



STATE CLEARINGHOUSE No. 2019011053

**LOS ANGELES ZOO VISION PLAN PROJECT
FOCUSED RECIRCULATED
ENVIRONMENTAL IMPACT REPORT**

PREPARED FOR:

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**Wood Environment & Infrastructure Solutions, Inc.
Los Angeles Zoo Vision Plan Project
Focused Recirculated Environmental Impact Report. July 2022.
Prepared for the City of Los Angeles, Los Angeles, CA.**

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1.0 INTRODUCTION

The Final Environmental Impact Report (EIR) for the Los Angeles Zoo Vision Plan (Project; Vision Plan) was previously prepared by the City of Los Angeles (City), Public Works Department, Bureau of Engineering (BOE) and published in June 2021. Focused sections of the Final EIR have been revised to address a new project alternative that was prepared in response to public comments received by the City and Los Angeles Zoo and Botanical Gardens (Zoo).

The City is the Lead Agency for the proposed Project, pursuant to Section 15367 of the CEQA Guidelines. This Focused Recirculated EIR has been prepared by and under the direction of the City. This EIR was prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.); the Guidelines for the Implementation of the California Environmental Quality Act (CEQA Guidelines) (California Code of Regulations Sections 15000 et seq.); and the City's environmental guidance documents (i.e., Los Angeles City CEQA Guidelines and L.A. CEQA Thresholds Guide: Your Resource for Preparing CEQA Analyses in Los Angeles).

Pursuant to the CEQA Guidelines, Section 15088.5(a), the City is required to recirculate an EIR when significant new information is added after public review of the Draft EIR but before certification. Significant new information can include changes in the project or environmental setting, as well as additional data or other information. New information added to an EIR is not significant unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse effect of the project or a feasible way to mitigate or avoid such an effect (including feasible alternatives).

Pursuant to CEQA Guidelines, Section 15088.5(c), if the revision is limited to a few chapters or portions of the EIR, the City need only recirculate the chapters or portions that have been modified. In accordance with CEQA, this Focused Recirculated EIR comprises the portions of the EIR that have been revised to include new information and are being recirculated for public review, including:

- Section 1.0, *Introduction*: Expanded description of the recirculated portions of the EIR, including the public review process.
- Section 4.0, *Alternatives*: Expanded to include a description and analysis of Alternative 1.5, the California Focused Conservation Alternative.
- EIR Appendix O, *Alternative 1.5 Project Description*: Provides a detailed description of the new California Focused Conservation Alternative. A copy of the planning document 2022 Vision Plan – Alternative 1.5 is also included.
- EIR Appendix P, *Parking Analysis for Alternative 1.5*: Provides a summary of a parking demand analysis for Alternative 1.5 and recommendation for a peak visitor management program (PVMP).

- EIR Appendix Q, *Animal Welfare Area Assessment*: Provides a comparative analysis of the area that would be dedicated to animal welfare under the implementation of the Project and EIR alternatives.

Details regarding public review and comment on the Focused Recirculated EIR are provided under Section 1.4.3, *Review of the Focused Recirculated EIR*. Additional details regarding the contents of the Focused Recirculated EIR are provided under Section 1.6.2, *Focused Recirculated EIR*.

1.1 BACKGROUND AND PROJECT OVERVIEW

The proposed Project is located at 5333 Zoo Drive in the City of Los Angeles, in the southern portion of Los Angeles County. It is generally bordered by the Golden State Freeway or Interstate 5 to the east and the Ventura Freeway or California State Route 134 to the north. The 142-acre Project site (comprising 133 acres of the Zoo campus and 9 acres of adjacent roadway) is in the northeastern portion of Griffith Park, at the base of the foothills of the Santa Monica Mountains. The Los Angeles River flows within 900 feet of the Project site at the base of Griffith Park. Project site topography is undulating with approximately 150 feet of elevation change; however, interior portions of the Zoo are relatively flat resulting from the previous placement of fill soils during Zoo construction.

The City is proposing to construct and operate the Project. The Project would guide future development and modernization of the Zoo for the next 20 years. The Project would include comprehensive redesign and redevelopment of the Zoo to replace outdated buildings and infrastructure and upgrade animal care and guest amenities. The Project would result in the following:

- Expanded and revitalized immersive exhibit space for improved animal welfare and the Zoo's conservation and endangered species propagation and preservation programs;
- New and redeveloped visitor-serving facilities for enhanced visitor experience, including three visitor centers, picnic and restaurant locations, and internal circulation and walking paths;
- Expanded and modernized administrative and services facilities to support state of the art exhibits and upgraded visitor support facilities;
- Circulation improvements for access roads, pedestrian walkways and paths, an enhanced entryway and plaza, and new parking facilities;
- Inclusion of environmentally sustainable design features within the Zoo's built structure; and
- Operational excellence of the Zoo.

Improved and expanded facilities would allow for annual visitation to grow by approximately 1.2 million guests annually to reach 3.0 million guests annually by 2040. Improvements

would be made through seven sequential phases of development. Project implementation would involve demolition of existing buildings, installation of new facilities, and construction of new pathways and circulation infrastructure.

The EIR addresses alternatives to the Project, including a No Project alternative prepared consistent with the CEQA Guidelines Section 15126.6(e)(1), as well as Alternative 1 (Reduced Project Alternative) and Alternative 2 (Multi-modal Transportation Alternative). As part of this Focused Recirculated EIR, an analysis of Alternative 1.5 (California Focused Conservation Alternative) is provided in Section 4.0, *Alternatives*.

1.1.1 Areas of Known Public Controversy

CEQA Guidelines Section 15123 states that an EIR shall identify areas of controversy known to the Lead Agency, including issues raised by the agency and the public. Based on comments received during the scoping public meetings and NOP/IS comment period and review of the EIR, the following issues are known to be of concern and may be controversial. Each issue is evaluated in the EIR:

- Transportation impacts to local roads;
- Parking adequacy;
- Improved multi-modal access;
- Loss of trees and vegetation;
- Impacts on sensitive species;
- Visual impacts of Zoo redevelopment on Griffith Park visitors, including hikers and equestrians on public trails;
- Animal welfare during construction and operation;
- Discovery of cultural and/or tribal cultural resources during construction;
- Water use and conservation, including recycled water;
- Disabled access and stroller access to Zoo exhibit areas;
- Noise and light impacts on sensitive receptors, including Griffith Park;
- Air quality and GHG emissions from construction and operation;
- Recycling and disposal of construction/demolition waste; and
- Impacts of nighttime events.

1.2 ORGANIZATION OF THE EIR

The EIR is organized into the following sections:

- Section 1.0, *Introduction*, summarizes the background of the Project and explains the environmental review process.
- Section 2.0, *Project Description*, provides a detailed description of the Project site, Project objectives, and all proposed Project components, including Project phasing and implementation.

- Section 3.0, *Environmental Impact Analysis and Mitigation*, provides analysis of applicable federal, state, and local regulations, existing environmental conditions, specific direct and indirect Project impacts, cumulative impacts, mitigation measures, secondary impacts, and residual impacts.
- Section 4.0, *Alternatives*, describes alternatives to the Project, and identifies the Environmentally Superior Alternative.
- Section 5.0, *Other CEQA Sections*, identifies significant and irreversible, growth-inducing, and unavoidable effects, and a brief discussion of resource areas that would not be significantly affected by the Project.
- Section 6.0, *List of Preparers*, identifies the EIR Project team.
- Section 7.0, *References*, provides information about resources used in the preparation of the EIR.
- Section 8.0, *Response to Comments*, includes responses to all written and oral comments received from the public, organizations, and agencies on the Draft EIR.
- Section 9.0, *Mitigation Monitoring and Reporting Plan*, provides the required mitigation program for the Project, including timing, responsible parties, and monitoring.

Appendices to the EIR include the IS/NOP, NOP comment letters, the Draft Vision Plan and 2022 Vision Plan – Alternative 1.5, and supporting technical studies used as a basis of information and analyses in preparation of the EIR.

1.3 PURPOSE AND INTENDED USE OF THIS EIR

The purpose of an EIR is to inform decision-makers, responsible and trustee agencies, and the public of the potential environmental impacts that could result from a project. Under the provisions of CEQA, “the purpose of the environmental impact report is to identify the significant effects of a project on the environment, to identify alternatives to the project, and to indicate the manner in which significant effects can be mitigated or avoided” (Public Resources Code 21002.1[a]). The CEQA process was established to enable public agencies to evaluate a project in terms of its environmental consequences, to examine and implement methods of eliminating or reducing any potentially adverse impacts, and to consider alternatives to the project. CEQA Section 15021(a) requires that major consideration be given to avoiding environmental damage. CEQA requires full disclosure and consideration of the unavoidable environmental risks, as applicable, against the economic, legal, social, or other benefits of the project as part of decision-maker approval proceedings.

Responsible and trustee agencies are public agencies responsible for certain discretionary Project approvals or implementing specific onsite and/or offsite components of the Project. For the purposes of CEQA, a “responsible agency” includes all public agencies other than the Lead Agency that have discretionary approval power over the Project (CEQA Section 15381). A “trustee agency” is defined as a state agency having jurisdiction over certain resources held

in trust for the people of California but do not have legal authority for approval of the Project (CEQA Section 15386).

The CEQA process is initiated when the Lead Agency identifies a proposed project. The proposed Project requires several discretionary approvals (see Section 2.0, *Project Description*). Therefore, the proposed Project is subject to environmental review requirements under CEQA. The general EIR process overview and key milestones are depicted here:

EIR Process Overview & Milestones



1.4 PUBLIC OUTREACH & ENGAGEMENT

1.4.1 Notice of Preparation & Scoping

On January 24, 2019, the City issued a Notice of Preparation (NOP) to request comments on the scope of the EIR and included a brief description and background of the Project, key Project components, and a description of potential environmental resource areas affected by the proposed Project. The NOP/Initial Study (IS) was circulated for public review for a 45-day period from January 24, 2019 to March 11, 2019. The NOP was made available in both English and Spanish and published online at: <https://eng.lacity.org/los-angeles-zoo-vision-plan>. Copies of the document were also made available for review at the following locations:

- Los Angeles Central Library, 630 W. 5th Street, Los Angeles, CA 90071
- Los Feliz Branch Library, 1874 Hillhurst Avenue, Los Angeles, CA 90027
- Atwater Village Library, 3379 Glendale Blvd., Los Angeles, CA 90039
- Cahuenga Branch Library, 4591 Santa Monica Blvd., Los Angeles, CA 90029
- Burbank Central Library, 110 N. Glenoaks Blvd., Burbank, CA 91502
- Glendale Downtown Central Library, 222 E. Harvard St., Glendale, CA 91205
- North Hollywood (Amelia Earhardt Regional) Library, 5211 Tujunga Ave., North Hollywood, CA 91601
- Buena Vista Branch Library, 300 N. Buena Vista, Burbank, CA 91506
- LA Zoo Administration Offices, 5333 Zoo Drive, Los Angeles, CA 90027

- City of Los Angeles, Bureau of Engineering, 1149 S. Broadway, Suite 600, Los Angeles, CA 90015

Two public scoping meetings were held during the public review period to solicit comments from interested parties on the content of the EIR. Spanish translation services were provided for both meetings. These meetings were held on Thursday, February 7, 2019, from 6:00-8:00 p.m. and Saturday, February 9, 2019 from 11:00 a.m. – 1:00 p.m. in the Witherbee Auditorium at 5333 Zoo Drive Los Angeles, California 90027.

Appendix B contains the NOP and comments and input received during the review period that was considered in preparing the scope of this EIR (CEQA Guidelines Section 15082). The City received approximately 60 sets of comments in the form of letters, emails, interviews verbal comments, and comment or speaker cards provided at public scoping meetings, from community residents, stakeholders, agencies, and organizations. These comments are provided in Appendix C. All comments were considered by BOE during preparation of this EIR.

In addition to EIR scoping in compliance with CEQA requirements, the City also engaged in stakeholder outreach and interviews to solicit input and comments directly. The City conducted a total of 13 in-person stakeholder interviews, including with Los Angeles City Council staff, representatives of nearby neighborhood councils and/or homeowner and tenant associations, Griffith Park representatives, schools, and members of environmental and transit organizations. Through these interviews, the City learned of key concerns of these stakeholders, including those related to transportation and traffic, land use and planning, urban forest, construction emissions, and habitat and biological resources impacts, and BOE then factored these issues into this EIR analysis.

1.4.2 Review of the Draft EIR

The Draft EIR was distributed to federal, state, regional, and local agencies, key stakeholders, interested parties, neighborhood groups, and NOP commenters, as well as the State CEQA Clearinghouse.

Due to the ongoing public health crisis associated with the COVID-19 pandemic, and the Regional Stay at Home Order issued by the Governor, the Zoo closed to the public on December 7, 2020 for a minimum of three weeks and was reopened based on public health guidance. Therefore, the environmental review process was conducted online. The Draft EIR was made available online and the public meeting occurred virtually.

The Draft EIR was made available for review online at:

<https://eng.lacity.org/los-angeles-zoo-vision-plan>

CEQA requires that a Draft EIR is submitted to the State Clearinghouse for circulation and for a 45-day review and comment period. This provides agencies and the public an

opportunity to review and comment on the adequacy of the analysis and the findings regarding the potential environmental impacts of a proposed Project.

The Draft EIR public review period lasted 60 days from **December 17, 2020 to February 15, 2021**.

All comments were submitted by electronic or postal mail to:

Norman Mundy, Environmental Supervisor II
Los Angeles Bureau of Engineering, Environmental Management Group
1149 S. Broadway, Suite 600, Mail Stop 939
Los Angeles, CA 90015
Norman.Mundy@lacity.org

A virtual public meeting was held during the public review period to solicit comments from interested parties on the content of the EIR. The meeting was held at the following date and time:

Wednesday, January 13, 2021

5:30 p.m.

The presentation for the virtual public meeting was recorded and made available on-demand from links posted at: <https://eng.lacity.org/los-angeles-zoo-vision-plan>.

The City considered all comments, written and oral, in preparation of the Final EIR. The Final EIR includes all comments received, including a list of commenters, and provides a response to all comments. Written comments were received from 2 state agencies, 2 local agencies, 5 organizations, and 9 individuals. A total of 14 oral testimonies were received from individuals during the virtual public meeting held on January 13, 2021. All comments received during this period are provided and responded to in writing in Section 8, *Response to Comments*, and comments are addressed as needed throughout the Final EIR (see also, Section 1.6, *Revisions to the EIR*).

In addition, the Lead Agency must prepare the Findings of Fact, and, if necessary, a Statement of Overriding Considerations if there are significant impacts that cannot be mitigated to a level below significance, as well as a Mitigation Monitoring and Reporting Program (MMRP) if there are mitigation measures that must be incorporated and adopted. These are the components of a Final EIR.

1.4.3 Review of the Focused Recirculated EIR

Pursuant to the CEQA Guidelines Section 15088.5(f)(3), notice of public review of the Focused Recirculated EIR has been distributed to federal, state, regional, and local agencies, key stakeholders, interested parties, neighborhood groups, NOP commenters, and those agencies, persons, and organizations that commented on the Draft EIR, as well as the State CEQA Clearinghouse. CEQA requires an EIR to be submitted to the State Clearinghouse for circulation and for a 45-day review and comment period. This provides agencies and the

public an opportunity to review and comment on the adequacy of the analysis and the findings regarding the potential environmental impacts.

The Focused Recirculated EIR has been made available for review online at:

<https://eng.lacity.org/los-angeles-zoo-vision-plan>

The Focused Recirculated EIR public review period runs for 45 days from **July 14, 2022 to August 29, 2022**.

All comments must be submitted by electronic or postal mail (please include “**LA Zoo Vision Plan Focused Recirculated EIR Comments**” in the subject line) to:

Norman Mundy, Environmental Supervisor II
Los Angeles Bureau of Engineering, Environmental Management Group
1149 S. Broadway, Suite 600, Mail Stop 939
Los Angeles, CA 90015
Norman.Mundy@lacity.org

A virtual public meeting will be held during the public review period to solicit comments from interested parties on the content of the Focused Recirculated EIR. The meeting will occur on the following date and time:

Monday, August 15, 2022

6:00 p.m.

The link to join the public meeting is posted here: <https://eng.lacity.org/los-angeles-zoo-vision-plan>

Since the revisions are limited to a few sections of the EIR, only those sections of the EIR are included in the Focused Recirculated EIR. Pursuant to the CEQA Guidelines Section 15088.5(f)(2), the City requests that reviewers limit their comments to the revised portions that are included in this Focused Recirculated EIR as the City need only respond to comments on the portions of the EIR that are being recirculated. The recirculated sections upon which comments will be accepted include Section 1.0, *Introduction*, Section 4.0, *Alternatives*, Appendix O, Appendix P, and Appendix Q, as described above. All comments received during this period related to the revised sections will be responded to in writing in a revised Section 8, *Response to Comments* (see also, Section 1.6, *Revisions to the EIR*).

The Zoo Commission will consider the Final EIR, including the recirculated portions, and make a recommendation to the City Council, as the governing body of the City of Los Angeles, regarding certification of the EIR and adoption of the Vision Plan.

1.5 SCOPE OF THE EIR

This EIR assesses the potential environmental impacts that would occur with the implementation of the proposed Project and its alternatives. The EIR evaluates potentially significant environmental impacts including issues raised in public comments received in

response to the NOP/IS and at public scoping meetings (See Appendix B and C). This scoping process determined that the EIR should analyze the following issues (See Section 3.0, *Environmental Impact Analysis and Mitigation.*):

- Aesthetics
- Biological Resources
- Energy
- Geology & Soils
- Hazards & Hazardous Materials
- Land Use & Planning
- Public Services
- Transportation
- Utilities & Service Systems
- Air Quality
- Cultural & Tribal Cultural Resources
- Urban Forestry Resources
- Greenhouse Gas Emissions
- Hydrology & Water Quality
- Noise and Vibration
- Recreation
- Utilities & Service Systems
- Wildfire

This EIR addresses the issues referenced above and identifies potential environmental impacts associated with the Project, in accordance with the provisions of the State CEQA Guidelines. The EIR identifies feasible mitigation measures where necessary that would reduce or eliminate adverse environmental effects. In accordance with CEQA Guidelines Section 15128 (Effects Not Found to Be Significant), environmental impacts related to Agriculture Resources, Mineral Resources and Population and Housing would be less than significant and therefore are not fully analyzed in this EIR (see Section 5.0, *Other CEQA Considerations* of this EIR).

A summary of cumulative impacts, which considers other projects or plans in the vicinity, is described in Section 3.18, *Cumulative Impacts*. Cumulative project analyses represent a comprehensive assessment of potential impacts on City resources using a list of past, present, and probable future projects capable of producing related or compounded impacts.

Consistent with CEQA Guidelines Section 15126.6(d), this EIR includes an assessment of a reasonable range of alternatives to the Project that could feasibly attain the Project objectives while avoiding or substantially lessening any of the significant effects of the Project. The alternatives analysis includes alternatives that were considered but discarded from further analysis, consideration of a No Project alternative, and three alternatives fully analyzed in accordance with the CEQA Statute and Guidelines. Please refer to Section 4.0, *Alternatives*.

Potential alternatives were developed to identify means other than the proposed Project to attain key Project objectives while lessening or avoiding potentially significant environmental impacts caused by the proposed Project. The proposed Project would result in significant impacts on the environment; accordingly, reduction of significant impacts was a factor considered in the development of alternatives to the Project. This Focused Recirculated EIR includes an analysis of an additional alternative. As discussed further below in Section 1.6.2, *Focused Recirculated EIR*, portions of the EIR were revised following its publication in June

2021 to included consideration and analysis of a new alternative to the proposed Project: the California Focused Conservation Alternative (Alternative 1.5). Together, the EIR analyzes the No Project Alternative, Reduced Project Alternative, California Focused Conservation Alternative, and Multi-modal Transportation Alternative, as summarized below.

- **No Project Alternative.** In accordance with CEQA, the EIR includes a No Project Alternative. Under the No Project Alternative, the Vision Plan would not be adopted, comprehensive Zoo-wide expansion and redevelopment would not occur, and the Zoo would continue to operate as is, with maintenance, repair, and improvement of facilities occurring as needed. Resident Zoo animals would continue to live in some outdated animal spaces. Annual attendance at the Zoo would remain similar to existing visitation at approximately 1.8 million visitors per year.
- **Alternative 1 – Reduced Project Alternative.** Alternative 1 would retain approximately 21 acres of undeveloped area currently within Zoo property in its current setting. In doing so, this alternative would preserve a combination of native and non-native vegetation communities supporting a limited range of sensitive species and protected trees. This alternative would not include the expanded exhibits within the California and Africa planning areas proposed under the Project, which would limit expansion within Zoo property. Further, Alternative 1 would not create an efficient and accessible internal loop circulation system with a Primary Loop Path. With reduced Zoo capacity compared to the Project, total annual attendance anticipated under Alternative 1 would be approximately 2,525,775 persons, a reduction of approximately 15.8 percent compared to the Project.
- **Alternative 1.5 – California Focused Conservation Alternative.** Alternative 1.5 would guide long-term redevelopment and operations of the Zoo similar to the Project but under a shortened timeframe (18 vs. 20 years) and revised land use plan that would avoid the development of approximately 6 acres of an undeveloped hillside within the Africa planning area that supports sensitive biological resources. Instead, Alternative 1.5 would include ongoing restoration of the area to improve its ecosystem health. This alternative would also modify the planned site design, eliminate several improvements (e.g., the parking structure and aerial tram), and implement measures to manage visitation to accommodate 2.5 million visitors per year or 500,000 fewer annual guests than anticipated under the proposed Project.
- **Alternative 2 – Multi-modal Transportation Alternative.** Alternative 2 would substantially expand multi-modal transportation opportunities for the Zoo to give visitors and employees the option to use transit, bicycles, walking, and ridesharing as a viable and attractive travel mode. In doing so, Alternative 2 would substantially reduce total Zoo vehicle miles traveled (VMT) to a greater extent than the proposed Project while including all components of the proposed Project. Annual growth projections would be identical to the Project to reach the Zoo's goal of 3.0 million visitors per year by Phase 7.

I.6 REVISIONS TO THE EIR

I.6.1 Draft EIR

Changes made to the Draft EIR in response to the public comments are included in the Final EIR published in June 2021. Changes to the Draft EIR include minor corrections made to improve writing clarity, grammar, and consistency, clarifications, additions, or deletions resulting from specific responses to comments, and changes to update information in the Draft EIR. These text revisions are provided in the body text of the EIR. Meaningful corrections, additions, and deletions to the EIR are provided in ~~strikeout~~ and underline, as needed, to indicate an addition or deletion, respectively.

Changes to the text of the Draft EIR are primarily presented in the following sections:

- Section 2.0, *Project Description*
- Section 3.3, *Biological Resources*
- Section 3.6, *Urban Forestry Resources*
- Section 3.12, *Noise and Vibration*
- Section 3.15, *Transportation*
- Section 3.18, *Cumulative Impacts*
- Section 4.0, *Alternatives*

Changes to these sections include minor modifications to the details of the mitigation measures, updated information regarding existing conditions, and updated details of various cumulatively considered projects in the City of Burbank.

New information added to an EIR is not significant unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project's proponent has declined to implement. The minor clarifying revisions described above and presented in the Final EIR would not result in a new significant environmental impact, a substantial increase in the severity of an environmental impact, or a feasible project alternative or mitigation measure that would clearly reduce the significant environmental impacts. These clarifications ensure internal consistency within the EIR and would not substantially change any of its conclusions. Therefore, pursuant to CEQA Guidelines Section 15088.5, the City was not required to recirculate the Draft EIR prior to the publication of the Final EIR in June 2021.

I.6.2 Focused Recirculated EIR

Following publication of the Final EIR in June 2021, the City continued to receive comments regarding the proposed Project's impacts related to biological resources, urban forestry resources, transportation, and aesthetics. In response to these comments, a new project alternative, Alternative 1.5, the California Focused Conservation Alternative, has been

analyzed in this Focused Recirculated EIR in accordance with CEQA Guidelines Section 15088.5. A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation includes, for example, a disclosure showing that:

1. A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
2. A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
3. A feasible project alternative or mitigation measure considerably different from the others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project's proponents decline to adopt it.
4. The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

As previously described, the Final EIR has been revised to include consideration of a new feasible alternative to the proposed Project that would attain all of the Project objectives and reduce impacts compared to the proposed Project. These changes to the Final EIR represent "significant new information" under the CEQA Guidelines Section 15088.5(a), and, as such, the City elected to recirculate portions of the EIR so as not to deprive the public of a meaningful opportunity to comment.

The CEQA Guidelines Section 15088.5(c) states the following with respect to the recirculation of an EIR:

If the revision is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified.

The City has elected to recirculate those sections of the Final EIR related to revisions to the alternatives analysis and supporting technical memoranda. The Focused Recirculated EIR has been prepared consistent with the standards provided in the CEQA Guidelines Section 15088.5, which set forth the conditions governing the recirculation of an EIR prior to certification. The Focused Recirculated EIR includes only those sections of the EIR that have been revised to analyze the new project alternative – Alternative 1.5. Consistent with the standards provided in the CEQA Guidelines Section 15088.5(g), the specific sections from the Final EIR that have been modified and are included in the Focused Recirculated EIR include:

- Section 1.0, *Introduction* – This section has been modified to describe the Focused Recirculated EIR process and related CEQA requirements.
- Section 4.0, *Alternatives* – This section has been expanded to describe and analyze a new project alternative– Alternative 1.5, the California Focused Conservation Alternative. Additionally, when compared to the proposed Project and among alternatives, the California Focused Conservation Alternative has been identified as the new Environmentally Superior Alternative due to its reduction in impacts related to aesthetics, air quality, biological resources, energy, urban forestry resources, greenhouse gas emissions, noise, transportation, and utilities. Alternative 1.5 would also achieve more of the Project objectives when compared to Alternatives 1 and 2. In addition, a new discussion has been added that provides an analysis of the space dedicated to animal welfare and care under the proposed Project and alternatives.
- Appendix O – *Appendix O, Alternative 1.5 Project Description* – This new appendix contains a detailed description of the new California Focused Conservation Alternative and a copy of the planning document 2022 Zoo Vision Plan – Alternative 1.5.
- Appendix P – *Appendix P, Parking Analysis for Alternative 1.5 of the LA Zoo Vision Plan EIR Memorandum*, is a new appendix to the Final EIR that provides a summary of the analysis of parking demand under the new Alternative 1.5 and informs recommendations for the development of a Peak Visitation Management Program, a key component of Alternative 1.5.
- Appendix Q – *Appendix Q, Comparative Analysis of Area Dedicated to Animal Welfare Under Implementation of the Los Angeles Zoo Vision Plan Project and Environmental Impact Report Alternatives Memorandum*, is a new appendix to the EIR that provides detailed discussion and comparative, Geographic Information Systems (GIS)-based analysis of proposed changes in animal welfare area to support the new discussion presented in Section 4.0, *Alternatives*.

The numbering of chapters in this Focused Recirculated EIR matches that in the previously published Final EIR. Section 1.0 and Section 4.0 replace in their entirety the corresponding sections of the original Final EIR.

1.6.3 Changed Circumstances

Since publishing the Final EIR in June 2021, the following changes in City and State policies and conditions relevant to the Project have occurred. As described below, these changes do not substantially affect the EIR’s setting, impact analysis, mitigation measures, or findings. As such, this information is provided for public information and disclosure as part of the Focused Recirculated EIR.

Water Conservation Emergency declared by the State and Metropolitan Water District of Southern California (MWD)

Following Governor Newsom’s October 19, 2021 proclamation of a drought state of emergency, the State Water Resources Control Board on January 4, 2022 adopted an emergency regulation (Resolution No. 2022-0002). On April 26, 2022, the MWD declared a Water Shortage Emergency for the State Water Project (SWP) dependent areas and executed an Emergency Water Conservation Program (Resolution No. 9305). These water use restrictions will remain in effect for one year from the effective date of the resolutions, unless the resolutions are modified, readopted, or ended. The two resolutions enact the following restrictions:

- Limit outdoor watering to one day per week;
- Turn off decorative water fountains;
- Turn off/pause irrigation systems when it is raining and for two days after rain;
- Use an automatic shutoff nozzle on water hoses;
- Use a broom, not water, to clean sidewalks and driveways;
- Avoid overwatering; and
- Immediately reduce water use by 20 to 30 percent.

Section 3.16, *Utilities* analyzes the impacts of the proposed Projects effects on water supplies, including drought and non-drought conditions. The EIR presents a conservative worst-case scenario for future water demand under the Project compared with the City’s current and estimated total potable water supply. Mitigation was identified to reduce the proposed Project’s and the EIR alternatives’ impacts from increased water demand and align with the goals and measures of the City’s Green New Deal pLAn and One Water L.A. Plan by implementing a range of water conservation strategies and measures. The Zoo is subject to the MWD drought declaration, which would further reduce water demand at the Zoo, and the mitigation measures required to address water supply impacts would be consistent with the declaration. Therefore, the change in circumstances relating to drought conditions following the release of the Final EIR does not impact the findings for the proposed Project or EIR alternatives.

Department of Recreation and Parks (RAP) Urban Forest Program and Tree Preservation Policy

On March 17, 2022, the Board of Recreation and Park Commissioners approved amendments to RAP’s Urban Forest Program and the City’s Tree Preservation Policy to maintain the policies set forth in the City’s Protected Tree Ordinance but transfer required oversight of all permitting approvals from the Board of Public Works to the RAP Board of Commissions. Further, the amended Tree Preservation Policy updated the list of species of trees to include all the trees protected in the Los Angeles Municipal Code, which include Coast live oak (*Quercus agrifolia*), Valley Oak (*Quercus lobata*), Laurel bay tree (*Umbellularia californica*), Western Sycamore (*Platanus racemosa*), Mexican elderberry (*Sambucus Mexicana*),

Southern black walnut (*Juglans californica*), Toyon (*Heteromeles arbutifolia*), or any other tree of the oak genus indigenous to California but excluding the Scrub Oak (*Quercus berberidifolia*) with a diameter at breast height (4.5 feet above ground level) of 4 inches.

Section 3.6, *Urban Forestry Resources* analyzed the impacts of the proposed Project's effects on urban forestry resources and Project consistency with RAP's Urban Forest Program and the City's Tree Preservation Policy. Adopted amendments to RAP's Urban Forest Program are primarily administrative in nature and result in a change in the regulatory body providing oversight and permitting authority. Further, the EIR's analysis of impacts on urban forestry resources assesses impacts based on the City's Protected Tree Ordinance (Ordinance No. 177404), which includes all the species listed in the amended Tree Protection Policy. Thus, the change in circumstances relating to recently adopted amendments to RAP's Urban Forest Program and Tree Protection Policy following the release of the Final EIR does not impact the findings for the proposed Project or EIR alternatives.

4.0 ALTERNATIVES

A new alternative, the California Focused Conservation Alternative (Alternative 1.5) has been added to the alternatives analysis. Alternative 1.5 is identified as the Environmentally Superior Alternative, as it would generate the least adverse impacts compared to the proposed Project, Alternative 1, and Alternative 2. The proposed Project would result in significant and unavoidable adverse impacts on aesthetics and transportation. The Reduced Project Alternative (Alternative 1) would substantially avoid development within the existing undeveloped areas of the Zoo property where protected trees, native habitats, and other special status plant species are present. Alternative 1 would also generate a smaller increase in visitation, thereby reducing projected vehicle miles traveled and reducing the size of the parking structure or eliminating the need for it. As such, Alternative 1 would reduce impacts on aesthetics, air quality, biological resources, urban forestry, noise, and transportation when compared to the Project but would not achieve all Project objectives. The California Focused Conservation Alternative (Alternative 1.5) would avoid development within the existing undeveloped hillsides of the Africa planning area where protected trees, native habitats, and other special status plant species are present, substantially reducing disturbance of native habitats compared to the Project. Alternative 1.5 would implement a set of development design guidelines prioritizing the protection and planting of native plant species and habitats throughout new exhibits. Alternative 1.5 would implement a Peak Visitation Management Program (PVMP) to reduce parking demand and eliminate the aerial tram, multi-level parking structure, and adjacent 2-acre public park proposed under the proposed Project. The reduced development and implementation of the PVMP would substantially reduce visitation compared to the proposed Project, thereby reducing projected vehicle miles traveled and associated energy demand and air pollutant and greenhouse gas emissions. As such, Alternative 1.5 would reduce impacts on aesthetics, air quality, greenhouse gas emissions, biological resources, urban forestry, noise, and transportation when compared to the proposed Project. The Multi-Modal Transportation Alternative (Alternative 2) would implement the same Project improvements with additional measures to reduce vehicle miles traveled and increase multi-modal transportation. Alternative 2 would also reduce the size of the proposed parking structure commensurate to reduced demand for parking. Therefore, Alternative 2 would substantially reduce impacts on aesthetics, air quality, energy, greenhouse gas emissions, urban forestry, land use and planning, and transportation when compared to the proposed Project.

A new discussion has also been added to this section comparing the dedicated areas used for animal welfare and care among the project alternatives. Each alternative would increase the area dedicated to animal welfare, consistent with the Project objectives.

This section of the Environmental Impact Report (EIR) evaluates alternatives to the proposed Los Angeles Zoo and Botanical Gardens (Zoo) Vision Plan (Vision Plan; Project) and analyzes the comparative environmental impacts associated with each alternative.

Section 15126.6 of the CEQA Guidelines states that, an “EIR shall describe a range of reasonable alternatives to the proposed project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.”

The CEQA Guidelines further state that, “*the range of alternatives required in an EIR is governed by a rule of reason*” that requires the EIR to set forth only those alternatives necessary to permit fully informed decision making. The alternatives shall be limited to those that would avoid or substantially reduce any of the significant and unavoidable effects of the proposed Project. Of those alternatives, the EIR needs to examine in detail only the ones that the Lead Agency determines could feasibly attain most of the basic Project objectives (CEQA Guidelines Section 15126.6).

Not every conceivable alternative must be addressed, nor do infeasible alternatives need to be considered (CEQA Guidelines Section 15126.6[a]). In defining the feasibility of alternatives, the CEQA Guidelines state that “*among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site*” (CEQA Guidelines Section 15126.6).

The alternatives selected for review must adequately represent the spectrum of environmental concerns to permit a reasonable choice of alternatives. The Lead Agency is responsible for selecting a range of alternatives to be evaluated and must disclose in the EIR its reasoning for selecting those alternatives as well as identify and explain why alternatives that may have been considered by the lead agency during the scoping process were rejected as infeasible. The EIR must also provide the rationale for selecting or defining the alternatives to be evaluated, including the identification of any alternatives that were considered by the Lead Agency, but rejected as infeasible during the scoping process. The lead agency may use the following factors to eliminate alternatives from detailed consideration: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. The CEQA Guidelines also require the analysis of a No Project Alternative. Based on the alternatives analyzed, the Lead Agency must identify an environmentally superior alternative.

4.1 PROJECT OBJECTIVES

Section 15124(b) of the CEQA Guidelines requires a statement of a project's objectives that includes the purpose of the Project. The objectives of the Project are described in Section 2.3.2, *Project Objectives* and include:

1. **Animal Welfare and Care.** Provide an environment for all the animals that call the Zoo home to thrive through development of state-of-the art exhibits and animal care facilities that meet or exceed Association of Zoos and Aquariums (AZA), U.S. Department of Agriculture (USDA), and state of the industry care standards, as well as upgraded Zoo service centers and veterinary facilities that ensure optimal animal welfare.
2. **Increase and Modernize Zoo Exhibit Space.** Increase and modernize Zoo exhibit space to maximize animal habitat areas, create infrastructure for innovative and proactive animal care and welfare practices, and represent ecosystems and lifecycles by transforming underutilized and underdeveloped areas of the Zoo.
3. **Conservation.** Advance conservation efforts by developing facilities and programs that will support conservation actions to protect and grow animal populations and habitats.
4. **Learning and Education.** Advance public engagement efforts by developing facilities and experiences that promote lasting relationships with nature, life-long learning, opportunities for outreach beyond the Zoo's campus, and a civic culture of conservation.
5. **Immersive Visitor Experience.** Design Zoo exhibits and visitor spaces to provide nature-based experiences that allow Zoo visitors to engage with environments and animals in seamless, immersive spaces.
6. **World Class Destination.** Enhance Zoo facilities and operations to increase Zoo visitation, create a sense of place that transports visitors to other parts of the world, and generate revenue to support operation of the Zoo, capital improvements, and conservation programs.
7. **Visitor-serving Amenities.** Provide a variety of visitor-serving amenities, including food and retail establishments, a range of resting and gathering places, and special event centers that will attract visitors and support a range of special events within the Zoo.
8. **Efficient Circulation System.** Develop an efficient and accessible internal loop circulation system that maximizes access to Zoo exhibits for visitor comfort, operational efficiency, and safety, providing dedicated pathways for pedestrians, trams, and emergency and service vehicles.

9. **Accessibility.** Design the Zoo to serve the needs of a diverse population of all ages and abilities through incorporation of Americans with Disabilities Act (ADA) pathways, alternative travel options in the Zoo, such as aerial or ground-based trams, and exhibit features and facilities for families and those with special needs, along with a cohesive approach to wayfinding.
10. **Multi-modal Access.** Improve multi-modal accessibility and regional transportation to the Zoo, including the provision of alternative transportation options to reduce congestion and improve the circulation of vehicle traffic.
11. **Visual Appearance.** Improve the visual characteristics of the Zoo through architectural design, landscaping, lighting, pedestrian-oriented improvements, and incorporation of symbolic design, and create features that reflect architecture of animal habitat theme areas and the Zoo history.
12. **Capital Improvements.** Identify and provide for implementation of capital improvements and investments that are needed to ensure that future demands on the Zoo's infrastructure will be successfully accommodated.
13. **Environmental Sustainability.** Incorporate sustainable design practices into Zoo facilities to ensure resource conservation consistent with City's Sustainable City pLAN, One Water L.A. Plan, and Resilient Los Angeles Plan.
14. **Operational Excellence.** Provide facilities and resources that allow Zoo staff and emergency responders to safely and efficiently support Zoo operations, including safe and quick vehicle access to all parts of the Zoo, as well as ensuring the Zoo is clean, well-maintained, supportive of the organizational culture, and provides high quality customer service.

4.2 SUMMARY OF POTENTIALLY SIGNIFICANT AND UNAVOIDABLE IMPACTS

The proposed Project would result in significant and unavoidable impacts on aesthetics and visual resources (refer to Section 3.1, *Aesthetics and Visual Resources*) and transportation (refer to Section 3.15, *Transportation*).

Aesthetics and Visual Resources

As described further in Section 3.1, *Aesthetics and Visual Resources*, implementation of the Project would also result in major changes in the visual character and urban wilderness identity of the Griffith Park Zoo Drive gateway area due to the construction of one potential design option for intersection improvements, a grade-change interchange at Zoo Drive/Western Heritage Way intersection. These intersection improvements outside of the Zoo property would be inconsistent with Conservation Element, Framework Element, 1998 Hollywood Community Plan, and Griffith Park Vision Plan goals and policies to retain

viewsheds of topography and natural resources (e.g., trees) and preserve the urban wilderness identity of Griffith Park.

Installation of the grade interchange improvements would require those accessing Zoo Drive or Western Heritage Way to use an on- and off-ramp system with those proceeding along Zoo Drive and Western Heritage Way passing under a new bridge. This envisioned infrastructure project would dramatically change this travel corridor, from what currently feels visually like a “country road” with a 4-way stop to a concrete interchange with dramatic terrain modification. The improvement would increase travel speeds and separate travelers from views of the Zoo Drive gateway and the Zoo entrance, potentially diminishing the sense of arrival currently afforded by the local roadways, open sky views, and iconic Zoo entrance sign setback from the street.

The proposed multi-story parking structure would be highly visible from Zoo Drive, Western Heritage Way, and the main entrance to the Zoo (see Key Viewing Locations [KVLs] 3 and 4). This structure would substantially change the character of the area fronting the Zoo from an open, tree-lined surface parking lot with clear views of vegetated hillsides to a large parking structure dominating and blocking views of surrounding features. In combination with the proposed roadway improvements described above, this area’s visual character would be significantly transformed.

Mitigation measures (MM) VIS-1 and MM VIS-2 are required to ensure the Zoo Drive/Western Heritage Way intersection improvements and the multi-story parking structure would be designed to maximize visual compatibility with Griffith Park and the Zoo entrance and retain the visual character of the park. In addition, these measures would minimize the size, bulk, and scale of those improvements and ensure creativity in design and landscaping. However, even with these required mitigation measures, the visual changes proposed would be substantial and would not be consistent with the visual character of the Zoo Drive gateway and the existing Zoo entrance. Even with the implementation of mitigation for the proposed parking structure, the mitigated structure would remain large and tall, conflicting with the existing visual character. Similarly, intersection improvements such as a grade-change interchange or a roundabout would substantially alter the Zoo Drive gateway, creating a more urban, engineered intersection with increased speeds, which would continue to substantially change the visual character of the area. Therefore, with mitigation, impacts to the visual character of the public realm outside the Zoo from the proposed Project would be *significant and unavoidable*.

Transportation

As described in Section 3.15, *Transportation*, operation of the proposed Project would increase daily visitor VMT by approximately 58,324 VMT on Saturdays and Sundays, for a total of 139,287 daily visitor VMT by 2040. At buildout of the Vision Plan in 2040, daily employee VMT is projected to increase by up to 11,785 on Mondays and Fridays for a total of 24,436 daily employee VMT. Based on the City’s established VMT threshold, which stipulates that any net increase in VMT for event centers and regional-serving entertainment venues

would be significant, the projected increase in Project VMT would be *significant and unavoidable*.

Implementation of the Transportation Demand Management (TDM) Program (**MM T-2**) would reduce Zoo visitor and employee VMT. With implementation of **MM T-2**, employee VMT reductions would be measured against existing employee VMT. Implementation **MM T-2** would reduce Zoo employee VMT by a minimum of 10 percent. With implementation of **MM T-2**, daily employee VMT would be reduced to approximately 19,775 on Mondays and Fridays (the highest employee VMT days of the week) in 2030 and 21,992 in 2040 on Mondays and Fridays. This would result in a net increase from existing (2019) conditions of approximately 7,124 in 2030 and 9,341 in 2040. The TDM Program would also reduce daily visitor VMT below the projected 139,287 VMT in 2040. There would be no quantified reduction afforded in **MM T-2** for visitor VMT and instead, the TDM Program required under **MM T-2** includes a reasonable range of measures that the Zoo could feasibly implement and includes a VMT reduction performance monitoring and reporting element established to reduce visitor VMT to the maximum extent feasible. While **MM T-2** would substantially reduce Project VMT, based on the City's established VMT threshold, which stipulates that any net increase in VMT for event centers and regional-serving entertainment venues would be significant, the projected increase in Project VMT would be *significant and unavoidable*.

4.3 CEQA ALTERNATIVES CONSIDERED

State CEQA Guidelines Section 15126.6(f) notes that the range of alternatives evaluated in an EIR is governed by the rule of reason and must include only those alternatives that are necessary to permit a reasoned choice. Further, identified alternatives should avoid or substantially lessen the project's significant effects, and, of these, only the alternatives that the Lead Agency determines could feasibly attain most of the basic objectives of the project should be analyzed in detail.

4.3.1 No Project Alternative

In accordance with CEQA, the EIR includes a No Project Alternative. Under the No Project Alternative, the Vision Plan would not be adopted, comprehensive Zoo-wide expansion and redevelopment would not occur, and the Zoo would continue to operate as is, with maintenance, repair, and improvement of facilities occurring as needed. Improvements to Zoo Drive, the intersection of Zoo Drive/Western Heritage Way, realignment of Crystal Springs Drive, and the Zoo's parking lot would not occur. Similarly, resident animals would continue to live in outdated animal spaces. The Angela Collier Gardens project, however, would continue to be implemented, which would expand the Zoo's capacity to support special events. As demonstrated by constant levels of annual visitation despite the expansion of Zoo nighttime and special events, annual attendance at the Zoo would remain constant.

Under the No Project Alternative, the Zoo would continue existing operations, with continued maintenance and repair construction projects occurring on an as-needed basis. The No Project Alternative does not mean "no future growth or land uses," but rather that targeted Zoo improvements or expansion would occur under the existing 1998 Zoo Master Plan. As stated in CEQA Guidelines Section 15126.6(e)(3)(A), "typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan." The existing 1998 Master Plan, however, is nearly built out, with little room for growth or improvement available under the existing plan. Therefore, the No Project Alternative would not involve any major improvements or large-scale redevelopment.

In the absence of any new guidance plan, any development under the No Project Alternative would occur on an as-needed basis subject to existing regulations and permitting requirements. Development that may occur at the Zoo under the No Project Alternative would not increase the capacity of the Zoo or substantially affect annual visitation. For example, the existing Rainforest of the Americas was constructed in 2014 with construction activities limited to a central portion of the Zoo and operations continuing around the construction site. Annual visitation to the Zoo remained relatively constant following completion of Rainforest of the Americas.

Access to the Zoo entrance would continue to be provided by Zoo Drive from the north and west and via Crystal Springs Drive from the south. Parking would continue to be provided within the Zoo's parking lots for visitors and employees and no expansion in parking capacity would occur.

4.3.2 Vision Plan Alternatives Considered

During the preparation of this EIR, the City considered several alternatives for the proposed Project. The goal of developing possible alternative scenarios under CEQA is to identify other means to attain the Project objectives (Section 2.3.2) while lessening or avoiding potentially significant environmental impacts caused by adopting the proposed Project. Based on initial consideration, the following represent a reasonable range of alternatives to the proposed Project and have been identified by the City for consideration in this EIR.

Alternative I - Reduced Project Alternative

This alternative would include a major reconfiguration of the proposed Vision Plan land use plan to avoid development of the existing undeveloped hillsides that contain sensitive biological resources, including areas in the California and Africa planning areas. Reconfiguration of the Vision Plan land use plan to avoid these areas would emphasize redevelopment of the existing developed areas of the Zoo within the lower elevation areas of the canyon, resulting in a smaller development footprint (Figure 4-1). Similar to the proposed Project, all Zoo development would occur within the existing Zoo property with offsite

roadway improvements to Zoo Drive/Western Heritage Way. The proposed onsite parking structure would also be reduced in size, bulk, and scale, or eliminated altogether depending on the commensurate reduction in project visitation that would occur with a reduced physical capacity within the Zoo and fewer exhibits, visitor-serving amenities, and special events. In doing so, this alternative would reduce environmental impacts identified in the EIR associated with the development and loss of natural resources within these areas (e.g., visual resources, native habitat, sensitive plant species, and protected trees). All other elements of the proposed Project not associated with development of these areas would continue to be implemented under this alternative.

Alternative 1.5 - California Focused Conservation Alternative

This alternative would include a major reconfiguration of the proposed Vision Plan land use plan to avoid development of the undeveloped hillside in the Africa planning area. Rather, this area would be managed as a restoration and ecological education area of the Zoo. Reconfiguration of the land use plan to avoid this area would substantially reduce the proposed development footprint and reduce direct and indirect disturbance of habitats and natural resources in the Africa planning area. Further, Alternative 1.5 would develop and implement a new set of development design guidelines that prioritize the use of native plant species, especially preserving existing specimens and habitats with protected status and significant ecological function/importance and planting additional native plant species, committing the Zoo to ongoing, regular restoration of the area, which does not presently occur. The goal would be to nurture the natural ecosystem of Griffith Park and the Los Angeles Basin and support regional biodiversity while providing immersive, safe, and dynamic habitats for Zoo animals. This alternative would also eliminate the proposed vineyard landscape feature within the California planning area under the Project and instead landscape the proposed ADA access pathway with California native species. Additionally, the proposed Zoo aerial tram would be eliminated, and excavation of soil and potential disturbance of buried cultural or tribal cultural resources associated with construction of this feature would not occur. This alternative would develop a publicly accessible entry garden and park space near the Zoo entrance as part of the Project, effectively incorporating the Angela Collier Gardens project described under Section 3.18 *Cumulative Projects* with slight modification to its planting palette and committing to recycled water irrigation commensurate with prevailing City drought-related water use mandates. Similar to the Project, all Zoo development would occur within the existing Zoo property with offsite roadway improvements to Zoo Drive, Western Heritage Way, and Crystal Springs Drive. Reduced development within the Zoo would eliminate associated environmental impacts and loss of natural resources within these areas (e.g., visual resources, native habitat, sensitive plant species, and protected trees). Further, under this alternative, the proposed multi-level parking structure and associated 2-acre public park in the parking lot would be eliminated. To manage visitation and parking demand within the Zoo's parking lot, the Zoo would implement a Peak Visitation Management Program to control daily visitation on high-demand days and manage parking supply. Reduced annual visitation would reduce trip

generation, vehicle miles traveled (VMT), and air pollutant emissions. Therefore, while Alternative 1.5 would allow incremental increases in annual Zoo visitation with resulting impacts to VMT, impacts would be reduced compared to the proposed Project. All other elements of the proposed Project not associated with development of these areas would continue to be implemented under this alternative. Under this alternative, the Vision Plan is estimated to be implemented over 18 years, which is 2 years less than the proposed Project.

Alternative 2. - Multi-modal Transportation Alternative

The Multi-modal Transportation Alternative would incorporate all the measures identified as part of the Zoo TDM Program (**MM T-2**) with additional measures necessary to achieve a goal of reducing employee and visitor VMT by 15 percent by 2040. These TDM measures would become elements or programs of the Vision Plan. In doing so, this alternative would reduce environmental impacts identified in the EIR associated with VMT and policy consistency with regional and local transportation plans (see Section 3.15, *Transportation*). This alternative would retain all improvements proposed under the Project as they are described in Section 2.3, *Proposed Project* with the exception of the onsite parking structure, which would be reduced in size, bulk, and scale in response to increase multi-modal transportation options for Zoo visitors and employees, which would commensurately reduce parking demand. All proposed Zoo improvements would be implemented on the same 20-year timeframe.

Alternative 3 - Alternative Use (Reuse/Conservation Center) Alternative

Under this alternative, the Zoo would be redeveloped to function more as a conservation/research facility that would expand upon and emphasize animal conservation, recovery, education, and research. This may include redevelopment of the Zoo property to provide animal conservation or species recovery programs, like the California Condor and Southern Mountain Yellow-legged Frog recovery programs currently established at the Zoo, as opposed to visitor-serving uses. The Zoo would no longer function primarily as a visitor-serving attraction and would no longer be open to the public. Visitation would be limited to support the conservation program, which would substantially reduce visitors and employee trips and demands for utilities and public services. Visitor-serving uses (e.g., attractions, restaurants, retail shops) would either be transitioned to accommodate animal conservation programs or be demolished, and many resident animals would likely be moved to other zoos.

Alternative 4 - Relocated Zoo Alternative

Under this alternative, the Zoo would be relocated and developed under a revised Vision Plan at an alternative site. The alternate site would be at least 142 acres and located within the City. Potential sites include the 160-acre Wildlife Waystation in the San Fernando Valley or vacant sites near Cabrillo Marine Aquarium, both of which are AZA-accredited facilities. The City and Zoo would emphasize selection of a site located within Transit Priority Areas (TPAs) to improve multi-modal access to the Zoo. Following relocation of the Zoo, the existing Zoo would be demolished and redeveloped as a public park within Griffith Park or serve as a

restoration/nature demonstration site connecting with other publicly accessible land within Griffith Park.

Alternative 5 - Golf Course Expansion Alternative

Under this alternative, the Vision Plan would be amended to maintain the proposed increase in visitor-serving and animal habitat areas, but would relocate the California and Africa planning area development currently proposed within the existing undeveloped hillside areas to the adjacent Wilson & Harding Golf Course property. This alternative would require the vacation of portions or all of the Wilson & Harding Golf Course and relocation of existing Zoo back-of-house and administration facilities currently located along the Zoo's southern property boundary to support the expansion of visitor-serving and animal habitat areas onto the golf course property.

Alternative 6 - Adjusted Phasing Alternative

Under this alternative, the Vision Plan would be implemented through a series of phases organized differently than that described in Section 2.4.1, *Phasing & Implementation*. Specifically, this alternative would defer construction of the proposed Africa planning area improvements to Phase 4, and construction of the parking structure would be advanced to Phase 3 (refer to Table 4-1). This would extend the duration of Phase 3 by one year (completion in 2031) and push the timing of each long-term phase back by a similar duration. In addition, the revised phasing schedule would become consolidated, eliminating the need for Phase 7, and implementing the Vision Plan in only six phases. This revised phasing approach would result in a distribution of visitation growth and construction impacts until later stages of Project implementation and may also address the need for a proposed parking structure earlier in Vision Plan implementation where exceedance of available parking spaces is anticipated (refer to Section 3.15.6, *Non-CEQA Transportation Planning Issues*).

Though the alternative would adjust the timing of impacts, it would not change the overall implementation schedule or change the components of each phase, and specific improvements proposed under this alternative would remain the same as proposed under the Project. This extension would reduce construction intensity, meter out the projected visitation growth, and allow for the Zoo to benefit from longer-term regional transit and TDM improvements in the City (e.g., expanded rail and transit services to the Zoo vicinity) to better serve projected growth in visitation and employment.

Table 4-1. Alternative 6 - Adjusted Phasing Alternative – Phasing Summary

Phase	Project Components
Phases 1-3: Near Term Project Components	
1 (2020 - 2025)	<ul style="list-style-type: none"> • Zoo Entry • California Planning Area • Circulation and Parking
2 (2025 - 2027)	<ul style="list-style-type: none"> • Asia Planning Area • Rainforest Planning Area • Nature Play Park
3 (2027 - 2031)	<ul style="list-style-type: none"> • Service Areas • Parking Structure
Phases 4-7: Long-term Project Components	
4 (2031 – 2033)	<ul style="list-style-type: none"> • Africa Planning Area • World Aviary Planning Area • Bird Show and Animal Programs • Service Areas (Condor West)
5 (2034 – 2037)	<ul style="list-style-type: none"> • Islands
6 (2037 – 2040)	<ul style="list-style-type: none"> • Administration Building

4.4 SCREENING OF ALTERNATIVES CONSIDERED

As required by the CEQA Guidelines, the selection of alternatives for the proposed Project included a screening process to determine which alternatives could avoid or reduce significant effects and also feasibly meet the Project objectives. Because of the *significant and unavoidable* impacts on aesthetics and transportation, these screening criteria were important for determining the feasibility of alternatives. The screening process for identifying viable Project alternatives included consideration of an alternative’s ability to meet the Project objectives (see Tables 4-2 and 4-3).

