 1: No Project and Alternative 2: Alvarado Street.

A summary of significant impacts associated with the proposed project is provided in Section 5.2 above. As detailed in that section, construction of the proposed project would result in significant and unavoidable temporary impacts related to construction equipment noise and vibration-related human annoyance, even with the implementation of mitigation measures. Short-term vibration impacts on nearby structures would be significant but mitigable. The potential environmental impacts associated with the two project alternatives are evaluated in Section 5.4.3 above. Pursuant to Section 15126.6(c) of the State CEQA Guidelines, the analyses address the ability of the alternatives to "avoid or substantially lessen one or more of the significant effects" of the project.

Alternative 1 (the No Project Alternative) would completely avoid the significant impacts related to construction noise and construction-related vibration annoyance, which would otherwise be unavoidable under the proposed project. As such, Alternative 1 is the environmentally superior alternative.

With respect to construction noise and vibration, Alternative 2 (Alvarado Street) would avoid or substantially lessen significant impacts to certain receptors specifically affected by the proposed project's construction program. However, the avoidance of those significant impacts would be offset by significant noise and structural vibration impacts to new receptors associated with the Alternative 2 construction program. With respect to construction-related vibration annoyance, while the alternative would avoid significant impacts to certain receptors (namely, the MacArthur Park Elementary School, residences on Grand View Street, and the La Viña en Los Angeles Church), Alternative 2 would have significant and unavoidable impacts to MacArthur Park visitors, as would the proposed project. As

discussed in Section 4.6.5, construction vibration annoyance impacts to MacArthur Park Elementary School and the residences on Grand View Street from the proposed project, which would be avoided by Alternative 2, would be of very short duration (i.e., 3 to 6 weeks).

Based on the above, Alternative 1 (the No Project Alternative) is considered to be the environmentally superior alternative by completely avoiding the significant impacts of the proposed project. Alternative 2 is the next best environmentally superior alternative. While Alternative 2 would not avoid any of the overall significant impacts of the proposed project, it would avoid significant, and in some cases unavoidable, impacts to certain noise- and/or vibration-sensitive receptors that would otherwise occur under the proposed project.

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Chapter 6

Other Environmental Considerations

6.1 Significant Unavoidable Impacts

Section 15126.2(c) of the State CEQA Guidelines requires that an EIR describe significant environmental impacts that cannot be avoided, including impacts that can be mitigated but not reduced to a less than significant level. Based on the analysis of the environmental topics in Chapter 4, *Environmental Impact Analysis,* of this EIR, the MacArthur Lake Stormwater Capture Project would result in significant and unavoidable impacts related to construction equipment noise and human annoyance impacts from construction vibration, as summarized below.

Noise and Vibration

- Construction of the project elements in Lake Street, Grand View Street, and MacArthur Park would result in temporary elevated noise levels during construction. Even with implementation of Mitigation Measure MM-NV-1, construction equipment noise impacts would be ***significant and unavoidable***. There are no other feasible means to mitigate construction equipment noise impacts associated with the proposed project.
- Construction of the project elements in Lake Street, Grand View Street, and MacArthur Park would result in increased vibration levels during construction, in particular related to excavation and material movement, paving, and truck loading activities. Vibration levels at nearby sensitive receptors would exceed the vibration significance thresholds for human annoyance. Mitigation Measure MM-NV-2 would reduce potential vibration impacts; however, construction vibrations could still exceed the significance threshold for vibration annoyance at some sensitive receptors after mitigation, which would be a ***significant and unavoidable impact***. There are no other feasible means to mitigate human annoyance impacts associated with project construction.
- Construction of a number of other projects in the vicinity of the proposed project could occur concurrently with the proposed project. Construction equipment noise and human annoyance vibration impacts from these projects, in combination with the proposed project, could result in significant, cumulative noise and human annoyance impacts at nearby noise-sensitive receptors, resulting in a significant cumulative impact. Mitigation Measures MM-NV-1 and MM-NV-2 would reduce project-related construction equipment noise and construction vibration human annoyance impacts, respectively; however, even with implementation of mitigation measures, these impacts may remain significant and the project's contribution to significant cumulative equipment noise and human annoyance vibration impacts could remain ***cumulatively considerable***.

6.2 Significant Irreversible Environmental Changes

According to the State CEQA Guidelines, an EIR is required to evaluate significant irreversible environmental changes and any irretrievable commitment of resources that would be caused by implementation of the proposed project to assure consumption of such resources is justified. Specifically, as stated in CEQA Guidelines Section 15126.2(d):

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The proposed project would commit a small portion of MacArthur Park (approximately 0.2 acre) that currently consists primarily of grass and trees for use as a water feature. However, the water feature would provide passive recreational enjoyment to park users, which is consistent with the park's purpose. The remaining project components would be largely underground and would not result in a new commitment of land.

Construction of the proposed project would require the commitment of resources such aggregate (sand and gravel), metals (e.g., steel, copper, lead), petrochemical construction materials (e.g., plastics), and water. Construction and operation of the proposed project would also require energy resources such as electricity, natural gas, and various transportation-related fuels. This would result in a loss of slowly-renewable and non-renewable resources that are generally not retrievable. Non-renewable resources, such as natural gas; petroleum products; asphalt; petrochemical construction materials; steel, copper, and other metals; and sand and gravel are considered to be commodities that are available in finite supplies. The processes that created these resources occurred over a long period. Therefore, replacement of these resources would not occur over the life of the project.

The proposed project would comply with all regulatory requirements related to resource efficiency (fuels, electricity, natural gas, and water) during construction and operation, such as Title 24 energy standards, the California Green Building Standards Code (CALGreen), and the City of Los Angeles Green Building Code. As evaluated and discussed in the Initial Study (Section 4, Issue VI, *Energy*, and Issue XIX, *Utilities and Service Systems*) the project's impacts on energy and water resources would be less than significant. Further, since the proposed project would capture and divert a portion of urban stormwater into MacArthur Lake, it would reduce the amount of potable water used to fill MacArthur Lake, resulting in a commensurate reduction in energy consumption that would have been required to transport that water.

Based on the above, the use of non-renewable resources from construction and operation of the proposed project would not result in significant irreversible effects on the environment.

6.3 Growth Inducing Impacts

Section 15126.2(e) of the State CEQA Guidelines requires an EIR to discuss the growth inducing impacts of a proposed project. An EIR must discuss the ways in which a project could directly or indirectly foster economic or population growth or the construction of additional housing in the surrounding environment. Growth inducing impacts include the removal of obstacles to population growth, as well as population growth that requires new community service facilities, the construction of which could cause significant environmental effects. Characteristics of a project that may encourage or facilitate other activities that could have a significant environmental effect either individually or cumulatively must also be discussed. Also, growth must not be assumed to be beneficial, detrimental, or of little significance to the environment.

As discussed in the Initial Study (Section 4, Issue XIV, *Population and Housing)*, the proposed project would not include any temporary or permanent residential development that would directly induce population growth through the construction of housing. Moreover, the proposed project would not include the development of population-generating uses or infrastructure that would directly encourage such uses. The project would not involve the extension of roads or other infrastructure into undeveloped areas or eliminate any obstacles that could result in new population growth. Therefore, the proposed project would not directly or indirectly induce population growth.

The proposed project would create a small number of new short-term construction-related employment opportunities. The construction jobs would be temporary and would end when project construction is completed. Short-term employees are expected to come from the existing large labor pool within the Los Angeles area and would not result in new workers relocating to the area. The proposed project would not create new long-term employment opportunities. Maintenance of the stormwater capture system after completion of project construction would be performed by City employees and would not require additional staffing. Therefore, no increase in population from new employment opportunities would be triggered by implementation of the proposed project.

Construction of the proposed project could indirectly increase earnings to businesses and households in the area. For example, temporary construction workers could incrementally increase sales activity at nearby retail establishments. Although a localized increase in spending may support businesses, this spending would represent a negligible fraction of overall spending that occurs in a highly urbanized area with a large and integrated economy and local workforce; any increase in business or household earnings as an indirect consequence of the proposed project would not be measurable.

In summary, the proposed project would not directly or indirectly induce population, housing, employment, or economic growth.

6.4 Effects Not Found to be Significant

Section 15128 of the State CEQA Guidelines requires that an EIR briefly indicate the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. The Initial Study for the proposed project, included as **Appendix A** of this EIR, determined, for the reasons explained therein, that the proposed project would result in no impact, or less than significant impacts, on the following resource areas: aesthetics, agriculture and forestry resources, air quality (from project operation), cultural resources (from project operation), energy,

geology and soils (excluding paleontological resources from construction, which are addressed in this EIR as part of the cultural resources analysis), hazards and hazardous materials, land use and planning, mineral resources, noise (from project operation), population and housing, public services, recreation, transportation, tribal cultural resources (from project operation), utilities and service systems, and wildfire.