Table 4-2. Screening of No Project Alternative and Alternatives 1 - 3

Objective	Alternative				
	No Project	1. Reduced Project	1.5. California Focused Conservation	2. Multi-modal Transportation	3. Alternative Use
1. Animal Welfare and Care	No. While the Zoo's facilities currently meet AZA standards, the No Project Alternative would not allow the Zoo to develop state-of-the-art animal spaces and animal care facilities that exceed animal care standards or upgrade Zoo service centers and veterinary facilities.	Yes. The Reduced Project Alternative would include the improvements and upgrades to animal care and animal health facilities and Zoo service centers, similar to but not to the extent of the proposed Project. Reduced area for animal habitats and exhibits would reduce the extent to which animal welfare and care facilities would be available within the Zoo.	Yes. The California Focused Conservation Alternative would include the improvements and upgrades to animal welfare space and care and animal health facilities and Zoo service centers, similar, but not to the extent of the proposed Project. Reduced area for animal habitats and exhibits would slightly reduce the extent to which animal welfare and care facilities would be available within the Zoo.	Yes. The Multi-modal Transportation Alternative would include the same improvements and upgrades to animal care and animal health facilities and Zoo service centers as the proposed Project.	Yes. Alternative Use of the Project site as a Conservation Center would support expansion of and focus on animal conservation, recovery, education, and research.
2. Increase and Modernize Zoo Exhibit Space	No. The No Project Alternative would not allow the Zoo to increase and modernize Zoo animal space.	Partially. The Reduced Project Alternative would increase and modernize Zoo animal space as compared to existing conditions; however, this alternative would not include the expanded exhibits within the California and Africa planning areas proposed under the	Yes. California Focused Conservation Alternative would increase and modernize Zoo animal space as compared to existing conditions; however, this alternative would not include the expanded exhibits within the hillsides of the Africa planning areas	Yes. The Multi-modal Transportation Alternative would increase and modernize Zoo animal space to the same extent as the proposed Project.	No. This alternative would eliminate the need for animal facilities for public viewing.

Table 4-2. Screening of No Project Alternative and Alternatives 1 – 3 (Continued)

Objective	Alternative				
	No Project	1. Reduced Project	1.5. California Focused Conservation	2. Multi-modal Transportation	3. Alternative Use
		Project, which would limit expansion within Zoo property.	proposed under the Project, which would reduce expansion proposed under the Project.		
3. Conservation	No. The No Project Alternative would not allow the Zoo to develop conservation facilities and programs.	Partially. This alternative would develop conservation facilities and programs to advance the Zoo's conservation efforts; however, due to the smaller increase in visitation, this alternative would likely not generate as much revenue as the proposed Project. Therefore, this alternative may not be able to support expansion of conservation efforts to the same extent as the proposed Project.	Yes. This alternative would promote conservation of California natural resources and would avoid development of the undeveloped hillsides in the Africa planning area, preserving native, including locally protected species, and restoring non-native vegetation communities. The undeveloped hillsides in the Africa planning area would be managed as a restoration and ecological education area of the Zoo. This alternative would also involve implementation of development design guidelines that would prioritize the use and preservation of	Yes. This alternative would develop conservation facilities and programs to advance the Zoo's conservation efforts, similar to the proposed Project.	Yes. Alternative Use of the Project site as a Conservation Center would support expansion of and focus on animal conservation, recovery, education, and research.

Table 4-2. Screening of No Project Alternative and Alternatives 1 – 3 (Continued)

Objective	Alternative				
	No Project	1. Reduced Project	1.5. California Focused Conservation	2. Multi-modal Transportation	3. Alternative Use
			California native plant species, thereby nurturing the existing natural ecosystem, supporting regional biodiversity and Griffith Park habitats, and providing immersive, safe, and dynamic habitats for Zoo animals. These two elements, paired with the replacement of vineyard landscape features in the California planning area with native vegetation to showcase the value of pollinators in the ecosystem, would support expansion of conservation efforts and provide for interpretive and educational experiences.		
4. Learning and Education	No. The No Project Alternative would not allow the Zoo to develop educational facilities and programs to the extent that would otherwise be	Partially. Due to the smaller increase in Zoo animal space and educational facilities under this alternative, the Zoo would not be able to support the	Yes. This alternative would include increases in Zoo animal space and educational facilities. This alternative would also involve	Yes. The Multi-modal Transportation Alternative would advance public engagement efforts and expand education opportunities for the	Yes. Alternative Use of the Project site as a Conservation Center would support expansion of and focus on animal conservation, recovery,

Table 4-2. Screening of No Project Alternative and Alternatives 1 – 3 (Continued)

Objective	Alternative				
	No Project	1. Reduced Project	1.5. California Focused Conservation	2. Multi-modal Transportation	3. Alternative Use
	feasible with improved facilities proposed by the Vision Plan.	same level of public engagement efforts and education.	replacement of proposed vineyard landscape feature in the California planning area with native vegetation to showcase the value of pollinators in the ecosystem providing for interpretive and educational experiences. The undeveloped hillsides in the Africa planning area would be managed as a restoration and ecological education area of the Zoo. This alternative would also advance public engagement efforts and expand education opportunities for the Zoo Magnet Center students, similar to the proposed Project.	Zoo Magnet Center students, similar to the proposed Project.	education, and research.
5. Immersive Visitor Experience	No. The No Project Alternative would not allow the Zoo to improve animal facilities and visitor spaces beyond maintenance and	Partially. The Reduced Project Alternative would enhance Zoo facilities and operations over existing conditions but would not utilize all of	Yes. The California Focused Conservation Alternative would enhance Zoo facilities and operations over existing conditions, but reduced development	Yes. The Multi-modal Transportation Alternative would develop the same immersive visitor spaces as the proposed Project.	No. This alternative would eliminate the need for visitor spaces.

Table 4-2. Screening of No Project Alternative and Alternatives 1 – 3 (Continued)

Objective	Alternative				
	No Project	1. Reduced Project	1.5. California Focused Conservation	2. Multi-modal Transportation	3. Alternative Use
	targeted upgrades consistent with the 1998 Zoo Master Plan.	the Zoo property to maximize immersive experiences for visitors.	would utilize Zoo property to increase immersive visitor experience to a lesser extent than the proposed Project.		
6. World Class Destination	No. The No Project Alternative would not allow the Zoo to enhance Zoo facilities and operations given limitations of existing Zoo design and the age of many facilities.	Yes. While this alternative would involve a smaller footprint than the Project, revitalized and redeveloped facilities would retain all features in the proposed Vision Plan, supporting a transformation into a world class destination.	Yes. While this alternative would involve a smaller development footprint than the Project, revitalized and redeveloped facilities would retain nearly all features in the proposed Vision Plan, supporting a transformation of the Zoo into a world class destination.	Yes. This alternative would enhance Zoo facilities and operations to increase Zoo visitation, create a world class destination, and generate revenue to support Zoo operations, capital improvements, and conservation programs.	No. Alternative Use of the site as a Conservation Center would eliminate visitor spaces and would not be a destination for visitors.
7. Visitor-serving Amenities	No. The No Project Alternative would not allow the Zoo to provide new visitor-serving amenities as the Zoo is built-out under the 1998 Zoo Master Plan.	Partially. The Reduced Project Alternative would provide new visitor-serving amenities, such as the proposed Zoo entry shops and plaza. However, visitor-serving amenities would be limited due to the reduced footprint.	Yes. The California Focused Conservation Alternative would provide new visitor-serving amenities and those proposed for the Africa area (e.g., picnic areas) would be moved to the front entry in Zoo Entry Garden and Park. As such, this alternative would provide nearly the same extent and type	Yes. The Multi-modal Transportation Alternative would develop the same visitor-serving amenities as the Project and would provide additional visitor-serving transit services and bicycle connections to the Zoo.	No. This alternative would not provide visitor-serving amenities.

Table 4-2. Screening of No Project Alternative and Alternatives 1 – 3 (Continued)

Objective	Alternative				
	No Project	1. Reduced Project	1.5. California Focused Conservation	2. Multi-modal Transportation	3. Alternative Use
			of visitor-serving amenities proposed under the Project.		
8. Efficient Circulation System	No. The No Project Alternative would not allow the Zoo to develop an internal loop circulation system and the current inefficiencies would persist.	No. Since the Reduced Project Alternative would not support development of Condor Canyon, the Zoo would not be able to develop an internal loop circulation system and current issues with wayfinding and efficiency would persist.	Yes. The California Focused Conservation Alternative would include development of an internal loop circulation system similar to the proposed Project.	Yes. The Multi-modal Transportation Alternative would develop an internal loop circulation system, similar to the proposed Project.	No. There would be no need for an efficient internal loop circulation system without visitor attendance.
9. Accessibility	No. The No Project Alternative would not allow the Zoo to provide ADA pathways, alternative travel options, or features and facilities for those with special needs and the current deficiencies would persist.	Partially. This alternative would include some improvements to the secondary/exhibit pathways and would implement the proposed Zoo aerial tram to improve access; however, a funicular would not be developed and many of the Zoo's pathways would remain inaccessible for ADA visitors.	Yes. This alternative would include some improvements to the secondary/exhibit pathways and would implement the proposed funicular and ADA pathways to improve access for visitors.	Yes. The Multi-modal Transportation Alternative would provide ADA pathways, alternative travel options, and features and facilities for those with special needs, similar to the proposed Project.	No. There would be no need for visitor accessibility and alternative travel options within the site without visitor attendance.
10. Multi-Modal Access	No. The No Project Alternative would not	Yes. The Reduced Project Alternative	Yes. The California Focused Conservation	Yes. The Multi-modal Transportation	No. Alternative Use of the Project site would

Table 4-2. Screening of No Project Alternative and Alternatives 1 – 3 (Continued)

Objective	Alternative				
	No Project	1. Reduced Project	1.5. California Focused Conservation	2. Multi-modal Transportation	3. Alternative Use
	support improvements to multi-modal accessibility and regional transportation to the Zoo.	would provide bicycle racks and would consolidate bus stops to provide streamlined transit access to the Zoo from the Parkline Shuttle and Metro Line 96, similar to the proposed Project.	would provide bicycle racks and would consolidate bus stops to provide streamlined transit access to the Zoo from the Parkline Shuttle and Metro Line 96, similar to the proposed Project.	Alternative would be focused on providing multi-modal opportunities and incentivizing alternative transportation to the Zoo.	not support improvements to multi-modal accessibility and regional transportation to the Project site because visitation would be substantially reduced compared to the Project.
11. Visual Appearance	No. The No Project Alternative would not improve the visual characteristics of the Zoo, as no substantial changes or improvements would occur.	Partially. The Reduced Project Alternative would include some design improvements and landscaping, primarily in previously developed areas of the Zoo. However, this alternative would not include full development of the California planning area to provide sweeping views of the Zoo.	Yes. This alternative would include improvements and landscaping, primarily in previously developed areas of the Zoo and the California planning area which would be landscaped with California native vegetation to showcase the value of pollinators in the ecosystem and support Zoo animal habitat spaces similar to the Project. This alternative would also eliminate the multi-level parking structure and Zoo aerial tram and associated impacts to visual character. It would also allow visitor access to sweeping	Yes. This alternative would include development of the California Visitor Center, reconstruction of the Treetops roof spires, and other architectural and thematic design elements throughout the Zoo, similar to the Project.	No. Alternative Use of the site as a Conservation Center would not support improvements to the visual appearance of the site.

Table 4-2. Screening of No Project Alternative and Alternatives 1 – 3 (Continued)

Objective	Alternative				
	No Project	1. Reduced Project	1.5. California Focused Conservation	2. Multi-modal Transportation	3. Alternative Use
			views of the Zoo and its surroundings in the California planning area.		
12. Capital Improvements	No. No substantial capital improvements would occur under the No Project Alternative, only maintenance and limited upgrades under the 1998 Zoo Master Plan.	Yes. The Reduced Project Alternative would implement similar capital improvements as the proposed Project, including the stormwater management system, new utility lines, solar PV systems, and lighting systems.	Yes. The California Focused Conservation Alternative would implement similar capital improvements as the proposed Project, including the stormwater management system, new utility lines, solar PV systems, and lighting systems.	Yes. The Multi-modal Transportation Alternative would implement the same capital improvements as the proposed Project, including the stormwater management system, new utility lines, solar PV systems, and lighting systems.	Partially. Capital improvements may be necessary for continued use of the site with an Alternative Use, but not to the extent required to accommodate future growth under the proposed Project.
13. Environmental Sustainability	No. The No Project Alternative would not allow the Zoo to incorporate widespread sustainable design practices into Zoo facilities, rather upgrades would be limited to maintenance projects for existing facilities under the 1998 Zoo Master Plan.	Yes. The Reduced Project Alternative implements sustainable design features, such as the stormwater management system, solar PV systems, and resource-efficient infrastructure (e.g., low-flow fixtures, automatic lighting, etc.), similar to the Project.	Yes. The California Focused Conservation Alternative would implement sustainable design features, such as the stormwater management system, solar PV systems, and resource-efficient infrastructure (e.g., low-flow fixtures, automatic lighting, etc.). In addition, implementation of development design guidelines prioritizing use of native vegetation in landscaping and	Yes. The Multi-modal Transportation Alternative would implement sustainable design features, such as the stormwater management system, solar PV systems, and resource-efficient infrastructure (e.g., low-flow fixtures, automatic lighting, etc.).	Partially. Alternative Use of the site as a Conservation Center may support incorporation of sustainable design practices, but it is unlikely this alternative would implement the stormwater collection system proposed under the Project for collection of stormwater for reuse as irrigation water, and other sustainability features.

Table 4-2. Screening of No Project Alternative and Alternatives 1 – 3 (Continued)

Objective	Alternative				
	No Project	1. Reduced Project	1.5. California Focused Conservation	2. Multi-modal Transportation	3. Alternative Use
			development of wildlife habitat gardens would further support environmentally sustainable practices.		
14. Operational Excellence	No. The No Project Alternative would not allow the Zoo to provide facilities and resources that support operational excellence.	Partially. This alternative would support Zoo operations with some upgraded facilities and secondary/exhibit pathways; however, this alternative would not include an internal loop circulation system to improve emergency access and would not utilize underdeveloped portions of the Zoo campus to enhance overall Zoo design and operations.	Yes. Similar to the Project, this alternative would provide facilities and resources that allow efficient and safe Zoo operations and high-quality customer service.	Yes. Similar to the Project, this alternative would provide facilities and resources that allow efficient and safe Zoo operations and high-quality customer service.	No. Alternative Use of the site as a Conservation Center would not support Zoo operations or provision of high-quality customer service.
Project Objectives Met	None	1, 6, 10, 12, and 13	All	All	1, 3, and 4
Carried Forward for Analysis	Yes (Mandatory)	Yes	Yes	Yes	No

Table 4-3. Screening of Alternatives 4 - 6

Objective	Alternative		
	4. Relocated Zoo	5. Golf Course Expansion	6. Adjusted Phasing
1. Animal Welfare and Care	Partially. Relocation of the Zoo would require relocation of all Zoo animal residents, some of which would not or could not be easily transported.	Yes. The Golf Course Expansion would improve and upgrade animal care and animal health facilities and Zoo service centers, similar to the proposed Project.	Yes. The Adjusted Phasing Alternative would include the same improvements and upgrades to animal care and animal health facilities and Zoo service centers as the proposed Project.
2. Increase and Modernize Zoo Exhibit Space	No. Rather than increasing and modernizing existing Zoo exhibit space, this alternative would support development of all new exhibit space.	Yes. The Golf Course Expansion would increase and modernize Zoo exhibit space to the same extent as the proposed Project.	Yes. The Adjusted Phasing Alternative would increase and modernize Zoo exhibit space to the same extent as the proposed Project.
3. Conservation	Partially. This alternative would develop conservation facilities and programs to advance the Zoo's conservation efforts in a different location; however, Griffith Park provides a natural and quiet setting in support of the Zoo's conservation programs and a new location may not provide an ideal setting.	Yes. This alternative would develop conservation facilities and programs to advance the Zoo's conservation efforts, similar to the proposed Project.	Yes. This alternative would develop conservation facilities and programs to advance the Zoo's conservation efforts, similar to the proposed Project.
4. Learning and Education	No. While the Zoo would continue to support education programs, the Relocated Zoo would not be in proximity to the Zoo Magnet Center and therefore, would not support integration with school facilities to the same extent as the proposed Project.	Yes. The Golf Course Expansion would advance public learning engagement efforts and expand education opportunities for the Zoo Magnet Center students, similar to the proposed Project.	Yes. The Adjusted Phasing Alternative would advance public engagement and education and expand education opportunities for the Zoo Magnet Center students, similar to the proposed Project.
5. Immersive Visitor Experience	Yes. The Relocated Zoo would develop similar immersive visitor spaces as the proposed Project.	Yes. The Golf Course Expansion would develop similar immersive visitor spaces as the proposed Project.	Yes. The Adjusted Phasing Alternative would develop the same immersive visitor spaces as the proposed Project.
6. World Class Destination	Partially. The Relocated Zoo would not enhance existing Zoo facilities	Yes. This alternative would enhance Zoo facilities and operations to	Yes. This alternative would enhance Zoo facilities and operations to

Table 4-3. Screening of Alternative and Alternatives 4 – 6 (Continued)

Objective	Alternative		
	4. Relocated Zoo	5. Golf Course Expansion	6. Adjusted Phasing
	to create a World Class Destination, since the site would require all new facilities; however, the new location would be developed to become a world class destination to achieve this objective.	increase Zoo visitation, create an immersive destination, and generate revenue to support Zoo operations, capital improvements, and conservation programs.	increase Zoo visitation, create an immersive destination, and generate revenue to support Zoo operations, capital improvements, and conservation programs.
7. Visitor-serving Amenities	Yes. The Relocated Zoo would develop visitor-serving amenities, such as food and retail establishments, a range of resting and gathering places, and special event centers at the new site.	Partially. The Golf Course Expansion would develop the same visitor-serving amenities as the Project; however, some of these facilities would be relocated south of the existing Zoo boundary, which may create challenges in providing accessible and convenient amenities.	Yes. The Adjusted Phasing Alternative would develop the same visitor-serving amenities as the Project.
8. Efficient Circulation System	Yes. The Relocated Zoo would develop an intuitive internal loop circulation system at the new site.	No. Since the Golf Course Expansion would not support development of Condor Canyon and would create a new Zoo area that would not efficiently connect to the existing Zoo, the Zoo would not be able to develop an internal loop circulation system.	Yes. The Adjusted Phasing Alternative would develop an internal loop circulation system, similar to the proposed Project.
9. Accessibility	Yes. The Relocated Zoo would provide ADA pathways, alternative travel options, and features and facilities for those with special needs at the new site.	Partially. This alternative would include some improvements to the secondary/exhibit pathways and would implement the proposed Zoo aerial tram; however, a funicular would not be developed and many of the Zoo’s pathways would remain inaccessible for ADA visitors.	Yes. The Adjusted Phasing Alternative would provide ADA pathways, alternative travel options, and features and facilities for those with special needs, similar to the proposed Project.
10. Multi-Modal Access	No. There are no contiguous 133-acre sites that could accommodate a Zoo along any existing transit corridor or near an existing transit	Yes. The Golf Course Expansion would provide bicycle racks and would consolidate bus stops to provide streamlined transit access	Yes. The Adjusted Phasing Alternative would provide bicycle racks and would consolidate bus stops to provide streamlined transit

Table 4-3. Screening of Alternative and Alternatives 4 – 6 (Continued)

Objective	Alternative		
	4. Relocated Zoo	5. Golf Course Expansion	6. Adjusted Phasing
	hub. Any 133-acre site that could accommodate the Project would be on an isolated site and would not support multi-modal access.	to the Zoo from the Parkline Shuttle and Metro Line 96, similar to the proposed Project.	access to the Zoo from the Parkline Shuttle and Metro Line 96, similar to the proposed Project.
11. Visual Appearance	No. The Relocated Zoo would not reflect the Zoo's history and would not include full development of the California planning area, including the hilltop Yosemite lodge-style California Visitor Center and vineyard landscape feature, with sweeping views of the Zoo, as proposed under the Project.	Partially. The Golf Course Expansion would include some design improvements and landscaping, primarily in previously developed areas of the Zoo. However, this alternative would not include full development of the California planning area, including the hilltop Yosemite lodge-style California Visitor Center and vineyard landscape feature, with sweeping views of the Zoo.	Yes. This alternative would include development of the California Visitor Center, reconstruction of the Treetops roof spires, and other architectural and thematic design elements throughout the Zoo.
12. Capital Improvements	Partially. This alternative would implement the capital improvements at the new site, including new utility lines, solar PV systems, and lighting systems. However, the relocated site may not be able to accommodate installation of the stormwater management system.	Yes. The Golf Course Expansion would implement the same capital improvements as the proposed Project, including the stormwater management system, new utility lines, solar PV systems, and lighting systems.	Yes. The Adjusted Phasing Alternative would implement the same capital improvements as the proposed Project, including the stormwater management system, new utility lines, solar PV systems, and lighting systems.
13. Environmental Sustainability	No. There is no guarantee that the Relocated Zoo could install the stormwater management system for irrigation reuse onsite. The new site would not include recycled water connections to the LAGWRP. Additionally, the new site would not benefit from the planned 163,000-sf solar improvements at	Yes. The Golf Course Expansion would implement sustainable design features, such as the stormwater management system, solar PV systems, and resource-efficient infrastructure (e.g., low-flow fixtures, automatic lighting, etc.).	Yes. The Adjusted Phasing Alternative would implement sustainable design features, such as the stormwater management system, solar PV systems, and resource-efficient infrastructure (e.g., low-flow fixtures, automatic lighting, etc.).

Table 4-3. Screening of Alternative and Alternatives 4 – 6 (Continued)

Objective	Alternative		
	4. Relocated Zoo	5. Golf Course Expansion	6. Adjusted Phasing
	the Zoo's north parking lot and entry.		
14. Operational Excellence	Yes. This alternative would provide facilities and resources that allow efficient and safe Zoo operations and high-quality customer service at the new site.	Partially. This alternative would support Zoo operations with some upgraded facilities and secondary/exhibit pathways; however, this alternative would not include an internal loop circulation system to improve emergency access and would not utilize underdeveloped portions of the Zoo campus.	Yes. Similar to the Project, this alternative would provide facilities and resources that allow efficient and safe Zoo operations and high-quality customer service.
Project Objectives Met	5, 7-9, and 14	1-6, 10, 12, and 13	All
Carried Forward for Analysis	No	No	No

4.4.1 Alternatives Considered and Discarded

As discussed above, CEQA Section 15126.6(c) requires that an EIR disclose alternatives that were considered and rejected and provide a brief explanation as to why such alternatives were not fully considered in the EIR. The following alternatives were considered but eliminated from further analysis by the City due to infeasibility or inconsistency with primary Project objectives (refer to Tables 4-2 and 4-3). Detailed discussion regarding why each of these alternatives was discarded is provided below.

Alternative 3 - Alternative Use (Reuse/Conservation Center)

This alternative would avoid or substantially lessen the magnitude of impacts associated with the visitor-oriented nature of the Project (e.g., transportation, utility demand). However, through the transition of use of the site away from the exhibition of animals and visitor-serving uses, this alternative would not achieve a majority of the Project objectives. For instance, though the alternative could likely better achieve Project Objectives No. 3 and 4 relating to animal conservation and education programs, the other Project objectives rely largely upon improving the visitor experience and welfare of all the animals of the Zoo. Further, without the revenue provided by annual visitation, the feasibility of maintaining the 133-acre Zoo property as solely a conservation facility would be questionable. Due to infeasibility and inconsistency with the Project objectives, this alternative has been discarded from further consideration.

Alternative 4 - Relocated Zoo Alternative

Relocation of the Zoo to an alternative site within the City has the potential to result in reduced impacts on the natural environment if the site were to host to fewer or less extensive natural resources (e.g., protected trees, sensitive habitat). In addition, if a site could be acquired and developed within a TPA, a greater level of multi-modal access to the Zoo could be accomplished, thereby reducing the Zoo's transportation and vehicle miles traveled (VMT) related impacts. It is possible that relocation and development of a new property could feasibly accomplish most of the Project objectives; however, development of a new site, demolition and restoration of the existing Zoo property, and redevelopment or restoration of the site would result in substantially greater impacts associated with construction activities (e.g., air emissions, construction noise, construction traffic). Further, it is recognized that relocation of the Zoo to an alternative, vacant site within the City may not be feasible due to a lack of large, contiguous, undeveloped properties within the City. As such, relocation of the Zoo may require the acquisition and redevelopment of an existing developed property; however, the ability of the City to acquire such a property would remain uncertain and may be cost-prohibitive for the Zoo. Due to infeasibility and a potential increase in environmental impacts, this alternative has been discarded from further consideration.

Alternative 5 - Golf Course Expansion Alternative

Expansion of Zoo visitor serving and animal habitat spaces into lower elevation areas of the Zoo and adjacent areas of the Wilson & Harding Golf Course would reduce or avoid impacts

associated with the development of hillside areas of the existing Zoo property under the Project where sensitive biological resources are located (e.g., extensive coast live oak woodland, the endangered Nevin's barberry). While detailed biological surveys have not been conducted on golf course property, it is unlikely that sensitive biological resources which could be impacted by such an expansion exist within the areas of the golf course adjacent to the Zoo property since these areas are highly disturbed and maintained as turf and course facilities and landscaping. Expansion into the adjacent areas of the Wilson & Harding Golf Course may also reduce impacts associated with views across the Zoo property from nearby trails within Griffith Park by avoiding development of proposed larger features (e.g., the California Visitor Center) from higher elevation areas along the hillsides. However, expansion of the Zoo property would adversely affect operation of the Wilson & Harding Golf Course and presents other uncertainties with regard to the ability of the Zoo to acquire property from the Wilson & Harding Golf Course to support such an expansion. Additionally, this alternative would not lessen significant impacts on aesthetics and transportation compared to the Project. Aesthetic changes may be more visible to the public given this more open setting of the golf course and proximity to local roadways. Transportation impacts would be similar to the Project, including total VMT since the Zoo would expand as intended but into different areas in the Project vicinity. Due to infeasibility and potential increase in environmental impacts, this alternative has been discarded from further consideration.

Alternative 6 - Adjusted Phasing Alternative

Adjusting the phasing of Project implementation would result in the same overall Project impacts but the timing of when those impacts would occur would change compared to the Project. This would avoid potential impacts caused by near-term Project construction activities. For example, by postponing the construction of the Africa planning area until Phase 4, air quality would potentially benefit from improved engine efficiency and would likely result in fewer criteria pollutants than the Project for that phase; however, Phase 3 would involve development of the Zoo service centers and the multi-story parking structure, which would generate similar levels of construction emissions as the Project. Further, air quality is not a significant impact of the Project following mitigation (see Section 3.3, *Air Quality*). Significant impacts, including aesthetic changes and increases in VMT, would be similar to the Project under this alternative. All physical changes analyzed for the Project would also occur under this alternative, including development of structures visible from public roadways and trails (e.g., the parking structure, Treetops Terrace, and the California Visitor Center). While constructing the proposed parking structure during Phase 3, rather than Phase 7, would help alleviate parking demands on peak days earlier in the Project, the total VMT would remain unchanged, subject to mitigation, and would continue to exceed City VMT thresholds. This indicates that adjusting the phasing of Vision Plan implementation over its 20-year horizon would not change the significance of Project impacts. Though this alternative is feasible, there would be no substantial change to environmental impacts and this alternative has been discarded from further consideration.

4.5 ALTERNATIVES CONSIDERED AND ANALYZED IN THIS EIR

A reasonable range of alternatives with the potential to attain the basic objectives of the Project but avoid or substantially lessen significant impacts is analyzed below. Each alternative is discussed in relation to the Project objectives. Alternatives selected for analysis include:

- No Project Alternative
- Alternative 1 – Reduced Project Alternative (Alternative 1)
- Alternative 1.5 – California Focused Conservation Alternative (Alternative 1.5)
- Alternative 2 – Multi-modal Transportation Alternative (Alternative 2)

A description of environmental impacts under each alternative is also provided below. Table 4-4 provides a summary of the comparative impacts of each alternative to the Vision Plan.

Table 4-4. Impact Comparison of Alternatives to the Proposed Project

Environmental Resources	Proposed Project	No Project Alternative	Alternative 1	Alternative 1.5	Alternative 2
Aesthetics and Visual Resources	Significant and Unavoidable	Less	Less	Less	Less
Air Quality	Less than Significant with Mitigation	Less	Less	Less	Less
Biological Resources	Less than Significant with Mitigation	Less	Less	Less	Similar
Cultural and Tribal Cultural Resources	Less than Significant with Mitigation	Less	Similar	Slightly Less	Similar
Energy	Less than Significant	Less	Slightly Less	Less	Less
Urban Forestry Resources	Less than Significant with Mitigation	Less	Less	Less	Similar
Geology and Soils	Less than Significant	Less	Similar	Similar	Similar
Greenhouse Gases and Climate Change	Less than Significant	Similar	Slightly Less	Less	Less
Hazards and Hazardous Materials	Less than Significant with Mitigation	Less	Similar	Similar	Similar

Table 4-4. Impact Comparison of Alternatives to the Proposed Project (Continued)

Environmental Resources	Proposed Project	No Project Alternative	Alternative 1	Alternative 1.5	Alternative 2
Hydrology and Water Quality	Less than Significant with Mitigation	Less	Similar	Similar	Similar
Land Use and Planning	Less than Significant with Mitigation	Greater	Similar	Similar	Less
Noise and Vibration	Less than Significant with Mitigation	Less	Less	Slightly Less	Similar
Public Services	Less than Significant with Mitigation	Similar	Similar	Similar	Similar
Recreation	Less than Significant	Greater	Similar	Similar	Less
Transportation	Significant and Unavoidable	Slightly Less	Slightly Less	Less	Less
Utilities	Less than Significant with Mitigation	Less	Slightly Less	Less	Similar
Wildfire	Less than Significant with Mitigation	Similar	Similar	Similar	Similar
Meet Project Objectives?	Yes	No	Partially Yes	Yes	Yes
Reduce Severity of Impacts?	No	Yes	Yes	Yes	Yes

4.5.1 No Project Alternative

Potential Impacts to Resource Areas

Under the No Project Alternative, several environmental impacts would be avoided or reduced compared to the proposed Project, although beneficial impacts to recreation from development of a new public park would not occur. Impacts on aesthetics and visual resources, air quality, biological resources, cultural and tribal cultural resources, noise, and transportation and circulation would be substantially less when compared to the Project, due to the absence of construction activities and lack of significant increase in annual visitation under the Project. Mitigation measures would not be necessary for these resource areas to avoid significant impacts under this alternative. However, the Zoo would not benefit from

some of the improvements proposed under the Project, such as the improvement and expansion of space for animals, redevelopment of outdated exhibit structures (e.g., round houses), addition of parking, improvement of the Zoo's stormwater system for onsite reuse, expansion of solar PV systems onsite to offset Zoo energy demands, and improvement of offsite roadways. The following provides an analysis of differences in impacts for all resources analyzed in this EIR for the Project.

Aesthetics and Visual Resources

Short-term temporary construction impacts and long-term permanent impacts to aesthetics and visual resources would be negligible under the No Project Alternative. Due to the absence of construction activities, the No Project Alternative would not result in the presence of large construction equipment and active construction sites at the Zoo. Additionally, the No Project Alternative would not introduce new tall features and development (e.g., Treetops Visitor Center, Zoo aerial tram, California Visitor Center, etc.), which have the potential to be visible from Griffith Park public trails such as Condor Trail or Skyline Trail, resulting in the potential to obstruct or alter existing scenic views or vistas. Further, the No Project Alternative would eliminate the need for a parking structure as proposed under the Project. Therefore, there would be no obstruction of views of the natural hillside to the west or disruption of the viewer experience for travelers entering or traversing Griffith Park. The No Project Alternative would not create a substantial adverse temporary or permanent change to distant views and would not diminish scenic views of or across the Zoo from the surrounding public trails in Griffith Park. As a result, no impact on views of the Zoo would occur.

The No Project Alternative would not alter the existing vegetation or the Zoo's existing tree canopy, except for continuation of annual vegetation clearance for wildfire management around the Zoo's property line. The undeveloped hillsides within the proposed Project's California and Africa planning areas would remain undeveloped under the No Project Alternative. Therefore, this alternative would not create a change in visual character due to the development of the undeveloped hillsides. As there would be no change in the visual setting of the existing Zoo under this alternative, impacts on the visual character of Griffith Park would be less than the proposed Project.

The No Project Alternative would not result in an increase in the frequency and amount of lighting produced from the Project site associated with increased special events held at the Zoo. Lighting would not be introduced to the currently undeveloped hillside planned for the California and Africa planning areas under the Project. Similar to the proposed Project, the Zoo would remain shielded from direct views from the Griffith Observatory and Greek Theater, minimizing potential light spillover. Therefore, impacts on light and glare would be slightly less than the proposed Project.

Similar to existing conditions, future development within the Zoo would be gradually implemented on an as-needed basis, resulting in a built environment that does not share a consistent aesthetic or design. Without a Vision Plan to guide development of the Zoo and

seek uniformity in the design of improvements, the visual design and aesthetic character of the Zoo's interior areas would remain inconsistent.

Air Quality

Under the No Project Alternative, air quality impacts would be negligible and substantially less than under the proposed Project. Due to the absence of construction activities, the No Project Alternative would not result in construction air emissions from the use of heavy construction equipment. Further, since annual attendance at the Zoo would remain consistent with existing conditions, vehicle trips to the Zoo and associated annual VMT from visitors and employees would also remain constant. The No Project Alternative would not result in additional air emissions from increased vehicle trips to the Zoo. Therefore, construction and operational emissions under the No Project Alternative would be substantially less than under the proposed Project.

Biological Resources

Under the No Project Alternative, existing native vegetation communities and protected trees located primarily within the California and Africa planning areas would remain undeveloped, thereby reducing direct impacts on biological resources. However, the No Project Alternative would not guarantee preservation of these resources or avoidance of future impacts to biological resources due to annual vegetation clearance for wildfire management. As observed through biological resource investigations conducted for this EIR, current vegetation management practices result in continued loss of vegetation supporting native habitat and potential removal or disturbance of special status plant and animal species (e.g., Nevin's barberry and San Diego woodrat). For example, past vegetation clearance has resulted in cutting and removal of several black walnut trees, which are protected trees in the City. Under the proposed Project, with **MM WF-1**, a wildfire fuel management plan would be required and include the identification, mapping, and avoidance of sensitive species. Further, the No Project Alternative would not result in the potential enhancement or restoration of habitat within the Zoo (e.g., removal of non-native eucalyptus and replacement with native trees) and within Griffith Park resulting from implementation of mitigation associated with development of the undeveloped areas of the Zoo. Potential future limited improvements under the No Project Alternative also have potential to disturb trees and shrubs protected under the City's existing and proposed amended Tree Preservation Ordinance, but existing policy requiring application for tree removal permits and commensurate replacement under the ordinance would ensure impacts are appropriately mitigated. While biological impacts would not be avoided compared to the proposed Project, the extent of direct disturbance would be less than under the proposed Project.

Cultural and Tribal Cultural Resources

Impacts to historic resources under the No Project Alternative would remain the same as under the proposed Project as there are no designated or eligible historic resources present

at the Zoo. Although no cultural resources are known to be present within the Project site, under the No Project Alternative, there would be limited potential for disturbance or damage to any potential unknown sites or human remains as no development would occur within existing undeveloped areas. The Project site has been previously and extensively disturbed for the development of the existing Zoo and prior uses of the site as a golf course. Development under the No Project Alternative would be limited to maintenance and improvements under the 1998 Zoo Master Plan, which would be confined to existing developed areas of the Zoo. Past construction and earthwork within the canyon bottom and base of the hillsides within the Zoo likely disturbed any buried cultural resources. Therefore, limited development under the No Project Alternative would have less potential for impact on cultural and tribal cultural resources than the Project.

Energy

Under the No Project Alternative, the Zoo's energy demands would remain similar to those described in Section 3.5.1, *Environmental Setting*. The No Project Alternative would not result in the temporary energy impacts from the short-term use of construction equipment. Transportation fuel consumption would be less than the Project as well both related to construction traffic and from long-term visitation since annual visitation would remain similar to existing conditions. This alternative would also not develop new buildings at the Zoo that would increase the existing operational energy demand. However, many of the existing buildings at the Zoo are outdated and do not operate in compliance with the most recent California Energy Code (California Code of Regulations [CCR] Title 24, Part 6) and Green Building Standard Code (CCR Title 24, Part 11), which indicates older buildings are not energy efficient. The No Project Alternative would not update existing buildings or construct new buildings that would comply with applicable state and local energy codes to ensure efficient energy use. Further, the No Project Alternative would not include installation of solar PV systems atop Zoo facilities to offset Zoo electricity demands. The No Project Alternative would also not upgrade the Zoo's stormwater management system to generate an onsite water source for irrigation, thereby reducing energy demands for water treatment and conveyance. Therefore, while overall energy consumption for the No Project Alternative would be less than the proposed Project, this alternative would eliminate beneficial impacts on energy use at the Zoo when compared to the proposed Project. Continued use of outdated facilities without onsite solar energy systems under this alternative would result in wasteful and inefficient use of energy over time when compared to the proposed Project.

Urban Forestry Resources

Impacts to existing urban forest resources would be less than under the proposed Project. The existing vegetation, including native and non-native trees, located primarily within the California and Africa planning areas would remain undeveloped but subject to annual vegetation clearance for wildfire management (see also, *Biological Resources* above). Unlike the proposed Project, the No Project Alternative would not require the removal of native and

non-native trees within the Zoo and parking lot. However, implementation of the No Project Alternative would not result in the potential enhancement or restoration of habitat within the Zoo property and Griffith Park resulting from implementation of mitigation (i.e., **MM UF-1**) associated with development of the undeveloped areas of the Zoo. Potential future limited improvement under the No Project Alternative has potential to disturb trees and shrubs protected under the City's existing and proposed amended Tree Preservation Ordinance, but existing policy requiring application for tree removal permits and commensurate replacement under the ordinance would ensure impacts are appropriately mitigated. Compared to the proposed Project, the No Project Alternative would result in fewer impacts on the City's urban forest.

Geology and Soils

Under the No Project Alternative, the Zoo would continue to operate in a seismically active region where groundshaking would continue to present potential risks for Zoo facilities. Unlike the Project, this alternative would not involve extensive ground disturbance for new facilities, including blasting and excavation of Condor Canyon. Therefore, impacts to and from geologic and soil resources under the No Project Alternative would be less than under the proposed Project. Similar to the Project, existing policies and regulations would apply to any improvements made to the Zoo under the 1998 Zoo Master Plan to ensure appropriate measures such as preparation of site-specific geotechnical studies and development consistent with the California Building Code (CBC) are implemented to reduce impacts to and from geologic and soil resources. Therefore, geologic impacts would be less than under the proposed Project.

Greenhouse Gas (GHG) Emissions and Climate Change

Under the No Project Alternative, short-term construction and long-term operational greenhouse gas (GHG) emissions would be substantially reduced when compared to the proposed Project. Unlike the Project, construction within the Zoo would entail maintenance, repair, and improvements to Zoo facilities on an as-needed basis under the 1998 Zoo Master Plan. Large-scale demolition, grading, excavation, and vertical construction would not occur, including the substantial excavation that would be needed for Condor Canyon. As such, the construction emissions under the No Project Alternative would be less than the proposed Project. In terms of long-term GHG generation from Zoo operations, the No Project Alternative would not increase annual visitation and related vehicle trips to the Zoo, indicating that mobile GHG emissions would be less than the Project. However, this alternative would not redevelop outdated, energy inefficient buildings. Further, the No Project Alternative would not include installation of solar PV systems atop Zoo facilities to offset Zoo electricity demands. The No Project Alternative would also not upgrade the Zoo's stormwater management system to generate an onsite water source for irrigation, thereby reducing energy demands for water treatment and conveyance. As a result, it is reasonable to assume that GHG emissions associated with long-term operations would be greater than the

proposed Project. With a decrease in construction GHG emissions and an increase in operational GHG emissions, it is estimated that Zoo GHG emissions under the No Project Alternative would be similar to the proposed Project.

Hazards and Hazardous Materials

Hazards and hazardous materials impacts from the No Project Alternative would be reduced when compared to the proposed Project. As described in Section 3.9.3, *Environmental Impact Analysis*, construction of the proposed Project would require transportation, use, storage, and disposal of commercially available hazardous materials, such as vehicle fuels, oils, transmission fluids, and hydraulic fuels. Under the No Project Alternative, construction would be limited to maintenance, repairs, and improvements to existing facilities on an as-needed basis under the 1998 Zoo Master Plan. Routine transport, use, storage, and disposal of construction wastes and related hazardous materials would be limited compared to proposed Project construction activities. In operations, the Zoo would continue to use, store, and dispose of hazardous materials, substances, and waste similar to existing conditions, as described in Section 3.9.1, *Environmental Setting*. Similar to the proposed Project, compliance with applicable regulations as well as oversight by the appropriate federal, state, and local agencies would minimize the risk of hazardous materials exposure during transport, use, storage, and disposal. While the risks of hazardous materials from construction would be reduced, the operational risks would be similar to the proposed Project with regard to the transport, use, storage, and disposal of hazardous materials.

Impacts associated with the disposal of hazardous wastes, such as asbestos-containing material (ACM), lead based paint (LBP), or mold, would be reduced under the No Project Alternative since no major demolition or redevelopment would occur. Rather, construction would be limited to building maintenance and improvements, which would reduce the risk of upset or release of these hazardous wastes. Similar to the proposed Project, hazardous materials encountered during demolition or construction activities would be disposed of in compliance with all pertinent regulations for the handling of such waste including SCAQMD Rule 1403 (asbestos) and CCR Title 8, Industrial Relations. Compared to the Project, impacts from potential release and exposure to ACM, LCP, and mold would be reduced compared to the Project.

Impacts associated with ground-disturbing activities in proximity to known or potentially contaminated soils would be eliminated under the No Project Alternative. This alternative would not require soil disturbance in the vicinity of known past contamination or areas of potential contamination from underground storage tanks (USTs), including road improvements at Zoo Drive and Western Heritage Way or in the Zoo's southern parking lot. Similarly, the No Project Alternative would not implement improvements to the existing Zoo Construction Shop and Support area, which is considered a Recognized Environmental Condition (REC) and Vapor Encroachment Condition (VEC) due to the potential release of petroleum products to the subsurface from the onsite fueling dispensers, USTs, and associated piping. As such, this alternative would not have the potential to disturb potentially

contaminated soil and hazardous vapors and there would be no adverse impacts from exposure to soil contamination. However, without the Project, Phase II environmental site assessment and needed cleanup of potential contaminated soils would also not occur, as required by **MM HAZ-1** for the Project.

Similar to the proposed Project, this alternative would not result in physical interference or impairment to implementation of an existing emergency and evacuation plan. Emergency response and access would continue to be guided by emergency preparedness procedures in the event of an emergency and/or evacuation in accordance with the AZA Accreditation Standards and Related Policies. Similar to the Project, there would be no changes to designed public evacuation routes on I-5 and SR-134. Further, the Zoo would continue to comply with existing design standards and safety procedures for the safety of the Zoo's resident animals and animal caretakers.

As the No Project Alternative would not involve soil disturbance or construction, which have risks for upset of and exposure to hazardous materials, hazard impacts would be reduced compared to the proposed Project.

Hydrology and Water Quality

The No Project Alternative would not implement a 20-year plan of construction activities that could contribute to a violation of water quality standards or otherwise substantially degrade surface or groundwater qualities. Implementation of the No Project Alternative would not increase impervious surfaces at the Project site or pump groundwater. Therefore, this alternative would not substantially decrease groundwater supplies or interfere with groundwater recharge. No drainage patterns would be altered under the No Project Alternative; therefore, this alternative would not result in substantial erosion, increase the amount of runoff, or cause flooding. Surface water would continue to receive treatment before discharge to the Los Angeles River consistent with requirements of the Los Angeles Regional Water Quality Control Board (RWQCB). Further, this alternative would not result in inconsistency with regional water regulations or plans. As a result, there would be no change in site hydrology or water quality compared to the Project and impacts would be less than the proposed Project as there would be no ground disturbance or expansion of Zoo uses into undeveloped areas of the Zoo property. However, this alternative would not involve installation of the proposed comprehensive onsite stormwater management system to capture, treat, and reuse up to 35 million gallons of Zoo site runoff per year, substantially reducing the burden on the Zoo Wastewater Facility and improving water quality prior to treatment.

Land Use and Planning

The No Project Alternative would involve a continuation of existing operations, with maintenance, repairs, and improvements occurring on an as-needed basis consistent with the 1998 Zoo Master Plan. As such, this alternative would be consistent with existing regional and location plans and regulations, including the Southern California Association of Governments

(SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), Los Angeles General Plan, Hollywood Community Plan, L.A.'s Green New Deal, Griffith Park Vision Plan, and Los Angeles Municipal Code (LAMC). However, this alternative would not include the facility upgrades to improve energy efficiency, the installation of solar PV systems to offset Zoo electricity demand, or the comprehensive stormwater management system to collect, treat, and reuse up to 35 million gallons of water per year. As such, the No Project Alternative would not help the City implement the stormwater and recycled water reuse objectives or the energy efficiency goals outlined in L.A.'s Green New Deal and the One Water LA 2040 Plan. As a result, this alternative would have greater land use and planning impacts than the Project.

Noise and Vibration

The No Project Alternative would retain the existing noise environment associated with noise and vibration. Noise impacts under the proposed Project are primarily associated with construction activities, increased special events, and increased traffic noise related to increased Zoo visitation. The No Project Alternative would involve only limited future construction activities on an as-needed basis to maintain, repair, and improve Zoo facilities, similar to existing conditions. Construction and noise vibration would be minimal and substantially less than the Project. For example, the No Project Alternative would not require excavation and blasting for Condor Canyon. In terms of operations, annual attendance at the Zoo is expected to remain constant under the No Project Alternative, which would keep visitor and operational noise similar to existing conditions. Special events at the Zoo would continue within existing facilities such as the Angela Collier World of Birds Theater and the pending Angela Collier Gardens event space; however, implementation of the No Project Alternative would not include the three proposed visitor centers and other facilities that would allow for expanded special events during extended nighttime hours. With no increase in annual visitation and no expansion of Zoo hours or special events, this alternative would not increase roadway noise from increased vehicle trips. Therefore, noise and vibration impacts under the No Project Alternative would be less than the proposed Project.

Public Services

The No Project Alternative would not include residential development or generate new jobs and, therefore, would not create population growth in the area. Without an increase in service population, there would be no increased demand for services from the Los Angeles Fire Department (LAFD), Los Angeles Police Department (LAPD), or government or school facilities. As a result, this alternative would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, similar to the Project.

The Zoo's setting in a Very High Fire Hazard Severity Zone (FHSZ) and Zoo operations within structures that predate current California and Los Angeles Fire Code (LAFD) requirements

includes risk of fire that would require response from the Los Angeles Fire Department (LAFD). Ongoing maintenance, repair, and improvement projects at the Zoo would continue to introduce potential ignition sources such as the use of heavy machinery and fuels, which could create the potential for sparking and exacerbate fire risk. However, construction activities are temporary and do not create continuing elevated risks requiring fire protection and emergency medical service (EMS) response. Implementation of best management practices (BMPs) recommended within applicable Occupational Safety and Health Administration, LAMC Fire Code, and CBC regulations would reduce risks associated with limited future Zoo construction projects under the No Project Alternative. As described further under *Wildfire* below, the No Project Alternative would not alter existing internal and external access roads within and surrounding the Zoo. Therefore, emergency access and response would be maintained similar to existing conditions. However, the No Project Alternative would not result in the wayfinding and looping internal circulation system designed around a Primary Path Loop as proposed by the Project, which is intended to facilitate more intuitive navigation of the Zoo and would assist with efficient evacuation and response in the event of an emergency.

Recreation

The No Project Alternative would not result in adverse impacts on recreational resources. Zoo maintenance and operations would continue within the existing Zoo property with no changes in adjacent areas of Griffith Park or the Wilson Harding Golf Course. However, implementation of this alternative would not result in beneficial impacts associated with expansion of the visitor-serving areas of the Zoo, including the children's Nature Play Park, the proposed new public park adjacent to the Zoo's northern parking lot, and additional parking spaces that would be available to Griffith Park and Autry Museum of the American West visitors. Additionally, the No Project Alternative would not improve recreational value and opportunities provided by the Zoo associated with redevelopment and expansion of existing facilities and the construction of new facilities proposed under the Project. Therefore, this alternative would not provide the recreation improvements associated with the proposed Project and existing conditions would continue.

Transportation

The No Project Alternative would not generate new jobs or an increase in visitation at the Zoo; therefore, vehicle trips would remain similar to existing conditions as described in Section 3.15.1, *Environmental Setting*. As such, the No Project Alternative would not increase annual VMT for visitors and employees. Therefore, impacts related to VMT would be less than the Project based on the City's adopted net-zero VMT thresholds for regional attractions like the Zoo.

However, the No Project Alternative would not include the multi-modal improvements proposed by the Vision Plan, including expanded bicycle parking and relocation of the bus stop to facilitate more efficient ridership for the Griffith Parkline Shuttle and Metro Line 96.

Further, without MM TRANS-2, the Zoo would not implement a comprehensive TDM program to substantially reduce employee and visitor vehicle trips to the Zoo, with no expansion of transit services and incentives for vanpools and carpools to reach the Zoo. Under this alternative, the Zoo would continue to operate with little to no use of transit or active modes of transportation and most Zoo trips would be vehicular. This would conflict with local and regional plans, including the RTP/SCS and Mobility Element, which prioritize multi-modal transportation opportunities. As such, the No Project Alternative would be less consistent with transportation plans and policy and impacts related to transportation planning would be greater than the Project.

The No Project Alternative would not implement the intersection improvements at Zoo Drive/Western Heritage Way. Similarly, this alternative would not realign Western Heritage Way to border the outside perimeter of the Zoo's southern parking lot. Therefore, this alternative would not result in beneficial impacts on vehicle congestion at this intersection and would not improve pedestrian safety for students and other pedestrians crossing Western Heritage Way. As such, impacts related to geometric hazards would be greater than the Project and the existing roadway configuration presents greater safety hazards than the proposed improvements included in the Project.

The No Project Alternative would not improve the Zoo's interior pedestrian pathways, which are currently discontinuous and include many smaller loops, barriers, and dead ends. The intuitive circulation system designed around a Primary Path Loop proposed under the Project would not be constructed. ADA guests and families with strollers would continue to be limited in available routes due to steep grades and stairs, including at the Zoo Entry. The proposed Zoo aerial tram would not be installed to provide efficient movement across from the Zoo Entry to the Africa planning area. Further, the ground tram route would not be separated from the pedestrian pathways, which would continue to present safety and circulation issues for Zoo visitors. Under this alternative, wayfinding would continue to pose challenges to visitors with no Orientation Plaza connecting to the Primary Path Loop. Therefore, this alternative would not provide the safety improvements associated with the Project's proposed interior circulation system and existing conditions would continue.

Utilities

Under the No Project Alternative, annual visitation would remain constant. As a result, there would be no substantial increase in water demand or the generation of wastewater or solid waste. Similar to the Project, existing utility capacities would be adequate to continue to serve the Zoo, including the Los Angeles Glendale Water Reclamation Plant (LAGWRP) to treat wastewater, the Sunshine Canyon Landfill for solid waste disposal, and the Los Angeles Department of Water and Power (LADWP) for water supply. This alternative would not involve substantial construction, demolition, or soil disturbance, which would not generate solid waste or wastewater or create water demands. As a result, this alternative would have fewer utility impacts than the proposed Project.

However, the No Project Alternative would not implement utility and infrastructure improvements at the Zoo, including the stormwater collection system proposed under the Project, electricity upgrades with solar PV systems atop facility rooftops, and improved sewer and water lines to serve new facilities. The Zoo would continue to use existing water lines and sewer pipes to convey water and wastewater. Existing utility infrastructure at the Zoo was installed between 50 and 70 years ago, indicating that pipelines and conduits are approaching the end of their useful life, and most sewer and water pipes are operating at capacity. These utilities are difficult to maintain and require relatively deep excavation for repair or replacement as they were installed deep underground and covered with extensive fill. The No Project Alternative would not result in the long-term operational benefits associated with the installation of new utility lines proposed under the Project and there would not be any infrastructure improvements that would reduce water consumption, maintenance, and resiliency.

Wildfire

The No Project Alternative would not alter the internal or external access roads at the Zoo. Therefore, this alternative would not result in short-term temporary internal rerouting and temporary closures during phased construction that may block evacuation routes or cause circuitous or inefficient evacuation, as well as limit firefighter access to internal areas of the Zoo. However, this alternative would also eliminate the long-term beneficial impact of creating more direct routes and improving the circulatory systems both within and surrounding the Zoo that would improve emergency response and access under the proposed Project.

The No Project Alternative would not increase the total number of animals housed within the Zoo; therefore, this alternative would not result in increased impacts related to evacuating or sheltering individual animals under Zoo care. Similarly, this alternative would not support an expansion in visitation, maintaining the total and density of people in a designated Very High Fire Hazard Severity Zone (FHSZ). Therefore, the No Project alternative would result in reduced impacts on emergency evacuation and sheltering in place.