Chapter 7

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Chapter 8

Acronyms and Abbreviations

AADT	annual average daily traffic
AB	Assembly Bill
ADA	Americans with Disabilities Act
AEP	Association of Environmental Professionals
AF	acre feet
AFY	acre feet per year
APRMI	ArchaeoPaleo Resource Management, Inc.
AQMP	Air Quality Management Plan
BCWMG	Ballona Creek Watershed Management Group
BERD	Built Environment Resource Directory
BMP	best management practice
C2	Commercial Zone
CAA	(Federal) Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CRHR	California Register of Historical Resources
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officer's Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH_4	methane
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level

CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPHI	California Points of Historical Interest
CWA	Clean Water Act
dB	decibels
dBA	A-weighted sound level
DEIR	Draft Environmental Impact Report
DNL	day/night noise level
EIR	Environmental Impact Report
EIS	environmental impact statement
EMFAC	Emission Factor Estimator Model
ESA	(Federal) Endangered Species Act
EWMP	Enhanced Watershed Management Program
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GCC	Global Climate Change
GHG	greenhouse gas
gpm	gallons per minute
GSI	Green Stormwater Infrastructure
GWP	Global Warming Potential
H_2S	hydrogen sulfide
HFC	hydrofluorocarbon
hp	horsepower
HWRP	Hyperion Water Reclamation Plant
Hz	hertz
ICLEI	International Council for Local Environmental Initiatives
IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
kW	kilowatt
LACFCD	Los Angeles County Flood Control District
LADOT	City of Los Angeles Department of Transportation
LADWP	City of Los Angeles Department of Water and Power
LAHCM	Los Angeles Historic-Cultural Monument
LAMC	City of Los Angeles Municipal Code
LANI	Los Angeles Neighborhood Initiative

LARWQCB	Los Angeles Regional Water Quality Control Board
LASAN	City of Los Angeles Department of Public Works, Bureau of Sanitation and Environment
LCFS	Low-Carbon Fuel Standards
L_{eq}	equivalent sound level
LED	light emitting diode
LEV	Low Emission Vehicle
LFTF	Low Flow Treatment Facility
LGOP	Local Government Operations Protocol
LID	Low Impact Development
LST	Localized Significance Threshold
MBTA	Migratory Bird Treaty Act
Metro	Los Angeles County Metropolitan Transportation Authority
mgd	million gallons per day
MH	maintenance hole
MM	Mitigation Measure
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
$MTCO_2e$	metric tons of carbon dioxide equivalent
MS4	Municipal Separate Storm Sewer System
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPRM	Notice of Proposed Rulemaking
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O_3	ozone
O&M	operation and maintenance
OHP	Office of Historic Preservation
OPR	Office of Planning and Research
Pb	lead
PFC	perfluorocarbon

pLAn	City of Los Angeles Sustainability Plan
PM	particulate matter
$PM_{2.5}$	PM less than 2.5 microns in aerodynamic diameter (fine PM)
PM_{10}	PM less than 10 microns in aerodynamic diameter
PPV	peak particle velocity
R4	Multiple Dwelling Zone
RAP	Department of Recreation and Parks
RCNM	Roadway Construction Noise Model
RMS	root mean square
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel-Efficient
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCWP	Safe Clean Water Program
SEA	significant ecological area
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SLF	Sacred Lands File
SO_2	sulfur dioxide
SO_3	sulfur trioxide
SoCAB	Southern Coast Air Basin
SO_X	sulfur dioxide
SRA	source receptor area
StreetsLA	City of Los Angeles Department of Public Works, Bureau of Street Services
SWMP	Storm Water Management Plan
SWRCB	State Water Resources Control Board
TCR	The Climate Registry
TMDL	Total Maximum Daily Load
TNM	Traffic Noise Model
tpy	tons per year
TPZ	Tree Protection Zone
UNFCCC	United Nations Framework Convention on Climate Change
USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USEPA	U.S. Environmental Protection Agency

USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound
WHO	World Health Organization
WMP	Watershed Management Program
WRI	World Resources Institute
ZEV	Zero Emission Vehicle

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Chapter 9

Organizations and Persons Consulted/References

9.1 Organizations and Persons Consulted

State

Native American Heritage Commission

Native American Tribes

Fernandeño Tataviam Band of Mission Indians

Gabrieleño Band of Mission Indians – Kizh Nation

Gabrielino/Tongva Nation

Gabrielino/Tongva San Gabriel Band of Mission Indians

Gabrielino Tongva Indians of California Tribal Council

Gabrielino-Tongva Tribe

San Fernando Band of Mission Indians

Soboba Band of Luiseño Indians

Torres Martinez Desert Cahuilla Indians

Regional

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City of Los Angeles, Council District 1

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City of Los Angeles Department of Recreation and Parks

City of Los Angeles Department of Transportation

Organizations

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