Similar to the proposed Project, ongoing maintenance, repair, and improvement that would occur at the Zoo would introduce new potential ignition sources in a Very High FHSZ such as the use of heavy machinery and fuels, which could create the potential for sparking and exacerbate fire risk. The No Project Alternative would not implement construction activities within undeveloped areas that currently support flammable native and non-native vegetation and are located on steep slopes adjacent to wildlands in Griffith Park. Similarly, this alternative would not add to construction-related fire ignition risks from potential blasting for Condor Canyon in the California planning area.

Unlike the proposed Project, the No Project Alternative would not involve removal of hundreds of unmaintained highly flammable eucalyptus trees, as well as over 13 acres of flammable native chaparral and up to 7 acres of oak woodland. Therefore, this alternative

would not result in beneficial impacts related to the reduction of fire risk as proposed under the Project. However, annual vegetation removal associated with wildfire management would continue to occur, consistent with existing operations. As a result, the No Project Alternative would result in reduced impacts on the spread of wildfire.

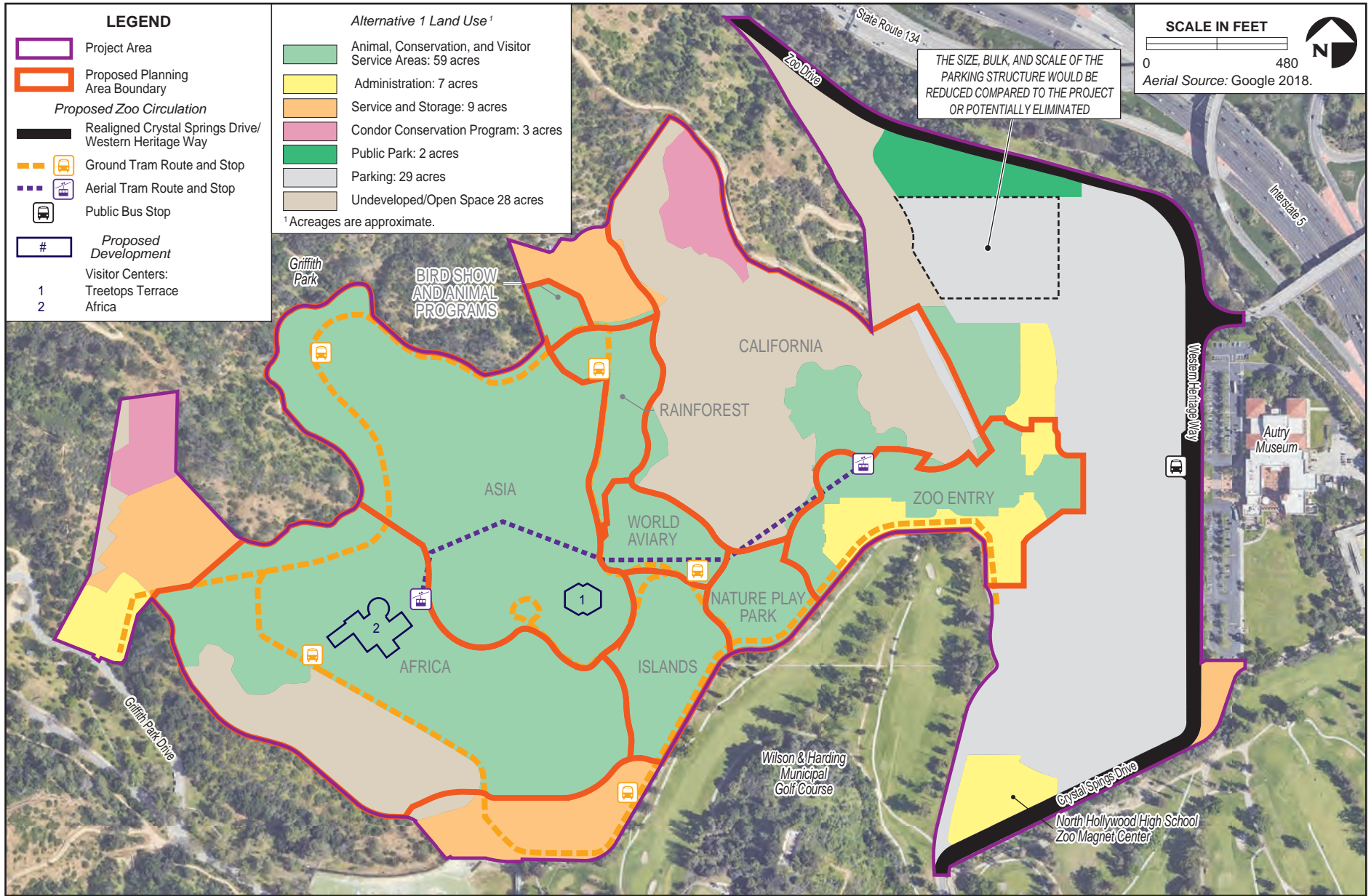
4.5.2 Alternative 1 – Reduced Project Alternative

The existing undeveloped hillsides in the California and Africa planning areas currently support sensitive biological resources, including native vegetation communities, habitat for several designated sensitive species, several occurrences of the federally and state-listed endangered Nevin’s barberry, and hundreds of locally protected trees. To reduce impacts on these resources, the Reduced Project Alternative would redesign the Vision Plan’s land use plan to avoid development of the Zoo’s existing undeveloped hillside areas where these resources are present. In addition, the Reduced Project Alternative would protect views from public roadways such as Zoo Drive and Western Heritage Way by retaining surface parking in the northern parking lot and excluding or substantially reducing the size of a multi-story parking structure. Alternative 1 would reduce or avoid impacts compared to the Project but would fail to meet or would only partially meet several of the Project objectives.

The Reduced Project Alternative (Alternative 1) would guide long-term redevelopment and operations of the Zoo similar to the Project but under a revised land use plan that would avoid undeveloped hillsides containing sensitive biological resources.

Land Use Plan and Site Design

Alternative 1 would include a major reconfiguration of the proposed land use plan and conceptual plan to substantially avoid development of the existing undeveloped hillsides within the California and Africa planning areas. Redevelopment would occur within existing developed areas of the Zoo in the lower elevation areas of the canyon and some undeveloped areas that do not contain sensitive biological resources, resulting in a smaller development footprint (Figure 4-1). In doing so, Alternative 1 would reduce acreage dedicated to Animal, Conservation, and Visitor Service Areas by 20 acres, reduce Service and Storage Area by 1 acre, and increase Undeveloped/Open Space Areas by 21 acres. These reductions in Zoo uses would reduce the number of animal exhibits and the size and complexity of the exhibits and animal habitats. These changes would reduce environmental impacts associated with the development and loss of natural resources within these areas (e.g., native habitat, sensitive plant species, protected trees). Table 4-5 provides a summary of the land use and buildout assumptions proposed under Alternative 1. As presented therein, the overall area of new development under Alternative 1 would decrease by 21 acres as compared to the Project, substantially reducing direct and indirect disturbance of habitats and natural resources in these areas.



Los Angeles Zoo
Alternative 1 – Reduced Project Alternative

**FIGURE
4-1**

Table 4-5. Comparison of Land Uses Under Alternative 1 and Proposed Project

Land Use	Proposed Project (acres)	Alternative 1 (acres)	Difference (acres)
Animal Conservation & Visitor Service Areas	79.0	59.0	20.0
Administration	7.0	7.0	0.0
Service & Storage	10.0	9.0	1.0
Condor Conservation Program	3.0	3.0	0
Public Park	2.0	2.0	0.0
Undeveloped/Open Space	7.0	26.0	21.0
Parking	29.0	29.0	0
Realigned Crystal Springs Drive	5	5	0

Note: Land use acreages are approximate due to rounding based on GIS analysis.

By reducing the proposed footprint of the Zoo, this alternative would eliminate several Project features in the California and Africa planning areas, including the California Visitor Center and funicular, Condor Canyon, and the internal circulation system designed around a Primary Path Loop. All other elements of the proposed Project not associated with development of these areas would remain under this alternative, including the Africa Visitor Center, Treetops Visitor Center, and Zoo aerial tram. These adjustments would also reduce the physical capacity of the Zoo for daytime visitation and special events on evenings and weekends (e.g., campouts, galas, etc.), which in turn would commensurately reduce annual visitation compared to the Project. With reduced visitation, the Reduced Project Alternative would also substantially reduce the size of the multi-story parking structure and potentially exclude it; the proposed 2-acre public park would also be excluded if the parking structure is not constructed. Table 4-6 summarizes the components of the Project that would not be implemented under Alternative 1.

Table 4-6. Key Components of the Project Excluded and/or Substantially Reduced Under Alternative 1

Phase	Planning Area	Description of Excluded Improvements
1	California	<ul style="list-style-type: none"> Excavation and construction of Condor Canyon Grading and construction of new animal facilities and exhibits along the hillside area Construction of the California Visitor Center and funicular Installation of a vineyard landscape feature Construction of new vehicle service entrance and service roads Several animal habitats and exhibits and visitor amenities
3	Africa	<ul style="list-style-type: none"> Grading and construction of Zoo uses along the hillside area Several animal habitats and exhibits and visitor amenities
Phase	Planning Area	Description of Potentially Excluded/Substantially Reduced
7	Parking Structure*	<ul style="list-style-type: none"> Excavation and grading Construct multi-level parking structure 2-acre public park, if multi-story parking structure is not constructed

* Parking structure would either be eliminated or substantially reduced in size based on reduced annual visitation.

Required discretionary actions and construction phasing would remain similar to the proposed Project (refer to Section 2.4.1, *Phasing & Implementation* and Section 2.5, *Required Actions and Approvals*); however, the duration of Phases 1 and 3 construction would likely be reduced, with the timing of subsequent phases adjusted accordingly (see Tables 4-7 and 4-8 below).

Internal Zoo Circulation Network, Site Access, and Parking

Under Alternative 1, internal Zoo circulation for both visitors and Zoo service vehicles would be redesigned in response to land use plan changes described above (Figure 4-1). Notable adjustments include the loss of Condor Canyon, which would eliminate the feasibility of an internal circulation pathway around the Zoo designed around a Primary Path Loop. Under the Project, Condor Canyon would serve as a shared pedestrian, ADA accessible and stroller-friendly walkway, ground tram route, and service road that would support a simplified circulation network through the Zoo. Without Condor Canyon under Alternative 1, the Zoo's internal circulation system would remain similar to existing conditions, though some improvements to the secondary/exhibit pathway would continue to occur with redevelopment of animal exhibits. Further, a new vehicle service entrance and service road would not be developed along the ridgeline of the hillside areas in the California planning area, and service access to and around the Zoo would remain similar to existing conditions. Without the California Visitor Center, the proposed funicular would also be eliminated. The proposed alignment of the aerial tram route and location of tram stations/stops would remain similar to the Project, though the service road through the Africa planning area may not be able to remain separated from visitor pathways.

As discussed below, implementation of Alternative 1 would result in a smaller increase in annual Zoo attendance compared to the Project. This reduction in projected future annual attendance would reduce the demand for parking at the Zoo. As a result of reduced demand for parking, Alternative 1 would either include a reduced-size new parking structure within the Zoo's northern parking lot with fewer stories or potentially eliminate the parking structure. All other improvements to employee and visitor parking proposed under the Project would remain under Alternative 1.

Annual Attendance and Special Events

Under Alternative 1, annual attendance at the Zoo would be less than the proposed Project. Reduced annual visitation would result from the decrease in the expanded facilities and new attractions, which would drive visitation, particularly those associated with the California planning area. However, attendance would continue to rise under Alternative 1 compared to existing conditions due to the improvement, expansion, or replacement of existing features and attractions associated with other planning areas proposed under the Vision Plan. Though an economic analysis has not been prepared for Alternative 1, based on a reduction in approximately 20 acres of new visitor-serving uses and animal exhibits, total annual attendance anticipated under Alternative 1 would be approximately 2,525,775 persons by 2036, a reduction of approximately 15.8 percent compared to the Project (Table 4-7). Alternative 1 would also reduce employment needs to 886 employees, a 21.3 percent reduction compared to the Project.

Special events at the Zoo generate a substantial increase in annual attendance. For instance, the L.A. Zoo Lights event, which began in 2014, helped to achieve an increase in attendance by over 200,000 persons per year. Expansion of facilities and spaces that can accommodate new events, more frequent events, or larger events would contribute to increases in annual attendance under this alternative, despite the reduced amount of development. Like the Project, Alternative 1 would include comprehensive improvements to and expansion of visitor-serving facilities within existing developed areas of the Zoo, including special event spaces. These improvements would broaden Zoo attractions and support increased attendance and expansion of special events, though to a lesser extent than the Project. Improvements driving the expansion of special events under Alternative 1 include Treetops Visitor Center, the Africa Visitor Center, new restaurants, classrooms, and event spaces. These improvements would continue to be implemented under Alternative 1, as none of these improvements are proposed within the preserved hillside areas of the Project. However, Alternative 1 would exclude the California Visitor Center and outdoor special event spaces (e.g., campout meadows, picnic areas) in both the California and Africa planning areas. Exclusion of these amenities would limit the Zoo's ability to host special events and would diminish the attraction that California and Africa planning areas would otherwise provide under the Project. As a result, projected growth in annual visitation is expected to be reduced compared to the Project.

Table 4-7. Projected Growth at the Zoo Under Alternative 1

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7
Operational Year	2022	2024	2026	2028	2030	2033	2036
Annual Attendance	1,743,800	1,958,453	2,333,924	2,469,540	2,525,775	2,525,775	2,525,775
% Change in Annual Attendance	0.0%	12.3%	21.5%	7.8%	3.2%	0.0%	0.0%
Visitor Origin							
<i>Resident</i>	<i>85%</i>	<i>85%</i>	<i>80%</i>	<i>80%</i>	<i>80%</i>	<i>80%</i>	<i>80%</i>
<i>Tourist</i>	<i>15%</i>	<i>15%</i>	<i>20%</i>	<i>20%</i>	<i>20%</i>	<i>20%</i>	<i>20%</i>
Total Employees by Phase	570	640	778	839	866	866	866

Source: Draft Los Angeles Zoo Vision Plan; AECOM 2017

Notes:

Baseline annual attendance = 1,743,800 (2017) per Draft Vision Plan

Phase 1 assumes no growth projected for Circulation/Parking improvements, Zoo Entry and Sea Lions (Phase 1 and 2 per the Draft Vision Plan).

Phase 2 assumes growth projected by the AECOM Financial Feasibility Study for Asia, Nature Play, and Rainforest (Phase 4 in the Draft Vision Plan).

Phase 3 assumes growth projections for Africa and southern service area (Phase 3 in Draft Vision Plan).

Phase 4 assumes growth projections for World Aviary (Phase 5 in Draft Vision Plan, and formerly included the Water exhibit, which was eliminated from the Project through EIR scoping).

Phase 5 assumes growth projections for Islands (Phase 6 in the Draft Vision Plan).

Phases 6 and 7 does not incite or facilitate attendance growth.

Visitor Origin assumes an uptick in tourism following implementation of Phase 2 and the 2028 Summer Olympics.

Baseline employment = 570 (2019)

Construction and Phasing

It is reasonable to assume that Alternative 1 would involve a shortened development program (17 years) occurring over seven phases of construction, reduced from 20 years under the Project due to the reduction in the amount and extent of development. Phases of Zoo development would occur sequentially. All phases would be guided by the Vision Plan's guiding principles (see Sections 2.3.2, *Project Objectives*, and Section 2.3.3, *Vision Plan Guiding Principles*). The timing and components of each of the near-term phases are presented in Table 4-8. As presented therein, due to the reduced amount of development proposed to occur within the California planning area, construction of associated improvements under Alternative 1 would take less time to implement. As such, the duration of Phase 1 would be reduced. Phase 2 would involve the same amount and type of improvements proposed under the Project and would be implemented over the same duration of time but would be initiated early due to the earlier completion date of Phase 1. Similar to Phase 1, improvements associated with the Africa planning area would be reduced due to the lack of required excavation and development of the hillside area and would occur over a slightly shorter time frame (2 years). Implementation of Phase 3 improvements would be initiated following completion of Phase 2. Overall, implementation of the near-term

improvements would occur between 2020 and 2026 for the purposes of this EIR analysis and consistent with the Draft Vision Plan.

Table 4-8. Alternative 1 Phases 1 - 3: Near-Term Project Components

Phase	Project Components
1	<p>Zoo Entry</p> <ul style="list-style-type: none"> • Excavation of outdated utility lines • Install utility trunk lines at the Zoo entry • Grade entry corridor at 5 percent slope or less • Construct a new gift shop, security and first aid center, public programming space, restaurant, and administration buildings • Construction main ground tram station • Expand Sea Life Cliffs exhibit • Install water collection lines for subsurface cisterns • Landscaping at entrance (e.g., citrus grove) and around buildings
	<p>California Planning Area</p> <ul style="list-style-type: none"> • Demolish existing buildings (e.g., Children's Zoo) • Construct California Condor Rescue Zone • Install lower terminal for aerial tram and associated infrastructure • Install new vegetation
	<p>Circulation and Parking</p> <ul style="list-style-type: none"> • Install signal at the intersection of I-5 and Western Heritage Way • Demolish Zoo planning trailer in the southern parking lot • Grading and reconfiguration of Crystal Springs Road • Repave southern parking lot and paint parking space lines to add 300 additional parking spaces
2	<p>Asia Planning Area</p> <ul style="list-style-type: none"> • Demolish existing outdated buildings and exhibits • Expand elephant exhibit space • Construct the Asian Forest with lagoon and exhibit island • Renovate and expand existing animal exhibits and habitats • Install new underwater viewing for tiger and gharial exhibits and new water elements • Grade and construct new pathways with neighboring exhibits (e.g., <i>Nature Play Park</i>) • Reconstruct Treetops Visitor Center into restaurant/event center • Install Splash Area • Install needed aerial tram infrastructure
	<p>Rainforest Planning Area</p> <ul style="list-style-type: none"> • Demolish existing Zoopendous Park • Construct a new Rainforest Interpretive Center • Construct expanded animal exhibits • Construct restaurant and restrooms • Install new vegetation, including dense rainforest trees
	<p>Nature Play Park</p> <ul style="list-style-type: none"> • Relocate and renovate existing natural play area • Construct a new restaurant with deck and terrace • Construct new restrooms

Table 4-8. Alternative 1 Phases 1 - 3: Near-Term Project Components (Continued)

Phase	Project Components
3	Africa Planning Area <ul style="list-style-type: none"> • Demolish existing outdated buildings and exhibits • Construct the Africa Visitor Center • Construct expanded animal exhibits and habitats • Install a manmade river • Install aerial tram
	Service Areas <ul style="list-style-type: none"> • Demolish outdated North America exhibit buildings • Construct a new service area • Paint 56 new employee parking spaces

Alternative 1 would involve the same long-term elements proposed under the Project (Table 4-9). These long-term improvements would be initiated following completion of Phase 3 improvements and implemented through Alternative 1's horizon (2036).

Table 4-9. Alternative 1 Phases 4 - 7: Long-term Project Components

Phase	Project Components
4	World Aviary Planning Area <ul style="list-style-type: none"> • Renovate the existing aviary to meet ADA requirements • Construct a new bird rearing complex • Construct new roads connecting to <i>Rainforest</i> and <i>California</i>
	Bird Show and Animal Programs <ul style="list-style-type: none"> • Renovate the existing amphitheater area with shade structures • Construct specialized animal care facilities • Renovate service space behind amphitheater for operations
	Service Areas (Condor West) <ul style="list-style-type: none"> • Construct two aviaries and one new conservation/classroom building at the Condor West exhibit • Create a new animal feed storage and commissary operations structure • Reconfigure truck access to the construction services area • Repaint 92 employee parking spaces
5	Islands <ul style="list-style-type: none"> • Renovate and expand the existing Australia House • Install new pathways and landscaping
6	Administration Building <ul style="list-style-type: none"> • Construct a new Administration Building
7*	Parking Structure (if needed) <ul style="list-style-type: none"> • Excavation and grading • Construct reduced size parking structure to accommodate reduced visitation • Install adjacent public park if the parking structure is also constructed

* Phase 7 would only occur if needed to accommodate parking demand from increased visitation. If not required, Phase 7 would not occur.

Similar to the Project, each phase under Alternative 1 would entail the same stages of construction, including pre-construction design and permitting; demolition and grading; site

preparation (including installation of utilities and stormwater infrastructure); construction; architectural coatings/finishing; and final landscaping. Each phase would also require temporary relocation of Zoo animals displaced during construction (see Section 2.2.3, *Existing Zoo Operations* for the Zoo’s Animal Welfare Best Management Practices). Building construction, paving, and architectural coating activities would occur within each phase, sequentially. All construction Best Management Practices proposed or required under the Project would continue to be implemented under Alternative 1.

Due to the reduced amount of construction proposed under Alternative 1, the amount and intensity of grading activities would be substantially reduced compared to the Project. Most notably, Alternative 1 would not involve blasting and extensive cut of soils associated with Condor Canyon improvements, reducing the anticipated volume of cut and fill material necessary under Alternative 1 by at least 74,000 cubic yards (cy) (Table 4-10). Similarly, the maximum depth of ground disturbance would be reduced. All infrastructure improvements and building construction activities would continue to be implemented as described for the Project (refer to discussion of *Infrastructure Improvements* and *Building Construction* in Section 2.4.2, *Construction Activities*).

Table 4-10. Alternative 1 Grading Estimates by Phase

Phase	Cut (cy)	Fill (cy)	Export/Import (cy)
1	0	0	0
2	0	0	0
3	0	10,000	10,000 (import/stockpile)
4-7	0	38,000	38,000 (import/stockpile)
Grading Total	0	48,000	48,000 (net import)

Potential Impacts to Resources

Aesthetics and Visual Resources

VIS-1: Would the project have a substantial adverse effect on a scenic vista?

Impacts on scenic resources onsite would decrease under this alternative as a result of reduced development on visible hillsides and ridgelines in the California and Africa planning areas. This alternative would not include the ridgetop California Visitor Center and funicular, the excavation of Condor Canyon, or the hillside animal exhibit spaces and picnic areas on hillsides in the Africa planning area. Avoiding development in these areas would maintain existing distant views from trails in Griffith Park such as Condor Trail or Skyline Trail. During construction, these areas would be retained in their vegetated and undeveloped conditions with mature native and non-native trees, shrubs, and grasses. No grading or excavation would occur, avoiding visible geological modifications, and no construction equipment or activities would be visible within the undeveloped hillsides in both California and Africa planning areas. As a result, Alternative 1 would reduce the visual impact on public views from Griffith Park trails. Similar to the Project, however, the Skyline, Condor, and North Trails provide views

over the Zoo from various locations, but future development within the Zoo's interior would not be easily visible due to the dense tree canopy. Therefore, while the visual impact would be reduced under Alternative 1, the reduction would be slight.

Similar to the Project, Alternative 1 would include taller structures such as the two remaining proposed visitor centers and the aerial tram, which would extend above the urban forest canopy within the Zoo, adding structural features not currently visible from surrounding areas. For example, the Treetops Terrace Visitor Center would reconstruct the iconic spires that are intended to be highly visible as a wayfinding beacon. These changes would manifest in the Asia and Africa planning areas. Further, similar to the Project, each phase of development would involve varying degrees of vegetation removal and replanting. During construction of a Project phase, vegetation would be modified or removed to clear areas for new development of animal environment, visitor-serving, and Zoo facility spaces. In this way, the Project would incrementally and temporarily affect the visual quality of the Zoo's urban forest as viewed from scenic vistas. However, replanting and restoration would ensure that the long-term visual impacts related to the tree canopy and vegetation are avoided.

Similar to the Project, Alternative 1 would not substantially adversely affect scenic vistas or views from trails in Griffith Park. Despite the addition of several taller structures or features, such as the reconstructed Treetops Visitor Center and the aerial tram and associated towers, existing distant views of Griffith Park or urban environment from surrounding trails would not be substantially altered or intruded into. Proposed structures would blend into the Zoo topography and urban forest landscape and would not substantially intrude into or interrupt more distant scenic vistas. Because these scenic vistas are more distant and higher in elevation than the Zoo, obstruction or interference of views by proposed development would be minimal, and scenic vistas of distant prominent features would not be substantially altered. With the reduction in development on undeveloped hillsides and ridgelines, Alternative 1 would further reduce this impact. Therefore, similar to the Project, Alternative 1 would have a *less than significant* impact on existing scenic views and vistas.

VIS-2: Would the project conflict with applicable zoning and other regulations governing scenic quality?

Impacts under this alternative would reduce potential significant impacts to scenic policy consistency as compared to the Project. This alternative would substantially avoid development of the existing undeveloped hillsides within the California and Africa planning areas, including the ridgetop California Visitor Center and funicular, Condor Canyon, and hillside exhibit and visitor spaces. Thus, this alternative would substantially reduce the tree removal and grading activities and associated views of construction equipment and bare hillsides. Likewise, this alternative would maintain the existing topography and general circulation system of the existing Zoo. However, similar to the Project, this alternative would continue to change the existing visual character of the interior of the Zoo, particularly through substantial short-term vegetation removal and modifications to the urban forest canopy and

grading, along with long-term transformation of the Zoo's facilities and layout. Similar to the proposed Project, **MM UF-1** and **MM UF-2** would mitigate impacts related to tree removal.

Alternative 1 would substantially reduce impacts on the existing visual character of the area fronting the Zoo, including the Zoo Drive gateway to Griffith Park. Alternative 1 would likely reduce the need for parking and, therefore, the size, bulk, and scale of the parking structure would be reduced or eliminated when compared to the proposed Project, although the exact size and design are not known at this time. With a reduced-size parking structure (or no parking structure), these visual changes would be substantially less impactful compared to the Project. If required and not eliminated, the reduced-size parking structure would be subject to **MM VIS-2** to reduce visibility and screen the parking structure from view from public roadways, thereby reducing the effect on visual character compared to the Project.

Alternative 1 would install only traffic signals at the Zoo Drive/Western Heritage Way intersection, rather than the potential roundabout or below-grade crossing analyzed under the proposed Project. While this alternative would continue to require signalization of the Zoo Drive/Western Heritage Way intersection and realignment of Crystal Springs Drive, these roadway improvements would not substantially alter the existing character of this area with implementation of **MM VIS-1**, which would ensure roadway design is sensitive to the Griffith Park setting and designed to maintain the existing character. Therefore, Alternative 1 would not modify the existing visual character of the Zoo Drive gateway to Griffith Park or detract from the urban wilderness identity of the park. Further, implementation of the intersection improvements proposed under Alternative 1 (i.e., traffic signals) would not affect views of the topography or natural resources across Griffith Park and would be consistent with the Conservation Element, Framework Element, 1988 Hollywood Community Plan, and Griffith Park Vision Plan. Therefore, impacts to consistency with applicable zoning and regulations governing scenic quality would be reduced compared to the Project and *less than significant with mitigation*.

VIS-3: Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Similar to the Project, Alternative 1 would result in an increase in the frequency and amount of lighting produced from the Project site associated with increased special events held at the Zoo. The Zoo would also remain shielded from direct views from the Griffith Observatory, Greek Theater, and other nighttime uses within Griffith Park, minimizing potential light spillover to affect sensitive receptors. However, under Alternative 1, new lighting would not be introduced to the currently undeveloped hillsides in the California and Africa planning areas under the Project, which would reduce the overall light generation and potential for nighttime light visibility.

As Alternative 1 would not involve the development atop undeveloped hillsides within the Project site, no structures, which may be constructed or designed with reflective surfaces (e.g., large windows, polished surfaces), would be visible from trails in the vicinity of the Project

site in Griffith Park. However, similar to the proposed Project, the glare generated from the gondolas of the proposed Zoo aerial tram could create a nuisance and distract from the scenic views of the Los Angeles Basin from these areas. There are no residential or other uses in the vicinity of the Project site that are considered sensitive to light or glare, and these features would only be visible in the distance from public trails and viewpoints within Griffith Park. Similar to the proposed Project, Alternative 1 would require implementation of **MM VIS-3**, which would require the Zoo utilize aerial tram gondolas that would have matte finishing and earth tone colors to blend with the landscape and reduce or eliminate glare. In addition, the measure would require all glass features of the gondolas to utilize non-reflective glass or film covers to reduce reflectivity. With implementation of this mitigation measure, Alternative 1 impacts from generation of glare would be similar to the Project and *less than significant with mitigation*.

Air Quality

AQ-1: Would the proposed Project conflict with or obstruct implementation of the applicable air quality plan?

Under Alternative 1, emissions from grading, excavation, and building construction activities would be reduced compared to the Project. The total area of new development within the Zoo would be reduced by approximately 21 acres primarily atop the hillsides of the California and Africa planning areas. In particular, Alternative 1 would not include excavation and construction of Condor Canyon, which would substantially reduce construction emissions from heavy equipment and potentially blasting, including diesel emissions and fugitive dust. Alternative 1 would also either eliminate or substantially reduce the size of the proposed parking structure, further reducing construction emissions. As a result, construction emissions for CO, VOCs, NO_x, particulate matter (PM₁₀ and PM_{2.5}), and SO_x would be reduced compared to the proposed Project. While emissions would be reduced under Alternative 1, **MM AQ-1**, which would require that all diesel-powered construction equipment with engines greater than 50 horsepower (hp) shall meet, at a minimum, Tier 4 Final emissions standards, would still be required to reduce NO_x emissions from off-road equipment during construction to less than significant levels. Further, similar to the Project, construction activities associated with Alternative 1 would not introduce population or employment growth to the SCAG region and would have no significant impact related to underlying assumptions factored into the AQMP inventories. The mitigated emissions would not have the potential to conflict with or obstruct implementation of the 2016 Air Quality Management Plan (AQMP) by exacerbating air quality violations or delaying attainment of the air quality standards.

Operation of Alternative 1 would result in reduced vehicle trips and VMT associated with reduced annual visitation and new jobs when compared to the Project. The projected reduction in VMT would reduce air pollutant emissions as compared to the proposed Project. In particular, Alternative 1 would have the potential to reduce visitor and employee VMT by an estimated 15.8 percent less than projected VMT levels under the proposed Project (see

also, *Transportation* for Alternative 1 below). Similar to the Project, the incremental change in operational emissions with implementation of long-term improvements would not exceed any applicable SCAQMD mass daily threshold of significance. Operation of Alternative 1 would not have the potential to exacerbate air quality violations in the SCAB or possibly delay attainment of the air quality standards as set forth in the 2016 AQMP. Furthermore, operation of Alternative 1 implementation would not conflict with land use policies promulgated by SCAQMD and SCAG, similar to the Project.

Similar to the Project, Alternative 1 would not generate construction or operation emissions that exceed regional thresholds and would not conflict with or obstruct the AQMP or other applicable air quality plan. Therefore, Alternative 1 impacts would be similar to the Project and *less than significant with mitigation*.

AQ-2: Would the proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Although Alternative 1 would generate reduced construction emissions as compared to the proposed Project, without mitigation this alternative would generate emissions of NO_x, an O₃ precursor, in excess of the applicable SCAQMD regional mass daily threshold. Similar to the proposed Project, mitigated emissions of pollutants generated by construction activities would not generate emissions of pollutants exceeding project-level significance thresholds. Implementation of **MM AQ-1** would ensure that maximum daily NO_x emissions generated by construction of the proposed Project would not result in a significant increase in emissions of O₃ precursors or particulate matter at either the regional or local assessment scale. Therefore, impacts related to cumulatively considerable net increases in nonattainment pollutants would be *less than significant with mitigation*, similar to the Project.

Although operation of Alternative 1 would increase VMT and corresponding emissions, as well as emissions from sources located on the Project site over existing conditions, the reduced scope of this alternative would result in reduced operational emissions compared to the Project. The incremental increases in daily air pollutant emissions during all stages of operations throughout Alternative 1 improvements would remain below applicable SCAQMD mass daily thresholds of significance. In accordance with SCAQMD guidance, operational emissions of O₃ precursors and particulate matter would be below project-level thresholds and would not result in a cumulatively considerable net increase of any criteria pollutants for which Los Angeles County is currently designated in nonattainment. Therefore, operational impacts on air quality related to cumulatively considerable emissions of nonattainment pollutants would be less than the Project and *less than significant*.

AQ-3: Would the proposed Project expose sensitive receptors to substantial pollutant concentrations?

The sensitive receptors with the greatest susceptibility to air quality impacts from implementation of Alternative 1 would be visitors and employees of the Zoo, as well as receptors at the Zoo Magnet Center located in the southern parking lot on the Project site. There are no residential receptors in the Zoo vicinity. Similar to the proposed Project, sources of pollutant emissions involved in construction activities under Alternative 1 would at times be near Zoo visitors and employees, as Zoo would operate throughout implementation of the Vision Plan. Alternative 1 components that would be implemented in the immediate vicinity of the Zoo Magnet Center are the circulation and parking improvements and Zoo Entry renovation in Phase 1. Due to the slight decrease in the duration and extent of construction activities under Alternative 1, this alternative would generate slightly less toxic air contaminants (TACs) that would affect nearby sensitive receptors. Similar to the proposed Project, at no time during construction of Alternative 1 would maximum daily emissions from sources located on the site meet or exceed applicable localized significance thresholds (LST) screening values (refer to Section 3.2, *Air Quality*). Furthermore, implementation of **MM AQ-1** would substantially reduce onsite emissions of NO_x and diesel particulate matter from off-road equipment by requiring the use of construction equipment that meets Tier 4 Final emissions standards. Implementation of **MM AQ-1** and compliance with SCAQMD BMPs would ensure that Alternative 1 construction would not expose sensitive receptors to substantial pollutant concentrations. Further, construction activities would be conducted in accordance with the California Code of Regulations related to lead and asbestos exposure in the event that materials potentially containing these contaminants are encountered during demolition or renovation activities. Therefore, Alternative 1 impacts related to sensitive receptor exposure to construction emissions would be less than the Project and *less than significant with mitigation*.

After construction associated with each phase of Alternative 1 is complete and the heavy equipment is removed from the Project site, the operational emissions sources on the Project site would be similar to existing conditions. There would be no substantial stationary source of air pollutant emissions associated with operation of Alternative 1. Minor increases in landscaped and building areas would primarily produce incremental increases in VOC, NO_x, and CO emissions from maintenance sources and consumer products that would be spread throughout the 142-acre Project site. Operation of Alternative 1 would not result in a land use change or alteration to the site that would place sensitive receptors in closer proximity to substantial sources of air pollutant emissions. As previously described, the reduced development footprint under Alternative 1 would significantly reduce visitor and employee VMT and associated air pollutant emissions as compared to the projected VMT under the proposed Project. Therefore, operational impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be similar to the Project and *less than significant*.

Air pollutant emissions generated by construction may also be disruptive to Zoo animals. Captive animal species may have a unique sensitivity to the air quality setting of an urban environment. The Zoo is dedicated to the health and welfare of all its animals. Zookeepers and animal caretakers are trained in the monitoring of the Zoo's animals and implement measures appropriate for each individual species to ensure their safety and welfare in accordance with the AZA accreditation and the Animal Welfare Act (AWA), which governs the care, handling, and transport of zoo animals. As the Zoo has done in the past during construction of prior improvements, measures to protect these animals may include their temporary relocation away from construction activities, closure of exhibits, or even the transfer of animals to other zoos. Similar to the proposed Project, accommodations specific to each animal would be developed during the planning process for each phase and details would be included in final construction plans. With continued management of each species of animal exhibited or rehabilitated at the Zoo and required compliance with the AWA, there would be no adverse effects on Zoo animals from air pollutant emissions generated during construction of Alternative 1.

AQ-4: Would the proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Similar to the Project, Alternative 1 would result in similar temporary, construction-related odors as those described for the proposed Project; however, the duration of exposure to these odors would be slightly reduced. Therefore, air quality impacts related to construction odors and dust would be less than the Project and *less than significant*.

As described for the proposed Project, operational odors under this alternative would be associated with animal habitats. Due to the reduced scope of expansion of animal exhibits and enclosures, Alternative 1 implementation would generate an incrementally reduced source of odors as compared to the proposed Project. The Zoo would continue to engage in composting for green waste and herbivore animal wastes in Griffith Park. Similar to the proposed Project, Alternative 1 implementation would not place sensitive receptors in closer proximity to sources of odors or other emissions that could create nuisance conditions. Therefore, impacts related to other emissions would be similar to the Project and *less than significant*.

Biological Resources

BIO-1: Would the Project result in the loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat?

Alternative 1 would substantially reduce impacts on biological resources compared to the Project. This alternative would avoid development of sensitive biological resources in the undeveloped hillsides within 21 acres of the proposed California and Africa planning areas.

Thus, this alternative would substantially reduce required onsite construction grading and disturbance compared to the Project. Alternative 1 would protect up to 21 acres of native vegetation communities with sensitive plant species and hundreds of native and non-native trees. Reduced development in the California planning area would minimize impacts on laurel sumac shrubland, Nevin's Barberry, and City-protected oaks that would occur under the Project. Elimination of the Africa planning area would substantially reduce impacts to coast live oak woodland and Southern California black walnut trees in this area as compared to the proposed Project. However, similar to the Project, construction under Alternative 1 could result in indirect impacts on special-status wildlife species associated with noise and light. These species could abandon habitats and move into adjacent areas in the vicinity (e.g., Griffith Park), increasing competition for available resources in those areas. This could result in indirect impacts to and the loss of additional special-status wildlife species outside of the Project site, including sensitive species that may not be able to survive with increased competition.

Since Alternative 1 would still construct new development within undeveloped areas at the base of the hillsides, Alternative 1 would require implementation of **MM BIO-1** through **MM BIO-4** to reduce impacts to special-status plant species and protected biological resources. These measures would require protection or restoration of native plant communities and special-status species to the maximum extent feasible through pre-construction surveys, fencing, capture, relocation, and replanting. Further, with implementation of **MM BIO-2** and **MM WF-1**, adverse impacts to biological resources as a result of installation and maintenance of vegetation clearance from fuel breaks would be reduced through maximum avoidance of native vegetation and appropriate restoration offsite. Alternative 1 would have substantially fewer impacts on biological resources, and implementation of these measures would ensure impacts are *less than significant with mitigation*.

BIO-2: Would the proposed Project 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?

By avoiding development of hillsides that contain sensitive biological resources, Alternative 1 would protect approximately 19.8 acres of laurel sumac shrubland and adjacent eucalyptus/mixed woodland within the California planning area, as compared to 3 acres of undeveloped area under the proposed Project. Alternative 1 would preserve an additional 5.6 acres of undeveloped open space within the Africa planning area, including vegetation communities such as coast live oak woodlands, non-native grassland, and adjacent eucalyptus/mixed woodlands. Protection of these vegetation communities would substantially retain habitat connectivity within the Zoo and adjacent natural habitats in Griffith Park and the Los Angeles River, as compared to the Project. Implementation of mitigation measures as described under Section 3.4, *Biological Resources*, would further reduce potential impacts to sensitive and protected species and natural habitats onsite.

Implementation of **MM BIO-1**, **MM BIO-2**, **MM BIO-4**, and **MM BIO-5** would require the implementation of construction BMPs and a Worker Environmental Awareness Program (WEAP) to reduce construction-related impacts on special-status bird species to the maximum extent feasible. These measures would delineate vegetation communities and area of disturbance associated with proposed development plans by phase and preserve or replace affected vegetation communities and sensitive species at appropriate ratios. Implementation of **MM UF-1**, requiring preservation, relocation, or replacement of native tree species onsite or at an appropriate offsite location within Griffith Park, and **MM UF-2**, requiring the Zoo implement a tree and urban canopy restoration plan, would also serve to reduce impacts associated with the loss of roosting habitat by ensuring suitable roosting habitat is retained onsite or created or improved offsite through planting of native trees. Therefore, impacts to Impacts to wildlife movement would be less than the Project and *less than significant with mitigation*.

BIO-3: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Alternative 1 would substantially reduce impacts to native vegetation communities and native trees due to the reduced scope of development, primarily on the undeveloped hillsides within the Zoo. However, development at the base of the hillsides would still result in the disturbance or removal of several protected tree species. Disturbance, alteration, or removal of trees would result in the loss or damage of locally protected plant species within coast live oak woodland and laurel sumac shrubland communities, which are known to support some native tree and shrub species that are locally designated for protection under the LAMC. While Alternative 1 would avoid development within the California hillsides, Alternative 1 may require the removal of the two Southern California black walnut trees in the mixed eucalyptus woodland in the Nature Play Park adjacent to existing facilities within the California planning area, similar to the Project. Several small coast live oak and larger western sycamores, planted as landscape trees within Zoo parking lots, Zoo entry, and along Western Heritage Way, may be impacted by parking lot and Western Heritage Way/Crystal Springs Road realignment and design, and Zoo entry redevelopment. In addition, realignment of Western Heritage Way/Crystal Springs Road could also result in the potential loss of some small specimen oaks and sycamore trees along its alignment behind the Zoo Magnet Center and Zoo storage areas. These trees and shrubs are protected and regulated under the existing City Tree Preservation Ordinance and Protected Tree Code Amendment.

As with the proposed Project, implementation of **MM UF-1**, requiring preservation, relocation, or replacement of protected native tree and shrub species onsite or at an appropriate offsite location within Griffith Park, and **MM UF-2**, requiring the Zoo implement a tree and urban canopy restoration plan, would serve to reduce impacts associated with the loss of protected native trees and shrubs. Alternative 1 would have less impact on protected trees, and implementation of these measures would ensure impacts to native trees and shrubs would be *less than significant with mitigation*.

Cultural and Tribal Cultural Resources

CUL-1: Would the project Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Similar to the proposed Project, Alternative 1 would involve phased redevelopment of the majority of the Zoo, including demolition of some structures dating from the 1960s, such as the World Aviary exhibit. However, most original 1966 buildings are highly altered, including the Treetops Terrace. Therefore, the Zoo no longer represents mid-20th century zoological design or the original vision of noted architectural firm Charles Luckman Associates. In particular, the Zoo no longer retains the two strongest architectural statements made by Luckman in his original design: the main entrance and the Theme Building/Treetops Terrace. The main entrance was demolished in 2005 and replaced with the existing Entry Plaza, including a contemporary-looking entrance gate and marquee, and a Mediterranean-inspired shopping street called International Marketplace. Treetops Terrace originally featured twin 105-foot hexagonal spires that served as a beacon and wayfinding feature visible throughout the Zoo. However, its twin spires were removed around 2000, effectively negating this function and the building's roof canopy was cut back on the east side to accommodate the adjacent carousel in 2011. Most redevelopment under Alternative 1 would involve the demolition of structures dating from the 1990s to the 2000s, when modifications to the Zoo's physical campus accelerated for implementation of the Zoo's 1992 and 1998 master plans.

As described in Section 3.4, *Cultural and Tribal Cultural Resources*, the Zoo is not listed as a historical resource, either as a district or as individual resources within the Zoo, in the NRHP or CRHR. Although Griffith Park is listed on the CRHR and has been identified as a designated Los Angeles Historical-Cultural monument, the Zoo was determined to be a non-contributing component and was built after the significance period for Griffith Park. Therefore, the Zoo does not represent the same historical merit as Griffith Park.

The historical resources assessment prepared for the proposed Project concluded the Zoo is not eligible for historic listing or designation at federal, state, or local level and no buildings, structures, or other features of the Zoo were found individually eligible for historic listing or designation (refer to Section 3.4, *Cultural and Tribal Cultural Resources*; see Appendix G). Due to previous renovations and expansion of facilities within the Project site, potentially historic structures no longer retain historical integrity or overarching uniform character. The Project site does not contain any historical resources as defined by CEQA, and therefore there is no potential for impacts on historical resources as a result of Alternative 1, similar to the Project. Therefore, Alternative 1 impacts to historic resources would be *less than significant*.

CUL-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No previously recorded archaeological sites occur on the Project site and intensive pedestrian ground surface survey conducted for the Project recorded no archaeological resources or

unique geographical features (Appendix F). Therefore, the potential for prehistoric resources is low in areas formerly developed as part of the original Zoo construction and on slopes over 20 percent.

With a low potential for disturbance to archeological resources, Alternative 1 impacts to cultural and tribal cultural resources would be only slightly reduced, as the reduction in 21 acres of development would decrease potential for incidental discovery and impacts. Grading, excavation, and earth moving activities would still occur on the Zoo's previously developed interior and at the base of the undeveloped hillsides. Similar to the Project, excavation depths would range from surficial grading to approximately 30 feet below ground surface (bgs) for building foundations and structural footings. Most of the developed areas of the Zoo overlie artificial fill that was previously graded and disturbed for installation of utilities and construction of walkways during original Zoo construction in 1966. Consequently, these interior developed areas of the Zoo are highly unlikely to contain any intact, previously undisturbed cultural resources.

While highly unlikely, there is a potential for Alternative 1 improvements to impact unknown cultural resources. Similar to the Project, Alternative 1 would implement **MM CUL-1** prior to ground disturbance for each phase to ensure that, in the unlikely event isolated unknown prehistoric and historic-period archaeological resources are encountered during construction activities, appropriate action would be taken to prevent adverse impacts. In the unlikely event that previously unidentified archaeological resources are discovered during Alternative 1 construction, any inadvertently discovered resources would be protected and curated, through implementation of **MM CUL-2**. Therefore, Alternative 1 impacts to potential prehistoric resources would be similar to the Project and *less than significant with mitigation*.

CUL-3: Would the project disturb any human remains, including those interred outdoors of formal cemeteries?

As described in Section 3.4, *Cultural and Tribal Cultural Resources*, the majority of the Project site has previously been developed/disturbed during construction of the Zoo, and undeveloped hillsides are unlikely to have supported prehistoric activity or occupation. Additionally, Alternative 1 would substantially limit development to the presently undeveloped areas of the Project site. Therefore, the possibility of discovering human remains during construction of Alternative 1 is reduced as compared to the proposed Project, and very low. If, however, in the unlikely event that previously unidentified human remains are discovered, further disturbances and construction activities shall stop in any area or nearby area suspected to overlie remains in accordance with State Health and Safety Code Section 7050.5, and the Los Angeles County Coroner would be contacted in accordance with Title 14, CCR, Section 15064.5(e). Pursuant to PRC Section 5097.98, if the coroner determines that the human remains are of Native American origin, the NAHC would be notified. Arrangements for the human remains would be made, and further provisions of PRC Section 5097.98 are to be followed as applicable. Further, implementation of **MM CUL-3** would

ensure the protection and curation of any inadvertently discovered. Therefore, Alternative 1 impacts would be similar to the Project and *less than significant with mitigation*.

CUL-4: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 PRC Section 5020.1(k), or that is 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 PRC Section 5024.1?

As described in Section 3.4, *Cultural and Tribal Cultural Resources*, there are no known cultural resources that are eligible for listing in the CRHR or in a local register within the Project site or that may be adversely affected by Alternative 1 implementation. However, consultation with Native American tribal representatives conducted for the proposed Project determined there is potential for impacts to tribal cultural resources, including buried resources and cultural landscapes associated with the village of *Cahuenga* located west of Griffith Park and the rancheria of *Maugna* located in the vicinity of Griffith Park. Due to previous ground disturbance and development within the interior of the Project site and limited proposed development along undeveloped areas such as the base of the California hillside, there is little potential for the discovery of unknown buried tribal cultural resources during construction activities. However, the potential exists for Alternative 1 to result in the discovery, alteration, removal, or destruction of tribal cultural resources, including objects, sites, or features with value to a California Native American tribe. With implementation of **MM CUL-4** through **MM CUL-7**, requiring the monitoring of all construction activities by an appropriate Native American representative and the management of resources in the unlikely event that such resources are uncovered, Alternative 1 impacts would be similar to the Project and *less than significant with mitigation*.

Energy

EN-1: Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

The total development footprint under Alternative 1 would be reduced by approximately 21 acres from the total development footprint under the proposed Project. Due to the reduction in the duration and scale of construction activities under Alternative 1, temporary, construction-related energy impacts would be reduced below those described for the proposed Project (refer to Impact EN-1 in Section 3.5, *Energy*).

Due to the reduction of 21 acres and elimination of the California Visitor Center under Alternative 1, long-term operational energy impacts would be reduced relative to the proposed Project. Alternative 1 may result in reduced overall energy demand, including electricity, natural gas, and transportation as compared to the proposed Project (see the *Greenhouse Gas Emissions* discussion). This alternative would also incorporate similar energy efficiency measures into the design of the buildings and service systems, as all new and redevelopment activities would be subject to the provisions of the LA Green Building Code, LEED Silver design standards and best management practices, and LA's Green New Deal (Sustainable City pLAn 2019) pertaining to energy efficiency for non-residential buildings. Additionally, all new structures with rooftop area greater than 250 sf would be considered for the feasibility of solar panel installations, similar to the Project. Therefore, similar to the Project, Alternative 1 would not result in wasteful, inefficient, or unnecessary consumption of energy sources and the impact would be *less than significant*.

EN-2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Similar to the Project, Alternative 1 would be designed to comply with the Los Angeles Green Building Code. Under this alternative, reduced development would include sustainability features, such as a solar PV system. Green building elements would also increase energy efficiency by meeting LEED Silver standards of design or better and through the use of reduced-flow plumbing fixtures and energy-efficient appliances, solar PV systems, LED traffic lighting systems, stormwater reuse, use of recycled water onsite, and implementation of TDM plan for VMT reductions (refer to **MM T-2** in Section 3.15, *Transportation*). As discussed for the proposed Project in Section 3.5, *Energy* and Section 3.11, *Land Use and Planning*, Alternative 1 would be consistent with local, regional, and state goals and policies related to energy efficiency and would not result in wasteful, inefficient, and unnecessary consumption of energy. Therefore, as with the proposed Project, impacts on energy under Alternative 1 would be *less than significant*.

Urban Forestry Resources

UF-1: Would the project conflict with the provision of an adopted local tree preservation policy or ordinance?

As described under *Biological Resources* for Alternative 1 above, this alternative would minimize the direct removal, trimming, limbing, or root cuts of native and nonnative trees by substantially avoiding development of undeveloped hillsides within the proposed California and Africa planning areas. New development within the California planning area would be limited to the base of the California hillside, directly adjacent to existing development. Alternative 1 would protect 22 Southern California black walnut trees, 113 coast live oak trees, 15 toyon, and 21 elderberry shrubs that would be potentially removed or impacted within the Africa planning area under the proposed Project. An additional 7 coast live oak trees, 4 toyon,

and 15 elderberries would be protected within the California planning area. Due to the reduced development footprint under Alternative 1, dozens of additional trees considered important to the urban canopy provided by existing Zoo landscaping, such as Moreton Bay figs, coral, acacia, sycamore, scrub oak, and maple trees, would also be protected under Alternative 1. Therefore, impacts to protected trees within the Zoo would be substantially reduced as compared to the proposed Project. Alternative 1 would also maintain substantial numbers of non-native trees, including eucalyptus and pines, which contribute to the urban forest canopy but have drawbacks including safety risks. Unlike the Project, restoration and replanting of the hillsides in the California and Africa planning areas with native vegetation and important ornamental tree species as part of a comprehensive landscape plan would not occur, forgoing an opportunity for a richer, more well-maintained urban forest.

Similar to the proposed Project, several small coast live oak and larger western sycamores, planted as landscape trees within Zoo parking lots, Zoo entry, and along Western Heritage Way, may be impacted by improvements to the southern parking lot, installation of the reduced-size parking structure (if needed) in the northern parking lot, Western Heritage Way/Crystal Springs Road realignment and design, and Zoo Entry redevelopment. In addition, realignment of Western Heritage Way/Crystal Springs Road could also result in the loss of some small specimen oaks and sycamore trees along its alignment behind the Zoo Magnet Center and Zoo storage areas.

Similar to the proposed Project, impacts to trees would occur incrementally and overlap with replanting/landscaping and regrowth, as Alternative 1 implementation would occur incrementally over seven phases. Alternative 1 would similarly implement **MM UF-1** requiring replacement of removed protected and important trees at a minimum 4:1 ratio as indicated by the City's proposed Tree Preservation Ordinance amendment (4:1 for oak trees less than 12 inches diameter at breast height [dbh]; 5:1 for oaks trees between 12 to 24 inches dbh; and 10:1 for oak trees greater than 24 inches dbh), notification of large-scale tree removal, acquisition of a necessary tree removal permit(s), and application of City tree removal procedures. Since significant trees impacted during Alternative 1 implementation would be protected, relocated, or replaced consistent with applicable City tree protection policies. With an overall reduction in the number of significant trees affected compared to the Project, Alternative 1 would have less impact on trees and impacts would be *less than significant with mitigation*.

UF-2: Would the project result in the loss or alteration to the Los Angeles urban forest?

Alternative 1 would protect hundreds of trees and shrubs, primarily within the California and Africa planning areas, due to the reduced development footprint within these undeveloped hillsides as compared to the proposed Project. In particular, Alternative 1 would protect a total of 142 native trees and 85 native shrubs protected under the City's existing Tree Preservation Ordinance and proposed Protected Tree Code Amendment. While less severe than the proposed Project, Alternative 1 would continue to require extensive redevelopment

within the Zoo and along roadway and parking improvements fronting the Zoo that would remove hundreds of trees that comprise the urban forest. Similar to the proposed Project, Alternative 1 would include installation of new landscaping, including extensive tree planting, following removal or disturbance of trees within the City's and Zoo's urban forest canopy for proposed development. Additionally, Zoo botanical collections and gardens would be protected and enhanced, similar to the proposed Project. Since no landscaping plan has been prepared for Alternative 1 that would demonstrate a recovery or enhancement of the Zoo's urban forest, Alternative 1 would similarly require implementation of **MM UF-2**, requiring preparation of a detailed landscape plan as part of each proposed phase. As a result, each phase would be landscaped, irrigated, and maintained with a diverse mix of tree species that would individually and cumulatively provide significant urban forest value and restore and enhance urban forest values lost through construction. With implementation of this measure, Alternative 1 would ensure recovery or even enhancement of the Zoo's, and the City's urban forest such that a net loss of urban forestry resources would not occur. While the area of impact to urban forests under Alternative 1 would be lessened compared to the Project, impacts would similarly be *less than significant with mitigation*.

Geology and Soils

GEO-1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earth fault or strong seismic ground shaking?

As described in Section 3.7, *Geology and Soils*, the Project site is located within seismically active region of Southern California and would potentially be exposed to moderate to strong seismic ground shaking in the event of an earthquake on a nearby fault (e.g., Hollywood Fault, Verdugo Fault, Raymond Fault). A strong earthquake could result in substantial damage to older existing structures and infrastructure and put visitors and employees in danger from ground shaking and structural damage/collapse. Similar to the proposed Project, all new structures constructed at the Zoo under Alternative 1 would be required to adhere to the most current building standards of the LAMC and Los Angeles Building Code, which adopts CBC standards by reference with local amendments. Alternative 1 would upgrade and/replace older buildings within the Zoo that do not meet current Los Angeles Building Code and CBC building standards and may present a hazard to public safety during an earthquake. In addition, the City is required to prepare and submit a site-specific geotechnical report for review and approval by the Los Angeles Department of Building and Safety (LADBS) prior to the issuance of a grading or a building permit. Alternative 1 would facilitate the construction of new buildings that meet the most current and stringent seismic requirements, thus reducing the level of risk within each planning area and at the Zoo as a whole, compared to existing conditions. Therefore, compliance with the Los Angeles Building Code, CBC, and adherence to the design recommendations detailed in site-specific geotechnical studies would reduce Alternative 1 impacts related to seismic ground shaking to *less than significant*, similar to the proposed Project.

GEO-2: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

As described in Section 3.7, *Geology and Soils*, geologic hazards, including liquefaction hazards, within the Project site are dependent upon the type of foundation, the structural design of the building, and the as-graded compaction and stability of the soil on which a structure is built. Alternative 1 would facilitate upgrades and replacement of older buildings throughout the Zoo that do not meet current Los Angeles Building Code and CBC building standards and may present a geologic hazard to public safety. Similar to the Project, Alternative 1 would involve the construction of new multi-story buildings (e.g., Africa Visitor Center), some with subterranean structures (e.g., Treetops Visitor Center kitchen). To address geologic hazards, all new structures constructed in the Zoo would be required to adhere to the most current and stringent seismic requirements building standards of the LAMC and Los Angeles Building Code, which adopts CBC standards by reference with local amendments. Adherence to the LAMC and Los Angeles Building Code requirements would ensure the maximum practicable protection available for all structures constructed within the Project site. The site-specific geotechnical report required for review and approval by the LADBS would identify additional design requirements for structures and foundations to maintain structural integrity to the maximum extent feasible. With **MM GEO-1** to ensure geotechnical investigations are completed for each phase of Alternative 1 development and that engineering techniques and technologies are integrated into final Zoo development plans, impacts related to ground failure would be the same as the proposed Project and *less than significant with mitigation*.

GEO-3: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The 2019 geotechnical investigation prepared for the Project concluded that the Project site is not located in an area considered susceptible to large-scale landslides (refer to Section 3.7, *Geology and Soils*; see Appendix J). However, some slopes along the western and northern portions of the site were observed to expose weathered and fractured bedrock and may be subject to small to moderate-sized rockfalls. Alternative 1 would substantially avoid new development within the California and Africa planning areas, which are located on and adjacent to these exposed rock slopes. In particular, Alternative 1 would avoid excavation for the Condor Canyon and other ground-disturbing construction techniques that would produce vibrations (e.g., jackhammering, drilling, blasting, and pile installation) within the California and Africa planning areas. However, new development under Alternative 1 would still occur at the base of the California planning area hillside directly adjacent to existing developments. Therefore, while substantially reduced, the potential for damage associated with landslides would remain. Per **MM GEO-1**, these slopes would be observed, mapped, and further evaluated for Alternative 1 components proposed adjacent to exposed rock slopes or if cuts slopes are planned in bedrock areas (e.g., California planning area). Therefore, Alternative 1

impacts related to landslide risks would be similar to the Project and *less than significant with mitigation*.

GEO-4: Would the project result in substantial soil erosion or the loss of topsoil?

Alternative 1 construction would result in reduced impacts to soil erosion and loss of topsoil due to the substantial avoidance of new development within presently undeveloped areas of the Zoo campus. Alternative 1 would develop 3 acres of undeveloped areas with native topsoils as compared to the approximately 22 acres proposed under the Project. However, Alternative 1 implementation would still result in the limited potential for erosion due to excavation activities during construction, similar to the Project. Excavation activities for construction of Treetops Visitor Center subterranean kitchen and Zoo aerial tram and installation of the stormwater collection system would disturb and loosen soils, resulting in the potential for erosion, especially during rain events. As with the proposed Project, Alternative 1 implementation would require preparation of a Storm Water Pollution Protection Plan (SWPPP) to obtain a National Pollutant Discharge Elimination System (NPDES) stormwater permit from the State Water Resources Control Board (SWRCB) in accordance with the federal Clean Water Act. All Alternative 1 components would be required to comply with all BMPs identified within the SWPPP and the City's Stormwater and Urban Runoff Pollution Control Ordinance (Chapter VI Article 4.4 of the LAMC) to address soil erosion and control the discharge of pollutants, including sediment, into the local surface water drainages. With adherence to existing state and local regulations that address soil erosion, Alternative 1 impacts potentially resulting from erosion or loss of topsoil would be similar to the Project and *less than significant*.

GEO-5: Would the project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

During Alternative 1 construction phases, excavation for the Treetop Visitor Center's subterranean kitchen, the aerial tram foundations, and the stormwater collection system may loosen exposed soils or slopes, potentially causing instability within the excavation site or compromised stability for adjacent properties. Similar to the proposed Project, adequate sloping or shoring of soils would be necessary to provide structural support for neighboring buildings to prevent soil collapse during excavation. All excavation activities associated with Alternative 1 would be required to adhere to mandatory regulations set forth by the California Division of Occupational Safety and Health (CalOSHA) to ensure the safety of construction workers during excavation, and the Los Angeles Building Code, and CBC to ensure stable excavations and cut or fill slopes.

Alternative 1 would upgrade and replace outdated facilities at the Zoo that do not meet current Los Angeles Building Code and CBC building standards and may present a hazard to public safety during an earthquake. All new structures under Alternative 1 would be constructed to

meet the most current and stringent building safety requirements, thus reducing the level of risk on a site and within the Zoo as a whole, compared to existing conditions. Therefore, compliance with the Los Angeles Building Code, CBC, and adherence to the design recommendations detailed in site-specific geotechnical studies would address potential impacts related to unstable soils.

Similar to the proposed Project, groundwater dewatering may be necessary for construction of subterranean structures, such as the Treetops Visitor Center subterranean kitchen and the stormwater collection system. In cases where there is a high or perched groundwater table where the floor of subterranean structure encounters the groundwater table, ongoing groundwater dewatering may be necessary to prevent the percolation or inflow of groundwater into excavation pits and future basement levels. If the dewatering of groundwater is necessary, a dewatering permit from the RWQCB would be obtained (refer to Section 3.10, *Hydrology and Water Quality*).

Additionally, the site-specific geotechnical report for each phase of development would evaluate site-specific geotechnical hazards and soil stability and would be required to identify building design requirements to ensure soil stability to the maximum extent feasible. The geotechnical report would also be required to identify known historic groundwater levels onsite and identify measures to address groundwater impacts such as dewatering during construction as needed to protect against water contact and to minimize the seeping of water into the subterranean structure. All recommendations and design features in the geotechnical report are required to be incorporated into the building design for Alternative 1 components, similar to the Project. With **MM GEO-1**, these required geotechnical investigations would be completed for each phase of Alternative 1 development and engineering techniques and technologies would be integrated into final Zoo development plans. Implementation of **MM GEO-1** would ensure impacts are similar to the Project and *less than significant with mitigation*.

GEO-6: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As described in Section 3.7, *Geology and Soils*, there are two sedimentary units beneath the Project site with Moderate to High potential to contain significant paleontological resources, specifically within the Africa planning area. Implementation of Alternative 1 would reduce impacts to paleontological resources as this alternative would substantially avoid development of the existing undeveloped hillsides within the proposed Africa and California planning areas. While highly unlikely, the potential remains for construction under Alternative 1 to encounter and impact significant paleontological resources, similar to the Project. Therefore, Alternative 1 would implement **MM GEO-2** and **MM GEO-3**, which would include monitoring of ground disturbing activities for discovery of fossil specimens as well as subsequent collection, preparation, and permanent deposition in a designated repository of fossil specimens. These actions would preserve paleontological resources that

would otherwise be permanently lost and, similar to the Project would reduce Alternative 1 impacts to *less than significant with mitigation*.

Greenhouse Gas Emissions

GHG-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment? Would the proposed Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

GHG emissions would be reduced under this alternative, as new development would be reduced by 21 acres when compared to the proposed Project. With less development, grading and excavation required for building construction would be lessened under this alternative, which would decrease emissions from heavy construction equipment. This alternative would also reduce anticipated growth by approximately 15.8 percent, with corresponding reductions in vehicle trips and VMT, which generate mobile-sourced GHG emissions. Alternative 1 would also result in a decrease in emissions generated onsite from Zoo operations, as energy, water, and other utilities would not be needed for the California Visitor Center and funicular and exhibit spaces that would not be built in the California and Africa planning areas.

Similar to the proposed Project, Alternative 1 would contribute to the expansion of renewable energy infrastructure by installing 70,000 square feet of rooftop solar panels, in addition to the separate LADWP project that would provide up to 163,000 square feet of solar panel coverage in the Zoo's northern parking lot. Additionally, similar to the Project, Alternative 1 would provide high-efficiency lighting and amenities throughout the Zoo property and in the parking lots and parking structure. Similar to the Project, these components of Alternative 1 would reduce operational GHG emissions compared to business-as-usual. Alternative 1 would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Implementation would not interfere with any statewide or regional initiatives to reduce GHG emissions associated with the energy production sector. This impact would be less than the proposed Project and *less than significant*. Though not directly required to reduce impacts associated with GHG emissions, **MM UF-1**, **MM UF-2**, **MM HYD-2**, **MM T-2**, **MMT-3**, and **MM UT-1** would result in further reductions in overall GHG emissions generated by Alternative 1 and/or consistency with applicable plans, policies, and regulations adopted with the intent of reducing GHG emissions.

Hazards and Hazardous Materials

HAZ-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Under Alternative 1, impacts related to hazards and hazardous materials would be similar to the proposed Project. Similar to the proposed Project, construction for Alternative 1 implementation would require transportation, use, storage, and disposal of small quantities

of commercially available hazardous materials, which would be handled in compliance with federal, state, and local regulations pertaining to their transport, use, or disposal. As such, the potential for hazardous materials release would be limited to disturbance of contaminated soil during ground-disturbing activities and accidental spill of chemicals, petroleum, oils, and lubricants within the construction staging areas on the Project site or transportation routes. However, due to the reduction in extent and duration of construction activities, construction of Alternative 1 would result in reduced potential for hazardous materials spills or exposure. Compliance with federal, state, and local regulations related to the safe transportation of hazardous materials as well as oversight by the appropriate federal, state, and local agencies would minimize the risk of hazardous materials exposure during transport, similar to the Project. Additionally, ACM, LBP, contaminated soils, or other hazardous material encountered during demolition or construction activities would be handled and disposed of in compliance with all pertinent federal, state, and local regulations for the handling of such waste. Therefore, construction associated with Alternative 1 implementation would result in *less than significant* impacts with regard to the transport of hazardous materials and disposal of hazardous wastes, similar to the proposed Project.

All hazardous materials used onsite for operation of Alternative 1 would be subject to all applicable regulation and documentation for the handling, use, and disposal of such materials consistent with all appropriate federal, state, and local regulations and standards established by the U.S. EPA, CalEPA, SCAQMD, Los Angeles County, and the City to protect the public health and safety. As required, appropriate permits, worker training, and agency inspections would be obtained and provided. Implementation of standard good housekeeping measures, BMPs, site maintenance and security precautions, as well as compliance with standards and regulations would ensure potential impacts related to the routine transport, use, or disposal of hazardous materials are similar to the Project and *less than significant*.

HAZ-2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involved the release of hazardous materials into the environment?

As described in Section 3.9, *Hazards and Hazardous Materials*, the Project site is located near multiple regulated hazardous material sites, including one leaking UST with a closed status near the southern parking lot and one Superfund cleanup site that extends to the north of the Autry Museum and is undergoing continuing cleanup and investigation activities. Construction of the parking and circulation improvements (e.g., improvements to the intersection of Zoo Drive & Western Heritage Way, realignment of Western Heritage Way/Crystal Springs Road, construction of the multi-story parking structure) would be located nearest these sites. It is unlikely that existing contaminants identified on other nearby sites would have an impact on the Project site, due to distance, hydraulic gradient in relation to the Project site, or due to past cleanup efforts.

Similar to the proposed Project, ground-disturbing activities (i.e., excavation, trenching, grading) during proposed improvements to Condor West, the Construction Shop and Support

area, and the Gottlieb Animal Health and Conservation Center under Alternative 1 has the potential to disturb historic contaminated soil and hazardous vapors associated with the fueling station located within the visitor-restricted Zoo Construction Shop and Support area. However, since Alternative 1 would not include development of most undeveloped hillsides in the Africa planning area, this alternative would result in reduced potential for hazardous materials release associated with vapor migration from the fueling station. Implementation of **MM HAZ-1** would require a Phase II Environmental Site Assessment (ESA) to evaluate the presence of hazardous soil contamination and vapor intrusion in the vicinity of the existing fueling station, the southern parking lot, and north of the Autry Museum prior to demolition and grading activities. In the event that the Phase II ESA identifies soil and/or groundwater contamination at or above regulatory levels, implementation of **MM HAZ-2** would require remediation activities prior to the issuance of grading permits to ensure no adverse impacts from exposure to soil contamination. Similar to the Project, ACM, LBP, contaminated soils, or other hazardous material encountered during demolition or construction activities would be disposed of in compliance with all pertinent federal, state, and local regulations for the handling of such waste. Implementation of **MM HAZ-1**, which would require the Phase II ESA to identify the potential presence of ACM and LBP in the buildings proposed for demolition or renovation, would reduce potentially hazardous waste impacts, similar to the Project.

Since Alternative 1 implementation would not include development of the funicular in the California planning area, this alternative would reduce the potential for safety hazards as compared to the proposed Project. Similar to the proposed Project, the Zoo aerial tram would comply with all applicable safety and engineering standards, including the current Safety Requirements for Passenger Tramways (ANSI B77.1) and CCR Title 8, Subchapter 6.1, Article 8 Wire Rope and Strand Requirements, thereby addressing potential safety hazards.

With mitigation to address potential soil contamination and ACM and LBP within older structures during demolition and excavation, impacts to hazardous materials would be similar to the Project and *less than significant with mitigation*.

HAZ-3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Similar to the proposed Project, Alternative 1 would include construction involving the use of commercially available potentially hazardous materials in the immediate vicinity of the Zoo Magnet Center (i.e., circulation and parking improvements and Zoo Entry renovation in Phase 1). However, all construction activities associated Alternative 1 would comply with applicable federal, state, and local regulations relating to protection of the public and the environment from exposure to hazardous materials. Further, **MM HAZ-1** would require the preparation of a Phase II ESA to ensure no adverse impacts related to hazardous emissions or spills would occur during implementation of Alternative 1. As such, construction impacts related to hazardous emissions and hazardous materials, substances, and waste within 0.25

miles of a school would be similar to the Project and *less than significant with mitigation*. After construction is complete and the heavy equipment is removed from the Project site, the potential for hazardous spills would be low and similar to existing conditions at the Project site. Therefore, operational impacts related to hazardous emissions and hazardous materials, substances, and waste within 0.25 miles of a school would be similar to the Project and *less than significant*.

HAZ-4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

As described in Section 3.9, *Hazards and Hazardous Materials*, while the Project site is included on several databases for its operation as a small quantity generator of hazardous waste, the Zoo is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Alternative 1 would include the reconfiguration of Crystal Springs Drive along the periphery of the Zoo parking lots, which would potentially affect the area adjoining a listed leaking UST site, and, if needed, development of a reduced-size parking structure and improvements to the Zoo Drive/Western Heritage Way intersection, which may encounter contaminated soils from an offsite site cleanup. Similar to the Project, **MM HAZ-2** would be implemented to ensure any contaminated soils are properly removed, handled, and transported to an appropriately licensed disposal facility, in accordance with local and state regulations. With implementation of **MM HAZ-2**, near-term and long-term construction activities would have a *less than significant* impact to sites included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and as such, would not create a significant hazard to the public or the environment, similar to the Project.

HAZ-5: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Zoo maintains emergency preparedness procedures in the event of an emergency and/or evacuation in accordance with the AZA accreditation standards. Similar to the proposed Project, all buildings and structures under Alternative 1 would be constructed in compliance with the applicable state and City building, fire, and emergency access codes to meet current fire protection standards. Alternative 1 does not propose changes, obstructions, or reconfigurations to public evacuation routes, so Alternative 1 would not result in physical interference or impairment to implementation of this existing emergency and evacuation plan. While construction activities associated with Alternative 1 would add vehicles (e.g., construction equipment, worker vehicles, etc.) to regional and local roads that could increase congestion, emergency access would be maintained during construction with implementation of **MM T-1**, which would require preparation and implementation of a Construction Traffic & Access Management Plan for each phase of Alternative 1 (refer to Section 3.15,

Transportation). Therefore, similar to the Project, Alternative 1 would not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts would be *less than significant*.

Hydrology and Water Quality

HYD-1: Would the project violate any water quality standards or waste discharge requirements or otherwise degrade water quality?

Alternative 1 would reduce ground disturbance by approximately 21 acres within the California and Africa planning areas, which would reduce potential for soil erosion, sediment transport, and disturbance of soil contamination compared to the Project. In particular, Alternative 1 would eliminate excavation for Condor Canyon, which would substantially reduce the amount of soil disturbance compared to the Project. Further, with elimination or reduction in the size of the proposed parking structure, soil disturbance would be reduced in the areas fronting the Zoo as well. However, Alternative 1 would still involve substantial earthwork activities, including excavation for installation of the proposed underground stormwater management system, which would disturb soils and increase the potential for soil erosion and sediment transport into the Los Angeles River during periods of rainfall or runoff. Similar to the Project, Alternative 1 would be required to implement construction BMPs to address soil erosion, including topsoil mobilization and loss, and urban runoff in compliance with the City's Stormwater and Urban Runoff Pollution Control Ordinance (Chapter VI Article 4.4 of the LAMC). All stormwater generated during construction would continue to be directed either to the Zoo's existing storm drain system and Zoo Wastewater Facility (or to the proposed stormwater collection system for the respective area for each completed phase) in the near-term phases, or the proposed stormwater capture system in the long-term phases, similar to the proposed Project. The Zoo Wastewater Facility would continue to remove silt and grit from the stormwater before discharging to the City's North Outfall Sewer for treatment at the LAGWRP, significantly reducing or eliminating any sediment and polluted runoff generated during construction that would flow into the existing or proposed stormwater system. In addition, implementation of **MM HYD-1** through **MM HYD-3**, requiring preparation of a stormwater management plan to determine the appropriate sequencing of improvements, preparation of a SWPPP, and implementation of standard construction BMPs, and timing of construction to avoid adverse effects of seasonal storms, would avoid potential for mobilization of sediments and typical construction pollutants during all phases of Alternative 1 construction. Implementation of these measures would reduce associated impacts on water quality from earthwork and typical construction activities similar to the Project and would be *less than significant with mitigation*.

Similar to the project, ground disturbing activities associated with improvements to Condor West, the Construction Shop and Support area, and the Gottlieb Animal Health and Conservation Center (Phase 4) have the potential to degrade surface water quality through the disturbance of potentially contaminated soil (see also, *Hazards and Hazardous Materials*

for Alternative 1 above). Additionally, realignment of Western Heritage Way/Crystal Springs Road and installation of traffic signals and potential intersection lane improvements (e.g., road widening and sidewalk improvement) during Phase 1 could disturb potential contamination from equipment leaks or spill of stored hazardous chemicals or leaks from the USTs located at or adjacent to the Zoo's storage yard at the southern parking lot and Autry Museum (refer to *Hazards and Hazardous Materials* above). However, implementation of **MM HAZ-1** and **MM HAZ-2** would require a Phase II ESA to evaluate the presence of hazardous soil contamination and vapor intrusion in the vicinity of the existing fueling station, the southern parking lot, and north of the Autry Museum, and remediation activities if necessary to ensure no adverse impacts from exposure to soil contamination. Therefore, with these measures, potential impacts on water quality from soil contamination would be similar to the Project and *less than significant with mitigation*.

Operation of the Zoo during implementation of Phases 1 through 3 (through 2030) would result in pollutant discharges and runoff similar to existing conditions, which would be captured and treated by the Zoo Wastewater Facility and the LAGWRP prior to discharge to the Los Angeles River. Following Phase 3, all surface runoff and stormwater within the Zoo would be directed to the proposed onsite stormwater management system and proposed LID features to capture, treat, and reuse stormwater onsite. Similar to the proposed Project, the stormwater collection system is also proposed to allow retention and reuse of stormwater for irrigation at the Zoo to reduce annual irrigation water demands (refer to Section 3.16, *Utilities*). The stormwater capture and retention system as proposed does not include pre-treatment or other LID measures to treat the runoff that would be reused for irrigation of the Zoo, resulting in the potential to unnecessarily contribute pollutants captured within the system back into the Zoo drainage system. Implementation of **MM HYD-6** would require the Zoo install pre-treatment and LID features to treat water within the stormwater collection system and remove pollutants prior to reuse for irrigation.

Similar to the proposed Project, the proposed stormwater collection system under Alternative 1 would be designed to capture 100 percent of stormwater runoff generated during a typical 2-year, 24-hour rainfall event. During larger storm events when capacity of the stormwater collection system is exceeded, stormwater would overflow to the Zoo Wastewater Facility and undergo the same level of treatment as occurs under existing conditions. Implementation of the stormwater collection system and proposed LID features would improve the water quality within the Zoo drainage area during operation of the Zoo to the same extent as the proposed Project (refer to Section 3.10, *Hydrology and Water Quality*). With implementation of **MM HYD-6**, stormwater impacts would be similar to the Project and *less than significant with mitigation*.

HYD-2: Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Similar to the proposed Project, Alternative 1 would continue to use the LADWP water supply and would not draw from local groundwater. As Alternative 1 would substantially avoid new development within presently undeveloped areas of the Zoo (e.g., California and Africa planning areas), this alternative would result in a reduced footprint of impervious surfaces compared to the proposed Project. Therefore, Alternative 1 would substantially maintain the existing rate of percolation onsite and this alternative's effects on groundwater recharge would be incremental. Therefore, Alternative 1 implementation would not have an adverse effect on groundwater recharge, and impacts to groundwater infiltration would be *less than significant*, similar to the Project.

Groundwater at the Project site and immediate vicinity may be contaminated due to a former leaking UST and Superfund cleanup site in proximity to the Zoo's parking lot and Western Heritage Way, as well as from fueling dispensers, USTs, and associated piping within the Zoo Construction Shop and Support area and existing storage yard (refer to Section 3.9, *Hazards and Hazardous Materials*, for further discussion of the potential groundwater contamination onsite). Implementation of **MM HAZ-1** would require the City to prepare a Phase II ESA to determine whether contamination exists and, if so, the extent of contamination within the Project site. If contaminants are detected in soil at or above regulatory levels, then the results of the soil sampling shall be reviewed and acted upon by the LAFD and other regional or state regulatory agencies as needed. Therefore, Alternative 1 impacts of groundwater contamination on- and offsite would be similar to the Project and *less than significant with mitigation*.

The potential to encounter groundwater under Alternative 1 is limited, similar to the Project, particularly on hillsides in the California and Africa planning areas where depth to groundwater is greater than interior canyon areas of the existing Zoo. Groundwater dewatering may still be necessary for the construction of subterranean structures in areas with a high groundwater table (e.g., Treetops Terrace subterranean kitchen). In cases where there is a high or perched groundwater table where the floor of subterranean structure encounters the groundwater table, ongoing groundwater dewatering may be necessary to prevent the percolation or inflow of groundwater into excavation pits and future basement levels. If dewatering is necessary, the City would obtain a dewatering permit from the Los Angeles RWQCB in compliance with existing RWQCB regulations and the requirements of the NPDES permit program. A geotechnical report for each phase (required under **MM GEO-1**) would be required to identify known historic groundwater levels onsite and identify measures to address groundwater impacts such as dewatering during construction as needed to protect against water contact and to minimize the seeping of water into the subterranean

structure. All recommendations and design features in the geotechnical report are required to be incorporated into the final building design. Therefore, impacts to groundwater quality and recharge from Alternative 1 implementation would be similar to the Project and *less than significant with mitigation*.

HYD-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite? Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?

As Alternative 1 would substantially avoid new development within the undeveloped California and Africa planning areas, including the substantial topographic modifications needed for Condor Canyon, this alternative would reduce alteration of the onsite drainage pattern as compared to the proposed Project. Nevertheless, alteration of the onsite drainage pattern would still occur through excavation, grading, and installation of the proposed stormwater collection system within existing developed areas of the Zoo, and minor increases in development and impervious surfaces. Generally, all Alternative 1 construction activities, particularly those involving substantial soil excavation, would result in exposure of soils and would cause minor alterations to onsite drainage, including the potential for temporary ponding during storm events. However, all Alternative 1 components would be required to comply with the Stormwater and Urban Runoff Pollution Control Ordinance (Chapter VI Article 4.4 of the LAMC) to address soil erosion, including topsoil mobilization and loss, and urban runoff. Further, all stormwater generated during construction would continue to be directed either to the Zoo's existing storm drain system in the near-term phases, or the proposed stormwater capture system in the long-term phases. Compliance with existing City regulations as well as implementation of **MM HYD-1** through **MM HYD-3** would reduce soil erosion impacts of Alternative 1 to *less than significant with mitigation*.

While not expected, if dewatering of groundwater is required based on onsite groundwater depth in some phases, it would be accomplished in accordance with Los Angeles RWQCB's Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (refer to Impact HYD-2). Construction activities would alter onsite drainage, subject to requirements to control water quality and stormwater flows, but would not alter drainage patterns or amounts offsite to the Zoo Wastewater Facility or the Los Angeles River; therefore, similar to the Project, construction activities associated with Alternative 1 would result in a *less than significant* impact.

Following construction, Alternative 1 would not increase the potential for soils to be subject to wind or water erosion. Implementation of **MM HYD-4** through **MM HYD-6** would require preparation of an operations and management (O&M) Plan, application of gorilla mulch over landscaped areas, and pre-treatment, filtering, and other LID features as part of

the stormwater collection system to ensure continued water quality benefits from the LID features and the stormwater collection system. Similar to the proposed Project, Alternative 1 would result in beneficial impacts to soil erosion associated with reducing surface runoff and directing all stormwater runoff into the proposed stormwater collection system, rather than conveying runoff to the Los Angeles River. With adherence to existing state and local regulations and mitigation measures that address soil erosion, impacts to receiving waters potentially resulting from erosion would be similar to the Project and *less than significant with mitigation*.

Alternative 1 would result in a smaller increase in impervious surfaces onsite as compared to the proposed Project. However, similar to the Project, Alternative 1 would include substantial stormwater retention and treatment facilities onsite to accommodate stormwater runoff and avoid on and offsite increases in flooding, consistent with the requirements of the City's Stormwater and Urban Runoff Pollution Control Ordinance (LAMC Article 4.4) and the SWRCB's Post-Construction Requirements. Similar to the Project, the proposed onsite stormwater management system under Alternative 1 would be designed to capture stormwater runoff, reduce peak flows, and reduce flow to the Zoo Wastewater Facility and ultimately the Los Angeles River. The remaining runoff not captured by the stormwater management system would be from the parking lots, which drain into existing LID features for onsite treatment prior to flowing to the Los Angeles River. The increase in pervious surfaces under Alternative 1 and additional point and non-point source water retention features (e.g., vegetated retention basins and pervious paving) would further slow and retain surface flows. Overflows of the stormwater management system would be directed to the Zoo Wastewater Facility. Following desilting and grit removal at the Zoo Wastewater Facility, stormwater would continue to be discharged to the North Outfall Sewer, which would direct water to the LAGWRP, similar to existing conditions for all stormwater within the Zoo. Since the volume of stormwater directed to the Zoo Wastewater Facility would be substantially reduced when compared to existing conditions, the Zoo Wastewater Facility's total capacity of 1.8 million gallons would be adequately sized to accommodate overflow runoff from the Zoo. As such, stormwater would be adequately managed, maintained, and attenuated through on- and offsite stormwater control features, which are designed consistent with the requirements of the City Stormwater and Urban Runoff Pollution Control Ordinance and SWRCB Post Construction Requirements. Therefore, similar to the Project, Alternative 1 impacts to onsite and offsite flooding would be *less than significant*.

HYD-4: Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Alternative 1 would result in a smaller increase in impervious surfaces due to the avoidance of new development in the California and Africa planning areas, thereby resulting in a smaller increase in stormwater runoff at the Zoo. The reduction in new development on presently undeveloped areas would increase infiltration and reduce surface runoff onsite. Additionally,

implementation of the proposed stormwater collection system would substantially reduce stormwater runoff and peak flow by capturing and storing all rainfall from the Zoo and the 79.7-acre hillside area adjacent to the Zoo for reuse onsite as irrigation water. Additional LID features, such as bioretention cells and vegetated bioswales, would be incorporated during final design of the planning areas to retain runoff and increase infiltration. The substantial reduction in surface runoff and peak flow would result in beneficial impacts to water quality, as the reduced volume and velocity of stormwater flows would reduce the rate of soil erosion and sedimentation.

Implementation of the proposed stormwater collection system would reduce the volume of discharge to the Zoo Wastewater Facility; therefore, this system would not be exceeded during the 2-year or the 100-year storm events. Implementation of the proposed stormwater collection system would also reduce the volume of discharge from the Zoo Wastewater Facility to the City's North Outfall Sewer. The Zoo Wastewater Facility would continue to hold animal pond water and overflow stormwater from the Zoo until the demand for wastewater discharge is low (i.e., nighttime). Thus, the Zoo Wastewater Facility would prevent exceedance of the North Outfall Sewer's capacity. Therefore, similar to the Project, implementation of the stormwater collection system would result in beneficial and *less than significant* impacts to existing stormwater drainage systems.

Land Use and Planning

LU-1: Would the project cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Alternative 1 would protect up to 21 acres of native vegetation communities and hundreds of native trees due to the avoidance of development on the California and Africa planning area hillsides. This would include up to 142 native trees and 85 native shrubs protected and regulated under the existing City Tree Preservation Ordinance and Protected Tree Code Amendment (refer to *Urban Forestry Resources*). Implementation of required mitigation measures would help ensure the Project's consistency with the SCAG RTP/SCS, Los Angeles General Plan, Hollywood Community Plan, L.A.'s Green New Deal, and LAMC, as well as the Vision Plan for Griffith Park as it applies to areas outside of Zoo property. Therefore, similar to the proposed Project, land use impacts from Alternative 1 would be *less than significant with mitigation*.

Noise and Vibration

NOI-1: Would the proposed Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Alternative 1 construction would generate reduced noise levels as compared to the proposed Project due to avoidance of development of the California and Africa planning area hillsides. In particular, without Condor Canyon, Alternative 1 would avoid noise and vibration from excavation and potentially blasting through the existing hillside. The most perceptible levels of construction noise would likely occur during Phase 1 when the Zoo Entry and reduced California planning area improvements are underway, including grading, excavation, and building construction, concurrent with improvements to the Zoo's southern parking lot, realignment of Western Heritage Way/Crystal Springs Road, and the Zoo Drive & Western Heritage Way intersection. Similar to the proposed Project, there are no residential sensitive receptors in the vicinity. The building construction activity would be the loudest phase of construction and would generate a noise level of approximately 86.2 dBA L_{eq} at 50 feet. Equipment noise levels during general construction activities would exceed 75 dBA L_{eq} at nearby sensitive receptors during Phases 1, 2, 3, 5, and 6. During Phase 1, the Zoo Magnet Center and the Wilson and Harding Golf Courses would experience noise level above 75 dBA L_{eq} (Table 3.12-9). For Phases 2, 3, 5, and 6 the only sensitive receptor that would experience noise levels above 75 dBA L_{eq} is Wilson and Harding Golf Courses. Pile driving activity related to the aerial tram would result in a noise level of 77.4 dBA L_{eq} at the Wilson and Harding Golf Course. However, golfers would move further away from the noise source as they play through each hole resulting in reduced noise levels. Furthermore, the existing ambient noise levels are elevated at the golf course due to the presence of the I-5 freeway to the east.

Similar to the Project, **MM NOI-1** through **MM NOI-5** would substantially reduce construction noise levels. The equipment mufflers associated with **MM NOI-1** would reduce construction noise levels by approximately 3 dBA. **MM NOI-2** through **MM NOI-4**, although difficult to quantify, would also reduce and/or control construction noise levels. **MM NOI-4** would require coordination with the construction contractor and the coordinator of the Zoo Magnet Center to avoid disruption to classroom instruction. **MM NOI-5** would reduce construction noise levels by approximately 10 dBA at Zoo Magnet Center by installing temporary noise barriers around the facility. Similar to the proposed Project, with implementation of these measures, noise levels would be reduced to approximately 66 dBA L_{eq} at the exterior of the school, which would be below the 75 dBA L_{eq} standard. Therefore, Alternative 1 impacts related to construction noise would be similar to the Project and *less than significant with mitigation*.

Stationary noise sources introduced under Alternative 1 would be similar to existing noise sources. Stationary noise sources include Zoo visitors conversing in the park, noise from animals, noise related to special events, mechanical equipment noise within the park, service

vehicles, the public address (PA) system, parking noise, and background music. Zoo attendance and special events would decrease under Alternative 1 but would increase compared to existing conditions. The increased attendance due to Zoo expansion, new Zoo facilities, and Zoo programming may result in increased noise levels and expanded duration of operational noise, including after-hours noise from evening special events and noise from vehicle traffic in the Project vicinity. However, the increase in visitation and associated operational noise impacts under Alternative 1 would be less severe than the proposed Project. **MM NOI-6**, which would require the Zoo to orient shop faces inwards toward Zoo property, is intended to reduce service area noise through thoughtful design. Therefore, Alternative 1 impacts related to operational noise from stationary and mobile sources would be less than the proposed Project and *less than significant with mitigation*.

NOI-2: Would the proposed Project result in generation of excessive groundborne vibration or groundborne noise levels?

Alternative 1 would implement substantially reduced construction activities as compared to the proposed Project and would completely avoid the need for blasting due to the elimination of Condor Canyon. Therefore, construction associated with Alternative 1 would result in significantly reduced vibration levels from the use of typical construction equipment, and impacts would be *less than significant*, similar to the Project.

Similar to the proposed Project, Alternative 1 does not include stationary sources of vibration, such as heavy-duty industrial equipment. Regarding additional traffic, the FTA has stated that rubber-tired vehicles do not typically generate perceptible vibration levels outside of the right-of-way. Additionally, Alternative 1 would result in reduced vehicle traffic to the Project site, as compared to the proposed Project. There are no operational sources of vibration that would generate vibration levels that exceed 75 VdB. Therefore, impacts associated with operational vibration would be similar to the Project and *less than significant*.

Reduced construction vibration under Alternative 1 would also result in reduced potential disturbance of Zoo animals, particularly elephants. As the Zoo has done in the past during construction, measures to protect these animals may include temporary relocation away from construction activities, closure of exhibits, or even the transfer of animals to other zoos. Accommodations specific to each animal would be developed during the planning process for each phase and details would be included in final construction plans. With continued management of each species of animal exhibited or rehabilitated at the Zoo and required compliance with the AWA, there would be no adverse effects on Zoo animals from vibration during construction of Alternative 1.

Public Services

PS-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

Due to the reduction in new development in currently undeveloped hillsides within the Zoo property, this alternative would reduce the potential for ignition risks during construction. While reduced, Alternative 1 construction would continue to introduce a potential ignition source for fires (e.g., flammable materials, sparks) and may create hazardous conditions requiring EMS; however, LAFD maintains fire response and EMS at adequate levels to respond to incidents at the Zoo during Project construction. Construction contractors and work crews would employ “good housekeeping” procedures (e.g., proper maintenance of mechanical equipment and proper storage of flammable or other hazardous materials) and would comply with Cal/OSHA, LAMC Fire Code, and CBC regulations to reduce risk of potential fires, hazardous spills of other conditions during construction that would require fire protection and EMS. Therefore, Alternative 1 construction would not require additional firefighting or EMS personnel or new or expanded facilities.

Construction activities would result in temporary changes to roadways, access points, and staging areas currently used by LAFD to respond to incidents in the Zoo and nearby areas in Griffith Park. However, Alternative 1 would not directly impair designated County or City Disaster Routes along I-5, SR-134 and San Fernando Road, as all development would be contained to the Zoo and roadways serving the Zoo. Implementation of **MM T-1**, requiring a Construction Traffic & Access Management Plan with measures for controlling and ensuring continued access to the Zoo and through the interior of the Zoo circulation system, would address impacts from construction of proposed improvements on emergency access and response.

Under Alternative 1, the anticipated increase in annual visitation to 2,525,775 guests and the hiring of approximately 296 additional staff by 2040 has the potential to result in increases in the frequency of incidents with commensurate increases in demand for fire protection and EMS from LAFD. Compared to the Project, this alternative would result in reduced potential for emergency incidents. Due to the acceptable response times from Station No. 56, which currently serves the Project site, the LAFD would have adequate resources and personnel to continue to serve the Zoo without needing to expand any facilities or personnel. All Alternative 1 components would be constructed in accordance with applicable sections of the LAMC Fire Code and CBC, which require the provision of adequate emergency access, use of ignition-resistant construction materials, installation of automated fire suppression systems, emergency water supply and adequate fire flow rates, and appropriate defensible space requirements. Alternative 1 would also include emergency evacuation plans, similar to the

Project, allowing for quick and safe evacuation of Zoo guests, employees, and Zoo animals in the event of an emergency. Consistent with LAFD standards, this combination of development standards for new development and existing LAFD service capabilities would ensure demands for fire protection and EMS would continue to be met under Alternative 1. Therefore, no additional LAFD facilities or personnel would be required to serve Alternative 1.

Similar to the proposed Project, Alternative 1 would include roadway and circulatory improvements (i.e., intersection improvements at Zoo Drive & Western Heritage Way, realignment of Western Heritage Way/Crystal Springs Road, increased parking) to reduce vehicle congestion in the Project vicinity and improve direct access to the Zoo for firefighters and EMS. While some improvements to the secondary/exhibit pathway would continue to occur under Alternative 1, this alternative would not include construction of Condor Canyon, and therefore, would not complete the Primary Path Loop for intuitive circulation throughout the Zoo. A new vehicle service entrance and service road would not be developed along the ridgeline of the hillside areas, and service access to and around the perimeter of the Zoo would remain similar to existing conditions.

Similar to the Project, Alternative 1 would not increase demand for LAFD response or require new firefighting equipment or facilities. Further, there would be no significant increase in risk for ignition or reduction in response times or evacuation planning. Therefore, impacts on fire protection and emergency response services would be *less than significant*, similar to the Project. However, Alternative 1 would not result in the same beneficial impacts to improved site circulation, wayfinding, and emergency access as the proposed Project.

PS-2: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

As Alternative 1 is anticipated to result in a smaller increase in annual visitation compared to the proposed Project, the increase in demand for additional police protection at the Zoo would be less than the proposed Project. To address anticipated increases in demand for law enforcement services, Alternative 1 would include construction of a new 13,000 sf single-story security and first aid center, located within the proposed entry plaza where it would be easily accessible to Zoo guests, and the hiring of additional security personnel to accommodate such needs. Zoo security staff would continue to respond to most incidents at the Zoo, limiting the increased demand for LAPD services. Because Zoo security is provided onsite and would not regularly necessitate responses from community LAPD stations, Alternative 1 would not substantially interfere with LAPD response times. Further, Alternative 1 would result in reduced impacts to the resident-to-officer ratio of the LAPD. Further, most jobs associated with the proposed Project are anticipated to be filled by the existing local or regional labor

force within the City, surrounding cities, and surrounding Los Angeles region. Therefore, any net population increase spurred by Alternative 1 is anticipated to be nominal and would not substantially affect LAPD officer-to-resident ratios.

As described in Section 3.13, *Public Services*, while the Project site is in an area with comparatively low crime rates, has an adequate officer-to-resident ratio, and provides adequate response times, the Zoo currently experiences a relatively high number of vehicle theft/break ins. Similar to the Project, this trend is expected to continue since Alternative 1 would maintain the open, publicly accessible parking lot and does not propose measures to limit access or increase patrol or parking lot security. Implementation of **MM PS-1**, requiring the Zoo implement measures to increase security of the Zoo's parking lot areas such as frequent patrolling and installation of additional surveillance cameras, would help to reduce vehicle theft/break in and manage crime within the Zoo, thereby reducing LAPD and Zoo security demands. Further, improvements to Zoo facilities would include modernization of security systems such as access control to buildings, secured parking facilities, walls/fences with key systems, and well-illuminated spaces designed with a minimum of dead space to eliminate areas of concealment.

Existing resources of the LAPD and Northeast Community Police Station are adequate to continue providing acceptable levels of service to the Zoo with Alternative 1, similar to the Project. With implementation of **MM PS-1** to address increased law enforcement issues from vehicle theft/break ins, impacts to public safety and police protection services would be similar to the Project and *less than significant with mitigation*.

PS-3: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts?

Alternative 1 is anticipated to result in a smaller increase in annual visitation and fewer new jobs compared to the proposed Project, which would reduce overall demands for governmental facilities, including schools. Similar to the proposed Project, Alternative 1 would not include residential development, and therefore, would not result in an increased number of school-aged children in the Los Angeles Unified School District (LAUSD). Alternative 1 would create approximately 296 new jobs, but it is anticipated that these jobs would be filled by the existing local workforce, and, therefore, would not create population growth in the area, thereby increasing demand for public school services. Alternative 1 would not result in physical changes to existing LAUSD facilities, including the Zoo Magnet Center, since most Alternative 1 improvements would occur within Zoo planning areas inside the Zoo and away from the Zoo Magnet Center campus. However, Alternative 1 would realign Western Heritage Way/Crystal Springs Drive to the perimeter of the southern parking lot and would add approximately 300 guest surface parking spaces in the southern parking lot, immediately adjacent to the Zoo Magnet Center through removal of existing Zoo uses and restriping of parking spaces. While there has historically not been significant conflict in parking

availability for Zoo Magnet Center and Zoo guests, Alternative 1 implementation is anticipated to increase daily attendance to the Zoo and substantially increase demand for Zoo parking (refer to Section 3.15, *Transportation*). To ensure parking availability remains for Zoo Magnet Center students and staff and avoid the need for additional facilities to serve school operations, **MM PS-2** would require improvements to the southern parking lot to include designated parking spaces for Zoo Magnet Center school buses and implement parking hour limitations to accommodate 10 teachers, the office administrator, and campus counselor, with an additional reserve space for visitors. Reserved parking stalls would be in effect during hours of Zoo Magnet Center operation. With implementation of this measure, Alternative 1 impacts on schools would be similar to the Project and *less than significant with mitigation*.

Recreation

REC-1: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Similar to the proposed Project, Alternative 1 would upgrade the Zoo Drive/Western Heritage Way intersection with a new signal in Phase 1. The signalization of this intersection would not affect the mobility of pedestrians, bicyclists, and equestrians along the Main Trail or affect their safety. Therefore, implementation of Alternative 1 would substantially reduce impacts to mobility and safety along the Main Trail as compared to the proposed Project and impacts associated with accessibility to recreational resources would be *less than significant*.

Alternative 1 would increase Zoo visitation and increase visitor-serving spaces within the Project area, but to a lesser extent than the proposed Project. Expansions and improvements to Zoo facilities under Alternative 1 would be contained within existing Zoo boundaries. Thus, Alternative 1 would result in no net loss of recreational lands and would not cause direct impacts to recreational facilities within Griffith Park or elsewhere, similar to the proposed Project. Further, the addition of a 2-acre public park to the north of the proposed parking structure would slightly expand recreational amenities within Griffith Park; this public park would continue to be contributed through the Project if the proposed parking structure is also constructed. Within the Zoo, the proposed Nature Play Park would replace the existing children's playground within the Zoo, named the Papiano Play Park, increase the playground size threefold to 18,300 square feet of a natural play area equipped with play structures and water features, and relocate the park nearby the main entrance.

Similar to the proposed Project, Alternative 1 would not facilitate indirect population or economic growth within the City or greater region that would place demand on recreation and park services compared to the existing level of service available. The approximately 296 new jobs generated by Alternative 1 implementation are anticipated to be supplied by the existing local or regional labor force within the City, surrounding cities, and surrounding Los Angeles region. Therefore, any net population increase spurred by Alternative 1 is anticipated

to be less than under the proposed Project and nominal. As such, no additional demand on existing recreational facilities or for new recreational amenities is anticipated as a result of Alternative 1 implementation, similar to the Project. Therefore, Alternative 1 impacts would be *less than significant*.

REC-2: Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Under Alternative 1, redevelopment and expansion of existing facilities and the construction of new facilities within the Zoo would improve the recreational value and opportunities provided by the Zoo, to a lesser degree than the proposed Project. Alternative 1 implementation would result in impacts to the environment, including adverse effects on air quality, biological resources, cultural and tribal resources, the City's urban forest, geology and soils, hazards and hazardous materials, and transportation. However, Alternative 1 would result in reduced impacts due to avoidance of new development within presently undeveloped areas of the Zoo. Where potentially significant impacts are identified as they relate to the construction or expansion of recreational facilities, applicable existing regulations or appropriate mitigation is identified which would reduce associated Alternative 1 impacts. With implementation of the regulations and required mitigation measures, impacts from the construction or expansion of recreational facilities would be similar to the Project and *less than significant*.

Transportation

T-1: Would the project cause a significant environmental impact due to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

With implementation of a comprehensive TDM Program (**MM T-2**), Alternative 1 would align with the VMT reduction goals and objectives within the SCAG's 2016 RTP/SCS, Los Angeles General Plan, Mobility Plan 2035, Hollywood Community Plan, Griffith Park Vision Plan, Green New Deal Plan, and Plan for a Healthy Los Angeles. As described for the proposed Project, Alternative 1 would be consistent with the plans listed above to a greater extent than the proposed Project due to overall reduced VMTs, but would be similar to the Project in terms of multi-modal local and regional transportation policies. Alternative 1 would not cause significant environmental impacts due to conflicts with any transportation plan, policy, or regulation, and impacts would be similar to the Project and *less than significant with mitigation*.

T-2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Alternative 1 construction activities would result in additional VMT in the Project vicinity and on the I-5 and SR-134 freeways, associated with construction materials deliveries, soil import and export, export of demolition debris, and construction worker trips. Construction-related increases in VMT would occur intermittently and would be lower in volume than the construction vehicle trips and VMT associated with the proposed Project. The Construction Traffic & Access Management Plan required under **MM T-1** would further reduce construction VMT impacts through provisional measures to reduce construction traffic and associated VMT.

As described in Section 3.15, *Transportation*, the Zoo is currently isolated from major and local transit hubs, with only two transit lines (i.e., Parkline Shuttle and Metro Line 96) currently serving the Project site. Similar to the proposed Project, Alternative 1 would include several TDM measures associated with the expansion of transit services to serve the Project site and encourage the use of transit and active transportation modes by visitors and employees under **MM T-2**. For example, the TDM Program may include providing incentives for carpooling/vanpooling for Zoo employees, discounting entrance fees for visitors who can provide proof of arrival via transit; and showers, racks, and lockers for Zoo employees.

Alternative 1 would result in a smaller increase in daily VMT when compared to the proposed Project due to the reduction in annual visitation and employment compared to the Project. As such, daily visitor VMT on weekends (the highest attendance days) in 2040 would be reduced by an estimated 15.8 percent, from 139,287 under the proposed Project to approximately 117,280 under Alternative 1, prior to mitigation. Consequently, daily employee VMT on Mondays and Fridays in 2040 would be reduced from 24,436 under the proposed Project to approximately 19,231 under Alternative 1 prior to mitigation. Additionally, Alternative 1 would implement **MM T-2** similar to the proposed Project to meet an overall goal of reducing projected Zoo employee VMT by 10 percent and Zoo visitor VMT to the extent feasible. While the reduced visitation and implementation of **MM T-2** under Alternative 1 would result in a reduction in operational visitor and employee VMT when compared to the proposed Project, this alternative's VMT estimates would still exceed the TAG's established net-zero VMT threshold for event centers and regional-serving entertainment venues. Therefore, Alternative 1, similar to the Project, would have *significant and unavoidable* impacts related to increased VMT.

T-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Due to the reduced area of development under Alternative 1, construction would be reduced in scope and duration, resulting in fewer trucks trips, construction worker vehicle trips, and other construction-related trips along the surrounding street network and I-5 and SR-134

freeways. Therefore, Alternative 1 would result in fewer impacts to vehicle, pedestrian, and bicycle safety due to construction traffic. Further, implementation of **MM T-1** would require preparation of a Construction Traffic & Access Management Plan to address construction traffic routing and control, safety, construction parking, and vehicle, bicycle, and pedestrian safety. The Construction Traffic & Access Management Plan would require haul trips to be restricted between 9:00 AM and 2:00 PM to avoid pedestrian safety impacts associated with pick-up and drop-off at the Zoo Magnet Center, and would require construction flaggers, as necessary, to maintain the flow of traffic and allow safe passage for pedestrians across crosswalks and along the Main Trail. Within the Zoo each phase of Alternative 1 would be fenced for safety and security, and all construction equipment would be staged within the fenced area. Therefore, Alternative 1 construction activities would not result in safety hazards within the Zoo. With the implementation of **MM T-1**, construction-related hazards would be similar to the Project and *less than significant with mitigation*.

Similar to the proposed Project, each development phase under Alternative 1 would be required to undergo review by City agencies, including a review of roadway improvements and operations so that vehicle, bicycle, and pedestrian access are adequately accommodated without obstructing, hindering, or impairing drivers' reasonable and safe views of other vehicles, people walking, or people bicycling on the same street and/or restricting the ability of a driver to stop a motor vehicle without danger of an ensuing collision. Design of each development phase would need to be consistent with Mobility Plan 2035 policies, Walkability Checklist standards, and Vision Zero policies, which focus on eliminating existing hazards and designing the transportation network so as to enhance safety of all ways of travel. Although Alternative 1 implementation would add vehicle trips to the surrounding roadways, this general increase in vehicle traffic volumes would be less than the proposed Project and distributed among multiple streets in the transportation study area, and therefore, would not be considered a traffic hazard.

Similar to the Project, the proposed realignment of Western Heritage Way/Crystal Springs Drive would improve pedestrian safety associated with Zoo Magnet Center students and staff crossing this roadway. The existing driveway serving the overflow parking lot and the Zoo Magnet Center would be eliminated, thereby reducing the potential vehicle and bicycle conflicts at that location. The realigned roadway and south driveway would be engineered to comply with LADOT standards and designed to intersect the roadway at a right angle to address line of sight, turning radii, spacing, etc. The roadway would also provide necessary sidewalks, crosswalks, and pedestrian movement controls to meet the City's requirements to protect vehicle, bicycle, and pedestrian safety. The overall reduction in vehicle trips and vehicle congestion under operation of Alternative 1 would improve safety for bicycles and pedestrians in the Project vicinity. Therefore, impacts related to driving hazards would be similar to the proposed Project and *less than significant*.

Since Alternative 1 would not include excavation for Condor Canyon, Alternative 1 would not result in beneficial circulation and safety impacts associated with provision of the Primary

Path Loop for pedestrians and the separated pedestrian and service roads. Alternative 1 would also eliminate the funicular within the California planning area and associated safety impacts. The proposed Zoo aerial tram would comply with the current applicable safety regulations (i.e., Safety Requirements for Passenger Tramways [ANSI B77.1] and CCR Title 8, Subchapter 6.1, Article 8 Wire Rope and Strand Requirements). Implementation of the current engineering design and operational standards for the proposed Zoo aerial tram would ensure there are no near-term or long-term safety impacts associated with operation of these structures. Similar to the Project, Alternative 1 improvements to the Zoo's internal circulation would result in reduced beneficial and *less than significant* operational impacts to safety hazards.

T-4: Would the project result in inadequate emergency access?

While Alternative 1 would involve demolition, excavation, and construction of roadways, pathways, and access routes both internal and external to the Zoo, construction activities would not disrupt access to primary or secondary designated Disaster Routes along I-5, SR-134 and San Fernando Road. Further, this alternative's phasing plan would limit disruption or obstruction of access and evacuation routes within the Zoo (refer to *Public Services*). Implementation of **MM T-1**, requiring a Construction Traffic & Access Management Plan with measures for controlling and ensuring continued access to the Zoo and through the interior of the Zoo circulation system, would address impacts from construction of proposed improvements on emergency access and evacuation. Alternative 1 operation would also not impair adopted County or City mapped Disaster Routes along I-5, SR-134 and San Fernando Road, as all development would be contained within and immediately adjacent to the Zoo. Alternative 1 would include improvements to existing roadways and intersections surrounding the Zoo that would improve emergency response and access (refer to *Public Services*). However, Alternative 1 would include limited improvements to the circulation system within the Zoo and would result in reduced beneficial impacts but *less than significant* impacts to emergency access, similar to the Project.

Utilities

UT-1: Would the project result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?

Similar to the proposed Project, Alternative 1 construction would require water for dust control, equipment cleaning, soil excavation and export, and re-compaction and grading activities. Water use is conservatively estimated at 2,000 gallons per day (gpd) during construction, which would be substantially less than existing water consumption at the Project site, which is estimated to be approximately 107,508,000 gallons per year

(approximately 294,542 gpd) and could be accommodated by the existing water infrastructure onsite. Further, due to the reduced extent and duration of construction activities under Alternative 1, there would be a reduction in potable water demand as compared to proposed Project construction. Therefore, temporary construction-related impacts associated with water demand and water infrastructure would be less than the Project and *less than significant*.

While Alternative 1 would require installation of new water lines to replace existing lines, this alternative would require limited expansion to undeveloped areas of the Zoo in the California and Africa planning areas. Alternative 1 would connect to the City's water supply system with new laterals installed within the Project site and existing outdated water mains within the Project site would remain protected, capped, and abandoned in place during construction. Construction impacts associated with the installation of laterals, and installation of a new recycled water connection would primarily involve minor trenching onsite. Prior to ground disturbance, all proposed work associated with the water laterals would be subject to review and approval by the City Department of Public Works and all appropriate permits (e.g., public right-of-way permits) would be obtained, as necessary. The construction contractor would be required to notify the City Public Works Department in advance of ground disturbance activities to avoid existing water lines and/or disruption of water service to offsite properties. Therefore, impacts on water infrastructure from construction activities would be similar to the Project and *less than significant*.

During operation, water demand would be less compared to the proposed Project due to the reduced development and associated decreases in annual visitation. Based on the anticipated reduced growth (15.8 percent) that would occur under Alternative 1, Alternative 1 would increase annual demand for potable water to 122,063,054 gallons per year (374 AFY), which would be 14,555,054 gallons per year (44.7 AFY) over existing conditions. This increase would be approximately 22,904,943 gallons per year less than the proposed Project.

Similar to the Project, the proposed stormwater management system would substantially offset the increased water demand and virtually eliminate the Zoo's irrigation water demand. As described under *Hydrology and Water Quality*, the proposed stormwater management system would be designed to retain 100 percent of flows generated under a 2-year, 24-hour storm event (equivalent to 2.44 inches of rainfall) or approximately 6.8 million gallons (20.9 AF). Based on historic precipitation data for the Los Angeles area, the proposed stormwater system once completed in Phase 3 of Alternative 1 would be capable of capturing and retaining 35,000,000 gallons per year (107 AFY) (refer to Section 3.16, *Utilities*) for irrigation of landscaping and exhibit areas. With this offset in annual irrigation water demands, the increased annual potable water demand under Alternative 1 would be entirely offset by the proposed stormwater system. Therefore, Alternative 1 would result in no operational water demand on the City's water supply. Therefore, the City would be able to serve Alternative 1 without additional unplanned new or expanded entitlements and Alternative 1

implementation would not affect the ability of the City to meet its goal to source 70 percent of water locally by 2035 under the Green New Deal pLAN.

Potable water demand would be further reduced through compliance with City's Water Efficiency Requirements and Green Building Code (LAMC Chapter XII, Article 5 and Chapter IX, Article 9), **MM UT-1**, and **MM HYD-7**, which would require the use of highly efficient plumbing fixtures, irrigation, and landscaping for new construction, expanded use of recycled water, and installation of efficient irrigation systems for all existing and proposed new landscaped areas within the Zoo. While not required to further reduce impacts from the Zoo's water demand, **MM UT-2** is recommended to include all recommended civil engineering and water efficiency measures recommended in the Appendix (*New Infrastructure: Plumbing*) of the draft Vision Plan. Further, **MM UT-1** would require the Zoo to extend recycled water lines throughout the interior areas of the Zoo to provide recycled water for washdown of the animal holding areas, irrigation, and power washers, in the Zoo's exhibits (e.g., treatment systems, ponds, aesthetics/water features, etc.) where feasible, as well as for fire suppression where feasible. Based on the City's current recycled water production capacity of 649,600 AFY and objectives for expanding opportunities for use of recycled water supplies, the City recycled water system has available capacity to adequately serve the recycled water demands of the Project. Expansion of the Zoo's non-potable water use as required by **MM UT-1** would require an additional connection to the City's water recycling system at the existing 8-inch recycled water main at the west end of the Zoo parking lot. The expanded use of recycled water for Zoo operations that do not require potable water quality would further reduce the Zoo's dependence on potable water supplies and implement the Green New Deal pLAN and One Water L.A. Plan. Therefore, similar to the Project, impacts on the City's non-potable (recycled or reclaimed) water supplies would be *less than significant with mitigation*.

UT-2: Would the project result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Similar to the Project, the proposed stormwater management system would result in environmental impacts associated with excavation and trenching of underlying soils, emissions from construction equipment and fugitive dust, construction vehicle traffic, construction stormwater runoff, potential disturbance of archaeological and paleontological resources, and construction related noise. Detailed analysis of the potential impacts associated with installation of the proposed stormwater system are analyzed in each of the respective resources sections of Section 4.5.2, *Alternative 1 – Reduced Project Alternative*. Alternative 1 implementation, along with installation of the stormwater collection system would also result in or contribute to construction-related impacts to those resources. Mitigation measures necessary to reduce Alternative 1 impacts associated with installation of the new stormwater collection system are also identified therein and would be capable of reducing environmental impacts to *less than significant with mitigation*. With regard to

impacts from hydrology and water quality, the stormwater collection system would result in beneficial drainage impacts associated with stormwater reuse, similar to the Project.

UT-3: Would the project require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Similar to the Project, the proposed stormwater collection system would capture, convey, and store rainfall from the Zoo and the 79.7-acre hillside area adjacent to the Zoo for reuse onsite as irrigation water. Therefore, the proposed stormwater collection system would substantially reduce flow to the Zoo Wastewater Facility. Since the Zoo Wastewater Facility would receive only overflow stormwater from flows greater than the 2-year, 24-hour storm event, the volume of water directed to the Zoo Wastewater Facility would be reduced by up to 35 million gallons per year and up to 6.8 million gallons per day. Following completion of the proposed stormwater collection system, the majority of flows to the Zoo Wastewater Facility would include animal pond water from the Zoo's exhibits. Similar to the Project, there is no proposed increase in the total number of pools requiring periodic draining and refilling, requiring water demand and treatment at the Zoo Wastewater Facility. Any additional animal pools and other water features that would be constructed under Alternative 1 would be installed with Life Support Systems (i.e., recirculating water treatment systems), which require a much lower frequency of draining and filling. Proposed expansion of the animal exhibits would increase generation of animal pond water to the Zoo Wastewater Facility by approximately 2,182 gpd, for a total of 32,182 gpd. Due to the substantial reduction in stormwater flows that would be conveyed to the Zoo Wastewater Facility, an incremental increase in generation of animal pond water would not exceed the 1.8-million-gallon maximum capacity of the Zoo Wastewater Facility.

Based on reduced visitation and employment, Alternative 1 would decrease wastewater generation at the Project site by approximately 4,836 gpd to 25,770 gpd, which would be less than 1 percent of the Los Angeles/Glendale Water Reclamation Plant's (LAGWRP's) approximately 2.8 million gallons per day (mgd) of additional full tertiary treatment capacity. Given that the increased wastewater flow would be a *de minimus* incremental increase, the LAGWRP would have sufficient capacity to serve Alternative 1's projected demand in addition to the provider's existing commitments and no new or expanded water or wastewater treatment facilities would be required to serve Alternative 1. Further, Alternative 1 proposes a new plumbing system within the Zoo to replace the existing outdated sewer pipes and connect to new restrooms. The proposed new plumbing systems at the Zoo would be installed in accordance with the current California Building Code and Plumbing Code (CCR Title 24),

Green Building Code (CCR Title 24, Part 11), State Water Conservation Guidelines, and Green Building Standards. In accordance with Section 64.15 of the LAMC, the Zoo would be required to submit a Sewer Capacity Availability Review (SCAR) request to the BOE and pay a SCAR Fee prior to building plan approval to evaluate the capacity of the existing North Outfall Sewer to convey the projected wastewater generation from the Zoo through 2040. With assurance of adequate planning-level surveys of the existing North Outfall Sewer per existing City regulations, impacts to the LAGWRP and the North Outfall Sewer would be similar to the Project and *less than significant*.

Implementation of the proposed stormwater collection system would reduce the volume of discharge from the Zoo Wastewater Facility to the City's North Outfall Sewer by 56 percent during and following storm events (refer to Section 3.16, *Utilities*). Additionally, the Zoo Wastewater Facility would continue to hold animal pond water and overflow stormwater from the Zoo until periods of low flow to avoid overloading the North Outfall Sewer. Therefore, implementation of the stormwater collection system would result in beneficial and *less than significant* impacts to the North Outfall Sewer, similar to the Project.

UT-4: Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Alternative 1 construction would generate similar C&D waste to the proposed Project since Alternative 1 would demolish and redevelop existing areas of the Zoo. In accordance with the City's C&D Waste Recycling Ordinance, all mixed C&D waste generated during construction and not reused onsite would be hauled to a City-certified C&D waste processor. Therefore, solid waste impacts from C&D waste would be similar to the Project.

Alternative 1 would not substantially increase disposal of animal bedding and waste at the Griffith Park Compost Facility due to the limited new development and expansion of animal exhibits. Based on the proposed increase in Zoo animal space, Alternative 1 would increase disposal of animal bedding and waste at the Griffith Park Compost Facility by up to 48.91 tons per day, which is 40 percent less than the proposed Project. Therefore, future solid waste generation would remain below the Griffith Park Compost Facility's total permitted capacity of 156 tons per day.

Although Alternative 1 would also increase operational solid waste generation at the Zoo, including trash and recycling, this increase would be less compared to the proposed Project due to the limited new development and associated increase in annual visitation. Based on the projected annual visitation growth, the estimated increased solid waste generation under Alternative 1 is 5.2 tons per day. Assuming the existing diversion rate of 76.4 percent, this would result in up to 1.23 tons per day. The additional 1.23 tons of solid waste per day that is anticipated to be generated by Alternative 1 in 2040 would comprise less than 1 percent of the total daily permitted capacity of Sunshine Canyon Landfill (8,300 tons of solid waste per day).

Further, the Zoo would manage trash and recycling generated by animal care, dining facilities, restrooms, and other visitor-serving facilities within the Zoo campus in accordance with all applicable state and local requirements. Therefore, similar to the Project, Alternative 1 would not conflict with federal, state, or local statutes and regulations related to solid waste disposal. Similar to the Project, Alternative 1 would be served by solid waste facilities that maintain an adequate capacity. Therefore, Alternative 1 would have a *less than significant* impact related to solid waste.

Wildfire

WF-1: Would the project impair an adopted emergency response plan or emergency evacuation plan?

While Alternative 1 would involve demolition, excavation, and construction of roadways, pathways, and access routes both internal and external to the Zoo, construction activities would not disrupt access to primary or secondary designated Disaster Routes along I-5, SR-134, and San Fernando Road and this alternative's phasing plan would limit disruption or obstruction of access and evacuation routes within the Zoo (refer to *Public Services*). Implementation of **MM T-1**, requiring a Construction Traffic & Access Management Plan with measures for controlling and ensuring continued access to the Zoo and through the interior of the Zoo circulation system, would address impacts from construction of proposed improvements on emergency access and evacuation of the Zoo in response to a wildfire. Impacts associated with increased risk of wildfire during Alternative 1 construction would be similar to the Project and *less than significant with mitigation*.

As discussed in *Public Services* for Alternative 1 above, operation of Alternative 1 would not impair adopted County or City mapped Disaster Routes along I-5, SR-134, and San Fernando Road, as all development would be contained within the Zoo and bordering areas of Griffith Park. Alternative 1 would include improvements to existing roadways and circulatory systems both within and surrounding the Zoo that would improve emergency response and access, emergency evacuation, and sheltering in place (refer to *Public Services*). Therefore, Alternative 1 would not impair emergency response or evacuation, similar to the Project, and impacts would be *less than significant*.

WF-2: Would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors?

The Project site is located within a Very High FHSZ at the base of steep vegetated slopes within Griffith Park with onsite and adjacent fire-prone vegetation, steep slopes, limited perimeter access, and annual Santa Ana winds. Alternative 1 construction would introduce new potential ignition sources over the course of 20 years, such as the use of heavy machinery and fuels, which create the potential for sparking and could exacerbate wildfire risk. Although all construction would be performed in a fire-safe manner consistent with existing

regulations, potential for accidental ignition of onsite or adjacent wildland vegetation would remain, similar to the project. Additionally, Alternative 1 would avoid tree and vegetation removal, including hundreds of highly flammable eucalyptus trees, as well as over 13 acres of flammable native chaparral and up to 7 acres of oak woodland. Therefore, Alternative 1 would not result in beneficial impacts associated with reducing the extent of onsite flammable vegetation.

Alternative 1 would avoid construction on hillsides in the California and Africa planning areas, which currently support flammable native and non-native vegetation and are located on steep slopes adjacent to wildlands in Griffith Park. Additionally, Alternative 1 would avoid blasting, for Condor Canyon in the California planning area, and associated construction-related fire ignition risks. Therefore, Alternative 1 construction would reduce risk of fire hazard when compared to the proposed Project. Similar to the Project, Alternative 1 construction would be implemented in compliance with all applicable requirements of the City's Fire Code and NFPA 241 *Standards for Safeguarding Construction, Alteration, and Demolition Operations*. With implementation of existing regulations, risks associated with Alternative 1 construction would be reduced such that Alternative 1 construction impacts associated with increased risk of wildfire during Project construction would be the same as the Project and *less than significant*.

Alternative 1 would also reduce risk of onsite vegetation ignition due to reduced visitation and exhibit expansion as compared to the proposed Project. Alternative 1 would not include campouts in the Africa and California planning areas, which could involve potential ignition sources ranging from regulated campfires, cooking/BBQ, electric wiring, and unpermitted smoking. While Alternative 1 is expected to increase visitor attendance over existing conditions, the total and density of people within a designated Very High FHSZ would be reduced as compared to the proposed Project.

Similar to the proposed Project, the Zoo would continue to implement procedures for managing fuels, ensuring adequate evacuation of the Zoo, and providing appropriate forms of access to the Zoo and surrounding wildland-urban interface (WUI), as required in the City's Fire Code and by LAFD, and preparation and application of emergency management and evacuation plans per both City and AZA regulations. In addition, all development would undergo plan review by the LAFD to ensure appropriate designs for access and fire flow as required under Chapter 5 of the City Fire Code. Per **MM WF-2**, the Zoo would be required to update these plans as appropriate based on proposed improvements and changes in site access and circulation through Alternative 1 implementation. Therefore, with the application of existing regulations and requirements to update wildfire management and evacuation plans, Alternative 1 would not significantly exacerbate wildfire risks resulting in the exposure of Zoo staff and visitors to wildfire hazards, and impacts would be *less than significant with mitigation*, similar to the Project.

WF-3: Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Unlike the proposed Project, Alternative 1 would not develop hillside areas within the Zoo that currently act as fuel breaks between the Zoo and wildland areas. As such, this alternative would not require expansion or reestablishment of these fuel breaks elsewhere and would minimize impacts from loss of sensitive natural communities, species, and protected trees. Alternative 1 implementation could protect up to 6 acres of native chaparral and oak woodland habitat within Griffith Park, and thus, impacts would be less than the Project. Alternative 1 would result in *less than significant* impacts to the environment from the installation or maintenance of fire-related infrastructure.

WF-4: Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Alternative 1 development would occur downslope or downstream of steep hillsides and three small drainages within Griffith Park. There are no creeks or rivers mapped within the Project site, but stormwater flows from the hillsides through the Zoo's stormwater management system, which removes silt and grit from stormwater before it flows to the LAGWRP. If a wildfire burned large areas within Griffith Park adjacent to the Zoo, post-fire runoff from a major storm event, slope instability, landslides, drainage changes, and limited flooding or sedimentation could occur within the Zoo. The relatively small size of the watershed draining into the Zoo (~80-acres) would potentially limit problems. If wildfire-denuded surrounding hillsides were subjected to a high-intensity rain event, new development within the Zoo, especially new development at the base of the hillsides, has limited potential to experience damage from sedimentation. Sediment and debris could plug existing and planned drainage improvements, including the proposed stormwater collection system (refer to Section 3.10, *Hydrology and Water Quality*). Two of the proposed subsurface cisterns serving the Bird Show and Animal Programs amphitheater and the Nature Play Park planning area are located on high elevation sites relative to the flat interior of the Zoo. These new cisterns would capture all runoff, debris, and sediments conveyed through the watershed, resulting in the potential accumulation of sediment or debris within the system, especially in the event of high rainfall closely following burn of the watershed. However, the small size of the existing watersheds would not create significant runoff, debris flow, or landslides caused by post-fire slope instability that places Zoo occupants or structures at substantial risk. Therefore, impacts would be similar to the proposed Project and *less than significant*.

Conclusion and Relationship to Project Objectives

Alternative 1 would retain approximately 21 acres of undeveloped area currently within Zoo property in its current setting. In doing so, this alternative would preserve a combination of

native and non-native vegetation communities supporting a limited range of sensitive species and protected trees, as well as avoid visual and geologic changes to these areas. As a result, this alternative would reduce potentially significant impacts to biological and urban forestry resources, as well as aesthetics, air quality and GHG emissions, energy, noise, transportation, and utilities. With mitigations required for the Project, Alternative 1 would reduce one significant and unavoidable impact (Impact VIS-2) related to aesthetic impacts to the visual character of the Zoo in context of the Zoo Drive gateway to Griffith Park. However, Alternative 1 would still generate VMTs that exceed the City's TAG threshold of net-zero VMT for regional attractions like the Zoo, and impacts related to Zoo would remain significant and unavoidable under Alternative 1.

Alternative 1 would continue to support long-term redevelopment of the existing Zoo to be partially consistent with several of the Project objectives, including improvement of animal welfare and care (Project Objective No. 1) though to a lesser extent, modernization of exhibit spaces (Project Objective No. 2), improvement of the visual appearance of the Zoo (Project Objective No. 11), and incorporation of sustainable design practices (Project Objective No. 13). However, this alternative would not include the expanded exhibits within the California and Africa planning areas proposed under the Project, which would limit expansion within Zoo property. Due to the reduced footprint of the Zoo and smaller increase in visitation over time, this alternative would likely not generate as much revenue as the proposed Project and could undermine the economic viability of the Vision Plan. Therefore, this alternative may not be able to support expansion of conservation efforts, education, or enhanced visual appearance to the same extent as the proposed Project.

Likewise, with less area contributing to the design and function of a redeveloped zoo, this alternative would not utilize all of the Zoo property to maximize immersive experiences for visitors or expand visitor-serving features (Project Objectives Nos. 5, 6, and 7). The improvements proposed as part of the California and Africa planning area under the Project are intended to be designed as nature-based, immersive exhibits and features that seamlessly blend with the visitor environment and would facilitate development of new Zoo experiences that would attract visitors and establish the Zoo as a world class destination. These areas would no longer include key facilities for daytime and evening special events, including the California Visitor Center, picnic areas, and campout zones. Reduction in special event space would limit the Zoo's ability to draw visitors to a diverse range of experiences that would support the Zoo's operations and overall financial success.

Further, elimination of Condor Canyon would inhibit the creation of an efficient and accessible internal loop circulation system with a Primary Loop Path (Project Objective No. 8). This feature is key to improving not only visitor experience but also to visitor safety and operational excellence (Project Objective Nos. 9 and 14). This alternative would include some improvements to the secondary/exhibit pathways and would implement the proposed Zoo aerial tram to improve access; however, a funicular would not be developed and many of the Zoo's pathways would remain inaccessible for ADA visitors and potentially difficult to

navigate, similar to the existing setting at the Zoo. As a result, Alternative 1 would not meet or only partially several Project objectives.

4.5.3 Alternative 1.5 – California Focused Conservation Alternative

Under Alternative 1.5, the California Focused Conservation Alternative, 6 acres of undeveloped hillsides in the Africa planning area would remain as undeveloped native habitat and would be managed as a restoration and ecological education area of the Zoo. Within these 6 acres, approximately 5 acres supports sensitive native coast live oak woodland habitat, 20 Southern California black walnuts, 113 coast live oaks, 15 toyon, and 21 elderberry shrubs, which are City protected trees. Alternative 1.5 would reduce impacts on these resources by redesigning the proposed Vision Plan land use plan to avoid this area. To support biodiversity conservation within the Zoo, this area would be the focus of concerted native habitat restoration and any public access would be related to the restoration of the area and/or education about the restoration of the area. Some visitor-serving uses (e.g., safari picnic area) envisioned under the proposed Project in the Africa planning area would be eliminated to protect undeveloped native vegetation. Instead, similar visitor-serving uses would be provided at the Zoo Entry Garden and Park proposed within an underutilized, disturbed area adjacent to the Zoo Entry in Phase 1 of the Vision Plan. As with the proposed Project, animal welfare would continue to be substantially improved under this alternative, with space devoted to Zoo animals increasing from 20.8 acres to 54.5 acres, a 162.1% increase. Alternative 1.5 would also preserve views from public roadways inside Griffith Park, such as Zoo Drive and Western Heritage Way, by eliminating the multi-story parking structure proposed in the northern Zoo parking lot under the Project. Alternative 1.5 would substantially reduce annual Zoo visitation due to implementation of the Peak Visitation Management Program. To manage visitation within the capacity of the Zoo's surface parking lots, the Peak Visitation Management Program would control daily visitation on high-demand days and manage parking supply, which would decrease VMT, energy demand, and air pollutant and GHG emissions compared to the Project. All development would be designed according to proposed development design guidelines that would ensure the use of California native vegetation and stormwater best management practices. Under this alternative, the Vision Plan is estimated to be implemented over 18 years, which is 2 years less than the proposed Project. Alternative 1.5 would reduce or avoid impacts compared to the Project, such as those to biological and visual resources, and would meet all of the Project objectives.

The California Focused Conservation Alternative (Alternative 1.5) would guide long-term redevelopment and operations of the Zoo similar to the Project but under a revised land use plan that would avoid the development of approximately 6 acres of an undeveloped hillside within the Africa planning area that supports sensitive biological resources. Instead, Alternative 1.5 would include ongoing restoration of the area to improve its ecosystem health.

This alternative would also modify other elements of planned site design, eliminate the Zoo aerial tram, eliminate the parking structure and public park in the Zoo's northern parking lot, implement the Peak Visitation Management Program, implement design guidelines that would ensure use of California native vegetation in landscaping, provide accessible visitor-serving and special event space near the Zoo Entry, and implement design and operation measures to manage visitation as described further herein.

Alternative 1.5 Land Use Plan and Site Design

Alternative 1.5 would reconfigure the Vision Plan's proposed land use plan to make several changes, particularly avoiding the development of the undeveloped hillsides containing native habitat and sensitive biological resources within the Africa planning area (Figure 4-2; Table 4-11)).

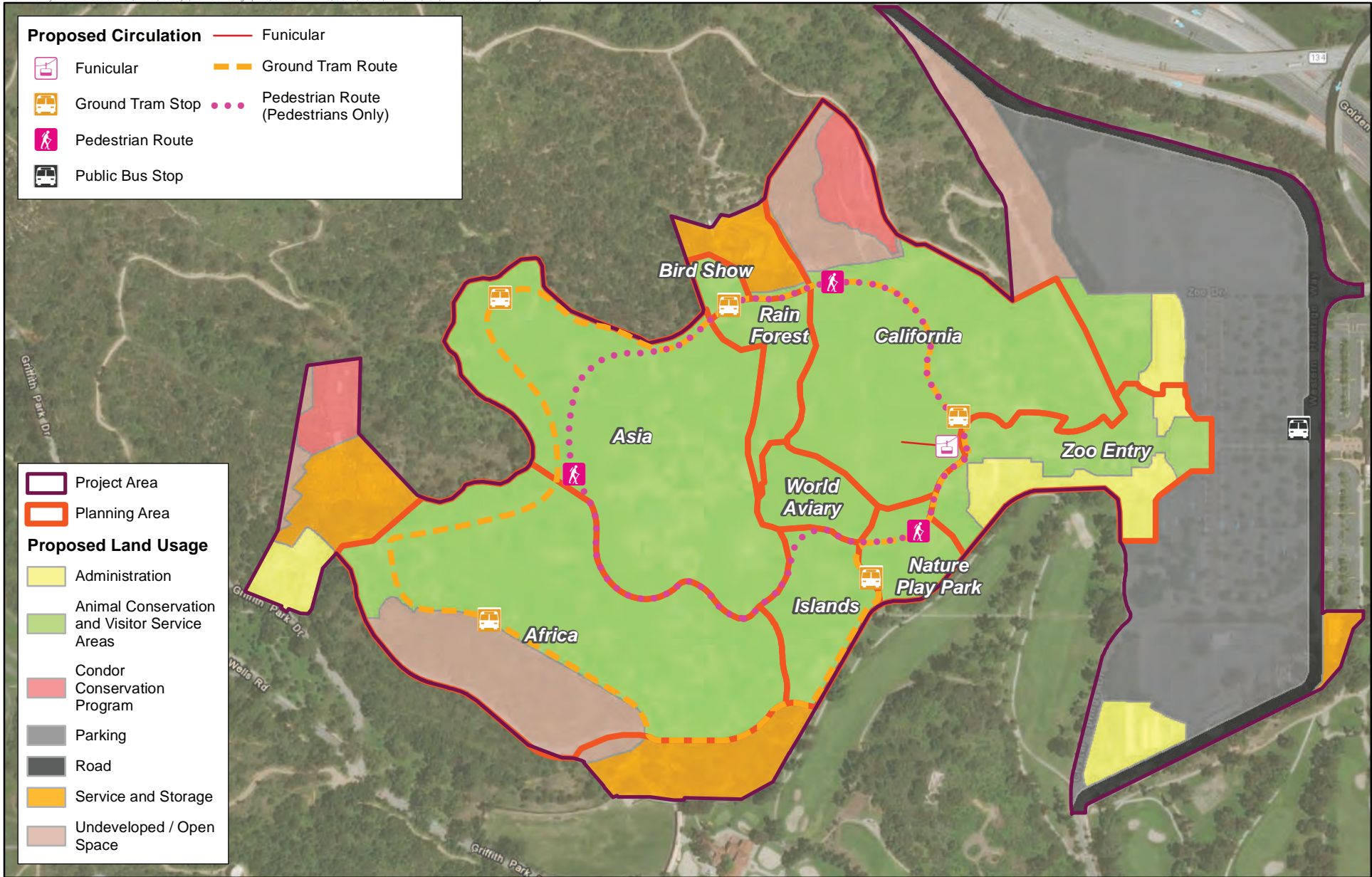
Compared to the Project, as discussed further below, while Alternative 1.5 would expand space dedicated solely to animal welfare, it would incrementally reduce acreage dedicated to Animal Conservation and Visitor Service Areas by 6 acres and instead increase Undeveloped/Open Space Areas by 6 acres (Figure 4-2). As Alternative 1.5 also excludes the 2-acre public park in the northern parking lot from the Project, 2 acres of parking would be retained similar to existing conditions.

As a result of land use changes, Alternative 1.5 would have a smaller development footprint than the Project, which would substantially reduce direct and indirect disturbance of habitats and natural resources in the Africa planning area. The overall development footprint within the Zoo would be reduced by 6 acres, a 7.6 percent decrease from the Project. As a result, this alternative would protect sensitive biological resources within Africa while retaining key Vision Plan features, Project objectives, and improvements such as the proposed looping circulation system with Condor Canyon.

Table 4-11. Comparison of Land Use Under Alternative 1.5 and Proposed Project

Land Use	Proposed Project (acres)	Alternative 1.5 (acres)	Difference (acres)
Animal Conservation & Visitor Service Areas	79	73	-6
Administration	7	7	0
Service & Storage	10	10	0
Condor Conservation Program	3	3	0
Public Park	2	0	-2
Undeveloped/Open Space	7	13	6
Parking	29	31	2
Realigned Crystal Springs Drive	5	5	0
Total	142	142	0

Note: Land use acreages are approximate due to rounding based on GIS analysis.



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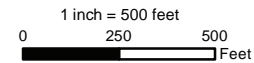


FIGURE 4-2

Under this alternative, the Zoo land use plan would be adjusted to reduce potential impacts on sensitive native California habitats with the planned Africa and California exhibits, while continuing the Project's emphasis on improving animal welfare. Areas dedicated to animal welfare, including Zoo animal habitats, enclosures, health care, feeding/bathing, and sleeping areas, would continue to be maintained and developed throughout the Zoo and would be separated from areas serving guests and Zoo staff. A detailed assessment of animal welfare space under the Project and the alternatives analyzed in this EIR sets forth such changes (See Section 4.7 below and Appendix O). Similar to the proposed Project, Alternative 1.5 would substantially increase space for animal welfare within the Zoo compared to the current setting. Under the land use plan for Alternative 1.5 (Figure 4-2), animal welfare space would increase by 33.7 acres (162.1 percent) compared to the existing Zoo configuration. Because of the reduction of the 6 acres of Animal Conservation and Visitor Service Area in the Africa planning area, this alternative would reduce the number of Zoo animal habitats and the size and complexity of their animal habitats in the Africa planning area compared to the Project. Specifically, the amount of space dedicated to animal welfare would be reduced by 5.2 acres (8.8 percent) compared to the proposed Project. However, these changes would reduce environmental impacts associated with the development and loss of native habitat, sensitive plant species, and protected trees within these areas.

Similar to the proposed Project, redevelopment would occur within existing developed areas of the Zoo. Alternative 1.5 would also continue to develop the California planning area similar to the proposed Project and retain the proposed loop circulation system and ADA-accessible paths through the Zoo, which would be possible through the development of Condor Canyon. However, this alternative would emphasize use of native plants throughout newly developed areas, including elimination of the proposed vineyard landscape feature within the California planning area under the Project and instead landscape the proposed ADA access pathway with California native species. Additionally, the proposed Zoo aerial tram would be eliminated, including the upper terminal in the Africa planning area, the lower terminal in the Zoo Entry area, and all footings.

Under Alternative 1.5, the 2,000-space parking structure and associated 2.0-acre public park proposed as part of the Project under Phase 7 would be eliminated. Under Alternative 1.5, the Zoo's northern parking lot would remain designated for surface parking similar to existing conditions. This alternative would retain that area as surface parking with stormwater improvements described in Section 2.0, *Project Description*. All other parking and roadway improvements (e.g., relocation of Crystal Springs Drive and addition of 300 guest surface parking spaces north and east of the North Hollywood High School Zoo Magnet Center as part of Phase 1) proposed under the Project would be implemented, resulting in a total of 2,500 surface parking spaces within the Zoo's surface parking lot.

Further, Alternative 1.5 would refine the proposed use and development of a 1.87-acre area adjacent to the Zoo Entry and the California planning area. This area would continue to be designated for Animal Conservation and Visitor Serving Uses (Figure 4-2), similar to the

Project, and would be developed similar to the Project’s conceptual plan (see Figure 2-4). This area is the same site as Cumulative Project No. 1 (the Angela Collier Gardens project) analyzed in this EIR (see Section 3.18, *Cumulative Impacts*). Instead of developing Cumulative Project No. 1 at this location within the Zoo, Alternative 1.5 would develop a publicly accessible garden and special event space to provide a range of visitor-serving uses that would also effectively replace those lost by the reduction of development in the Africa planning area, such as the safari picnic area. Landscaping would involve native, water-wise plantings and landscaping that is attractive to local wildlife, consistent with the goals of the Vision Plan and proposed development design guidelines to promote the use of California native plant species under this alternative (see below).

All other elements of the proposed Project not associated with the development of these areas would remain generally consistent with the Project under this alternative, including the Africa Visitor Center, Treetops Visitor Center, California Visitor Center, and hillside funicular in the California planning area. Table 4-12 summarizes the changes to components of the Project under Alternative 1.5.

Table 4-12. Key Land Use and Design Revisions to the Project Proposed Under Alternative 1.5

Phase	Planning Area/Improvement	Description of Modified Project Improvements
1	California	<ul style="list-style-type: none"> Eliminate vineyard landscape feature of ADA pathway Replace vineyard landscape features with native vegetation to showcase the value of pollinators in the ecosystem and support Zoo animal habitat spaces
	Zoo Entry	<ul style="list-style-type: none"> Eliminate Zoo aerial tram, including the lower terminal in the Zoo orientation plaza
	Zoo Entry Garden and Park	<ul style="list-style-type: none"> Improve existing underutilized, disturbed areas with public gathering and special event space Install wildlife habitat gardens and native “water wise” drought-tolerant landscaping Designed to provide recycled water for irrigation
3	Africa	<ul style="list-style-type: none"> Retain 6 acres of hillside native habitats as undeveloped open space Undertake restoration and habitat maintenance program to enhance the native habitat and provide for interpretive and educational experiences Eliminate Zoo aerial tram, including upper terminal at Africa Visitor Center
7	Parking Structure*	<ul style="list-style-type: none"> Eliminate the multi-level parking structure within the Zoo’s northern parking lot and associated excavation and grading Eliminate the proposed 2-acre public park in the northern parking lot

Alternative 1.5 provides a more precise description of proposed development of the Zoo Entry Garden and Park in this area. The Zoo Entry Garden and Park would be implemented in Phase

1 concurrent with the redevelopment of the Zoo Entry and would entail the development of this unimproved dirt lot into a new 1.87-acre public gathering space to include approximately 60,000 sf of new visitor-services space, including:

- An ADA-compliant entryway with grades not exceeding 5 percent slope
- A main gate designed to either be open to Zoo guests or closed to create a special event area with a separate entrance from Zoo parking lots;
- Outdoor gathering spaces composed of permeable paving or water-wise turf/lawn with native plant gardens;
- Indoor gathering space served by public restrooms and storage rooms.

Landscaping within the Zoo Entry Garden and Park would include all native trees, shrubs, and flowering plants designed to demonstrate wildlife habitat gardens, provide interactive learning opportunities for children and adults, and supplement the Zoo's education program curricula focused on fields such as biology, wildlife, conservation, and environmental resource stewardship. Improvements would be designed to incorporate several established native trees, avoiding the removal of any existing native specimens and incorporating those specimens into the landscaping plan.

Similar to the proposed Project, infrastructure improvements would include underground sewer, electric utility, and potable water infrastructure connected to the main Zoo utility lines (see Section 2.3.7, *Proposed Utility Infrastructure*). The Zoo Entry Garden and Park would be connected to recycled water and utilize recycled water for 100 percent of irrigation needs for the proposed landscaped areas and lawns. Stormwater would be managed onsite with the installation of a stormwater detention and infiltration system. All pedestrian pathways and hardscape areas would be constructed consistent with the Vision Plan's stormwater management system.

The Zoo Entry Garden and Park would be a community resource to meet a need for outdoor gathering space that became evident during the COVID-19 pandemic. The Zoo Entry Garden and Park would be a newly accessible area for Zoo visitors for picnics, recreation, and relaxation during visits to the Zoo, but would also be flexible for use as a private space to accommodate special events. This venue would support interpretive elements from the Zoo and allow event guests easy access to and from the rest of the Zoo while also locating special events in an area away from Zoo animal habitats. Children participating in education programs in the adjacent Children's Discovery Center classrooms and Witherbee Auditorium would also have access to this space for educational programs and outdoor recreation.

The Zoo Entry Garden and Park would be open to all Zoo patrons during operating hours daily unless the area is programmed for special events. Attendance at special events taking place in the Zoo Entry Garden and Park space during the daytime while the Zoo is open to the public would be subject to the proposed Peak Visitation Management Program, described below. The area would also accommodate evening events outside of Zoo daytime operating hours, similar to the proposed Project (see Section 2.3.9, *Project Operation*).

Proposed Vision Plan Programs

In addition to the land use and design elements discussed above, Alternative 1.5 would implement Development Design Guidelines and a Peak Visitation Management Program, described herein.

Development Design Guidelines

Under Alternative 1.5, the Zoo would create and implement a new set of design guidelines to guide future development and upgrades. These additional design guidelines would build on the goals and objectives included in the Vision Plan (see Section 2.0, *Project Description*). Design guidelines would include landscape design guidelines that prioritize the use of native plant species, especially preserving existing specimens and habitats with protected status and significant ecological function/importance and planting additional native plants species. For example, in the proposed Africa and California planning areas, existing specimen or sensitive native species and protected trees and shrubs per the City Tree Preservation Ordinance and Protected Tree Code Amendment would be preserved and incorporated into proposed landscaping and new native species planting used throughout the new exhibits. These guidelines would also prioritize planting of drought-tolerant species compatible with native plant species in balance with Zoo animal habitat needs where non-native species may be required or desirable. The goal would be to nurture the natural ecosystem of Griffith Park and the Los Angeles Basin and support regional biodiversity while providing immersive, safe, and dynamic habitats for Zoo animals. These guidelines would apply Zoo-wide to all proposed phases of redevelopment throughout Vision Plan implementation.

Peak Visitation Management Program

Under Alternative 1.5, the Zoo would implement a “Peak Visitation Management Program” (PVMP) to ensure the existing and expanded surface parking lots would be utilized as efficiently as possible through improved visitor demand management. The Zoo currently provides 2,144 surface parking spaces, including 2,081 regular spaces, 55 standard handicap accessible spaces, and 8 handicap van spaces, in four distinct parking areas: the north main parking lot, the south main parking lot, the far north parking lot, and the far south parking lot. Similar to the proposed Project, Alternative 1.5 would add 300 spaces to the existing surface parking lot for a total capacity of 2,444 visitor spaces. Alternative 1.5 would exclude the 2,000-space parking structure envisioned under the proposed Project. The Zoo does not have offsite or overflow parking so all parking demand for visitation under Alternative 1.5 must be met by the 2,444-space parking lot.

As described in Appendix N, growth in annual visitation projected for Alternative 1.5 would periodically exceed the capacity of the parking lot on peak visitation days. Based on the growth in capacity, the parking demand model indicates that demand will exceed capacity on days when attendance is 12,600 or higher. Using the parking demand model, Zoo parking demand is expected to exceed supply for at least a portion of one hour on 15 days in 2025, 25

days in 2027, 42 days in 2030, and 53 days in 2040. Detailed parking calculations are presented in Appendix N.

During the COVID-19 pandemic, the Zoo developed and employed an Advanced Online Reservation system to regulate daily ticket sales and coordinate guest arrival times to limit Zoo capacity and achieve public health objectives. This system also helped the Zoo better manage the utilization of the Zoo parking lot to avoid exceeding parking lot capacity. Under Alternative 1.5, the PVMP would continue the use of the Zoo's online reservation system to manage Zoo visitation during peak times. This program would also optimize visitation during non-peak conditions to support the Zoo's goals for annual visitation through Vision Plan implementation. Techniques that could be employed to shift visitor demand away from peak periods to times when the Zoo's parking lot would have capacity include the following:

- Mandatory ticket reservation system to issue a limited number of tickets during peak days or timeframes (e.g., April – September) similar to the system employed during the COVID-19 pandemic to control the total number of people in the Zoo.
- Dynamic (non-peak) pricing discounts and incentives
- Incentives for shoulder season attendance
- Extended evening or morning hours
- Non-peak special events (e.g., after-hours events)
- Discounted tickets with proof of use of public transit or non-vehicular modes
- Tickets with no parking guarantee with potential discount; ticket requires drop-off/pick-up (i.e., rideshare, non-vehicular)

Annual Attendance and Special Events

Under Alternative 1.5, annual attendance at the Zoo would be substantially lower than under the proposed Project due to elimination of the parking structure and implementation of the PVMP, which would limit visitation capacity and optimize visitation outside of peak conditions at the Zoo. Annual visitation would also be reduced commensurate to the reduced physical capacity of the Zoo resulting from decreases of visitor-serving amenities in Africa, including the elimination of 6 acres of proposed animal conservation space and visitor-serving spaces (refer also to Section 3.0.3, *Assessment Methodology*). Elimination of the aerial tram would also incrementally reduce visitation through provision of one less attraction at the Zoo under this alternative. Similar to the proposed Project, annual growth in visitation would be driven by improvements during Phases 1, 2, 3, 4, and 5 due to expansion or replacement of existing features and attractions associated with proposed Vision Plan improvements.

As the California planning area is developed and other areas such as the Zoo Entry redeveloped, parking limitations and implementation of the PVMP would begin to limit increases in visitor capacity as parking becomes less readily available on peak days, resulting in Zoo visitors being unable to gain entry on an estimated 53 days per year over the Vision Plan's implementation. Annual growth projections for Phases 4 through 7 would also be substantially reduced from those projected under the proposed Project due to more frequent

exceedances of parking availability with visitors being turned away or being unable to obtain reservations on more than 50 peak days per year. Phase 3 would also result in 6 acres less developed space for Animal Conservation and Visitor Serving Uses within the 23-acre Africa planning area, a 26.1 percent reduction. With the PVMP, the Zoo would optimize visitation during non-peak times to maximize visitation within the constraints of the existing parking lot. As such, the total estimated annual attendance of 2,500,000 visitors at the buildout of Alternative 1.5 would be a reduction of roughly 16.7 percent compared to the proposed Project's visitation goal of 3,000,000 visitors annually. Alternative 1.5 would also reduce employment needs to 861 employees, a 21.8 percent reduction compared to the Project.

Table 4-13. Projected Growth at the Zoo Under Alternative 1.5

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7
Operational Year	2025	2027	2029	2031	2033	2036	2038
Annual Attendance	1,910,771	2,095,689	2,334,726	2,451,555	2,500,000	2,500,000	2,500,000
% Change in Annual Attendance from Baseline Attendance	9.6%	10.6%	13.7%	6.7%	2.8%	0.0%	0.0%
Visitor Origin							
Resident	85%	85%	80%	80%	80%	80%	80%
Tourist	15%	15%	20%	20%	20%	20%	20%
Total Employees by Phase	625	691	786	838	861	861	861

Source: Draft Los Angeles Zoo Vision Plan; AECOM 2017

Notes:

Baseline annual attendance = 1,743,800 (2017) per Draft Vision Plan

Phase 1 assumes growth projected by the AECOM Financial Feasibility Study for Circulation/Parking improvements, California, Zoo Entry, and Sea Lions (Phase 1 and 2 per the Draft Vision Plan).

Phase 2 assumes growth projected by the AECOM Financial Feasibility Study for Asia, Nature Play, and Rainforest (Phase 4 in the Draft Vision Plan).

Phase 3 assumes reduced growth projections for Africa and southern service areas due to the reduction of 6 acres (26.1 percent) of animal exhibit and visitor-serving areas in the Africa planning area (Phase 3 in Draft Vision Plan).

Phase 4 assumes growth projections for World Aviary (Phase 5 in Draft Vision Plan, and formerly included the Water exhibit, which was eliminated from the Project through EIR scoping).

Phase 5 assumes growth projections for Islands (Phase 6 in the Draft Vision Plan).

Phases 6 and 7 do not incite or facilitate attendance growth.

Visitor Origin assumes an uptick in tourism following the implementation of Phase 2.

Baseline employment = 570 (2019)

See Appendix N for detailed description of the growth assumptions for Alternative 1.5

The proposed Zoo Entry Garden and Park under Alternative 1.5 would help to accommodate the growth in annual visitation and special events projected for the Vision Plan and described in Section 2.3.9, *Project Operation*, particularly with the reduced visitor-serving space in the Africa planning area. Implementation of this improvement would not substantially affect attendance growth projections. As described in Section 3.0, this EIR evaluates an extremely conservative annual attendance increase under the proposed Project of 3 million, which is approximately 523,500 annual visitors more than estimated in the 2017 AECOM economic

analysis prepared to inform the 2018 Vision Plan (Appendix A). Projected visitation associated with the proposed Zoo Entry Garden and Park would fall well below the conservative EIR growth projections for the overall Vision Plan and the estimated annual demand for special events.

Construction and Phasing

Implementation of Alternative 1.5 would occur on a slightly shortened schedule compared to the proposed Project due to reduced development of the Africa planning area and elimination of the parking structure, public park, and aerial tram. Alternative 1.5 is projected to require roughly 18 years over seven phases, which would be reduced from 20 years under the proposed Project. Phases of Zoo development would continue to occur sequentially. All phases would be guided by the Vision Plan’s guiding principles (see Sections 2.3.2, *Project Objectives*, and Section 2.3.3, *Vision Plan Guiding Principles*). The timing and components of each of the near-term phases are presented in Table 4-14. The Zoo Entry Garden and Park would be implemented concurrently with the development of the Zoo Entry planning area in Phase 1, over approximately 18 months. As such, the duration of Phase 1 would remain unchanged. Improvements associated with the Africa planning area would be reduced due to the lack of required excavation and development of the hillside area and would occur over a slightly shorter time frame (2 years). Overall, implementation of the near-term improvements for Alternative 1.5 would occur over nine years for this EIR analysis and consistent with the proposed Project.

Table 4-14. Alternative 1.5 Phases 1 - 3: Near-Term Project Components through 2029

Phase (Year Completed)	Project Components
1 (2025)	<p>Zoo Entry</p> <ul style="list-style-type: none"> • Excavate outdated utility lines • Install utility trunk lines at the Zoo entry • Grade entry corridor at 5 percent slope or less • Construct a new gift shop, security and first aid center, public programming space, restaurant, and administration buildings • Expand Sea Life Cliffs exhibit • Install water collection lines for subsurface cisterns • Landscape at the entrance and around buildings <p>Zoo Entry Garden and Park</p> <ul style="list-style-type: none"> • Grade 1.87-acre space at 5 percent slope or less • Install utility connecting to main Zoo utilities (water, sewer, energy) • Install onsite stormwater management (detention and infiltration) • Install a recycled water irrigation system • Construct gathering areas and pedestrian pathways • Construct an amenity building • Install fencing and service access gates • Landscape at the entry gate with wildlife habitat gardens

Table 4-14. Alternative 1.5 Phases 1 - 3: Near-Term Project Components through 2029 (Continued)

Phase (Year Completed)	Project Components
	<p>California Planning Area</p> <ul style="list-style-type: none"> • Demolish existing buildings • Excavate Condor Canyon • Construct with the California Condor Rescue Zone • Construct expanded animal facilities • Construct the California Visitor Center • Construct the funicular • Plant new native vegetation <p>Circulation and Parking</p> <ul style="list-style-type: none"> • Install signal at the intersection of I-5 and Western Heritage Way • Remove or relocate the Zoo planning trailer in the southern parking lot • Grade and reconfigure Crystal Springs Drive • Repave the southern parking lot and paint parking space lines to add additional parking spaces
2 (2027)	<p>Asia Planning Area</p> <ul style="list-style-type: none"> • Demolish existing outdated buildings and exhibits • Expand elephant exhibit space • Construct the Asian Forest with a lagoon and exhibit island • Renovate and expand existing animal exhibits and habitats • Install new underwater viewing for tiger and gharial exhibits and new water elements • Grade and construct new pathways with neighboring exhibits • Reconstruct Treetops Visitor Center into food service and gathering space • Install water feature (i.e., Splash Area) <p>Rainforest Planning Area</p> <ul style="list-style-type: none"> • Demolish the existing Zoopendous Park • Construct a Rainforest Interpretive Center • Construct expanded animal exhibits • Construct cafe and restrooms • Plant vegetation, including dense rainforest trees <p>Nature Play Park</p> <ul style="list-style-type: none"> • Construct a natural play area to relocate and replace the existing Papiano play area • Construct a food service structure • Construct new restrooms

Table 4-14. Alternative 1.5 Phases 1 - 3: Near-Term Project Components through 2029 (Continued)

Phase (Year Completed)	Project Components
3 (2029)	Africa Planning Area <ul style="list-style-type: none"> Demolish existing outdated buildings and exhibits Construct the Africa Visitor Center Construct expanded animal exhibits and habitats Install Zoo animal habitat water features Maintain 6 acres of hillside area as a restoration and education open space
	Service Areas <ul style="list-style-type: none"> Demolish outdated exhibit buildings Construct a new service area with additional employee parking

Alternative 1.5 would involve the same long-term elements proposed under the Project but would exclude the parking structure and public park in Phase 7 (Table 4-15). These long-term improvements would be initiated following the completion of Phase 3 improvements, anticipated to be completed one year sooner (2029) than the Project, and implemented through Alternative 1.5's horizon (2038).

Table 4-15. Alternative 1.5 Phases 4 - 7: Long-term Project Components

Phase	Project Components
4 (2031)	World Aviary Planning Area <ul style="list-style-type: none"> Renovate the existing aviary to meet ADA requirements Construct a new bird rearing complex Construct new paths connecting to <i>Rainforest</i> and <i>California</i>
	Bird Show and Animal Programs <ul style="list-style-type: none"> Renovate the existing amphitheater area with shade structures Construct specialized animal care facilities Renovate service space behind amphitheater for operations
	Service Areas (Condor West) <ul style="list-style-type: none"> Construct two aviaries and one new conservation/classroom building at the Condor West exhibit Create a new animal feed storage and commissary operations structure Reconfigure truck access to the construction services area
5 (2033)	Islands <ul style="list-style-type: none"> Renovate and expand the existing Australia House Install new pathways and landscaping
6 (2036)	Administration Building <ul style="list-style-type: none"> Construct a new Administration Building
7 (2038)*	Intersection Improvements <ul style="list-style-type: none"> Excavation and grading Replace signalized intersection at Zoo Drive/Western Heritage Way with either a roundabout or subgrade bypass, if needed

* Phase 7 would only occur if needed to accommodate demand from increased visitation. If not required, Phase 7 would not occur.

Similar to the Project, each phase under Alternative 1.5 would entail the same stages of construction, including pre-construction design and permitting; demolition and grading; site preparation (including installation of utilities and stormwater infrastructure); construction; architectural coatings/finishing; and final landscaping. Each phase would also require the temporary relocation of Zoo animals displaced during construction (see Section 2.2.3, *Existing Zoo Operations* for the Zoo’s Animal Welfare Best Management Practices). Building construction, paving, and architectural coating activities would occur within each phase, sequentially. All construction Best Management Practices proposed or required under the Project would continue to be implemented under Alternative 1.5.

Due to the reduced amount of construction proposed under Alternative 1.5, the amount and intensity of grading activities would be incrementally reduced compared to the proposed Project. Alternative 1.5 would not involve grading of hillsides in the Africa planning area, reducing the anticipated volume of fill material necessary under Alternative 1.5 by at least 10,000 cubic yards (cy) (Table 4-16). Further, Alternative 1.5 excludes the soil excavation and construction associated with the footings and terminals of the Zoo aerial tram in the Africa, Asia, and Zoo Entry planning areas, as well as the multi-story parking structure in the Zoo’s northern parking lot. All other infrastructure improvements and building construction activities would continue to be implemented as described for the Project (refer to the discussion of *Infrastructure Improvements* and *Building Construction* in Section 2.4.2, *Construction Activities*).

Table 4-16. Alternative 1.5 Grading Estimates by Phase

Phase	Cut (cy)	Fill (cy)	Export/Import (cy)
1	74,000	0	74,000 (export/stockpile)
2	0	0	0
3	0	0	0
4-7	0	38,000	38,000 (import/stockpile)
Grading Total	74,000	38,000	36,000 (net export)

Potential Impacts on Resources

Aesthetics and Visual Resources

VIS-1: Would the project have a substantial adverse effect on a scenic vista?

Impacts to scenic resources onsite would decrease under this alternative as a result of reduced development on visible hillsides and ridgelines in the Africa planning area, and elimination of the aerial tram and parking structure. Avoiding development of these features would help to maintain existing distant views from trails in Griffith Park such as Condor Trail or Skyline Trail. Alternative 1.5, however, would include excavation of Condor Canyon and construction of taller structures such as the Treetops Terrace Visitor Center and California Visitor Center, which would extend above the urban forest canopy within the Zoo and be visible intermittently from segments of surrounding trails such as Condor Trail or Skyline Trail.

Construction activities and equipment would create temporary adverse changes in the existing scenic vistas or views.

Alternative 1.5 would reduce the visual impact to public views from Griffith Park trails. Similar to the Project, the Skyline, Condor, and North Trails provide views over the Zoo from various locations, but future development within the Zoo's interior would not be easily visible due to topography and the dense tree canopy. Elimination of the aerial tram would further reduce potential for visible changes within the Zoo from surrounding trails that would interrupt any scenic vistas from Griffith Park across the Zoo. Therefore, while the visual impact would be reduced under Alternative 1.5, the reduction would be incremental.

Similar to the Project, each phase of development of Alternative 1.5 would involve varying degrees of vegetation removal and replanting. During construction of a Project phase, vegetation would be modified or removed to clear areas for new development of animal environment, visitor-serving, and Zoo facility spaces. In this way, the Project and Alternative 1.5 would incrementally and temporarily affect the visual quality of the Zoo's urban forest as viewed from both within the Zoo and from surrounding scenic vistas. However, replanting and restoration of the Zoo's urban forest would ensure that the long-term visual impacts related to the tree canopy and vegetation are minimized or avoided.

As a result, similar to the Project, Alternative 1.5 would not substantially adversely affect scenic vistas or views from trails in Griffith Park. Despite the addition of several taller structures or features, such as the reconstructed Treetops Visitor Center and California Visitor Center and associated towers, existing distant views of Griffith Park or the Zoo from surrounding trails would not be substantially altered or intruded into. Proposed structures would blend into the Zoo topography and urban forest landscape and would not substantially intrude into or interrupt more distant scenic vistas. Because these scenic vistas are more distant and located at higher elevations than the Zoo, obstruction or interference of views by proposed development would be minimal, and scenic vistas of distant prominent features would not be substantially altered. With elimination of the aerial tram, parking structure, and the reduction in development on undeveloped hillsides and ridgelines in the Africa planning area, Alternative 1.5 would further reduce this impact. Therefore, similar to the Project, Alternative 1.5 would have a *less than significant* impact on existing scenic views and vistas.

VIS-2: Would the project conflict with applicable zoning and other regulations governing scenic quality?

Under Alternative 1.5, potentially significant impacts associated with conflicts with applicable zoning and regulations governing scenic quality would be reduced as compared to the Project. This alternative would avoid major alteration of undeveloped hillsides within the Africa planning area. Thus, this alternative would reduce the tree removal and grading activities and associated views of construction equipment and bare hillsides, and associated potential policy conflicts. However, similar to the proposed Project, this alternative would involve redevelopment of the majority of interior Zoo area, expanding visitor-serving and animal

environment spaces, modernizing existing features, and excavation of Condor Canyon and redesign of the Zoo's interior circulation system. Construction of these new improvements would result in short-term vegetation removal that could continue to be potentially inconsistent with the City's General Plan Conservation Element, Framework Element, and 1988 Hollywood Community Plan. This impact would be reduced through preservation of existing native and other key specimen trees, installation of new landscaping, and significant tree replanting throughout the Zoo to maintain and expand the dense urban forest present within the Zoo during each phase of development. Similar to the proposed Project, **MM UF-1** and **MM UF-2** would mitigate visual impacts related to tree removal.

Alternative 1.5 would substantially reduce impacts on the existing visual character of the area fronting the Zoo. In particular, Alternative 1.5 would eliminate the proposed multi-story parking structure, substantially reducing visual changes and potential impacts when compared to the Project. Elimination of the parking structure would eliminate the need for mitigation to reduce visibility and screen the structure from view from public roadways. Therefore, **MM VIS-2** would not be required for Alternative 1.5.

Similar to the Project, Alternative 1.5 would continue to require signalization of the Zoo Drive/Western Heritage Way intersection and realignment of Crystal Springs Drive under Phase 1 and would replace the proposed signalized intersection at Zoo Drive/Western Heritage Way with either a roundabout or sub-grade underpass in Phase 7, as needed. While these roadway improvements, particularly the sub-grade underpass, would substantially alter the existing character of this area through tree removal, potential trail realignment, and grading, implementation of **MM VIS-1** would ensure roadway design is sensitive to the Griffith Park setting and that road improvements are designed to maintain the existing visual character of the area. Therefore, with implementation of **MM VIS-1**, Alternative 1.5 would maintain the existing visual character of the Zoo Drive gateway to Griffith Park and the urban wilderness identity of the park.

Alternative 1.5 would be more consistent with applicable zoning and regulations governing scenic quality compared to the Project and, therefore, impacts would be *less than significant with mitigation*.

VIS-3: Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

New development proposed under Alternative 1.5 could potentially create new sources of substantial light or glare during the daytime from reflective building materials or lighting spillover at night from new security and ambient lighting, as well as special events. Development would include structures that would protrude above the tree canopy within the Zoo such as the California Visitor Center and Treetops Visitor Center. However, there are no residential or other uses in the vicinity of the Project site that are sensitive to light or glare, and these features would only be visible in the distance from public trails and viewpoints within Griffith Park, with views from these trails limited by both topography and vegetation.

Similar to the Project, new development under this alternative would not be visible from the Griffith Observatory and Greek Theater, with no potential for light spillover and glare effects to these light-sensitive uses.

Similar to the Project, Alternative 1.5 would result in an increase in lighting within the Project site associated with ambient building and walkway lights, security lighting and that from increased special events held at the Zoo, including events held at the proposed Zoo Entry Garden and Park. However, impacts would be lessened under Alternative 1.5, since new lighting would not be introduced to the currently undeveloped hillsides in the Africa planning area under the Project, which would reduce the overall light generation and potential for nighttime light visibility. In addition, effects from glare generated by reflective surfaces would be reduced compared to the Project as a result of elimination of the aerial tram. Due to elimination of the aerial tram, Alternative 1.5 would avoid potential for generation of glare from aerial tram gondolas that could be visible from nearby public trails and views.

While lighting used during such events may be visible from surrounding trails and roadways, hiking trails in Griffith Park provide distant intermittent views of the Zoo, often obscured by both vegetation and topography. Further, while trail users hiking near dusk may glimpse some night lighting, these trails are closed at sunset limiting trail user exposure to night lighting. Further, given the distance between trail overlooks and event centers, lit buildings or structures, such as the California Visitor Center, would not be highly intrusive in context of the overall urbanized landscape view available from the Condor Trail, North Trail, and Skyline Trail. New lighting would also not adversely affect surrounding roadways, as views of the Zoo are largely obscured by landscaping, topography, and distance. Additional lighting would be similar in context and intensity of after-hour lighting that currently occurs at the Zoo, as well as offsite lighting sources such I-5 and SR-134 and security lighting used at nearby industrial buildings to the east.

Under Alternative 1.5, structures and features may have reflective surfaces (e.g., large windows, polished surfaces), similar to the Project. However, as with night lighting, the view of the Zoo from external trails and roadways is limited by topography and vegetation. As such, Alternative 1.5 would not require implementation of **MM VIS-3** and impacts would be substantially reduced compared to the Project and would be *less than significant*.

Air Quality

AQ-1: Would the proposed Project conflict with or obstruct implementation of the applicable air quality plan?

Under Alternative 1.5, emissions from grading, excavation, and building construction activities would be slightly reduced compared to the Project. The total area of new development within the Zoo would be reduced by approximately 6 acres without development in the Africa planning areas. In particular, Alternative 1.5 would not include grading on hillsides within the Africa planning area, which would reduce construction emissions from

heavy equipment, including diesel emissions and fugitive dust. Alternative 1.5 would also eliminate the proposed parking structure, further reduce construction emissions associated with substantial grading and construction activities for that structure. As a result, construction emissions for CO, VOCs, NO_x, particulate matter (PM₁₀ and PM_{2.5}), and SO_x would be reduced compared to the proposed Project. While emissions would be reduced under Alternative 1.5, **MM AQ-1**, would still be required. this measure requires that all diesel-powered construction equipment with engines greater than 50 horsepower (hp) shall meet, at a minimum, Tier 4 Final emissions standards, would still be required to reduce NO_x emissions from off-road equipment during construction to less than significant levels. Further, similar to the Project, construction activities associated with Alternative 1.5 would not introduce substantial population or employment growth to the SCAG region and would have no significant impact related to underlying assumptions factored into the AQMP inventories. The mitigated emissions would not have the potential to conflict with or obstruct implementation of the 2016 AQMP by exacerbating air quality violations or delaying attainment of the air quality standards.

Operation of the Zoo under Alternative 1.5 would result in substantially reduced vehicle trips and VMT associated with annual visitation limits through implementation of the PVMP and reduced new jobs when compared to the proposed Project. The projected reduction in VMT would reduce air pollutant emissions as compared to the proposed Project. In particular, Alternative 1.5 would have the potential to reduce visitor VMT by an estimated 16.7 percent less than projected VMT levels under the proposed Project (see also, *Transportation* for Alternative 1.5 below). Similar to the Project, the incremental change in operational emissions with implementation of long-term improvements would not exceed any applicable SCAQMD mass daily threshold of significance. Operation of Alternative 1.5 would not have the potential to exacerbate air quality violations in the SCAB or possibly delay attainment of the air quality standards as set forth in the 2016 AQMP. Furthermore, long-term operation of the Zoo under Alternative 1.5 would not conflict with land use policies promulgated by SCAQMD and SCAG, similar to the Project.

Similar to the Project, Alternative 1.5 would not generate construction or operation emissions that exceed regional thresholds and would not conflict with or obstruct the AQMP or other applicable air quality plan. Therefore, Alternative 1.5 impacts would be similar to the proposed Project and *less than significant with mitigation*.

AQ-2: Would the proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Alternative 1.5 would generate reduced construction emissions as compared to the proposed Project primarily due to reduced construction within 6 acres in the Africa planning area and elimination of the aerial tram and parking structure. However, without mitigation, this alternative would generate emissions of NO_x, an O₃ precursor, in excess of the applicable SCAQMD regional mass daily threshold. Similar to the proposed Project, mitigated emissions

of pollutants generated by construction activities would not generate emissions of pollutants exceeding project-level significance thresholds. Implementation of **MM AQ-1** would ensure that maximum daily NO_x emissions generated by construction would not result in a significant increase in emissions of O₃ precursors or particulate matter at either the regional or local assessment scale. Therefore, impacts related to cumulatively considerable net increases in nonattainment pollutants would be *less than significant with mitigation*, similar to the Project.

Although operation of Alternative 1.5 would increase VMT and corresponding emissions, as well as emissions from onsite sources over existing conditions, the elimination of the parking structure and implementation of the PVMP would substantially reduce operational emissions compared to the Project due to reduced visitation. The incremental increases in daily air pollutant emissions during all stages of operations throughout Alternative 1.5 improvements would remain below applicable SCAQMD mass daily thresholds of significance. In accordance with SCAQMD guidance, operational emissions of O₃ precursors and particulate matter would be below project-level thresholds and would not result in a cumulatively considerable net increase of any criteria pollutants for which Los Angeles County is currently designated in nonattainment. Therefore, operational impacts to air quality related to cumulatively considerable emissions of nonattainment pollutants would be less than the Project and *less than significant*.

AQ-3: Would the proposed Project expose sensitive receptors to substantial pollutant concentrations?

The sensitive receptors with greatest susceptibility to air quality impacts from implementation of Alternative 1.5 would be visitors and employees of the Zoo, as well as receptors at the Zoo Magnet Center located in the southern parking lot on the Project site. There are no residential receptors in the Zoo vicinity. Similar to the proposed Project, sources of pollutant emissions involved in construction activities under Alternative 1.5 would at times be near Zoo visitors and employees, as Zoo would operate throughout implementation of the Vision Plan. Alternative 1.5 components that would be implemented in the immediate vicinity of the Zoo Magnet Center are the circulation and parking improvements and Zoo Entry renovation in Phase 1. Due to the slight decrease in the duration and extent of construction activities under Alternative 1.5, this alternative would generate slightly fewer TACs that would affect nearby sensitive receptors. Similar to the proposed Project, at no time during construction of Alternative 1.5 would maximum daily emissions from sources located on the site meet or exceed applicable LST screening values (refer to Section 3.2, *Air Quality*). Furthermore, implementation of **MM AQ-1** would substantially reduce onsite emissions of NO_x and diesel particulate matter from off-road equipment by requiring the use of construction equipment that meets Tier 4 Final emissions standards. Implementation of **MM AQ-1** and compliance with SCAQMD BMPs would ensure that Alternative 1.5 construction would not expose sensitive receptors to substantial pollutant concentrations. Further, construction activities would be conducted in accordance with the California Code of

Regulations related to lead and asbestos exposure in the event that materials potentially containing these contaminants are encountered during demolition or renovation activities. Therefore, Alternative 1.5 impacts related to sensitive receptor exposure to construction emissions would be similar to the Project and *less than significant with mitigation*.

After construction associated with each phase of Alternative 1.5 is complete and the heavy equipment is removed from the Project site, the operational emissions sources on the Project site would be similar to existing conditions. There would be no substantial stationary source of air pollutant emissions associated with operation of Alternative 1.5. Minor increases in landscaped and building areas would primarily produce incremental increases in VOC, NO_x, and CO emissions from maintenance sources and consumer product use that would be spread throughout the 142-acre Project site. Operation of Alternative 1.5 would not result in a land use change or alteration to the site that would place sensitive receptors in closer proximity to substantial sources of air pollutant emissions. As previously described, the reduced development footprint, elimination of the parking structure, and implementation of the PVMP under Alternative 1.5 would substantially reduce visitor and employee VMT and associated air pollutant emissions as compared to projected VMT under the proposed Project. Therefore, operational impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be similar to the Project and *less than significant*.

Air pollutant emissions generated by construction may also be disruptive to Zoo animals. Captive animal species may have a unique sensitivity to the air quality setting of an urban environment. The Zoo is dedicated to the health and welfare of all its animals. Zookeepers and animal caretakers are trained in the monitoring of the Zoo's animals and implement measures appropriate for each individual species to ensure their safety and welfare in accordance with the AZA accreditation and the AWA, which governs the care, handling, and transport of zoo animals. As the Zoo has done in the past during construction of prior improvements, measures to protect these animals may include their temporary relocation away from construction activities, closure of exhibits, or even the transfer of animals to other zoos. Similar to the proposed Project, accommodations specific to each animal would be developed during the planning process for each phase and details would be included in final construction plans. With continued management of each species of animal exhibited or rehabilitated at the Zoo and required compliance with the AWA, there would be no adverse effects on Zoo animals from air pollutant emissions generated during construction of Alternative 1.5.

AQ-4: Would the proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Alternative 1.5 would result in similar temporary, construction-related odors as those described for the proposed Project; however, the duration of exposure to these odors would be slightly reduced with less construction needed for the Africa planning area and the Zoo's parking facilities. Therefore, air quality impacts related to construction odors and dust would be less than the Project and *less than significant*.

As described for the proposed Project, operational odors under this alternative would primarily be associated animal habitats. Due to the slightly reduced scope of expansion of Animal Conservation space in the Africa planning area and enclosures, Alternative 1.5 would generate an incrementally reduced odor generation as compared to the proposed Project. The Zoo would continue to engage in composting for green waste and herbivore animal wastes in Griffith Park. Similar to the proposed Project, Alternative 1.5 implementation would not place sensitive receptors in closer proximity to sources of odors or other emissions that could create nuisance conditions. Therefore, impacts related to other emissions would be similar to the Project and *less than significant*.

Biological Resources

BIO-1: Would the Project result in the loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat?

Alternative 1.5 would reduce impacts to biological resources compared to the Project, but may continue to have the potential to result in the loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern. This alternative would avoid development of sensitive biological resources within 6 acres of the proposed Africa planning area. Thus, this alternative would reduce required onsite construction grading and disturbance compared to the Project. Compared to the proposed Project, Alternative 1.5 would protect roughly 6 acres of coast live oak woodland supporting approximately 19 Southern California black walnut trees, a species of conservation concern, and hundreds of native and non-native trees. However, similar to the Project, construction under Alternative 1.5 could result in potential impacts on the federal and state-listed Endangered Nevin's barberry (*Berberis nevini*) located along the ridgetop in California, as well as potentially the Hubby's phacelia (*Phacelia hubbyi*), a special status species. A California Species of Special Concern, the San Diego woodrat, could also be impacted as several woodrat middens (e.g., nests) that potentially house these species were observed in the California planning area. Finally, similar to the Project, Alternative 1.5 would continue to have the potential to impact bats, 6 species of which are known to occur in the Zoo, several of which are special status species.

Indirect impacts on special-status wildlife species could also occur due to increased noise and light. These species could abandon habitats within and adjacent to areas of proposed development and move into adjacent areas in the vicinity (e.g., Griffith Park), increasing competition for available resources in those areas. This could result in indirect impacts to and the loss of additional special-status wildlife species outside of the Project site, including sensitive species that may not be able to survive with increased competition. However, this impact would be further lessened under Alternative 1.5 compared to the Project because Alternative 1.5 would replace the proposed vineyard landscape feature within the California

planning area with landscaped California native species that would present foraging opportunities for native wildlife within the Zoo property. Alternative 1.5 would also replace the proposed Angela Collier Gardens Project contemplated in Section 3.18, *Cumulative Projects* with the Zoo Entry Garden and Park, which would include all native trees, shrubs, and flowering plants designed to demonstrate wildlife habitat gardens and support wildlife within the Zoo. These features proposed as part of Alternative 1.5 would enhance natural habitats and on-site ecosystems within the Zoo.

Alternative 1.5 would further reduce impacts to special-status wildlife species by developing and implementing a new set of design guidelines, which prioritize the use of native plant species in landscaping and especially preserving existing specimens and habitats with protected status and significant ecological function/importance. These guidelines would also prioritize planting of native and drought-tolerant species compatible with Zoo animal habitat needs where non-native species may be required or desirable. Implementation of these guidelines would help nurture the natural ecosystem of Griffith Park and the Los Angeles Basin and support the larger regional biodiversity while providing immersive, safe, and dynamic habitats for Zoo animals. Further, under Alternative 1.5, within the majority of the Africa planning area hillside, the Zoo would undertake a restoration and habitat maintenance program to enhance native habitat and provide for interpretive and educational experiences. This restoration and habitat maintenance program would provide better protection and preservation of existing significant and important trees and shrubs within this area compared to the Project.

Since Alternative 1.5 would still construct new development within undeveloped areas in the California planning area, Alternative 1.5 would require implementation of **MM BIO-1** through **MM BIO-4** to reduce impacts on special-status plant species and protected biological resources within this area. These measures would require protection or restoration of native plant communities and special-status species to the maximum extent feasible through pre-construction surveys, fencing, capture, relocation, and replanting. Further, with implementation of **MM BIO-2** and **MM WF-1**, adverse impacts to biological resources as a result of installation and maintenance of vegetation clearance from fuel breaks would be reduced through maximum avoidance of native vegetation and appropriate restoration offsite. Alternative 1.5 would result in reduced extent and severity of impacts to biological resources; however, impacts would remain similar to the proposed Project due to development in other sensitive areas in and around the Zoo, and impacts would remain *less than significant with mitigation*.

BIO-2: Would the proposed Project 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?

Alternative 1.5 would reduce the potential for the Vision Plan to interfere substantially with the movement of native resident or migratory fish or wildlife species, change established

native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. By avoiding development of the Africa planning area hillside that currently supports sensitive biological resources, Alternative 1.5 would preserve approximately 6 acres of undeveloped open space within the Africa planning area, including vegetation communities such as coast live oak woodlands, non-native grassland, and adjacent eucalyptus/mixed woodlands located in close proximity to the undisturbed habitats in Griffith Park. Protection of these natural communities would substantially retain habitat connectivity within the Zoo and adjacent natural habitats in Griffith Park as compared to the Project.

Although Alternative 1.5 would continue to include major development within the California planning area, impacts on wildlife movement compared to the project would be decreased through development and implementation of a new set of design guidelines that prioritize the use of native plant species in landscaping and especially preserving existing specimens and habitats with protected status and significant ecological function/importance. These guidelines would also prioritize planting of native and drought-tolerant species compatible with Zoo animal habitat needs where non-native species may be required or desirable. Implementation of these guidelines would help nurture the natural ecosystem of Griffith Park and the Los Angeles Basin and support the larger regional biodiversity while providing immersive, safe, and dynamic habitats for Zoo animals. This alternative would also replace the proposed Angela Collier Gardens Project contemplated in Section 3.18, *Cumulative Projects* with the Zoo Entry Garden and Park. The proposed landscaping plan for this area would include use of all native trees, shrubs, and flowering plants designed to demonstrate wildlife habitat gardens. Inclusion of native habitat gardens and implementation of development design guidelines prioritizing native species and habitats may better enhance wildlife connectivity with the surrounding ecosystem of Griffith Park through provision of landscaped areas that would better support foraging habitats for species native to the Los Angeles region and Griffith Park, as compared to the proposed Project.

Implementation of mitigation measures as described under Section 3.4, *Biological Resources*, would further reduce potential impacts to sensitive and protected species and natural habitats onsite. Implementation of **MM BIO-1**, **MM BIO-2**, **MM BIO-4**, and **MM BIO-5** would require the implementation of construction BMPs and a Worker Education and Awareness Plan (WEAP) to reduce construction-related impacts to special-status bird species to the maximum extent feasible. These measures would delineate vegetation communities and an area of disturbance associated with proposed development plans by phase and preserve or replace affected vegetation communities and sensitive species at appropriate ratios. Implementation of **MM UF-1**, requiring preservation, relocation, or replacement of native tree species onsite or at an appropriate offsite location within Griffith Park, and **MM UF-2**, requiring the Zoo implement a tree and urban canopy restoration plan, would also serve to reduce impacts associated with the loss of roosting habitat by ensuring suitable roosting habitat is retained onsite or created or improved offsite through planting of native trees. Therefore, impacts on wildlife movement would be less than the Project and *less than significant with mitigation*.

BIO-3: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Although Alternative 1.5 would substantially reduce impacts to native vegetation communities and native trees, it could still potentially conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Alternative 1.5 would reduce the potential for conflicts with local ordinances compared to the Project due to the reduced area of development in undeveloped hillsides within the Africa planning area. When compared to the proposed Project, Alternative 1.5 would avoid removal of an estimated 135 native trees and 66 native shrubs within the Africa planning area that are protected under the City's existing Tree Preservation Ordinance and proposed Protected Tree Code Amendment. Development of the California hillsides would still result in the disturbance or removal of several protected tree species. Disturbance, alteration, or removal of trees would result in the loss or damage of locally protected plant species within coast live oak woodland and laurel sumac shrubland communities, which are known to support some native tree and shrub species that are locally designated for protection under the LAMC.

However, Alternative 1.5 would include the creation and implementation of development design guidelines that would prioritize the preservation or planting native plant species across the entirety of the Zoo, including within the California planning area. This would encourage retention of plant species protected and regulated under the existing City Tree Preservation Ordinance and Protected Tree Code Amendment such as oak trees, elderberry, and other species. Implementation of these development design guidelines may further reduce the number of protected trees and shrubs removed or impacted as part of the redevelopment of the Zoo when compared to the proposed Project. Further, under Alternative 1.5, within the majority of the Africa planning area hillside the Zoo would undertake a restoration and habitat maintenance program to enhance native habitat and provide for interpretive and educational experiences. This restoration and habitat maintenance program would provide better protection and preservation of existing significant and important trees and shrubs within this area compared to the Project.

As with the proposed Project, implementation of **MM UF-1**, requiring preservation, relocation, or replacement of protected native tree and shrub species onsite or at an appropriate offsite location within Griffith Park, and **MM UF-2**, requiring the Zoo implement a tree and urban canopy restoration plan, would serve to reduce impacts associated with the loss of protected native trees and shrubs. Alternative 1.5 would reduce the extent and severity of impacts on protected trees, and implementation of these measures would ensure impacts to native trees and shrubs would be *less than significant with mitigation* similar to the proposed Project.

Cultural and Tribal Cultural Resources

CUL-1: Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Similar to the proposed Project, Alternative 1.5 would involve phased redevelopment of the majority of the Zoo. Since the Zoo is not a historic resource per CEQA Section 15064.5, Alternative 1.5 would not cause a substantial adverse change in the significance of a historical resource. Redevelopment would include demolition of some structures dating from the 1960s, such as the World Aviary exhibit. However, the Zoo no longer represents mid-20th century zoological design or the original vision of noted architectural firm Charles Luckman Associates. In particular, the Zoo no longer retains the two strongest architectural statements made by Luckman in his original design: the main entrance and the Theme Building/Treetops Terrace.

As described in Section 3.4, *Cultural and Tribal Cultural Resources*, the Zoo is not listed as a historical resource, either as a district or as individual resources within the Zoo, in the NRHP or CRHR. Although Griffith Park is listed on the CRHR and has been identified as a designated Los Angeles Historical-Cultural monument, the Zoo was determined to be a non-contributing component and was built after the significance period for Griffith Park. Therefore, the Zoo does not represent the same historical merit as Griffith Park. The historical resources assessment prepared for the proposed Project concluded the Zoo is not eligible for historic listing or designation at federal, state, or local level, and no buildings, structures, or other features of the Zoo were found individually eligible for historic listing or designation (refer to Section 3.4, *Cultural and Tribal Cultural Resources*; see Appendix G). Due to previous renovations and expansions of facilities within the Project site, potentially historic structures no longer retain historical integrity or overarching uniform character. Given the Project site does not contain any historical resources as defined by CEQA, there is no potential for impacts to historical resources to occur as a result of Alternative 1.5, similar to the Project. Therefore, Alternative 1.5 impacts to historic resources would be *less than significant*.

CUL-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No previously recorded archaeological sites occur on the Project site and intensive pedestrian ground surface survey conducted for the Project recorded no archaeological resources or unique geographical features (Appendix F). Therefore, the potential for prehistoric resources is low in areas formerly developed as part of the original Zoo construction and on slopes over 20 percent. Therefore, similar to the Project, Alternative 1.5 would not cause a substantial adverse change in the significance of an archaeological resource.

Most of the developed areas of the Zoo overlie artificial fill that was previously graded and disturbed for installation of utilities and construction of walkways during original Zoo construction in 1966. Consequently, these interior developed areas of the Zoo are highly

unlikely to contain any intact, previously undisturbed cultural resources. With a low potential for disturbance to archeological resources, Alternative 1.5 impacts to cultural and tribal cultural resources would further reduce the potential for impacts compared to the Project, as the reduction in 6 acres of development would decrease potential for incidental discovery of archeological resources and associated impacts. Grading, excavation, and earth moving activities would still occur on the Zoo's previously developed interior and at the base of the undeveloped hillsides in the California planning area. Similar to the Project, excavation depths would range from surficial grading to approximately 30 feet bgs for building foundations and structural footings. However, without the aerial tram and the multi-story parking structure, the amount and depth of excavation would be substantially reduced compared to the Project.

While highly unlikely, there is a potential for Alternative 1.5 improvements to impact unknown cultural resources. Similar to the Project, Alternative 1.5 would implement **MM CUL-1** prior to ground disturbance for each phase to ensure that appropriate action would be taken to prevent adverse impacts in the unlikely event isolated unknown prehistoric and historic-period archaeological resources are encountered during construction activities. In the unlikely event that previously unidentified archaeological resources are discovered during Alternative 1.5 construction, any inadvertently discovered resources would be protected and curated, through implementation of **MM CUL-2**. Therefore, Alternative 1.5 impacts to potential prehistoric resources would be similar to the Project and *less than significant with mitigation*.

CUL-3: Would the project disturb any human remains, including those interred outdoors of formal cemeteries?

As described in Section 3.4, *Cultural and Tribal Cultural Resources*, the majority of the Project site has previously been developed/disturbed during construction of the Zoo and such development is very unlikely to disturb any human remains, including those interred outdoors of formal cemeteries, and undeveloped hillsides are also unlikely to have supported prehistoric activity or occupation. Additionally, Alternative 1.5 would substantially limit development to the presently undeveloped areas of the Project site. Therefore, the possibility of discovering human remains during construction of Alternative 1.5 is reduced as compared to the proposed Project, and very low. If, however, in the unlikely event that previously unidentified human remains are discovered, further disturbances and construction activities shall stop in any area or nearby area suspected to overlie remains in accordance with State Health and Safety Code Section 7050.5, and the Los Angeles County Coroner would be contacted in accordance with Title 14, CCR, Section 15064.5(e). Pursuant to PRC Section 5097.98, if the coroner determines that the human remains are of Native American origin, the NAHC would be notified. Arrangements for the human remains would be made, and further provisions of PRC Section 5097.98 are to be followed as applicable. Further, implementation of **MM CUL-3** would ensure the protection and curation of any

inadvertently discovered. Therefore, Alternative 1.5 impacts would be similar to the Project and *less than significant with mitigation*.

CUL-4: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 PRC Section 5020.1(k), or that is 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 PRC Section 5024.1?

As described in Section 3.4, *Cultural and Tribal Cultural Resources*, there are no known cultural resources that are eligible for listing in the CRHR or in a local register within the Project site. Therefore, implementation of Alternative 1.5 is unlikely to cause a substantial adverse change in the significance of a tribal cultural resource. However, consultation with Native American tribal representatives conducted for the proposed Project determined there is potential for impacts to tribal cultural resources, including buried resources and cultural landscapes associated with the village of *Cahuenga* located west of Griffith Park and the rancheria of *Maugna* located in the vicinity of Griffith Park. Due to previous ground disturbance and development within the interior of the Project site and limited proposed development along undeveloped areas such as the base of the California hillside, there is little potential for the discovery of unknown buried tribal cultural resources during construction activities. However, limited potential exists for Alternative 1.5 to result in the discovery, alteration, removal, or destruction of tribal cultural resources, including objects, sites, or features with value to a California Native American tribe. With implementation of **MM CUL-4** through **MM CUL-7**, requiring the monitoring of all construction activities by an appropriate Native American representative and the management of resources in the unlikely event that such resources are uncovered, Alternative 1.5 impacts would be similar to the Project and *less than significant with mitigation*.

Energy

EN-1: Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

The total development footprint under Alternative 1.5 would be reduced by approximately 6 acres from the total development footprint under the proposed Project. Due to the reduction in the duration and scale of construction activities under Alternative 1.5, temporary, construction-related energy impacts would be reduced below those described for the proposed Project (refer to Impact EN-1 in Section 3.5, *Energy*). Further, the Project is

unlikely to result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project operation, for as discussed below, the Project includes substantial energy conservation and efficiency measures as well as major proposed onsite photovoltaic electric power generation.

Due to the reduction of 6 acres of new development and elimination of the aerial tram and multi-level parking structure under Alternative 1.5, long-term operational energy impacts would be reduced relative to the proposed Project. Elimination of the parking structure and implementation of the PVMP would reduce visitation by an estimated 500,000 guests per year when compared to the Project, substantially reducing VMT and associated energy demand. Alternative 1.5 may result in a reduced overall energy demand, including electricity, natural gas, and transportation as compared to the proposed Project (see the *Greenhouse Gas Emissions* discussion). This alternative would also incorporate similar energy efficiency measures into the design of the buildings and service systems, as all new and redevelopment activities would be subject to the provisions of the LA Green Building Code, LEED Silver design standards and best management practices, and LA's Green New Deal (Sustainable City pLAn 2019) pertaining to energy efficiency for non-residential buildings. Additionally, all new structures with rooftop area greater than 250 sf would be considered for the feasibility of solar panel installations, similar to the Project. Therefore, Alternative 1.5 would not result in wasteful, inefficient, or unnecessary consumption of energy sources and the impact would be *less than significant*, similar to the Project.

EN-2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Similar to the Project, Alternative 1.5 would be designed to comply with the Los Angeles Green Building Code and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Under this alternative, development would include sustainability features, such as a solar PV system. Green building elements would also increase energy efficiency by meeting LEED Silver standards of design or better and through use of reduced-flow plumbing fixtures and energy-efficient appliances, solar PV systems, LED traffic lighting systems, stormwater reuse, use of recycled water onsite, and implementation of TDM plan for VMT reductions (refer to **MM T-2** in Section 3.15, *Transportation*). As discussed for the proposed Project in Section 3.5, *Energy* and Section 3.11, *Land Use and Planning*, Alternative 1.5 would be consistent with local, regional, and state goals and policies related to energy efficiency and would not result in wasteful, inefficient, and unnecessary consumption of energy. Therefore, as with the proposed Project, impacts on energy under Alternative 1.5 would be *less than significant*.

Urban Forestry Resources

UF-1: Would the project conflict with the provision of an adopted local tree preservation policy or ordinance?

Alternative 1.5 would substantially reduce impacts to protected trees and urban forest resources. Alternative 1.5 would avoid the direct removal, trimming, limbing, or root cuts of native and nonnative trees by substantially avoiding development of undeveloped hillsides within the proposed Africa planning area. Alternative 1.5 would protect approximately 22 Southern California black walnut trees, 113 coast live oak trees, 45 toyon, and 21 elderberry shrubs that would be potentially removed or impacted within the Africa planning area under the proposed Project. Due to the reduced development footprint under Alternative 1.5, dozens of trees contributing to the urban canopy provided by existing Zoo landscaping would remain under Alternative 1.5. Therefore, impacts to protected trees within the Zoo would be substantially reduced as compared to the proposed Project. Alternative 1.5 would also maintain substantial numbers of non-native trees, including eucalyptus, which contribute to the urban forest canopy but have drawbacks including safety risks (e.g., fire hazards, falling limbs). Further, under Alternative 1.5, within the majority of the Africa planning area hillside, the Zoo would undertake a restoration and habitat maintenance program to enhance native habitat and provide for interpretive and educational experiences. This restoration and habitat maintenance program would provide better protection and preservation of existing significant and important trees and shrubs within this area compared to the Project.

Similar to the proposed Project, Alternative 1.5 would result in the potential removal of up to seven California live oaks, 15 toyon, and four Mexican elderberries as a result of extensive excavation, grading, and development of the California planning area. Several small coast live oak and larger western sycamores, planted as landscape trees within Zoo parking lots, Zoo entry, and along Western Heritage Way, may also be impacted by improvements to the southern parking lot, Western Heritage Way/Crystal Springs Road realignment, installation of a roundabout or underpass at the intersection of N. Zoo Drive with Western Heritage Way, and Zoo Entry redevelopment. In addition, realignment of Western Heritage Way/Crystal Springs Road could also result in the loss of some small specimen oaks and sycamore trees along its alignment behind the Zoo Magnet Center and Zoo storage areas. However, unlike the Project, implementation of Development Design Guidelines under Alternative 1.5 would prioritize the preservation or planting of native plant species across the entirety of the Zoo, including species protected and regulated under the existing City Tree Preservation Ordinance and Protected Tree Code Amendment, further reducing impacts to urban forestry resources compared to the proposed Project.

Similar to the proposed Project, impacts to trees would occur incrementally and overlap with replanting/landscaping and regrowth, as Alternative 1.5 implementation would occur incrementally over seven phases. Alternative 1.5 would also be required to implement **MM UF-1** requiring replacement of removed protected and important trees at a minimum 4:1 ratio as indicated by the City's proposed Tree Preservation Ordinance amendment (4:1 for

oak trees less than 12 inches diameter at breast height [dbh]; 5:1 for oak trees between 12 to 24 inches dbh; and 10:1 for oak trees greater than 24 inches dbh), notification of large-scale tree removal, acquisition of a necessary tree removal permit(s), and application of City tree removal procedures. Because significant trees impacted during Alternative 1.5 implementation would be protected, relocated, or replaced consistent with applicable City tree protection policies, potential conflicts with adopted ordinances would be avoided. With an overall reduction in the number of significant trees affected compared to the Project, Alternative 1.5 would not conflict with the provision of an adopted local tree preservation policy or ordinance and impacts would be *less than significant with mitigation*.

UF-2: Would the project result in the loss or alteration to the Los Angeles urban forest?

As discussed above, Alternative 1.5 would not result in the loss or alteration to the Los Angeles urban forest. Alternative 1.5 would protect trees and shrubs within the Africa planning area, due to the reduced development footprint within these undeveloped hillsides as compared to the proposed Project. In particular, Alternative 1.5 would protect a total of 135 native trees and 66 native shrubs in the Africa planning area protected under the City's existing Tree Preservation Ordinance and proposed Protected Tree Code Amendment. While less intensive than the proposed Project, Alternative 1.5 would continue to include extensive redevelopment within the Zoo and along roadway and parking improvements fronting the Zoo that would remove hundreds of trees that comprise the urban forest gradually over almost two decades. Similar to the proposed Project, Alternative 1.5 would include installation of new landscaping, including extensive tree planting, following removal or disturbance of trees within the City's and Zoo's urban forest canopy for proposed development. However, Alternative 1.5 would expand native habitat conservation and the natural ecosystem of Griffith Park further by implementing landscape design guidelines that prioritize preserving existing native specimens and planting additional native plant species. These guidelines would also prioritize planting of drought-tolerant species compatible with native plant species. Nevertheless, Alternative 1.5 would similarly require implementation of **MM UF-2**, requiring preparation of a detailed landscape plan as part of each proposed phase. As a result, each phase would be landscaped, irrigated, and maintained with a diverse mix of tree species that would individually and cumulatively provide significant urban forest value and restore and enhance urban forest values lost through construction. With implementation of this measure, Alternative 1.5 would ensure recovery or even enhancement of the Zoo's, and the City's urban forest such that a net loss of urban forestry resources would not occur. While the area of impact to urban forests under Alternative 1.5 would be lessened compared to the Project, impacts would similarly be *less than significant with mitigation*.

Geology and Soils

GEO-1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earth fault or strong seismic ground shaking?

As described in Section 3.7, *Geology and Soils*, the Project site is located within seismically active region of Southern California and would potentially be exposed to moderate to strong seismic ground shaking in the event of an earthquake on a nearby fault (e.g., Hollywood Fault, Verdugo Fault, Raymond Fault). A strong earthquake could result in substantial damage to older existing structures and infrastructure and put visitors and employees in danger from ground shaking and structural damage/collapse. Similar to the proposed Project, all new structures constructed at the Zoo under Alternative 1.5 would be required to adhere to the most current building standards of the LAMC and Los Angeles Building Code, which adopts CBC standards by reference with local amendments. Alternative 1.5 would upgrade and/replace older buildings within the Zoo that do not meet current Los Angeles Building Code and CBC building standards and may present a hazard to public safety during an earthquake. In addition, the City is required to prepare and submit a site-specific geotechnical report for review and approval by LADBS prior to the issuance of a grading or a building permit. Alternative 1.5 would facilitate the construction of new buildings that meet the most current and stringent seismic requirements, thus reducing the level of risk within each planning area and at the Zoo as a whole, compared to existing conditions. Therefore, compliance with the Los Angeles Building Code, CBC, and adherence to the design recommendations detailed in site-specific geotechnical studies would reduce Alternative 1.5 impacts related to seismic ground shaking to *less than significant*, similar to the proposed Project.

GEO-2: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

As described in Section 3.7, *Geology and Soils*, geologic hazards, including liquefaction hazards, within the Project site are dependent upon the type of foundation, the structural design of the building, and the as-graded compaction and stability of the soil on which a structure is built. Alternative 1.5 would facilitate upgrades and replacement of older buildings throughout the Zoo that do not meet current Los Angeles Building Code and CBC building standards and may present a geologic hazard to public safety. Similar to the Project, Alternative 1.5 would involve the construction of new multi-story buildings with subterranean structures (e.g., Treetops Visitor Center kitchen). To address geologic hazards, all new structures constructed in the Zoo would be required to adhere to the most current and stringent seismic requirements building standards of the LAMC and Los Angeles Building Code, which adopts CBC standards by reference with local amendments. Adherence to the LAMC and Los Angeles Building Code requirements would ensure the maximum practicable

protection available for all structures constructed within the Project site. The site-specific geotechnical report required for review and approval by the LADBS would identify additional design requirements for structures and foundations to maintain structural integrity to the maximum extent feasible. With **MM GEO-1** to ensure geotechnical investigations are completed for each phase of Alternative 1.5 development and that engineering techniques and technologies are integrated into final Zoo development plans, impacts related to ground failure would be the same as the proposed Project and *less than significant with mitigation*.

GEO-3: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The 2019 geotechnical investigation prepared for the Project concluded that the Project site is not located in an area considered susceptible to large-scale landslides (refer to Section 3.7, *Geology and Soils*; see Appendix J). However, some slopes along the western and northern portions of the site were observed to expose weathered and fractured bedrock and may be subject to small to moderate-sized rockfalls. Alternative 1.5 would substantially avoid new development within the Africa planning area, which is located on and adjacent to these exposed rock slopes. However, new development under Alternative 1.5 would still occur at the base of the California planning area hillside directly adjacent to existing developments. Further, under Alternative 1.5, excavation for the Condor Canyon and other ground-disturbing construction techniques that would produce vibrations (e.g., jackhammering, drilling, blasting, and pile installation) would still occur. Therefore, while reduced, the potential for damage associated with landslides would remain. Per **MM GEO-1**, these slopes would be observed, mapped, and further evaluated for Alternative 1.5 components proposed adjacent to exposed rock slopes or if cuts slopes are planned in bedrock areas (e.g., California planning area). Therefore, Alternative 1.5 impacts related to landslide risks would be similar to the Project and *less than significant with mitigation*.

GEO-4: Would the project result in substantial soil erosion or the loss of topsoil?

Alternative 1.5 construction would result in reduced impacts to soil erosion and loss of topsoil due to the substantial avoidance of new development within presently undeveloped areas of the Zoo campus. Specifically, Alternative 1.5 would avoid 6 acres of undeveloped areas with native topsoil in the Africa planning area as compared to the proposed Project and eliminate the need for excavation activities associated with construction of the aerial tram and possibly the parking structure. However, Alternative 1.5 implementation would still result in the limited potential for erosion due to excavation activities during construction, similar to the Project. Excavation activities for construction of Treetops Visitor Center subterranean kitchen and installation of the stormwater collection system would disturb and loosen soils, resulting in the potential for erosion, especially during rain events. As with the proposed Project, Alternative 1.5 implementation would require preparation of a SWPPP to obtain a NPDES stormwater permit from SWRCB in accordance with the federal Clean Water Act. All Alternative 1.5 components would be required to comply with all BMPs identified within the

SWPPP and the City's Stormwater and Urban Runoff Pollution Control Ordinance (Chapter VI Article 4.4 of the LAMC) to address soil erosion and control the discharge of pollutants, including sediment, into the local surface water drainages. With adherence to existing state and local regulations that address soil erosion, Alternative 1.5 impacts potentially resulting from erosion or loss of topsoil would be similar to the Project and *less than significant*.

GEO-5: Would the project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

During Alternative 1.5 construction phases, excavation for California's Condor Canyon, Treetop Visitor Center's subterranean kitchen, and the stormwater collection system may loosen exposed soils or slopes, potentially causing instability within the excavation site or compromised stability for adjacent properties. Similar to the proposed Project, adequate sloping or shoring of soils would be necessary to provide structural support for neighboring buildings to prevent soil collapse during excavation. All excavation activities associated with Alternative 1.5 would be required to adhere to mandatory regulations set forth by CalOSHA to ensure the safety of construction workers during excavation, and the Los Angeles Building Code, and CBC to ensure stable excavations and cut or fill slopes.

Alternative 1.5 would upgrade and replace outdated facilities at the Zoo that do not meet current Los Angeles Building Code and CBC building standards and may present a hazard to public safety during an earthquake. All new structures under Alternative 1.5 would be constructed to meet the most current and stringent building safety requirements, thus reducing the level of risk on a site and within the Zoo as a whole, compared to existing conditions. Therefore, compliance with the Los Angeles Building Code, CBC, and adherence to the design recommendations detailed in site-specific geotechnical studies would address potential impacts related to unstable soils.

Similar to the proposed Project, groundwater dewatering may be necessary for construction of subterranean structures, such as the Treetops Visitor Center subterranean kitchen and the stormwater collection system. In cases where there is a high or perched groundwater table where the floor of subterranean structure encounters the groundwater table, ongoing groundwater dewatering may be necessary to prevent the percolation or inflow of groundwater into excavation pits and future basement levels. If the dewatering of groundwater is necessary, a dewatering permit from the RWQCB would be obtained (refer to Section 3.10, *Hydrology and Water Quality*).

Additionally, the site-specific geotechnical report for each phase of development would evaluate site-specific geotechnical hazards and soil stability and would be required to identify building design requirements to ensure soil stability to the maximum extent feasible. The geotechnical report would also be required to identify known historic groundwater levels onsite and identify measures to address groundwater impacts such as dewatering during

construction as needed to protect against water contact and to minimize the seeping of water into the subterranean structure. All recommendations and design features in the geotechnical report are required to be incorporated into the building design for Alternative 1.5 components, similar to the Project. With **MM GEO-1**, these required geotechnical investigations would be completed for each phase of Alternative 1.5 development and engineering techniques and technologies would be integrated into final Zoo development plans. Implementation of **MM GEO-1** would ensure impacts are similar to the Project and *less than significant with mitigation*.

GEO-6: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As described in Section 3.7, *Geology and Soils*, there are two sedimentary units beneath the Project site with Moderate to High potential to contain significant paleontological resources, specifically within the Africa planning area. Implementation of Alternative 1.5 would reduce impacts to paleontological resources as this alternative would substantially avoid development of the existing undeveloped hillsides within the proposed Africa planning area. While highly unlikely, the potential remains for construction under Alternative 1.5 to encounter and impact significant paleontological resources, similar to the Project. Therefore, Alternative 1.5 would implement **MM GEO-2** and **MM GEO-3**, which would include monitoring of ground disturbing activities for discovery of fossil specimens as well as subsequent collection, preparation, and permanent deposition in a designated repository of fossil specimens. These actions would preserve paleontological resources that would otherwise be permanently lost and, similar to the Project, would reduce Alternative 1.5 impacts to *less than significant with mitigation*.

Greenhouse Gas Emissions

GHG-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment? Would the proposed Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

GHG emissions would be substantially reduced under this alternative, as elimination of the parking structure and implementation of the PVMP together would sharply limit projected increases in visitation, increases in VMT, and associated mobile-sourced GHG emissions compared to the Project. In addition, new development would be reduced by 6 acres when compared to the proposed Project, which would commensurately decrease Zoo capacity for visitation. With less development, grading and excavation required for building construction would be lessened under this alternative, which would decrease emissions from heavy construction equipment. Alternative 1.5 would also result in a slight decrease in emissions generated onsite from Zoo operations, as energy, water, and other utilities would

not be needed for the aerial tram and exhibit spaces that would not be built in the Africa planning area.

Similar to the proposed Project, Alternative 1.5 would contribute to the expansion of renewable energy infrastructure by installing 70,000 square feet of rooftop solar panels, in addition to the separate LADWP project that would provide up to 163,000 square feet of solar panel coverage in the Zoo's northern parking lot. Additionally, similar to the Project, Alternative 1.5 would provide high-efficiency lighting and amenities throughout the Zoo property and in the parking lots and parking structure. Similar to the Project, these components of Alternative 1.5 would reduce operational GHG emissions compared to business-as-usual. Alternative 1.5 would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Implementation would not interfere with any statewide or regional initiatives to reduce GHG emissions associated with the energy production sector. This impact would be slightly less than the proposed Project and *less than significant*. Though not directly required to reduce impacts associated with GHG emissions, **MM UF-1**, **MM UF-2**, **MM HYD-2**, **MM T-2**, **MMT-3**, and **MM UT-1** would result in further reductions in overall GHG emissions generated by Alternative 1.5 and/or consistency with applicable plans, policies, and regulations adopted with the intent of reducing GHG emissions.

Hazards and Hazardous Materials

HAZ-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Under Alternative 1.5, impacts related to hazards and hazardous materials would be similar to the proposed Project. Similar to the proposed Project, construction for Alternative 1.5 implementation would require transportation, use, storage, and disposal of small quantities of commercially available hazardous materials, which would be handled in compliance with federal, state, and local regulations pertaining to their transport, use, or disposal. As such, the potential for hazardous materials release would be limited to disturbance of contaminated soil during ground-disturbing activities and accidental spill of chemicals, petroleum, oils, and lubricants within the construction staging areas on the Project site or transportation routes. However, due to the slight reduction in extent and duration of construction activities, construction of Alternative 1.5 would result in slightly reduced potential for hazardous materials spills or exposure. Compliance with federal, state, and local regulations related to the safe transportation of hazardous materials as well as oversight by the appropriate federal, state, and local agencies would minimize the risk of hazardous materials exposure during transport, similar to the Project. Additionally, ACM, LBP, contaminated soils, or other hazardous material encountered during demolition or construction activities would be handled and disposed of in compliance with all pertinent federal, state, and local regulations for the handling of such waste. Therefore, construction associated with Alternative 1.5

implementation would result in *less than significant* impacts with regard to the transport of hazardous materials and disposal of hazardous wastes, similar to the proposed Project.

All hazardous materials used onsite for operation of Alternative 1.5 would be subject to all applicable regulations and documentation for the handling, use, and disposal of such materials consistent with all appropriate federal, state, and local regulations and standards established by the U.S. EPA, CalEPA, SCAQMD, Los Angeles County, and the City to protect the public health and safety. As required, appropriate permits, worker training, and agency inspections would be obtained and provided. Implementation of standard good housekeeping measures, BMPs, site maintenance, and security precautions, as well as compliance with standards and regulations would ensure potential impacts related to the routine transport, use, or disposal of hazardous materials are similar to the Project and *less than significant*.

HAZ-2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involved in the release of hazardous materials into the environment?

As described in Section 3.9, *Hazards and Hazardous Materials*, the Project site is located near multiple regulated hazardous material sites, including one leaking UST with a closed status near the southern parking lot and one Superfund cleanup site that extends to the north of the Autry Museum and is undergoing continuing cleanup and investigation activities. Construction of the parking and circulation improvements (e.g., improvements to the intersection of Zoo Drive & Western Heritage Way, realignment of Western Heritage Way/Crystal Springs Road, construction of the multi-story parking structure) would be located nearest these sites. It is unlikely that existing contaminants identified on other nearby sites would have an impact on the Project site, due to distance, hydraulic gradient in relation to the Project site, or due to past cleanup efforts.

Similar to the proposed Project, ground-disturbing activities (i.e., excavation, trenching, grading) during proposed improvements to Condor West, the Construction Shop and Support area, and the Gottlieb Animal Health and Conservation Center under Alternative 1.5 has the potential to disturb historic contaminated soil and hazardous vapors associated with the fueling station located within the visitor-restricted Zoo Construction Shop and Support area. However, since Alternative 1.5 would not include development of most undeveloped hillsides in the Africa planning area, this alternative would result in reduced potential for hazardous materials release associated with vapor migration from the fueling station. Implementation of **MM HAZ-1** would require a Phase II ESA to evaluate the presence of hazardous soil contamination and vapor intrusion in the vicinity of the existing fueling station, the southern parking lot, and north of the Autry Museum prior to demolition and grading activities. In the event that the Phase II ESA identifies soil and/or groundwater contamination at or above regulatory levels, implementation of **MM HAZ-2** would require remediation activities prior to the issuance of grading permits to ensure no adverse impacts from exposure to soil contamination. Similar to the Project, ACM, LBP, contaminated soils, or other hazardous material encountered during demolition or construction activities would be disposed of in

compliance with all pertinent federal, state, and local regulations for the handling of such waste. Implementation of **MM HAZ-1**, which would require the Phase II ESA to identify the potential presence of ACM and LBP in the buildings proposed for demolition or renovation, would reduce potentially hazardous waste impacts, similar to the Project.

Under the Project, development of the proposed aerial tram and funicular at the Zoo would increase the potential for safety hazards associated with engineering functions. However, since Alternative 1.5 implementation would not include development of the aerial tram this alternative would reduce the potential for safety hazards as compared to the proposed Project. Design, construction, operation, and maintenance of the California planning area's funicular would comply with the current American National Standard for Funiculars–Safety Requirements (ANSI B77.2). Implementation of the current engineering design and operational standards for the proposed funicular would ensure there are no near-term or long-term safety impacts associated with operation of these structures. Therefore, incorporation of the funicular at the Zoo under Alternative 1.5 would result in no significant impacts on safety, similar to the proposed Project.

With mitigation to address potential soil contamination and ACM and LBP within older structures during demolition and excavation, impacts to hazardous materials would be similar to the Project and *less than significant with mitigation*.

HAZ-3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Similar to the proposed Project, Alternative 1.5 would include construction involving the use of commercially available potentially hazardous materials in the immediate vicinity of the Zoo Magnet Center (i.e., circulation and parking improvements and Zoo Entry renovation in Phase 1). However, all construction activities associated with Alternative 1.5 would comply with applicable federal, state, and local regulations relating to protection of the public and the environment from exposure to hazardous materials. Further, **MM HAZ-1** would require the preparation of a Phase II ESA to ensure no adverse impacts related to hazardous emissions or spills would occur during implementation of Alternative 1.5. As such, construction impacts related to hazardous emissions and hazardous materials, substances, and waste within 0.25 miles of a school would be similar to the Project and *less than significant with mitigation*. After construction is complete and the heavy equipment is removed from the Project site, the potential for hazardous spills would be low and similar to existing conditions at the Project site. Therefore, operational impacts related to hazardous emissions and hazardous materials, substances, and waste within 0.25 miles of a school would be similar to the Project and *less than significant*.

HAZ-4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

As described in Section 3.9, *Hazards and Hazardous Materials*, while the Project site is included on several databases for its operation as a small quantity generator of hazardous waste, the Zoo is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Alternative 1.5 would include the reconfiguration of Crystal Springs Drive along the periphery of the Zoo parking lots, which would potentially affect the area adjoining a listed leaking UST site. As such, ground-disturbing activities associated with grading for the reconfigured road would increase the risk of disturbing potentially contaminated soil. Similar to the Project, **MM HAZ-2** would be implemented to ensure any contaminated soils are properly removed, handled, and transported to an appropriately licensed disposal facility, in accordance with local and state regulations. With implementation of **MM HAZ-2**, near-term and long-term construction activities would have a *less than significant* impact to sites included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and as such, would not create a significant hazard to the public or the environment, similar to the Project.

HAZ-5: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Zoo maintains emergency preparedness procedures in the event of an emergency and/or evacuation in accordance with the AZA accreditation standards. Similar to the proposed Project, all buildings and structures under Alternative 1.5 would be constructed in compliance with the applicable state and City building, fire, and emergency access codes to meet current fire protection standards. Alternative 1.5 does not propose changes, obstructions, or reconfigurations to public evacuation routes, so Alternative 1.5 would not result in physical interference or impairment to implementation of this existing emergency and evacuation plan. While construction activities associated with Alternative 1.5 would add vehicles (e.g., construction equipment, worker vehicles, etc.) to regional and local roads that could increase congestion, emergency access would be maintained during construction with implementation of **MM T-1**, which would require preparation and implementation of a Construction Traffic & Access Management Plan for each phase of Alternative 1.5 (refer to Section 3.15, *Transportation*). Therefore, similar to the Project, Alternative 1.5 would not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts would be *less than significant*.

Hydrology and Water Quality

HYD-1: Would the project violate any water quality standards or waste discharge requirements or otherwise degrade water quality?

Alternative 1.5 would reduce ground disturbance by approximately 6 acres within the Africa planning area. In addition, Alternative 1.5 would eliminate excavation and grading associated with the multi-level parking structure and the footings of the Zoo aerial tram. As a result, Alternative 1.5 would reduce potential for soil erosion, sediment transport, and disturbance of soil contamination compared to the Project. However, Alternative 1.5 would still involve substantial earthwork activities, including excavation for installation of the proposed underground stormwater management system and excavation of California Condor Canyon, which would disturb soils and increase the potential for soil erosion and sediment transport into the Los Angeles River during periods of rainfall or runoff. Similar to the Project, Alternative 1.5 would be required to implement construction BMPs to address soil erosion, including topsoil mobilization and loss, and urban runoff in compliance with the City's Stormwater and Urban Runoff Pollution Control Ordinance (Chapter VI Article 4.4 of the LAMC). All stormwater generated during construction would continue to be directed either to the Zoo's existing storm drain system and Zoo Wastewater Facility (or to the proposed stormwater collection system for the respective area for each completed phase) in the near-term phases, or the proposed stormwater capture system in the long-term phases, similar to the proposed Project. The Zoo Wastewater Facility would continue to remove silt and grit from the stormwater before discharging to the City's North Outfall Sewer for treatment at the LAGWRP, significantly reducing or eliminating any sediment and polluted runoff generated during construction that would flow into the existing or proposed stormwater system. In addition, implementation of **MM HYD-1** through **MM HYD-3** requires preparation of a stormwater management plan to determine the appropriate sequencing of improvements, preparation of a SWPPP, and implementation of standard construction BMPs, and timing of construction to avoid adverse effects of seasonal storms, which would avoid potential for mobilization of sediments and typical construction pollutants during all phases of Alternative 1.5 construction. Implementation of these measures would reduce associated impacts on water quality from earthwork and typical construction activities similar to the Project and would be *less than significant with mitigation*.

Similar to the Project, ground disturbing activities associated with improvements to Condor West, the Construction Shop and Support area, and the Gottlieb Animal Health and Conservation Center (Phase 4) have the potential to degrade surface water quality through the disturbance of potentially contaminated soil (see also, *Hazards and Hazardous Materials* for Alternative 1 above). Additionally, realignment of Western Heritage Way/Crystal Springs Road and installation of traffic signals and potential intersection lane improvements (e.g., road widening and sidewalk improvement) during Phase 1 could disturb potential contamination from equipment leaks or spill of stored hazardous chemicals or leaks from the USTs located at or adjacent to the Zoo's storage yard at the southern parking lot and Autry

Museum (refer to *Hazards and Hazardous Materials* above). However, implementation of **MM HAZ-1** and **MM HAZ-2** would require a Phase II ESA to evaluate the presence of hazardous soil contamination and vapor intrusion in the vicinity of the existing fueling station, the southern parking lot, and north of the Autry Museum, and remediation activities if necessary to ensure no adverse impacts from exposure to soil contamination. Therefore, with these measures, potential impacts to water quality from soil contamination would be similar to the Project and *less than significant with mitigation*.

Operation of the Zoo during implementation of Phases 1 through 3 (through 2029) would result in pollutant discharges and runoff similar to existing conditions, which would be captured and treated by the Zoo Wastewater Facility and the LAGWRP prior to discharge to the Los Angeles River. Following Phase 3, all surface runoff and stormwater within the Zoo would be directed to the proposed onsite stormwater management system and proposed LID features to capture, treat, and reuse stormwater onsite. Similar to the proposed Project, the stormwater collection system is also proposed to allow retention and reuse of stormwater for irrigation at the Zoo to reduce annual irrigation water demands (refer to Section 3.16, *Utilities*). The stormwater capture and retention system as proposed does not include pre-treatment or other LID measures to treat the runoff that would be reused for irrigation of the Zoo, resulting in the potential to unnecessarily contribute pollutants captured within the system back into the Zoo drainage system. Implementation of **MM HYD-6** would require the Zoo to install pre-treatment and LID features to treat water within the stormwater collection system and remove pollutants prior to reuse for irrigation.

Similar to the proposed Project, the proposed stormwater collection system under Alternative 1.5 would be designed to capture 100 percent of stormwater runoff generated during a typical 2-year, 24-hour rainfall event. During larger storm events when capacity of the stormwater collection system is exceeded, stormwater would overflow to the Zoo Wastewater Facility and undergo the same level of treatment as occurs under existing conditions. Implementation of the stormwater collection system and proposed LID features would improve the water quality within the Zoo drainage area during operation of the Zoo to the same extent as the proposed Project (refer to Section 3.10, *Hydrology and Water Quality*). With implementation of **MM HYD-6**, stormwater impacts would be similar to the Project and *less than significant with mitigation*.

HYD-2: Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Similar to the proposed Project, Alternative 1.5 would continue to use the LADWP water supply and would not draw from local groundwater. As Alternative 1.5 would substantially avoid new development within the presently undeveloped Africa planning area, this alternative would result in a reduced footprint of impervious surfaces compared to the

proposed Project. Therefore, Alternative 1.5 would maintain the existing rate of percolation onsite more so than the proposed Project, and this alternative's effects on groundwater recharge would be incremental. Therefore, Alternative 1.5 implementation would not have an adverse effect on groundwater recharge and impacts to groundwater infiltration would be *less than significant*, similar to the Project.

Groundwater at the Project site and immediate vicinity may be contaminated due to a former leaking UST and Superfund cleanup site in proximity to the Zoo's parking lot and Western Heritage Way, as well as from fueling dispensers, USTs, and associated piping within the Zoo Construction Shop and Support area and existing storage yard (refer to Section 3.9, *Hazards and Hazardous Materials*, for further discussion of the potential groundwater contamination onsite). Implementation of **MM HAZ-1** would require the City to prepare a Phase II ESA to determine whether contamination exists and, if so, the extent of contamination within the Project site. If contaminants are detected in soil at or above regulatory levels, then the results of the soil sampling shall be reviewed and acted upon by the LAFD and other regional or state regulatory agencies as needed. Therefore, Alternative 1.5 impacts to groundwater contamination on- and offsite would be similar to the Project and *less than significant with mitigation*.

The potential to encounter groundwater under Alternative 1.5 is limited, similar to the Project, particularly on hillsides in the Africa planning areas where depth to groundwater is greater than interior canyon areas of the existing Zoo. As no development is proposed within the hillsides in the Africa planning area, the potential for groundwater intrusion or contamination is very low in this area. Groundwater dewatering may still be necessary for the construction of subterranean structures in areas with a high groundwater table (e.g., Treetops Terrace subterranean kitchen). Without the parking structure or Zoo aerial tram footings, the potential to encounter groundwater is reduced. In cases where there is a high or perched groundwater table where the floor of subterranean structure encounters the groundwater table, ongoing groundwater dewatering may be necessary to prevent the percolation or inflow of groundwater into excavation pits and future basement levels. If dewatering is necessary, the City would obtain a dewatering permit from the Los Angeles RWQCB in compliance with existing RWQCB regulations and the requirements of the NPDES permit program. A geotechnical report for each phase (required under **MM GEO-1**) would be required to identify known historic groundwater levels onsite and identify measures to address groundwater impacts such as dewatering during construction as needed to protect against water contact and to minimize the seeping of water into the subterranean structure. All recommendations and design features in the geotechnical report are required to be incorporated into the final building design. Therefore, impacts on groundwater quality and recharge from Alternative 1.5 implementation would be similar to the Project and *less than significant with mitigation*.

HYD-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite? Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?

As Alternative 1.5 would substantially avoid new development within the undeveloped Africa planning area and would eliminate construction of the multi-level parking structure, this alternative would reduce alteration of the onsite drainage pattern as compared to the proposed Project. Nevertheless, alteration of the onsite drainage pattern would still occur through excavation, grading, and installation of the proposed stormwater collection system within existing developed areas of the Zoo, and minor increases in development and impervious surfaces. Generally, all Alternative 1.5 construction activities, particularly those involving substantial soil excavation, would result in exposure of soils and would cause minor alterations to onsite drainage, including the potential for temporary ponding during storm events. However, all Alternative 1.5 components would be required to comply with the Stormwater and Urban Runoff Pollution Control Ordinance (Chapter VI Article 4.4 of the LAMC) to address soil erosion, including topsoil mobilization and loss, and urban runoff. Further, all stormwater generated during construction would continue to be directed either to the Zoo's existing storm drain system in the near-term phases, or the proposed stormwater capture system in the long-term phases. Compliance with existing City regulations as well as implementation of **MM HYD-1** through **MM HYD-3** would reduce soil erosion impacts of Alternative 1.5 to *less than significant with mitigation*.

While not expected, if dewatering of groundwater is required based on onsite groundwater depth in some phases, it would be accomplished in accordance with Los Angeles RWQCB's Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (refer to Impact HYD-2). Construction activities would alter onsite drainage, subject to requirements to control water quality and stormwater flows but would not alter drainage patterns or amounts offsite to the Zoo Wastewater Facility or the Los Angeles River; therefore, similar to the Project, construction activities associated with Alternative 1.5 would result in a *less than significant* impact.

Following construction, Alternative 1.5 would not increase the potential for soils to be subject to wind or water erosion. Implementation of **MM HYD-4** through **MM HYD-6** would require preparation of an O&M Plan, application of gorilla mulch over landscaped areas, and pre-treatment, filtering, and other LID features as part of the stormwater collection system to ensure continued water quality benefits from the LID features and the stormwater collection system. Similar to the proposed Project, Alternative 1.5 would result in beneficial impacts to soil erosion associated with reducing surface runoff and directing all stormwater runoff into the proposed stormwater collection system, rather than conveying runoff to the

Los Angeles River. With adherence to existing state and local regulations and mitigation measures that address soil erosion, impacts to receiving waters potentially resulting from erosion would be similar to the Project and *less than significant with mitigation*.

Alternative 1.5 would result in a smaller increase in impervious surfaces onsite as compared to the proposed Project due to avoidance of development of 6 acres of undeveloped hillside area in the Africa planning area. However, similar to the Project, Alternative 1.5 would include substantial stormwater retention and treatment facilities onsite to accommodate stormwater runoff and avoid on and offsite increases in flooding, consistent with the requirements of the City's Stormwater and Urban Runoff Pollution Control Ordinance (LAMC Article 4.4) and the SWRCB's Post-Construction Requirements. Similar to the Project, the proposed onsite stormwater management system under Alternative 1.5 would be designed to capture stormwater runoff, reduce peak flows, and reduce flow to the Zoo Wastewater Facility and ultimately the Los Angeles River. The remaining runoff not captured by the stormwater management system would be from the parking lots, which drain into existing LID features for onsite treatment prior to flowing to the Los Angeles River. The increase in pervious surfaces under Alternative 1.5 and additional point and non-point source water retention features (e.g., vegetated retention basins and pervious paving) would further slow and retain surface flows. Overflows of the stormwater management system would be directed to the Zoo Wastewater Facility. Following desilting and grit removal at the Zoo Wastewater Facility, stormwater would continue to be discharged to the North Outfall Sewer, which would direct water to the LAGWRP, similar to existing conditions for all stormwater within the Zoo. Since the volume of stormwater directed to the Zoo Wastewater Facility would be substantially reduced when compared to existing conditions, the Zoo Wastewater Facility's total capacity of 1.8 million gallons would be adequately sized to accommodate overflow runoff from the Zoo. As such, stormwater would be adequately managed, maintained, and attenuated through on- and offsite stormwater control features, which are designed consistent with the requirements of the City Stormwater and Urban Runoff Pollution Control Ordinance and SWRCB Post Construction Requirements. Therefore, similar to the proposed Project, Alternative 1.5 impacts to onsite and offsite flooding would be *less than significant*.

HYD-4: Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Alternative 1.5 would result in a smaller increase in impervious surfaces due to the avoidance of new development of 6 acres within the Africa planning area, thereby resulting in a smaller increase in stormwater runoff at the Zoo. The reduction in new development on presently undeveloped areas would increase infiltration and reduce surface runoff onsite. Additionally, implementation of the proposed stormwater collection system would substantially reduce stormwater runoff and peak flow by capturing and storing all rainfall from the Zoo and the 79.7-acre hillside area adjacent to the Zoo for reuse onsite as irrigation water. Additional LID features, such as bioretention cells and vegetated bioswales, would be incorporated during

final design of the planning areas to retain runoff and increase infiltration. The substantial reduction in surface runoff and peak flow would result in beneficial impacts to water quality, as the reduced volume and velocity of stormwater flows would reduce the rate of soil erosion and sedimentation.

Implementation of the proposed stormwater collection system would reduce the volume of discharge to the Zoo Wastewater Facility; therefore, this system would not be exceeded during the 2-year or the 100-year storm events. Implementation of the proposed stormwater collection system would also reduce the volume of discharge from the Zoo Wastewater Facility to the City's North Outfall Sewer. The Zoo Wastewater Facility would continue to hold animal pond water and overflow stormwater from the Zoo until the demand for wastewater discharge is low (i.e., nighttime). Thus, the Zoo Wastewater Facility would prevent exceedance of the North Outfall Sewer's capacity. Therefore, similar to the proposed Project, implementation of the stormwater collection system would result in beneficial and *less than significant* impacts to existing stormwater drainage systems.

Land Use and Planning

LU-1: Would the project cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Alternative 1.5 would not cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Similar to the proposed Project, this alternative would promote energy conservation and efficiency, develop photovoltaic energy and water recycling (see Impact En-1, Impact En-2 and Impact AQ-1). With implementation of **MM TRANS-2**, Alternative 1.5 would include TDM measures and improvements to transit and active transportation services and infrastructure that would better align with the VMT reduction and land use planning goals of the SCAG 2016 RTP/SCS. Alternative 1.5 would protect native vegetation communities and hundreds of native trees due to the avoidance of 6 acres of development on the Africa planning area hillsides. Further, Alternative 1.5 would develop and implement a new set of design guidelines that include landscape design guidelines prioritizing the use of native plant species, preserving existing specimens and habitats with protected status and significant ecological function/importance, and planting additional native plants species. These guidelines would support native habitat restoration and ecosystem health. As a result, Alternative 1.5 would preserve an estimated 135 native trees and 66 native shrubs protected and regulated under the existing City Tree Preservation Ordinance and Protected Tree Code Amendment (refer to *Urban Forestry Resources*). Implementation of required mitigation measures, proposed additional design guidelines, and elimination of the multi-story parking structure and Zoo aerial tram would help ensure Alternative 1.5's consistency with the SCAG RTP/SCS, Los Angeles General Plan, Hollywood Community Plan, L.A.'s Green New Deal, and LAMC, as well as the Vision Plan for Griffith Park as it applies to areas outside of Zoo

property. Therefore, similar to the proposed Project, land use impacts from Alternative 1.5 would be *less than significant with mitigation*.

Noise and Vibration

NOI-1: Would the proposed Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Alternative 1.5 construction would generate reduced noise levels as compared to the proposed Project due to avoidance of development of the Africa planning area hillside and elimination of the multi-level parking structure and Zoo aerial tram as major development projects. The most perceptible levels of construction noise would likely occur during Phase 1 when the Zoo Entry and California planning area improvements are underway, including grading, excavation, potential blasting, and building construction, concurrent with improvements to the Zoo's southern parking lot, realignment of Western Heritage Way/Crystal Springs Road, and the Zoo Drive & Western Heritage Way intersection. Similar to the proposed Project, there are no residential sensitive receptors in the vicinity. The building construction activity would be the loudest phase of construction and would generate a noise level of approximately 86.2 dBA L_{eq} at 50 feet. Equipment noise levels during general construction activities would exceed 75 dBA L_{eq} at nearby sensitive receptors during Phases 1, 2, 3, 5, and 6. During Phase 1, the Zoo Magnet Center and the Wilson and Harding Golf Courses would experience noise level above 75 dBA L_{eq} (Table 3.12-9). However, without the potential pile driving activity associated with the aerial tram, the Wilson and Harding Golf Courses would not experience noise levels above 75 dBA L_{eq} , resulting in reduced noise levels under Alternative 1.5.

Similar to the Project, **MM NOI-1** through **MM NOI-5** would substantially reduce construction noise levels. The equipment mufflers associated with **MM NOI-1** would reduce construction noise levels by approximately 3 dBA. **MM NOI-2** through **MM NOI-4**, although difficult to quantify, would also reduce and/or control construction noise levels. **MM NOI-4** would require coordination with the construction contractor and the coordinator of the Zoo Magnet Center to avoid disruption to classroom instruction. **MM NOI-5** would reduce construction noise levels by approximately 10 dBA at the Zoo Magnet Center by installing temporary noise barriers around the facility. Similar to the proposed Project, with implementation of these measures, noise levels would be reduced to approximately 66 dBA L_{eq} at the exterior of the school, which would be below the 75 dBA L_{eq} standard. Therefore, Alternative 1.5 impacts related to construction noise would be similar to the Project and *less than significant with mitigation*.

Stationary noise sources introduced under Alternative 1.5 would be similar to existing noise sources. Stationary noise sources include Zoo visitors conversing in the park, noise from animals, noise related to special events, mechanical equipment noise within the park, service vehicles, the PA system, parking noise, and background music. Zoo attendance and special

events would decrease under Alternative 1.5 compared to the Project. The increased attendance due to Zoo expansion, new Zoo facilities, and Zoo programming may result in increased noise levels and expanded duration of operational noise, including after-hours noise from evening special events or extended hours and noise from vehicle traffic in the Project vicinity. The increase in visitation and associated operational noise impacts under Alternative 1.5 would be slightly less than the proposed Project. **MM NOI-6**, which would require the Zoo to orient shop faces inwards toward Zoo property, is intended to reduce service area noise through thoughtful design. Therefore, Alternative 1.5 impacts related to operational noise from stationary and mobile sources would be slightly less than the proposed Project and *less than significant with mitigation*.

NOI-2: Would the proposed Project result in generation of excessive groundborne vibration or groundborne noise levels?

Alternative 1.5 would implement similar construction and blasting activities as the proposed Project. However, Alternative 1.5 would not involve development of a parking structure or new Zoo aerial tram and would completely avoid the need for pile driving activities and avoid vibration impacts associated with this construction of this feature. As a result, construction associated with Alternative 1.5 would result in reduced vibration levels from the use of typical construction equipment, and impacts would be *less than significant*, similar to the Project.

Similar to the proposed Project, Alternative 1.5 does not include stationary sources of vibration, such as heavy-duty industrial equipment. Regarding additional traffic, the FTA has stated that rubber-tired vehicles do not typically generate perceptible vibration levels outside of the right-of-way. Additionally, Alternative 1.5 would result in reduced vehicle traffic to the Project site, as compared to the proposed Project. There are no operational sources of vibration that would generate vibration levels that exceed 75 VdB. Therefore, impacts associated with operational vibration would be similar to the Project and *less than significant*.

Reduced construction vibration under Alternative 1.5 would also result in reduced potential disturbance of Zoo animals, particularly elephants. As the Zoo has done in the past during construction, measures to protect these animals may include temporary relocation away from construction activities, closure of exhibits, or even the transfer of animals to other zoos. Accommodations specific to each animal would be developed during the planning process for each phase and details would be included in final construction plans. With continued management of each species of animal exhibited or rehabilitated at the Zoo and required compliance with the AWA, there would be no adverse effects on Zoo animals from vibration during construction of Alternative 1.5.

Public Services

PS-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

Due to the reduction in new development in currently undeveloped hillsides within the Africa planning area, this alternative would reduce the potential for ignition risks during construction. While reduced, Alternative 1.5 construction would continue to introduce a potential ignition source for fires (e.g., flammable materials, sparks), particularly within the California planning area, and may create hazardous conditions requiring EMS; however, LAFD maintains fire response and EMS at adequate levels to respond to incidents at the Zoo during Project construction. Construction contractors and work crews would employ “good housekeeping” procedures (e.g., proper maintenance of mechanical equipment and proper storage of flammable or other hazardous materials) and would comply with Cal/OSHA, LAMC Fire Code, and CBC regulations to reduce risk of potential fires, hazardous spills of other conditions during construction that would require fire protection and EMS. Therefore, Alternative 1.5 construction would not require additional firefighting or EMS personnel or new or expanded facilities.

Similar to the proposed Project, construction activities under Alternative 1.5 would result in temporary changes to roadways, access points, and staging areas currently used by LAFD to respond to incidents in the Zoo and nearby areas in Griffith Park. However, Alternative 1.5 would not directly impair designated County or City Disaster Routes along I-5, SR-134, and San Fernando Road, as all development would be contained to the Zoo and roadways serving the Zoo. Implementation of **MM T-1**, requiring a Construction Traffic & Access Management Plan with measures for controlling and ensuring continued access to the Zoo and through the interior of the Zoo circulation system, would address impacts from construction of proposed improvements on emergency access and response.

Under Alternative 1.5, reduced amount of development in the Africa planning area and implementation of the PVMP would reduce increased annual Zoo attendance compared to the proposed Project. The anticipated increase in annual visitation to 2.5 million guests and the hiring of approximately 291 additional staff by 2038 (approximately 22 percent less than under the proposed Project) has the potential to result in increases in the frequency of incidents with commensurate increases in demand for fire protection and EMS from LAFD. Compared to the Project, this alternative would result in reduced potential for emergency incidents. Due to the acceptable response times from Station No. 56, which currently serves the Project site, the LAFD would have adequate resources and personnel to continue to serve the Zoo without needing to expand any facilities or personnel. All Alternative 1.5 components would be constructed in accordance with applicable sections of the LAMC Fire Code and CBC,

which require the provision of adequate emergency access, use of ignition-resistant construction materials, installation of automated fire suppression systems, emergency water supply, and adequate fire flow rates, and appropriate defensible space requirements. Alternative 1.5 would also include emergency evacuation plans, similar to the Project, allowing for quick and safe evacuation of Zoo guests, employees, and Zoo animals in the event of an emergency. Consistent with LAFD standards, this combination of development standards for new development and existing LAFD service capabilities would ensure demands for fire protection and EMS would continue to be met under Alternative 1.5. Therefore, no additional LAFD facilities or personnel would be required to serve Alternative 1.5.

Similar to the proposed Project, Alternative 1.5 would include roadway and circulation improvements (i.e., intersection improvements at Zoo Drive & Western Heritage Way, realignment of Western Heritage Way/Crystal Springs Road, increased parking) to reduce vehicle congestion in the Project vicinity and improve direct access to the Zoo for firefighters and EMS. Improvements to the secondary/exhibit pathway would continue to occur under Alternative 1.5, including the Primary Path Loop for intuitive circulation throughout the Zoo and a new vehicle service entrance and service road, improving service access to and around the perimeter of the Zoo.

Similar to the Project, Alternative 1.5 would not increase demand for LAFD response or require new firefighting equipment or facilities. Further, there would be no significant increase in risk for ignition or reduction in response times or evacuation planning. Therefore, impacts to fire protection and emergency response services would be *less than significant*, similar to the Project.

PS-2: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

As Alternative 1.5 is anticipated to result in 500,000 fewer annual visitors compared to the proposed Project, the increase in demand for additional police protection at the Zoo would be less than the proposed Project. To address anticipated increases in demand for law enforcement services, Alternative 1.5 would include construction of a new 13,000 sf single-story security and first aid center, located within the proposed entry plaza where it would be easily accessible to Zoo guests, and the hiring of additional security personnel to accommodate such needs. Zoo security staff would continue to respond to most incidents at the Zoo, limiting the increased demand for LAPD services. Because Zoo security is provided onsite and would not regularly necessitate responses from community LAPD stations, Alternative 1.5 would not substantially interfere with LAPD response times. Further, Alternative 1.5 would result in reduced impacts to the resident-to-officer ratio of the LAPD.

Further, most jobs associated with the proposed Project are anticipated to be filled by the existing local or regional labor force within the City, surrounding cities, and surrounding Los Angeles region. Therefore, any net population increase spurred by Alternative 1.5 is anticipated to be nominal and would not substantially affect LAPD officer-to-resident ratios.

As described in Section 3.13, *Public Services*, while the Project site is in an area with comparatively low crime rates, has an adequate officer-to-resident ratio, and provides adequate response times, the Zoo currently experiences a relatively high number of vehicle theft/break ins. Similar to the Project, this trend is expected to continue since Alternative 1.5 would maintain the open, publicly accessible parking lot and does not propose measures to limit access or increase patrol or parking lot security. Implementation of **MM PS-1**, requiring the Zoo implement measures to increase security of the Zoo's parking lot areas such as frequent patrolling and installation of additional surveillance cameras, would help to reduce vehicle theft/break in and manage crime within the Zoo, thereby reducing LAPD and Zoo security demands. Further, improvements to Zoo facilities would include modernization of security systems such as access control to buildings, secured parking facilities, walls/fences with key systems, and well-illuminated spaces designed with a minimum of dead space to eliminate areas of concealment.

Existing resources of the LAPD and Northeast Community Police Station are adequate to continue providing acceptable levels of service to the Zoo with Alternative 1.5, similar to the Project. With implementation of **MM PS-1** to address increased law enforcement issues from vehicle theft/break ins, impacts to public safety and police protection services would be similar to the Project and *less than significant with mitigation*.

PS-3: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts?

Alternative 1.5 is anticipated to result in a smaller increase in annual visitation and fewer new jobs compared to the proposed Project, which would reduce overall demands for governmental facilities, including schools. Similar to the proposed Project, Alternative 1.5 would not include residential development, and therefore, would not result in an increased number of school-aged children in the LAUSD. New jobs created under Alternative 1.5 would be filled by the existing local workforce, and, therefore, would not create population growth in the area, thereby increasing demand for public school services. Alternative 1.5 would not result in physical changes to existing LAUSD facilities, including the Zoo Magnet Center, since most Alternative 1.5 improvements would occur within Zoo planning areas inside the Zoo and away from the Zoo Magnet Center campus. However, similar to the Project, Alternative 1.5 would realign Western Heritage Way/Crystal Springs Drive to the perimeter of the southern parking lot and would add approximately 300 guest surface parking spaces in the southern parking lot, immediately adjacent to the Zoo Magnet Center through removal of existing Zoo uses and restriping of parking spaces. While there has historically not been significant conflict

in parking availability for Zoo Magnet Center and Zoo guests, Alternative 1.5 implementation is anticipated to increase daily attendance to the Zoo and substantially increase demand for Zoo parking (refer to Section 3.15, *Transportation*). To ensure parking availability remains for Zoo Magnet Center students and staff and avoid the need for additional facilities to serve school operations, **MM PS-2** would require improvements to the southern parking lot to include designated parking spaces for Zoo Magnet Center school buses and implement parking hour limitations to accommodate 10 teachers, the office administrator, and campus counselor, with an additional reserve space for visitors. Reserved parking stalls would be in effect during hours of Zoo Magnet Center operation. With implementation of this measure, Alternative 1.5 impacts on schools would be similar to the Project and *less than significant with mitigation*.

Recreation

REC-1: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Similar to the proposed Project, Alternative 1.5 would upgrade the Zoo Drive/Western Heritage Way intersection with a new signal in Phase 1. The signalization of this intersection would not affect the mobility of pedestrians, bicyclists, and equestrians along the Main Trail or affect their safety. Therefore, implementation of Alternative 1.5 would result in similar impacts to mobility and safety along the Main Trail compared to the proposed Project and impacts associated with accessibility to recreational resources would be *less than significant*.

Alternative 1.5 would increase Zoo visitation and increase visitor-serving spaces within the Project area, but to a lesser extent than the proposed Project. Expansions and improvements to Zoo facilities under Alternative 1.5 would be contained within existing Zoo boundaries. Thus, Alternative 1.5 would result in no net loss of recreational lands and would not cause direct impacts to recreational facilities within Griffith Park or elsewhere, similar to the proposed Project. Within the Zoo, the proposed Nature Play Park would replace the existing children's playground within the Zoo, named the Papiano Play Park, increase the playground size threefold to 18,300 square feet of a natural play area equipped with play structures and water features, and relocate the park nearby the main entrance. However, under Alternative 1.5, the proposed 2-acre public park to the north of the surface parking lot and therefore would not expand recreational amenities within Griffith Park to the same extent as the Project.

Similar to the proposed Project, Alternative 1.5 would not facilitate indirect population or economic growth within the City or greater region that would place demand on recreation and park services compared to the existing level of service available. New jobs generated by Alternative 1.5 implementation are anticipated to be supplied by the existing local or regional labor force within the City, surrounding cities, and surrounding Los Angeles region. Therefore, any net population increase spurred by Alternative 1.5 is anticipated to be less than

under the proposed Project and nominal. As such, no additional demand on existing recreational facilities or for new recreational amenities is anticipated as a result of Alternative 1.5 implementation, similar to the Project. Therefore, Alternative 1.5 impacts would be *less than significant*.

REC-2: Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Under Alternative 1.5, redevelopment and expansion of existing facilities and the construction of new facilities within the Zoo would improve the recreational value and opportunities provided by the Zoo, to a lesser degree than the proposed Project. Alternative 1.5 implementation would result in impacts to the environment, including adverse effects on air quality, biological resources, cultural and tribal resources, the City's urban forest, geology and soils, hazards and hazardous materials, and transportation. However, Alternative 1.5 would result in reduced impacts due to avoidance of new development within presently undeveloped areas of the Zoo and elimination of the proposed 2-acre public park within the Zoo's northern parking lot. Where potentially significant impacts are identified as they relate to the construction or expansion of recreational facilities, applicable existing regulations or appropriate mitigation is identified which would reduce associated Alternative 1.5 impacts. With implementation of the regulations and required mitigation measures, impacts from the construction or expansion of recreational facilities would be similar to the Project and *less than significant*.

Transportation

T-1: Would the project cause a significant environmental impact due to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

With implementation of a comprehensive TDM Program (**MM T-2**), Alternative 1.5 would align with the VMT reduction goals and objectives within the SCAG's 2016 RTP/SCS, Los Angeles General Plan, Mobility Plan 2035, Hollywood Community Plan, Griffith Park Vision Plan, Green New Deal Plan, and Plan for a Healthy Los Angeles. In addition, implementation of the PVMP would substantially reduce visitation and associated increases in VMT, consistent with the objectives of the above-referenced plans. Alternative 1.5 would be consistent with the plans listed above to a greater extent than the proposed Project due to overall substantial reduction in VMT but would be similar to the proposed Project in terms of multi-modal local and regional transportation policies. Alternative 1.5 would not cause significant environmental impacts due to conflicts with any transportation plan, policy, or regulation, and impacts would be similar to the proposed Project and *less than significant with mitigation*.

T-2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The analysis within this EIR of Alternative 1.5 would be consistent with the requirements of CEQA Guidelines section 15064.3, which requires using VMT as a measure for transportation impacts based on the City's adopted TAG thresholds for increases in VMT for regional uses.

Under Alternative 1.5, construction activities would result in additional VMT in the Project vicinity and on the I-5 and SR-134 freeways, associated with construction materials deliveries, soil import and export, export of demolition debris, and construction workers trips. Construction-related increases in VMT would occur intermittently and would be lower in volume than the construction vehicle trips and VMT associated with the proposed Project. The Construction Traffic & Access Management Plan required under **MM T-1** would further reduce construction VMT impacts through provisional measures to reduce construction traffic and associated VMT.

As described in Section 3.15, *Transportation*, the Zoo is currently isolated from regional and local transit hubs, with only two transit lines (i.e., the new Parkline Shuttle and Metro Line 96) currently serving the Project site. Similar to the proposed Project, Alternative 1.5 would include TDM measures to expand transit service to serve the Project site and encourage the use of transit and active transportation modes by visitors and employees. However, Alternative 1.5 would substantially reduce daily VMT when compared to the proposed Project due to elimination of the parking structure and implementation of the PVMP, which would cap the number of visitors/reservations at the Zoo during peak times. As a result, Alternative 1.5 is estimated to result in an approximately 16.7 percent reduction in total annual Zoo visitation, for a total of 2,500,000 visitors per year, and an approximately 21.8 percent reduction in total Zoo employees, or a total of 861 employees, by buildout in 2038. Based on these percent reductions in visitation and employment, daily visitor VMT on weekends (the highest attendance days) in 2038 is anticipated to be reduced from 136,287 under the proposed Project to approximately 113,527 under Alternative 1.5, prior to mitigation. Daily employee VMT on Mondays and Fridays in 2038 would also be reduced from 24,436 under the proposed Project to 19,109 under Alternative 1.5, prior to mitigation. While the reduced visitation and implementation of **MM T-2** under Alternative 1.5 would result in a reduction in operational visitor and employee VMT when compared to the proposed Project, this alternative's VMT estimates would still exceed the TAG's established net-zero VMT threshold for event centers and regional-serving entertainment venues. Therefore, Alternative 1.5, similar to the proposed Project, would have *significant and unavoidable* impacts related to increased VMT.

T-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Due to the reduced area of development under Alternative 1.5, construction would be reduced in scope and duration, resulting in fewer trucks trips, construction worker vehicle trips, and other construction-related trips along the surrounding street network and I-5 and SR-134 freeways. Therefore, Alternative 1.5 would result in more limited increases in hazards due to a geometric design feature with vehicle, pedestrian, and bicycle safety due to construction traffic. Further, implementation of **MM T-1** would require preparation of a Construction Traffic & Access Management Plan to address construction traffic routing and control, safety, construction parking, and vehicle, bicycle, and pedestrian safety. The Construction Traffic & Access Management Plan would require haul trips to be restricted between 9:00 AM and 2:00 PM to avoid pedestrian safety impacts associated with pick-up and drop-off at the Zoo Magnet Center, and would require construction flaggers, as necessary, to maintain the flow of traffic and allow safe passage for pedestrians across crosswalks and along the Main Trail. Within the Zoo each phase of Alternative 1.5 would be fenced for safety and security, and all construction equipment would be staged within the fenced area. Therefore, Alternative 1.5 construction activities would not result in safety hazards within the Zoo. With the implementation of **MM T-1**, construction-related hazards would be similar to the Project and *less than significant with mitigation*.

Similar to the proposed Project, each development phase under Alternative 1.5 would be required to undergo review by City agencies regarding potential increases in hazards due to geometric design feature of the generally narrow roads and limited capacity intersections within Griffith Park. This would include a review of roadway improvements and operations so that vehicle, bicycle, and pedestrian access are protected while accommodating safe vehicular access. Proposed roadway improvements would protect views of other vehicles, people walking, or people bicycling on the same street and/or restricting the ability of a driver to stop a motor vehicle without danger of an ensuing collision. Design of each development phase would need to be consistent with Mobility Plan 2035 policies, Walkability Checklist standards, and Vision Zero policies, which focus on eliminating existing hazards and designing the transportation network so as to enhance safety of all travel modes. Although Alternative 1.5 implementation would add vehicle trips to the surrounding roadways, this would be a substantial decrease from the proposed Project. Trips would be distributed among multiple streets in the transportation study area, and therefore, would not be considered a traffic hazard.

Similar to the Project, the proposed realignment of Western Heritage Way/Crystal Springs Drive would improve pedestrian safety associated with Zoo Magnet Center students and staff crossing this roadway. The existing driveway serving the overflow parking lot and the Zoo Magnet Center would be eliminated, thereby reducing the potential vehicle and bicycle conflicts at that location. The realigned roadway and south driveway would be engineered to

comply with LADOT standards and designed to intersect the roadway at a right angle to address line of sight, turning radii, spacing, etc. The roadway would also provide necessary sidewalks, crosswalks, and pedestrian movement controls to meet the City's requirements to protect vehicle, bicycle, and pedestrian safety. The overall reduction in vehicle trips and vehicle congestion under operation of Alternative 1.5 compared to the Project would improve safety for bicycles and pedestrians in the Project vicinity. Therefore, impacts related to driving hazards would be similar to the proposed Project and *less than significant*.

Alternative 1.5 would also include beneficial circulation and safety improvements associated with provision of the Primary Path Loop for pedestrians and the separated pedestrian and service roads in the Condor Canyon area. Alternative 1.5 would also eliminate the aerial tram and associated safety impacts. Similar to the Project, Alternative 1.5 improvements to the Zoo's internal circulation would result in reduced beneficial and *less than significant* operational impacts to safety hazards.

T-4: Would the project result in inadequate emergency access?

While Alternative 1.5 would involve demolition, excavation, and construction of roadways, pathways, and access routes both internal and external to the Zoo, construction activities would not disrupt access to primary or secondary designated Disaster Routes along I-5, SR-134, and San Fernando Road. Further, this alternative's phasing plan would limit disruption or obstruction of access and evacuation routes within the Zoo (refer to *Public Services*). Implementation of **MM T-1**, requiring a Construction Traffic & Access Management Plan with measures for controlling and ensuring continued access to the Zoo and through the interior of the Zoo circulation system, would address impacts from construction of proposed improvements on emergency access and evacuation. Alternative 1.5 operation would also not impair adopted County or City mapped Disaster Routes along I-5, SR-134, and San Fernando Road, as all development would be contained within and immediately adjacent to the Zoo. Alternative 1.5 would include improvements to existing roadways and intersections surrounding the Zoo that would improve emergency response and access (refer to *Public Services*). Alternative 1.5 would also include looping circulation system improvements within the Condor Canyon area, creating a beneficial impact but *less than significant* impacts to emergency access, similar to the Project.

Utilities

UT-1: Would the project result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?

Similar to the proposed Project, Alternative 1.5 construction would require water for dust control, equipment cleaning, soil excavation and export, and re-compaction and grading

activities. Water use is conservatively estimated at 2,000 gpd during construction, which would be substantially less than existing water consumption at the Project site, which is estimated to be approximately 107,508,000 gallons per year (approximately 294,542 gpd) and could be accommodated by the existing water infrastructure onsite. Further, due to the reduced extent and duration of construction activities under Alternative 1.5, there would be a reduction in potable water demand as compared to proposed Project construction. Therefore, temporary construction-related impacts associated with water demand and water infrastructure would be less than the Project and *less than significant*.

Alternative 1.5 would require installation of new water lines to replace existing lines and expand to undeveloped areas of the Zoo in the California and Africa planning areas. Alternative 1.5 would connect to the City's water supply system with new laterals installed within the Project site and existing outdated water mains within the Project site would remain protected, capped, and abandoned in place during construction. Construction impacts associated with the installation of laterals, and installation of a new recycled water connection would primarily involve minor trenching onsite. Prior to ground disturbance, all proposed work associated with the water laterals would be subject to review and approval by the City Department of Public Works and all appropriate permits (e.g., public right-of-way permits) would be obtained, as necessary. The construction contractor would be required to notify the City Public Works Department in advance of ground disturbance activities to avoid existing water lines and/or disruption of water service to offsite properties. Therefore, impacts on water infrastructure from construction activities would be similar to the Project and *less than significant*.

During operation, water demand would be less compared to the proposed Project due to the reduced development and associated decreases in annual visitation. Based on the anticipated reduced growth (16.7 percent) that would occur under Alternative 1.5, Alternative 1.5 would increase annual demand for potable water to 120,758,342 gallons per year (371 AFY), which would be 13,250,342 gallons per year (40.7 AFY) over existing conditions. This increase would be approximately 24,209,655 gallons per year less than the proposed Project.

Similar to the Project, the proposed stormwater management system would substantially offset the increased water demand and virtually eliminate the Zoo's irrigation water demand. As described under *Hydrology and Water Quality*, the proposed stormwater management system would be designed to retain 100 percent of flows generated under a 2-year, 24-hour storm event. Based on historic precipitation data for the Los Angeles area, the proposed stormwater system once completed in Phase 3 of Alternative 1.5 would be capable of capturing and retaining 35,000,000 gallons per year (107 AFY) (refer to Section 3.16, *Utilities*) for irrigation of landscaping and exhibit areas, further offsetting increases in annual potable water demand under Alternative 1.5.

Following the completion of Alternative 1.5 construction in 2038, the operational water demand would constitute less than 1 percent of the City's total water supply. The City would be able to serve Alternative 1.5 without additional unplanned new or expanded entitlements

and Alternative 1.5 implementation would not affect the ability of the City to meet its goal to source 70 percent of water locally by 2035 under the Green New Deal pLAN. Potable water demand would be further reduced through compliance with City's Water Efficiency Requirements and Green Building Code (LAMC Chapter XII, Article 5 and Chapter IX, Article 9), **MM UT-1**, and **MM HYD-7**, which would require the use of highly efficient plumbing fixtures, irrigation, and landscaping for new construction, expanded use of recycled water, and installation of efficient irrigation systems for all existing and proposed new landscaped areas within the Zoo. While not required to further reduce impacts from the Zoo's water demand, **MM UT-2** is recommended to include all recommended civil engineering and water efficiency measures recommended in the Appendix (*New Infrastructure: Plumbing*) of the draft Vision Plan.

Though the City's recycled water system has adequate capacity to serve the increase in Zoo recycled water use for irrigation of the parking lot areas, in accordance with the One Water L.A. Plan, **MM UT-1** would require the Zoo to extend recycled water lines throughout the interior areas of the Zoo to provide recycled water for washdown of the animal holding areas, irrigation, and power washers, in the Zoo's exhibits (e.g., treatment systems, ponds, aesthetics/water features, etc.) where feasible, as well as for fire suppression where feasible. Based on the City's current recycled water production capacity of 649,600 AFY and objectives for expanding opportunities for use of recycled water supplies, the City's recycled water system has available capacity to adequately serve the recycled water demands of the Project. Further, those demands would be slightly reduced with the exclusion of 6 acres of exhibit and visitor spaces in the Africa planning area and the 2-acre public park. Expansion of the Zoo's non-potable water use as required by **MM UT-1** would require an additional connection to the City's water recycling system at the existing 8-inch recycled water main at the west end of the Zoo parking lot. The expanded use of recycled water for Zoo operations that do not require potable water quality would further reduce the Zoo's dependence on potable water supplies and implement the Green New Deal pLAN and One Water L.A. Plan. Therefore, similar to the Project, impacts on the City's non-potable (recycled or reclaimed) water supplies would be *less than significant with mitigation*.

UT-2: Would the project result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Similar to the Project, the proposed stormwater management system would result in environmental impacts associated with excavation and trenching of underlying soils, emissions from construction equipment and fugitive dust, construction vehicle traffic, construction stormwater runoff, potential disturbance of archaeological and paleontological resources, and construction-related noise. Detailed analysis of the potential impacts associated with installation of the proposed stormwater system is analyzed in each of the respective resources sections of Section 4.5.3, *Alternative 1.5 – California Focused Conservation*. Alternative 1.5 implementation, along with installation of the stormwater

collection system would also result in or contribute to construction-related impacts to those resources. Mitigation measures necessary to reduce Alternative 1.5 impacts associated with installation of the new stormwater collection system are also identified therein and would be capable of reducing environmental impacts to *less than significant with mitigation*. With regard to impacts from hydrology and water quality, the stormwater collection system would result in beneficial drainage impacts associated with stormwater reuse, similar to the Project.

UT-3: Would the project require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Similar to the Project, the proposed stormwater collection system would capture, convey, and store rainfall from the Zoo and the 79.7-acre hillside area adjacent to the Zoo for reuse onsite as irrigation water. Therefore, while Alternative 1.5 implementation would generate increased stormwater within the Zoo property due to the addition of impervious surfaces, the proposed stormwater collection system would substantially reduce flow to the Zoo Wastewater Facility. Since the Zoo Wastewater Facility would receive only overflow stormwater from flows greater than the 2-year, 24-hour storm event, the volume of water directed to the Zoo Wastewater Facility would be reduced by up to 35 million gallons per year and up to 6.8 million gallons per day. Following completion of the proposed stormwater collection system, the majority of flows to the Zoo Wastewater Facility would include animal pond water from the Zoo's exhibits. Similar to the Project, there is no proposed increase in the total number of pools requiring periodic draining and refilling, requiring water demand and treatment at the Zoo Wastewater Facility. Any additional animal pools and other water features that would be constructed under Alternative 1.5 would be installed with Life Support Systems (i.e., recirculating water treatment systems), which require a much lower frequency of draining and filling. Proposed expansion of the animal exhibits under the proposed Project would increase generation of animal pond water to the Zoo Wastewater Facility by an estimated 11,939 gpd, for a total of 41,939 gpd based on Alternative 1.5's 8.8 percent reduction in total area of new animal welfare areas when compared to the proposed Project. Due to the reduction in stormwater flows that would be conveyed to the Zoo Wastewater Facility, an incremental increase in the generation of animal pond water would not exceed the 1.8-million-gallon maximum capacity of the Zoo Wastewater Facility.

Based on reduced visitation and employment, Alternative 1.5 would generate an increase of approximately 28,341 gpd (of 100,606 gpd total) of sewage flows within the Zoo's sewer system and the City's North Outfall Sewer due to the addition of a new employees and an annual increase of approximately 1,165,203 million new visitors (approximately 7.2 percent

less than under the proposed Project). Additionally, proposed expansion of the animal exhibits would increase generation of animal pond water within the North Outfall Sewer by approximately 11,939 gpd, for a total of 41,939 gpd. Increases in wastewater flows under Alternative 1.5 would represent less than 1 percent of the LAGWRP's approximately 2.8 mgd of additional full tertiary treatment capacity. Given that the increased wastewater flow would be a *de minimus* incremental increase, the LAGWRP would have sufficient capacity to serve Alternative 1.5's projected demand in addition to the provider's existing commitments and no new or expanded water or wastewater treatment facilities would be required to serve Alternative 1.5. Further, Alternative 1.5 proposes a new plumbing system within the Zoo to replace the existing outdated sewer pipes and connect to new restrooms. The proposed new plumbing systems at the Zoo would be installed in accordance with the current California Building Code and Plumbing Code (CCR Title 24), Green Building Code (CCR Title 24, Part 11), State Water Conservation Guidelines, and Green Building Standards. In accordance with Section 64.15 of the LAMC, the Zoo would be required to submit a Sewer Capacity Availability Review (SCAR) request to the BOE and pay a SCAR Fee prior to building plan approval to evaluate the capacity of the existing North Outfall Sewer to convey the projected wastewater generation from the Zoo through 2038. With assurance of adequate planning-level surveys of the existing North Outfall Sewer per existing City regulations, impacts to the LAGWRP and the North Outfall Sewer would be similar to the Project and *less than significant*.

Implementation of the proposed stormwater collection system would reduce the volume of discharge from the Zoo Wastewater Facility to the City's North Outfall Sewer by 56 percent during and following storm events (refer to Section 3.16, *Utilities*). Additionally, the Zoo Wastewater Facility would continue to hold animal pond water and overflow stormwater from the Zoo until periods of low flow to avoid overloading the North Outfall Sewer. Therefore, implementation of the stormwater collection system would result in beneficial and *less than significant* impacts to the North Outfall Sewer, similar to the Project.

UT-4: Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Alternative 1.5 construction would generate similar C&D waste to the proposed Project since Alternative 1.5 would demolish and redevelop existing areas of the Zoo. In accordance with the City's C&D Waste Recycling Ordinance, all mixed C&D waste generated during construction and not reused onsite would be hauled to a City-certified C&D waste processor. Therefore, solid waste impacts from C&D waste would be similar to the Project.

Alternative 1.5 would not substantially increase disposal of animal bedding and waste at the Griffith Park Compost Facility due to the limited new development and expansion of animal exhibits. Based on the proposed increase in Zoo animal space, Alternative 1.5 would increase disposal of animal bedding and waste at the Griffith Park Compost Facility by less than the

proposed Project. Therefore, future solid waste generation would remain below the Griffith Park Compost Facility's total permitted capacity of 156 tons per day.

Although Alternative 1.5 would also increase operational solid waste generation at the Zoo, including trash and recycling, this increase would be less compared to the proposed Project due to the limited new development and associated increase in annual visitation. Based on the projected annual visitation growth, the estimated increase in solid waste generation under Alternative 1.5 in 2040 would comprise less than 1 percent of the total daily permitted capacity of Sunshine Canyon Landfill (8,300 tons of solid waste per day). Further, the Zoo would manage trash and recycling generated by animal care, dining facilities, restrooms, and other visitor-serving facilities within the Zoo campus in accordance with all applicable state and local requirements. Therefore, similar to the Project, Alternative 1.5 would not conflict with federal, state, or local statutes and regulations related to solid waste disposal. Similar to the Project, Alternative 1.5 would be served by solid waste facilities that maintain an adequate capacity. Therefore, Alternative 1.5 would have a *less than significant* impact related to solid waste, similar to the Project.

Wildfire

WF-1: Would the project impair an adopted emergency response plan or emergency evacuation plan?

While Alternative 1.5 would involve demolition, excavation, and construction of roadways, pathways, and access routes both internal and external to the Zoo, construction activities would not disrupt access to primary or secondary designated Disaster Routes along I-5, SR-134, and San Fernando Road and this alternative's phasing plan would limit disruption or obstruction of access and evacuation routes within the Zoo (refer to *Public Services*). Implementation of **MM T-1**, requiring a Construction Traffic & Access Management Plan with measures for controlling and ensuring continued access to the Zoo and through the interior of the Zoo circulation system, would address impacts from construction of proposed improvements on emergency access and evacuation of the Zoo in response to a wildfire. Impacts associated with increased risk of wildfire during Alternative 1.5 construction would be similar to the Project and *less than significant with mitigation*.

As discussed in *Public Services* for Alternative 1.5 above, operation of Alternative 1.5 would not impair adopted County or City mapped Disaster Routes along I-5, SR-134, and San Fernando Road, as all development would be contained within the Zoo and bordering areas of Griffith Park. Alternative 1.5 would include improvements to existing roadways and circulatory systems both within and surrounding the Zoo that would improve emergency response and access, emergency evacuation, and sheltering in place (refer to *Public Services*). Therefore, Alternative 1.5 would not impair emergency response or evacuation, similar to the Project, and impacts would be *less than significant*.

WF-2: Would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors?

The Project site is located within a Very High FHSZ at the base of steep vegetated slopes within Griffith Park with onsite and adjacent fire-prone vegetation, steep slopes, limited perimeter access, and annual Santa Ana winds. However, existing Zoo operations and Project standards are designed to minimize or avoid exacerbating wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors.

Alternative 1.5 construction would introduce new potential ignition sources over the course of 18 years, such as the use of heavy machinery and fuels, which create the potential for sparking and could exacerbate wildfire risk. Major construction of the new California planning areas in Phases 1 would occur within areas that currently support flammable native and non-native vegetation and are located on steep slopes adjacent to wildlands in Griffith Park. However, unlike the proposed Project, Alternative 1.5 would avoid construction on hillsides in the Africa planning area, which similarly supports flammable native and non-native vegetation located on steep slopes adjacent to wildland areas, thereby reducing potential for spark of a wildfire during construction. Vegetation clearing, grubbing, grading, and facility construction for service facilities, and the California and Africa exhibits along Zoo's perimeter would similarly occur within and adjacent to areas that support flammable vegetation. Major excavation, including potential blasting, for Condor Canyon in the California planning area, could also add to construction-related fire ignition risks. Although all construction would be performed in a fire-safe manner consistent with existing regulations, potential for accidental ignition of onsite or adjacent wildland vegetation would remain.

Similar to the proposed Project, Alternative 1.5 would involve tree and vegetation removal, including hundreds of highly flammable eucalyptus trees, as well as over 13 acres of flammable native chaparral. Construction in these areas would remove unmaintained flammable native and nonnative vegetation and replace it with irrigated native and ornamental vegetation, potentially reducing the extent of onsite flammable vegetation. Additionally, Alternative 1.5 construction would be implemented in compliance with all applicable requirements of the City's Fire Code and NFPA 241 *Standards for Safeguarding Construction, Alteration, and Demolition Operations*. With implementation of existing regulations, risks associated with Alternative 1.5 construction would be reduced such that Alternative 1.5 construction impacts associated with increased risk of wildfire during Project construction would be the same as the Project and *less than significant*.

While changes in the interior of the Zoo may reduce risk of onsite vegetation ignition, increased visitation and new exhibits may provide new ignition sources, which could also incrementally increase risk of wildfire occurring within Griffith Park. For instance, similar to the proposed Project, Alternative 1.5 would expand nighttime activities, including additional

special events throughout the year. These new activities may involve potential ignition sources ranging from regulated electric wiring and unpermitted smoking. The projected increase in visitor attendance would increase the total and density of people within a designated Very High FHSZ. In the event of a wildfire incident, Zoo visitors and animal residents would also be exposed to increased risk of fire-created pollutant emissions (smoke). Similar to the proposed Project, the Zoo would continue to implement procedures for managing fuels, ensuring adequate evacuation of the Zoo, and providing appropriate forms of access to the Zoo and surrounding WUI, as required in the City's Fire Code and by LAFD, and preparation and application of emergency management and evacuation plans per both City and AZA regulations. In addition, all development would undergo plan review by the LAFD to ensure appropriate designs for access and fire flow as required under Chapter 5 of the City Fire Code. Per **MM WF-2**, the Zoo would be required to update these plans as appropriate based on proposed improvements and changes in site access and circulation through Alternative 1.5 implementation. Therefore, with the application of existing regulations and requirements to update wildfire management and evacuation plans, Alternative 1.5 would not significantly exacerbate wildfire risks resulting in the exposure of Zoo staff and visitors to wildfire hazards, and impacts would be the same as the Project and *less than significant with mitigation*.

WF-3: Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Alternative 1.5 would include the installation and maintenance of new or improved/realigned roads, emergency water sources, power lines, or other utilities throughout the Zoo within existing developed/disturbed areas, as well as implementation of well-planned fuel management. The risks associated with installation, operation, and maintenance of these facilities is discussed in detail under Impact WF-2 above. Though Alternative 1.5 would not develop the Africa planning area hillside areas within the Zoo, which currently acts as fuel break between the Zoo and wildland areas, this alternative would develop hillside areas within the California planning area that currently provide the same benefit. Expansion or reestablishment of existing fuel breaks in the California planning area elsewhere around these proposed areas of development would reduce fire hazards, but potentially result in loss of sensitive natural communities, species, and protected trees (see *Biological Resources* above). Vegetation within portions of these undeveloped hillsides is currently managed through clearing, mowing, or trimming by the Zoo and LAFD as a fuel break between the Zoo and surrounding Griffith Park and WUI. It is likely new fuel breaks would be located along the perimeter of the California and limited portions of the Africa planning areas in compliance with existing City Fire Code and LAFD regulations. The installation and maintenance of new or expanded fire buffer and fuel breaks would require mowing, substantial trimming, or complete removal of almost all vegetation within up to a 100-foot buffer area around the Zoo

perimeter, including native chaparral and oak woodland habitats, as well as nonnative grasses and scattered invasive species (e.g., eucalyptus). Precise measurements of habitat loss are difficult to calculate due to the conceptual nature of Project plans and are also contingent upon LAFD direction, which is provided annually based on site inspections. However, installation and maintenance of this fuel buffer under Alternative 1.5 is likely to result in less than the 6 acres of disturbance or loss of native chaparral and oak woodland habitat within Griffith Park estimated for the proposed Project. With implementation of **MM UF-1**, **MM UF-2**, and **MM WF-1**, adverse impacts to biological resources as a result of installation and maintenance of these fuel breaks would be reduced through maximum avoidance of native vegetation and appropriate restoration offsite. Therefore, Alternative 1.5 impacts would be the same as the Project and *less than significant with mitigation*.

WF-4: Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Alternative 1.5 development would occur downslope or downstream of steep hillsides and three small drainages within Griffith Park. There are no creeks or rivers mapped within the Project site, but stormwater flows from the hillsides through the Zoo's stormwater management system, which removes silt and grit from stormwater before it flows to the LAGWRP. If a wildfire burned large areas within Griffith Park adjacent to the Zoo, post-fire runoff from a major storm event, slope instability, landslides, drainage changes, and limited flooding or sedimentation could occur within the Zoo. The relatively small size of the watershed draining into the Zoo (~80-acres) would potentially limit problems. If wildfire-denuded surrounding hillsides were subjected to a high-intensity rain event, new development within the Zoo, especially new development at the base of the hillsides, has limited potential to experience damage from sedimentation. Sediment and debris could plug existing and planned drainage improvements, including the proposed stormwater collection system (refer to Section 3.10, *Hydrology and Water Quality*). Two of the proposed subsurface cisterns serving the Bird Show and Animal Programs amphitheater and the Nature Play Park planning area are located on high elevation sites relative to the flat interior or the Zoo. These new cisterns would capture all runoff, debris, and sediments conveyed through the watershed, resulting in the potential accumulation of sediment or debris within the system, especially in the event of high rainfall closely following burn of the watershed. However, the small size of the existing watersheds would not create significant runoff, debris flow, or landslides caused by post-fire slope instability that place Zoo occupants or structures at substantial risk. Therefore, impacts would be similar to the proposed Project and *less than significant*.

Conclusions and Relationship to Project Objectives

Alternative 1.5 would preserve approximately 6 acres of undeveloped hillside area within Zoo property in its current setting. In doing so, this alternative would preserve and restore native vegetation communities supporting a limited range of sensitive species and protected trees,

as well as avoid visual and geologic changes to these areas. As a result, this alternative would slightly reduce the severity of potentially significant impacts to biological and urban forestry resources, as well as aesthetics, air quality and GHG emissions, energy, noise, transportation, and utilities. However, while elimination of the aerial tram and multi-story parking structure would eliminate the need for **MM VIS-2** and **MM VIS-3** and reduce impacts from light and glare to a less than significant level, Alternative 1.5 would continue to result in a significant and unavoidable impact (Impact VIS-2) related to aesthetic impacts to the visual character of the Zoo in context of the Zoo Drive gateway to Griffith Park.

More significantly, Alternative 1.5 would substantially reduce annual Zoo visitation compared to the proposed Project, although Alternative 1.5 would still generate increases in VMT that exceed the City's TAG threshold of net-zero VMT for regional attractions like the Zoo (Impact T-2); therefore, impacts would remain significant and unavoidable under Alternative 1.5. As such, implementation of Alternative 1.5 would not substantially lessen or avoid significant and unavoidable impacts identified for the proposed Project.

Alternative 1.5 would continue to support long-term redevelopment of the existing Zoo to be consistent with several of the Project objectives, including improvement of animal welfare and care (Project Objective No. 1) though to a slightly lesser extent than the Project (refer to Section 4.7, *Changes in Animal Welfare Area Under Project and Alternatives*), due to the reduced development of new exhibit spaces and transformation of underutilized and underdeveloped areas (Project Objective No. 2) in the Africa planning areas. Alternative 1.5 would allow for improvement of the visual appearance of the Zoo (Project Objective No. 11), and incorporation of sustainable design practices (Project Objective No. 13). However, this alternative would not include the expanded exhibits within the Africa planning areas proposed under the Project, which would limit expansion within Zoo property. While this Alternative would result in a reduced development footprint within Zoo property and a significantly smaller increase in visitation over time, this alternative is still expected to generate adequate visitation to support the economic viability of the Vision Plan, as analyzed by the 2017 AECOM economic feasibility study, which informed the Vision Plan (Appendix A). Alternative 1.5 would preserve and restore native vegetation communities of the Africa planning area, including locally protected species. Implementation of development design guidelines would prioritize the use and preservation of native plant species, thereby nurturing the existing natural ecosystem, supporting regional biodiversity, and providing immersive, safe, and dynamic habitats for Zoo animals. In addition, the new Zoo Entry Garden and Park would support native trees, shrubs, and flowering plants designed to demonstrate wildlife habitat gardens, provide interactive learning opportunities for children and adults, and supplement the Zoo's education program curricula focused on fields such as biology, wildlife, conservation, and environmental resource stewardship would further promote the existing ecosystem and learning and educational experiences. These three elements of Alternative 1.5, paired with the replacement of vineyard landscape features in the California planning area with native vegetation to showcase the value of pollinators in the ecosystem, would support expansion of conservation efforts (Project Objective No. 3), provide for interpretive and

educational experiences (Project Objective No 4), and further support environmentally sustainable practices (Project Objective No. 13).

Alternative 1.5 would decrease development within the Zoo by 7.6 percent from the proposed Project. This would be accomplished by eliminating development proposed in the Africa planning area and relocating proposed visitor-serving areas to the Zoo Entry Garden and Park. As such, this alternative would utilize Zoo property to enhance immersive experiences for visitors and expand visitor-serving features (Project Objectives Nos. 5, 6, and 7) while meeting the conservation education, and environmental sustainability objectives listed above.

Further, Alternative 1.5 would continue to include Condor Canyon circulation improvements, which would contribute to the creation of an efficient and accessible internal loop circulation system with a Primary Loop Path (Project Objective No. 8). This feature would improve not only visitor experience but also visitor safety and operational excellence (Project Objective No 14). Although Alternative 1.5 would not develop the aerial tram feature, other ground-based alternative travel options would still be provided through the proposed circulation improvements. This alternative would include internal circulatory improvements via Condor Canyon and the secondary/exhibit pathways and would implement the proposed funicular to improve access including ADA access. (Project Objective No. 9). As a result, Alternative 1.5 would sufficiently meet all Project objectives.

4.5.4 Alternative 2 – Multi-modal Transportation Alternative

Under the Multi-modal Transportation Alternative, the Zoo would implement measures that would go beyond the state and regional goals and policies for reducing VMT and increasing multi-modal transportation. Alternative 2 would incorporate Project mitigation measures and additional measures for reducing VMT into the design of the Project. This would involve additional measures to increase active transportation and transit to and from the Zoo by coordinating with local and responsible agencies, providing funding for key improvements, and incentivizing alternative modes of travel. Alternative 2 would result in a greater level of consistency with state and regional goals for reducing VMT and associated vehicle GHG emissions, slightly reducing impacts compared to the Project; however, due to the City's adopted thresholds for regional serving retail projects, impacts would remain significant and unavoidable. Nevertheless, Alternative 2 would achieve all of the Project objectives.

The Multi-Modal Transportation Alternative (Alternative 2) would guide long-term redevelopment and operations of the Zoo with an identical land use and phasing plan as the Project but under a substantially expanded transportation and circulation plan to integrate physical and programmatic improvements for multi-modal transportation to the Zoo. As proposed, the Vision Plan includes improvements to roadways and parking areas, including realignment of Crystal Springs Drive/Western Heritage Way, intersection improvements at Zoo Drive/Western Heritage Way, increased capacity for 300 additional spaces in the

southern parking lot, and construction of a 2,000-space parking structure in the northern parking lot. These improvements would be needed to accommodate growth in average daily trips to the Zoo from 1.2 million additional visitors per year and increased employees. Improvements for non-vehicular modes are limited to relocation of an existing bus stop to be more directly accessible to the Zoo Entry and the Autry Museum of the American West and maintenance of bicycle parking to minimally comply with City standards.

The Zoo is set in a relatively transit poor area where one bus stop is served by two local routes (Metro Line 96 and the Griffith Parkline) with limited services (i.e., longer headways, limited hours of operation). There are also few direct and desirable pedestrian and bicycle facilities connecting to surrounding communities, including Burbank, Glendale, and City neighborhoods. For example, the Los Angeles River Bike Path is not directly connected to the Zoo via on-road or dedicated bike paths. As a result, most trips to the Zoo are made by vehicle. The Zoo also provides free parking to visitors and employees, which makes driving more attractive and convenient. Without investments in multi-modal transportation infrastructure and equipment and targeted incentives and public information to change travel behaviors, additional trips to the Zoo under the Project would continue to be made largely by vehicle. As discussed below, continued operation of the Zoo with limited facilities and support for multi-modal transportation does not comport with adopted and emerging state, regional, and local policies and regulation to transform travel behavior, reduce VMT, and provide non-vehicular options for daily commuting and regional trips.

Alternative 2 would address these policies to expand multi-modal connectivity and further reduce VMT compared to the Project. All components described in Section 2.0, *Project Description* would remain exactly as described under this alternative, including all planning area improvements, growth and attendance projections, transportation and circulation features, utility improvements (e.g., the proposed stormwater management system), and construction assumptions for grading, excavation, equipment, and durations. Alternative 2 would involve the same development program as the Project (20 years) occurring over seven phases of construction. The one exception would be the proposed parking structure in the northern parking lot, which would be reduced in size commensurate to reduced demand for parking that may occur by Phase 7 of Vision Plan implementation. Similar to the Project, phases of Zoo development would occur sequentially. All phases would be guided by the Vision Plan's guiding principles (see Sections 2.3.2, *Project Objectives*, and Section 2.3.3, *Vision Plan Guiding Principles*). This alternative is analyzed programmatically due to the nature of the Vision Plan and lack of detailed design and information regarding proposed improvements.

Issue Background

In the past two decades, the state has initiated plans, strategies, and policies establishing goals and objectives for reducing GHG emissions in an effort to slow the rate of human-induced global climate change. With the passage of the Global Warming Solutions Act (AB 32) in 2006 and several subsequent Executive Orders and Senate Bills (SBs), the state is

committed to reducing statewide GHG emissions to 1990 levels. In 2008, the state recognized the connection between land use planning and reliance on vehicles as the primary mode of transportation as a substantial source of GHG emissions, with the result being emissions from vehicles accounting for 30 percent of GHG emissions in California. To achieve the GHG reduction targets established under AB 32 and SB 32, the California Air Resources Board (CARB) prepared the Climate Change Scoping Plan and updated it in 2017. The 2017 Climate Change Scoping Plan reflects the statewide GHG emissions reduction goals and includes various measures to reduce VMT and vehicle GHG, including a goal to reduce light duty VMT by 15 percent by 2050.

In 2016, Governor Brown passed SB 743, after which the Office of Planning and Research (OPR) amended to CEQA Guidelines to utilize VMT-based performance metrics for analyzing transportation impacts under CEQA. Consistent with the 2017 Climate Change Scoping Plan, OPR has recommended a similar threshold for transportation impacts, recommending that a residential or office project that would exceed a level of 15 percent below existing VMT per capita may indicate a significant transportation impact. For regional serving retail projects, OPR's recommended that any increase in VMT may indicate a significant impact (OPR 2018). In July 2019, the City adopted the revised City of Los Angeles CEQA Transportation Thresholds, which adopted these same thresholds for regional attractions. As discussed in Section 3.15, *Transportation*, the Project is considered a Regional-Serving Entertainment Venue and Event Center per the City's 2020 TAG, and impacts are evaluated against the threshold of no net increase in VMT. However, because the Zoo is a regional destination located in a relatively transit poor area and the nature of the Vision Plan is to increase visitation, achieving a net-zero increase in VMT can be difficult or nearly impossible, and impacts would be significant and unavoidable when compared to this threshold. Strategies or mitigation for achieving VMT reductions for regional attractions can be difficult due to the nature of the trips, large volume of visitors attracted to the use each year, and the origin of the trip or distance traveled by visitors.

Expanded Multi-Modal Transportation Improvement & Strategies under Alternative 2

In recognition of these measures for reducing VMT and difficulties in achieve net-zero VMT, Alternative 2 would maximize alternative modes of travel to and from the Zoo to achieve greater reductions in VMT consistent with the goals of state and regional plans. Under Alternative 2, all transportation, circulation, and parking improvements proposed under the Project would continue to be implemented with the exception of the onsite parking structure, which would be reduced in size commensurate to the reduced demand for parking resulting from increased use of alternate modes of transportation (see discussion of *Parking Improvements* below). In addition, Alternative 2 would incorporate all of the measures identified as part of the Zoo TDM Program (**MM T-2**), plus additional measures necessary to achieve a goal of reducing total Zoo VMT by 15 percent by 2040. This collection of TDM measures would become additional components of the Vision Plan.

Alternative 2 would include the comprehensive TDM Program overseen by a qualified TDM Coordinator, as described in **MM T-2**. The TDM Coordinator would monitor visitor and employee mode share with annual surveys, collect and analyze parking and transit use data, and develop annual reports for submittal to BOE and LADOT. Monitoring results would be used to determine the appropriate TDM measures to employ in the coming year to reduce total Zoo VMT by 15 percent by 2040, champion transit and alternative modes of transportation to the Zoo for visitors and employees, develop appropriate incentives to increase the Zoo's transit mode share incrementally over time, and develop effective marketing tools to advertise transit and non-vehicular travel mode availability and incentives. Specific VMT reduction strategies, which would be finalized during review and approval by the City and LADOT, would meet an overall goal of reducing projected Zoo employee VMT and visitor VMT each by 15 percent. Alternative 2 would include the improvements and measures described below:

General Trip Reduction Measures

Alternative 2 would include general measures to increase awareness of TDM programs and opportunities to travel to the Zoo without a car, including the following:

- Offer employee TDM benefits for use of active transportation commuter modes, including ridesharing, transit, bicycling, walking, carpool/vanpool, etc. Incentives for Zoo employees could include flexible scheduling or options for telecommuting, discount transit passes, discounted equipment to employees who bike to work, or discounted equipment (e.g., walking shoes) to employees to walk to work.
- Maximize opportunities for Zoo employees to telecommute as part of regular scheduling.
- Provide a transportation information center and a commuter club to support a collaborative approach among employees to TDM.
- Continue to seek grant funding to support expanded TDM measures to reduce employee VMT per capita.

Transit and Rideshare Improvements

Alternative 2 would involve the Zoo establishing an initial transit mode share target of 5 percent by 2025, 10 percent by 2030, and 15 percent by 2040. Alternative 2 would include the following improvements or measures to substantially increase transit ridership and ridesharing:

- Develop/expand the Zoo vanpool program and encourage employee participation in existing vanpool programs, including City employee and Metro vanpool programs.
- Provide employee incentives to participate in a vanpool program and regularly advertise the opportunities to vanpool through a variety of employee communication formats.
- Partner with rideshare companies such as Uber or Lyft to guarantee availability of an emergency ride home or provide access to City vehicles for this purpose.

- Offer discounted Zoo entrance tickets for patrons use transit to visit the Zoo. Visitors must provide proof of arrival via transit to receive discounted rate. Advertise the availability of ticket discounts for transit through social media and in coordination with RAP, LADOT, and Metro.
- Coordinate with Metro to increase bus service frequency to the Zoo bus stop, such as advocating for the implementation of Metro's proposed Line 501, including proportional share funding.
- Pursue proportional share funding in coordination with RAP or the development of other alternatives to expand Parkline Shuttle service to increase access to Griffith Park and the Zoo from nearby Metro light rail stations, as follows:
 - Expand Parkline Shuttle service to connect to the Metro B Line Vermont/Sunset station in the south and the Metro B/G (formerly, Orange) Line North Hollywood station in the north. Shuttle routes should be coordinated with LADOT and RAP.
 - Extend Parkline Shuttle service hours to begin serving the Zoo bus stop at 9:30 AM, before the Zoo opens each day, and continue to run until 10:00 PM to ensure availability to employees and visitors. This expanded service would first be targeted to occur during peak demand periods such as Easter, Memorial Day, and during Los Angeles Unified School District (LAUSD) holidays, such as the week of spring break.
 - Coordinate with RAP to monitor the success of the Parkline Shuttle during such peak periods and to fund expansion of the service over time, as needed, to facilitate and accommodate increased ridership. The program shall then be expanded to broaden the hours and days of operation as needed to meet demand.
 - Coordinate with RAP on how best to advertise and perform outreach to user groups regarding the availability of this transit service and methods to increase ridership (e.g., social media outreach, print media, radio, television).
- Pursue proportional share funding in coordination with Metro and LADOT or development of other alternatives to provide an express shuttle service to and from Los Angeles Union Station and the Zoo.
 - Provide Union Station shuttle during operating hours on weekends and legal holidays. This new service would first be targeted as a pilot program to occur during peak demand periods such as Easter, Memorial Day, and during LAUSD holidays, such as spring break week. If successful, the program shall then be expanded to broaden hours and days of operation.
 - Coordinate with Metro and LADOT on how best to advertise and perform outreach to user groups regarding the availability of this transit service and methods to increase ridership (e.g., social media outreach, print media, radio, television).

Bicycle and Pedestrian Improvements

The existing Zoo is relatively isolated from surrounding communities in the cities of Glendale and Burbank. As such, pedestrian and bicycle access to the Zoo is limited. Alternative 2 would include the following measures or improvements intended to improve or promote active modes of travel to the Zoo:

- Provide onsite bicycle facilities (i.e., shower, racks, and lockers) for Zoo employees in an amount and location informed by annual employee surveys and monitoring reports.
- Encourage bicycles as a primary commute mode for employees and provide incentives for biking to work, including providing free or discounted equipment to employees such as helmets, locks, bicycle commuter gear, and bicycles (electric or non-electric).
- Coordinate with LARiverworks, RAP, and LADOT, City of Burbank, and the City of Glendale to identify and facilitate new bicycle and pedestrian linkages and bridges between the Zoo and neighboring communities, particularly linkages to Los Angeles River Bike Path. The Zoo, RAP, and LADOT in consultation with the City of Glendale shall consider development of a new bicycle and pedestrian bridge across Colorado Boulevard, linking neighborhoods within the City of Glendale to Griffith Park, south of the Project site. The Zoo, RAP, and LADOT shall ensure that all bicycle and pedestrian linkages and bridges to Griffith Park are well-signed and provide lighting, are regularly patrolled by law enforcement.
- Maintain and expand onsite bicycle parking for Zoo visitors in an amount and location informed by visitor surveys and annual monitoring reports.
 - Maintain and expand short-term bicycle parking within the Zoo to meet changing demands evaluated in the TDM Program annual reports.
 - Provide well-lit, clearly signed, bicycle parking that is convenient and in close proximity to the Zoo Entry to encourage bicycling by visitors.
 - Provide secure short-term bicycle parking and/or a bicycle parking attendant, bicycle valet, or indoor bicycle parking facility, or other measures to prevent theft and ensure parking availability for Zoo visitors.
 - Design bicycle racks with space-efficient configurations, such as vertically staggered racks and two-tier racks.
 - Provide a bike share station at the Zoo as a part of the Metro Bike Share, Ofo, or a new bike share program specific to Griffith Park. The provision of funds for the bike share station may be determined based on the area required for the bike station. The bike share station shall be well-lit and located at a safe and convenient location adjacent to the Zoo entrance.

Parking Management

Alternative 2 would involve all of the same parking improvements proposed under the Project with a new parking program to manage employee and visitor demand and generate a funding

source for the Zoo. A paid parking program in concert with the expansions in transit and active transportation modes would help to encourage traveling to the Zoo without a car for employees and visitors. Alternative 2 includes the following measures to discourage driving and parking at the Zoo:

- Implement a paid parking program to discourage employee vehicle trips to the Zoo and generate revenue that the Zoo may use to expand transit ridership for employee trips. Pricing options of onsite employee parking spaces include pay-per-use passes.
- Develop and implement a paid parking program for Zoo visitors to discourage personal vehicle trips to the Zoo and identify possible funding source to help subsidize TDM, transit improvements, and other trip reduction measures, considering the following options:
 - A Peak Period Parking Program would charge for preferred parking during the highest visitation periods, including all weekends (Saturdays and Sundays), holidays, the spring months (April and May), and December, collecting fees for preferred parking on approximately 170 days of the year (based on the 2020 calendar year).
 - An Everyday Parking Program would charge for preferred parking 363 days of the year (every day the Zoo is open).
 - Maintain at least 15 percent of parking spaces as free parking to meet the needs of disadvantaged households and ensure that low-income visitors may continue to visit the Zoo.
 - The Zoo's TDM Coordinator shall prepare a quarterly report on the effectiveness of the Paid Parking Program and monthly revenue generated.
 - Continue to seek grant funding to support expanded TDM measures to reduce visitor VMT per capita.

Potential Impacts to Resources

Aesthetics and Visual Resources

VIS-1: Would the project have a substantial adverse effect on a scenic vista?

Alternative 2 would result in identical impacts on scenic views as the proposed Project. The built environment within the Zoo's interior is not easily visible from surrounding vistas due to the dense tree canopy and the Zoo's setting within a canyon bottom surrounded by elevated hillsides and ridgelines. Similar to the proposed Project, impacts to scenic vistas and viewsheds under Alternative 2 would relate to proposed taller structures such as the three proposed visitor centers, including the ridgetop California Visitor Center, and the aerial tram, which would extend above the urban forest canopy within the Zoo, adding structural features not currently visible from surrounding areas. For example, the Treetops Terrace Visitor Center would reconstruct the iconic spires that are intended to be highly visible as a wayfinding beacon. These changes would manifest in the Asia and Africa planning areas.

Construction associated with Alternative 2 would occur in sequential phases in different areas of the Zoo over the course of the 20-year implementation timeline and would involve the presence of large construction equipment and activities that could diminish scenic views of or across the Zoo. Construction activities, particularly grading and the clearing of trees and vegetation, may be visible from the existing Griffith Park public trails where overlooks are provided due to the temporary loss of tree canopy that blocks views of the Zoo's interior and maintains a more natural view of adjacent Griffith Park features. Similar to the proposed Project, construction activities have the potential to create a temporary and adverse change in the existing scenic views or viewsheds; however, adverse changes in the quality of views across the Zoo from local trails would be limited to the duration of construction and short-term. Impacts to views from the removal of vegetation and tree cover are temporarily adverse, and extensive landscaping and tree replanting would restore the existing canopy through each phase of implementation. Therefore, it is anticipated that the dense tree canopy and associated views of the Zoo would return to a condition similar to that which currently exists at the Zoo following implementation.

Similar to the Project, Alternative 2 would not substantially adversely affect scenic vistas or views from trails in Griffith Park. Despite the addition of several taller structures or features, such as the reconstructed Treetops Visitor Center, the ridgetop California Visitor Center, and the aerial tram and associated towers, existing distant views of Griffith Park or urban environment from surrounding trails would not be substantially altered or intruded into. Proposed structures would blend into the Zoo topography and urban forest landscape and would not substantially intrude into or interrupt more distant scenic vistas. Because these scenic vistas are more distant and higher in elevation than the Zoo, obstruction or interference of views by proposed development would be minimal, and scenic vistas of distant prominent features would not be substantially altered. Therefore, existing distant views of Griffith Park or urban environment would be maintained similar to the Project, and implementation of Alternative 2 would have a *less than significant* impact on existing scenic views and vistas.

VIS-2: Would the project conflict with applicable zoning and other regulations governing scenic quality?

Within the Zoo, Alternative 2 would facilitate substantial redevelopment, including expanded animal care and visitor-serving uses into 33 acres of currently undeveloped area within the Zoo property, similar to the Project. Given the existing developed nature of the site as a regional Zoo, additional Zoo development would not result in a drastic transition in use or visual character of the site. The greatest change in visual character within the Zoo would result from development of the undeveloped hillsides within the California and Africa planning areas within the interior canyon portions of the Zoo, including tree removal and terrain changes. Similar to the proposed Project, **MM UF-1** and **MM UF-2** would mitigate impacts related to tree removal. As described above, views of the interior of the Zoo from surrounding public viewing areas are largely obstructed by existing vegetation, ridgelines, or the Zoo's

existing tree canopy. The majority of development would continue to be obstructed by or occur below the Zoo's urban tree canopy, which would be maintained through extensive landscaping and tree replanting as each phase of Alternative 3 is implemented. The proposed visible features, including the Zoo aerial tram, California Visitor Center, and Treetops Visitor Center, would not substantially alter views of the topography and natural resources within Griffith Park. Therefore, interior Zoo improvements under Alternative 2 would be consistent with the City's General Plan Conservation Element, Framework Element, 1988 Hollywood Community Plan, and Griffith Park Vision Plan, and impacts would be *less than significant with mitigation*.

Alternative 2 would likely reduce the need for parking with a reduction in vehicle trips from increased TDM measures, and, therefore, the size, bulk, and scale of the parking structure would be reduced when compared to the proposed Project, although the exact size and design is not known at this time. Alternative 2 would reduce impacts on the Zoo's existing visual character as viewed from Zoo Drive and Western Heritage Way due to the reduced parking structure in the northern parking lot. The reduced-size parking structure would be subject to **MM VIS-2** to further reduce visibility and screen the parking structure from view from public roadways, thereby reducing the effect on visual character compared to the Project.

Alternative 2 would install traffic signals at the Zoo Drive/Western Heritage Way intersection, rather than the potential roundabout or below-grade crossing analyzed under the proposed Project. While this alternative would continue to require signalization of the Zoo Drive/Western Heritage Way intersection and realignment of Crystal Springs Drive, these roadway improvements would not substantially alter the existing character of this area with implementation of **MM VIS-1**, which would ensure roadway design is sensitive to the Griffith Park setting and designed to maintain the existing character. Therefore, Alternative 2 would not modify the existing visual character of the Zoo Drive gateway to Griffith Park or detract from the urban wilderness identity of the park. Further, implementation of the intersection improvements proposed under Alternative 2 (i.e., traffic signals) would not affect views of the topography or natural resources across Griffith Park and would be consistent with the Conservation Element, Framework Element, 1988 Hollywood Community Plan, and Griffith Park Vision Plan. Therefore, impacts to consistency with applicable zoning and regulations governing scenic quality would be reduced compared to the Project and *less than significant with mitigation*.

VIS-3: Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Alternative 2 would involve new development that would potentially produce glare during the daytime from reflective building materials or lighting spillover at night from special event and security lighting. Development would include structures that would protrude above the tree canopy within the Zoo such as the California Visitor Center, Treetops Visitor Center, and the Zoo aerial tram. However, there are no residential or other uses in the vicinity of the Project site that are sensitive to light or glare, and these features would only be visible in the distance

from public trails and viewpoints within Griffith Park. Similar to the Project, the Zoo would remain shielded from direct views from the Griffith Observatory and Greek Theater, minimizing potential light spillover and glare effects to these light-sensitive uses.

Similar to the Project, Alternative 2 would result in an increase in lighting produced from the Project site associated with increased special events held at nighttime. While lighting used during such events may be visible from surrounding trails and roadways, hiking trails in Griffith Park are closed at sunset and, therefore, would not be in use during hours when night lighting is used. Further, given the distance between trail overlooks and event centers, lit buildings or structures, such as the California Visitor Center, would not be highly intrusive in context of the overall urbanized landscape view available from the Condor Trail, North Trail, and Skyline Trail. New lighting would also not adversely affect surrounding roadways, as the additional lighting would be similar in context and intensity of after-hour lighting that currently occurs at the Zoo, as well as offsite lighting sources such I-5 and SR-134 and security lighting used at nearby industrial buildings to the east.

Under Alternative 2, structures and features may have reflective surfaces (e.g., large windows, polished surfaces), similar to the Project. For example, proposed aerial tram gondolas are typically constructed with large, rounded glass panels to allow 360° views for riders or include other reflective features that could generate glare that would be visible from nearby public trails. The glare generated from the gondolas could create a nuisance and distract from the scenic views of the Los Angeles Basin from these areas. Similar to the proposed Project, Alternative 2 would require implementation of **MM VIS-3**, which would require the Zoo utilize tram gondolas that would have matte finishing and earth tone colors to blend with the landscape and reduce or eliminate glare. In addition, the measure would require all glass features of the gondolas to utilize non-reflective glass or film covers to reduce reflectivity.

Similar to the Project, Alternative 2 would not generate substantial light and glare impacts with implementation of MM VIS-3 to ensure no substantial glare from the proposed Zoo aerial tram. Therefore, Alternative 2 impacts from generation of glare would be *less than significant with mitigation*.

Air Quality

AQ-1: Would the proposed Project conflict with or obstruct implementation of the applicable air quality plan?

Impacts associated with construction of Alternative 2 would be similar to construction impacts on air quality of the proposed Project. Similar to the Project, construction activities associated with Alternative 2 would not introduce population or employment growth to the SCAG region and would have no impact related to underlying assumptions factored into the AQMP inventories. Since construction activities associated with implementation of Alternative 2 would be largely similar to the proposed Project, air pollutant emissions during construction are anticipated to be similar to the proposed Project. Implementation of

Alternative 2 would require implementation of **MM AQ-1** to reduce air pollutant emissions from off-road equipment during construction to less than significant levels. The mitigated emissions would not have the potential to conflict with or obstruct implementation of the 2016 AQMP by exacerbating air quality violations or delaying attainment of the air quality standards. Therefore, Alternative 2 construction impacts related to the applicable air quality plan would be similar to the Project.

Operation of Alternative 2 would result in substantially reduced air quality impacts associated with reduced vehicle trips and associated VMT. While expansion of animal exhibits and enhancement of visitor-serving facilities would generate increased visitor attendance and employee growth at the Zoo, the multi-modal transportation improvements (i.e., expansion of transit routes to the Project site, bicycle and pedestrian connections, visitor and employee incentives for transit use) would allow reduced vehicle trips to the Zoo and substantially reduced VMT compared to the Project. Alternative 2 would reduce visitor and employee VMT by at least 15 percent less than projected VMT levels under the proposed Project, which would be consistent with state, regional, and local plans and goals for air quality. Similar to the proposed Project, the incremental change in operational emissions with implementation of long-term improvements would not exceed any applicable SCAQMD mass daily threshold of significance. Operation of Alternative 2 would not have the potential to exacerbate air quality violations in the SCAB or possibly delay attainment of the air quality standards as set forth in the 2016 AQMP. The VMT reduction measures included as a part of Alternative 2 would be consistent with the goals and objectives of the 2016 AQMP. Furthermore, operation of Alternative 2 implementation would not conflict with land use policies promulgated by SCAQMD and SCAG.

Similar to the Project, Alternative 2 would not generate construction or operation emissions that exceed regional thresholds and would not conflict with or obstruct the AQMP or other applicable air quality plan. Therefore, Alternative 2 impacts would be similar to the Project and *less than significant with mitigation*.

AQ-2: Would the proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Without mitigation, construction of Alternative 2 would generate emissions of NO_x, an O₃ precursor, in excess of the applicable SCAQMD regional mass daily threshold. Similar to the proposed Project, mitigated emissions of pollutants generated by construction activities would not generate emissions of pollutants exceeding project-level significance thresholds. Implementation of **MM AQ-1** would ensure that maximum daily pollutant emissions generated by construction of Alternative 2 would not result in a significant increase in emissions of O₃ precursors or particulate matter at either the regional or local assessment scale. Therefore, impacts related to cumulatively considerable net increases in nonattainment pollutants would be *less than significant with mitigation*, similar to the Project.

Compared to the Project, Alternative 2 would reduce operation vehicle trips and VMT by 15 percent compared to the Project, with corresponding reducing in mobile emissions. Emissions sources located on the Project site, including facility operations, would result in incremental increases in daily air pollutant emissions during all stages of operations throughout Alternative 2 improvements, similar to the Project, and would remain below applicable SCAQMD mass daily thresholds of significances. In accordance with SCAQMD guidance, operational emissions of O₃ precursors and particulate matter would be below project-level thresholds and would not result in a cumulatively considerable net increase of any criteria pollutants for which Los Angeles County is currently designated nonattainment. Further, due to the multi-modal improvements included as a part of Alternative 2, Zoo visitors and employees would be encouraged to use alternative transportation to get to the Zoo. Therefore, this alternative would result in substantially reduced operational air quality impacts associated with VMT. Operational impacts on air quality related to cumulatively considerable emissions of nonattainment pollutants would be *less than significant*.

AQ-3: Would the proposed Project expose sensitive receptors to substantial pollutant concentrations?

The sensitive receptors with greatest susceptibility to air quality impacts from implementation of Alternative 2 would be visitors and employees of the Zoo, as well as receptors at the Zoo Magnet Center located in the southern parking lot on the Project site. Similar to the proposed Project, sources of pollutant emissions involved in construction activities under Alternative 2 would at times be in close proximity to Zoo visitors and employees, as Zoo operations would continue throughout implementation of the Vision Plan. Alternative 2 components that would be implemented in the immediate vicinity of the Zoo Magnet Center are the circulation and parking improvements and Zoo Entry renovation in Phase 1. Similar to the proposed Project, at no time during construction of Alternative 2 would maximum daily emissions from sources located on the site meet or exceed applicable LST screening values (refer to Tables 3.2-9 through 3.2-12 for the proposed Project). Furthermore, implementation of **MM AQ-1** would substantially reduce on-site emissions of NO_x and diesel particulate matter from off-road equipment by requiring the use of construction equipment that meets Tier 4 Final emissions standards. Implementation of **MM AQ-1** and compliance with SCAQMD BMPs would ensure that Alternative 2 construction would not expose sensitive receptors to substantial pollutant concentrations. Further, construction activities would be conducted in accordance with the California Code of Regulations related to lead and asbestos exposure in the event that materials potentially containing these contaminants are encountered during demolition or renovation activities. Impacts related to sensitive receptor exposures would be *less than significant with mitigation*.

After construction associated with each phase of Alternative 2 is complete and the heavy equipment is removed from the Project site, the operational emissions sources on the Project site would be similar to existing conditions. There would be no substantial stationary source of air pollutant emissions associated with operation of Alternative 2. Increases in landscaped

and building areas would primarily produce minor increases in VOC, NO_x, and CO emissions from maintenance sources and consumer products use that would be spread throughout the 142-acre Project site. Operation of Alternative 2 would not result in a land use change or alteration to the site that would place sensitive receptors in closer proximity to substantial sources of air pollutant emissions. Further, the multi-modal transportation improvements included in Alternative 2 would significantly reduce visitor and employee VMT by 15 percent and associated air pollutant emissions would be reduced compared to the proposed Project. Therefore, operational impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be less than the Project and *less than significant*.

Air pollutant emissions generated by construction may also be disruptive to Zoo animals. Captive animal species may have a unique sensitivity to the air quality setting of an urban environment. The Zoo is dedicated to the health and welfare of all its animals. Zookeepers and animal caretakers are trained in the monitoring of the Zoo's animals and implement measures appropriate for each individual species to ensure their safety and welfare in accordance with the AZA accreditation and the AWA, which governs the care, handling, and transport of zoo animals. As the Zoo has done in the past during construction of prior improvements, measures to protect these animals may include their temporary relocation away from construction activities, closure of exhibits, or even the transfer of animals to other zoos. Similar to the proposed Project, accommodations specific to each animal would be developed during the planning process for each phase and details would be included in final construction plans. With continued management of each species of animal residing or being rehabilitated at the Zoo and required compliance with the AWA, there would be no adverse effects on Zoo animals from air pollutant emissions generated during construction of Alternative 2.

AQ-4: Would the proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Alternative 2 would result in similar temporary, construction-related odors as those described for the proposed Project. Therefore, air quality impacts related to construction odors and dust would be similar to the Project and *less than significant*.

As described for the proposed Project, operational odors under this alternative would be associated animal habitats. Due to the reduced scope of expansion of animal exhibits and enclosures, Alternative 2 would generate an incrementally reduced source of odors as compared to the proposed Project. The Zoo would continue to engage in composting for green waste and herbivore animal wastes in Griffith Park. Similar to the proposed Project, Alternative 2 implementation would not place sensitive receptors in closer proximity to sources of odors or other emissions that could create nuisance conditions. Therefore, impacts related to other emissions would be similar to the Project and *less than significant*.

Biological Resources

BIO-1: Would the Project result in the loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat?

Similar to the Project, Alternative 2 would impact known or potentially suitable habitat for several special-status plant and wildlife species through direct removal, construction of new exhibits and facilities, or vegetation management for fire protection, particularly in the undeveloped areas of the proposed California and Africa planning areas. Similar to the proposed Project, Alternative 2 would potentially result in the removal and direct disturbance of more than 19 acres of native vegetation communities and hundreds of native and non-native trees. Disturbance, alteration, or removal of these habitats would result in the loss or damage (take) of sensitive wildlife and plant species, particularly bats and potentially avian species that use these trees for roosting, nesting, or foraging, to the same degree as the proposed Project. These species could be accidentally harmed or forced to abandon habitats that are disturbed or removed during construction and move into adjacent areas in the vicinity (e.g., Griffith Park), increasing competition for available resources in those areas. This could result in indirect impacts to and the loss of additional special-status wildlife species outside of the Project site, including sensitive species that may not be able to survive with increased competition.

Similar to the proposed Project, Alternative 2 would impact onsite native vegetation communities and associated special-status species, primarily related to development within the proposed California and Africa planning areas. Development would occur within mapped native habitats, including the laurel sumac shrubland, coast live oak woodlands, adjacent eucalyptus/mixed woodlands, coast live oak woodland, and California sage coastal sage scrub habitats, with potential for impacts to special-status species. Alternative 2 also would directly displace or result in the loss of several special status plant species for development of the California and Africa planning areas, including a small population of Nevin's barberry, 24 Southern California black walnut trees, Plummer's mariposa lily, Hubby's phacelia, and San Gabriel Mountains leather oak, similar to the Project.

Alternative 2 would require implementation of **MM BIO-1** through **MM BIO-4** to reduce impacts to special-status plant species. These measures would require protection or restoration of native plant communities and special-status species to the maximum extent feasible through pre-construction surveys, fencing, capture, relocation, and replanting. Further, with implementation of **MM BIO-2** and **MM WF-1**, adverse impacts to biological resources as a result of installation and maintenance of vegetation clearance from fuel breaks would be reduced through maximum avoidance of native vegetation and appropriate restoration offsite. Implementation of these measures would ensure impacts are *less than significant with mitigation*.

BIO-2: Would the proposed Project 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?

Similar to the proposed Project, development of Alternative 2 could impede, block, or disrupt local wildlife movement within the Zoo and adjacent natural habitats in Griffith Park and the Los Angeles River. Undeveloped coast live oak woodland, laurel sumac shrubland, coastal sage scrub, and eucalyptus/mixed woodlands support resident wildlife that could be disrupted or displaced by both construction and long-term habitat loss as new facilities replace existing habitats. However, the Project site does not appear to support such regional movement corridors or linkages that connect to larger patches of open space. Therefore, Alternative 2 is unlikely to affect ongoing or seasonal regional movements that are important for the long-term genetic flow between subpopulations.

Implementation of **MM BIO-1**, **MM BIO-2**, **MM BIO-4**, and **MM BIO-5** would require the implementation of construction BMPs and a Worker Environmental Awareness Program (WEAP) to reduce construction-related impacts to special-status bird species to the maximum extent feasible. These measures would delineate vegetation communities and an area of disturbance associated with proposed development plans by phase and preserve or replace affected vegetation communities and sensitive species at appropriate ratios. Implementation of **MM UF-1**, requiring preservation, relocation, or replacement of native tree species onsite or at an appropriate offsite location within Griffith Park, and **MM UF-2**, requiring the Zoo implement a tree and urban canopy restoration plan, would also serve to reduce impacts associated with the loss of roosting habitat by ensuring suitable roosting habitat is retained onsite or created or improved offsite through planting of native trees. Impacts would be *less than significant with mitigation*, similar to the Project.

BIO-3: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Similar to the Project, Alternative 2 would require removal of protected trees and shrubs to clear land for construction of new exhibits and facilities, or vegetation management for fire protection, to the same degree as the proposed Project. Disturbance, alteration, or removal of trees would result in the loss or damage of locally protected plant species, particularly within the undeveloped areas of the proposed California and Africa planning area. Impacted locally designated plant species could include two Southern California black walnut trees, 7 coast live oak trees, and 4 toyon and 15 elderberries within the California planning area. In addition, 22 Southern California black walnut trees, 113 coast live oak trees, 15 toyon, and 21 elderberry shrubs would be potentially removed or impacted within the Africa planning area. Several small coast live oak and larger western sycamores, planted as landscape trees within Zoo parking lots, Zoo entry, and along Western Heritage Way, may be impacted by parking lot, transit facilities, and Western Heritage Way/Crystal Springs Road realignment and design,

and Zoo entry redevelopment. In addition, realignment of Western Heritage Way/Crystal Springs Road could also result in the potential loss of some small specimen oaks and sycamore trees along its alignment behind the Zoo Magnet Center and Zoo storage areas. These trees and shrubs are protected and regulated under the existing City Tree Preservation Ordinance and Protected Tree Code Amendment.

As with the proposed Project, implementation of **MM UF-1**, requiring preservation, relocation, or replacement of protected native tree and shrub species onsite or at an appropriate offsite location within Griffith Park, and **MM UF-2**, requiring the Zoo implement a tree and urban canopy restoration plan, would serve to reduce impacts associated with the loss of protected native trees and shrubs. Implementation of these measures would ensure impacts to native trees and shrubs would be similar to the Project and *less than significant with mitigation*.

Cultural and Tribal Cultural Resources

CUL-1: Would the project Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Similar to the proposed Project, Alternative 2 would involve phased redevelopment of the majority of the Zoo, including demolition of some structures dating from the 1960s, such as the World Aviary exhibit. However, most original 1966 buildings are highly altered, including the Treetops Terrace. Treetops Terrace originally featured twin 105-foot hexagonal spires that served as a beacon and wayfinding feature visible throughout the Zoo. However, its twin spires were removed around 2000, effectively negating this function and the building's roof canopy was cut back on the east side to accommodate the adjacent carousel in 2011. As a result, the Zoo no longer represents mid-20th century zoological design or the original vision of noted architectural firm Charles Luckman Associates. Most redevelopment under Alternative 1 would involve the demolition of structures dating from 1990s to the 2000s, when modifications to the Zoo's physical campus accelerated for implementation of the Zoo's 1992 and 1998 master plans.

As described in Section 3.4, *Cultural and Tribal Cultural Resources*, the Zoo is not listed as a historical resource, either as a district or as individual resources within the Zoo, in the NRHP or CRHR. Although Griffith Park is listed on the CRHR and has been identified as a designated Los Angeles Historical-Cultural monument, the Zoo was determined to be a non-contributing component and was built after the significance period for Griffith Park. Therefore, the Zoo does not represent the same historical merit as Griffith Park. The historical resources assessment prepared for the proposed Project concluded the Zoo is not eligible for historic listing or designation at federal, state, or local level, and no buildings, structures, or other features of the Zoo were found individually eligible for historic listing or designation (refer to Section 3.4, *Cultural and Tribal Cultural Resources*; see Appendix G). The Project site does not contain any historical resources as defined by CEQA, and therefore there is no

potential for impacts to historical resources as a result of Alternative 1, similar to the Project. Therefore, Alternative 1 impacts to historic resources would be *less than significant*.

CUL-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No previously recorded archaeological sites occur on the Project site and intensive pedestrian ground surface survey conducted for the Project recorded no archaeological resources or unique geographical features (Appendix F). Therefore, the potential for prehistoric resources is low in areas formerly developed as part of the original Zoo construction and on slopes over 20 percent.

Alternative 2 would involve grading, excavation, and earth moving activities on the Zoo's previously developed interior canyon areas and undeveloped hillsides, to the same extent as the proposed Project. The undisturbed Africa and California Planning area hillsides comprise steep slopes exceeding 20 percent, making them unlikely to have been used for prehistoric occupation or activity. Most of the developed areas of the Zoo overlie artificial fill that was previously graded and disturbed for the original Zoo construction in 1966. Consequently, these interior developed areas of the Zoo are highly unlikely to contain any intact, previously undisturbed cultural resources.

However, while highly unlikely, there is a potential for Alternative 2 improvements to impact unknown cultural resources through discovery during construction. Alternative 2 would implement **MM CUL-1** prior to ground disturbance for each phase to ensure that, in the unlikely event isolated unknown prehistoric and historic-period archaeological resources are encountered during construction activities, appropriate action would be taken to prevent adverse impacts. Any inadvertently discovered resources would be protected and curated, through **MM CUL-2**. Therefore, Alternative 2 impacts on potential prehistoric resources would be *less than significant with mitigation*, similar to the Project.

CUL-3: Would the project disturb any human remains, including those interred outdoors of formal cemeteries?

As described in Section 3.4, *Cultural and Tribal Cultural Resources*, the majority of the Project site has previously been developed/disturbed during construction of the Zoo, and undeveloped hillsides are unlikely to have supported prehistoric activity or occupation. Therefore, the possibility of discovering human remains during construction of Alternative 2 is very low. If, however, in the unlikely event that previously unidentified human remains are discovered, further disturbances and construction activities shall stop in any area or nearby area suspected to overlie remains in accordance with State Health and Safety Code Section 7050.5, and the Los Angeles County Coroner would be contacted in accordance with Title 14, CCR, Section 15064.5(e). Pursuant to PRC Section 5097.98, if the coroner determines that the human remains are of Native American origin, the NAHC would be notified. Arrangements for the human remains would be made, and further provisions of PRC Section

5097.98 are to be followed as applicable. Further, implementation of **MM CUL-3** would ensure the protection and curation of any inadvertently discovered. Alternative 2 impacts would be the same as the proposed Project and *less than significant with mitigation*.

CUL-4: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 PRC Section 5020.1(k), or that is 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 PRC Section 5024.1?

As described in Section 3.4, *Cultural and Tribal Cultural Resources*, there are no known cultural resources that are eligible for listing in the CRHR or in a local register within the Project site or that may be adversely affected by Alternative 2 implementation. However, consultation with Native American tribal representatives conducted for the proposed Project determined there is potential for impacts to tribal cultural resources, including buried resources and cultural landscapes associated with village of *Cahuenga* located west of Griffith Park and the rancheria of *Maugna* located in the vicinity of Griffith Park. Due to previous ground disturbance and development within the interior of the Project site and the steep slopes along undeveloped areas, there is little potential for the discovery of unknown buried tribal cultural resources during construction activities. However, with implementation of **MM CUL-4** through **MM CUL-7**, requiring the monitoring of all construction activities by an appropriate Native American representative and the management of resources in the unlikely event that such resources are uncovered, Alternative 2 impacts would be the same as the proposed Project and *less than significant with mitigation*.

Energy

EN-1: Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

The duration and extent of construction activities for Alternative 2 would be identical to the Project and construction-related energy impacts would be similar as compared to the proposed Project (Section 3.5, *Energy*). Under Alternative 2, the proposed land uses would also be identical to those described for the proposed Project, which would result in the same estimated increased electricity and natural gas demands for facility operations. This alternative would also incorporate similar energy efficiency measures into the design of the buildings and service systems, as all new and redevelopment activities would be subject to the provisions of the LA Green Building Code, LEED Silver design standards and best

management practices, and LA's Green New Deal (Sustainable City pLAn 2019) pertaining to energy efficiency for non-residential buildings. Additionally, all new structures with rooftop area greater than 250 sf would be considered for the feasibility of solar panel installations. Transportation fuel demand would be reduced, however, due to the additional TDM measures proposed under Alternative 2. Therefore, long-term operational energy impacts associated with transportation would be reduced relative to the Project. Therefore, similar to the Project, Alternative 2 would not result in wasteful, inefficient, or unnecessary consumption of energy sources and the impact would be *less than significant*.

EN-2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Alternative 2 would be designed to comply with the Los Angeles Green Building Code. Under this alternative, development would include sustainability features, such as a solar PV system. Green building elements would also increase energy efficiency by meeting LEED Silver standards of design or better and through the use of reduced-flow plumbing fixtures and energy-efficient appliances, solar PV systems, LED traffic lighting systems, stormwater reuse, and use of recycled water onsite. Additionally, Alternative 2 would include TDM measures to enhance transportation sustainability consistent with SB 375 and SCAG's RTP/SCS when compared to the proposed Project. As discussed for the proposed Project in Section 3.5, *Energy* and Section 3.11, *Land Use and Planning*, Alternative 2 would be consistent with local, regional, and state goals and policies related to energy efficiency. Therefore, as with the proposed Project, impacts on energy under Alternative 2 would be *less than significant*.

Urban Forestry Resources

UF-1: Would the project conflict with the provision of an adopted local tree preservation policy or ordinance?

Alternative 2 would result in the direct removal, trimming, limbing, or root cuts of native and non-native trees to the same extent as the proposed Project. Indirect impacts associated with ground disturbance and changes to light and water availability may also affect existing healthy trees, resulting in poor condition and potentially removal as health declines. Similar to the Project, a total of 142 native trees and 85 native shrubs protected under the City's existing Tree Preservation Ordinance and proposed Protected Tree Code Amendment would be subject to damage or removal. Additional trees considered important within developed areas of the Zoo, including Moreton Bay figs, coral, acacia, sycamore, scrub oak, and maple trees, are also likely to be subject to damage or removal during construction associated with Alternative 2. Thus, Alternative 2 implementation has the potential to damage or remove hundreds of trees and shrubs protected under existing and proposed City ordinances or warranted individual protection, as described for the proposed Project. Similar to the proposed Project, impacts to trees would occur incrementally and overlap with replanting/landscaping and regrowth as Alternative 2 implementation would occur.

incrementally over seven phases and 20 years, similar to the Project. Alternative 2 would similarly implement **MM UF-1** requiring replacement of removed protected and important trees at a minimum 4:1 ratio as indicated by the City's proposed Tree Preservation Ordinance amendment (4:1 for oak trees less than 12 inches diameter at breast height [dbh]; 5:1 for oak trees between 12 to 24 inches dbh; and 10:1 for oak trees greater than 24 inches dbh), notification of large-scale tree removal, acquisition of a necessary tree removal permit(s), and application of City tree removal procedures. Since significant trees impacted during Alternative 2 implementation would be protected, relocated, or replaced consistent with applicable City tree protection policies, impacts would be the same as the proposed Project and *less than significant with mitigation*.

UF-2: Would the project result in the loss or alteration to the Los Angeles urban forest?

Similar to the proposed Project, Alternative 2 would include installation of substantial new landscaping, including major tree planting, following removal or disturbance of trees within the City's and Zoo's urban forest canopy. Additionally, Zoo botanical collections and gardens would be protected and enhanced similarly to the proposed Project (refer to Section 3.6, *Urban Forestry Resources*). Though removal of substantial numbers of trees during construction would reduce tree cover over the near-term horizon (e.g., 10 years), following completion of construction activities, tree cover and the urban canopy would likely be restored as part of a major landscaping and tree planting program, which would replace or improve the City's urban forest over the long-term. To ensure urban forest regeneration, Alternative 2 would similarly require implementation of **MM UF-2**, requiring preparation of a detailed landscape plan as part of each proposed phase. The Project area would be landscaped, irrigated, and maintained with a diverse mix of tree species that would individually and cumulatively provide significant urban forest value. With implementation of this measure, Alternative 2 would ensure recovery or even enhancement of the urban forest such that a net loss of urban forestry resources would not occur. Impacts would be the same as the proposed Project and *less than significant with mitigation*.

Geology and Soils

GEO-1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earth fault or strong seismic ground shaking?

As described in Section 3.7, *Geology and Soils*, the Project site is located within the seismically active region of Southern California and would potentially be exposed to moderate to strong seismic ground shaking in the event of an earthquake on a nearby fault (e.g., Hollywood Fault, Verdugo Fault, Raymond Fault). A strong earthquake could result in substantial damage to older existing structures and infrastructure and put visitors and employees in danger from ground shaking and structural damage/collapse. However, all new

structures constructed at the Zoo under Alternative 2 would be required to adhere to the most current building standards of the LAMC and Los Angeles Building Code, which adopts CBC standards by reference with local amendments. Adherence to seismic design and construction parameters of the LAMC and Los Angeles Building Code requirements would ensure the maximum practicable protection available for all structures. In addition, the City is required to prepare and submit a site-specific geotechnical report for review and approval by the LADBS prior to the issuance of a grading or a building permit.

Similar to the proposed Project, Alternative 2 would upgrade and/replace older buildings within the Zoo that do not meet current Los Angeles Building Code and CBC building standards and may present a hazard to public safety during an earthquake. Alternative 2 would facilitate the construction of new buildings that meet the most current and stringent seismic requirements, thus reducing the level of risk within each planning area and at the Zoo as a whole, compared to existing conditions. Therefore, compliance with the Los Angeles Building Code, CBC, and adherence to the design recommendations detailed in site-specific geotechnical studies would reduce Alternative 2 impacts related to seismic ground shaking to *less than significant*, similar to the proposed Project.

GEO-2: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

As described in Section 3.7, *Geology and Soils*, geologic hazards, including liquefaction hazards, posed at any given development site within the Project site are dependent upon the type of foundation, the structural design of the building, and the as-graded compaction and stability of the soil on which a structure was built. Alternative 2 would facilitate upgrades and replacement of older buildings throughout the Zoo that do not meet current Los Angeles Building Code and CBC building standards and may present a hazard to public safety during an earthquake. Redevelopment of existing outdated facilities would involve the construction of new multi-story buildings (e.g., the California and Africa Visitor Centers), some with subterranean structures (e.g., Treetops Visitor Center kitchen), similar to the proposed Project. All new structures constructed in the Zoo would be required to adhere to the most current and stringent seismic requirements building standards of the LAMC and Los Angeles Building Code, which adopts CBC standards by reference with local amendments. Adherence to the LAMC and Los Angeles Building Code requirements would ensure the maximum practicable protection available for all structures constructed within the Project site. The site-specific geotechnical report required for review and approval by the LADBS would identify additional design requirements for structures and foundations to maintain structural integrity during an earthquake to the maximum extent feasible. With **MM GEO-1** to ensure geotechnical investigations are completed for each phase of Alternative 2 development and that engineering techniques and technologies are integrated into final Zoo development plans, impacts related to ground failure would be the same as the proposed Project and *less than significant with mitigation*.

GEO-3: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The 2019 geotechnical investigation prepared for the Project concluded that the Project site is not located in an area considered susceptible to large-scale landslides (refer to Section 3.7, *Geology and Soils*; see Appendix J). However, some slopes along the western and northern portions of the site were observed to expose weathered and fractured bedrock and may be subject to small to moderate sized rockfalls. Similar to the proposed Project, Alternative 2 improvements within the California and Africa planning areas would be developed on sites within and adjacent to these exposed rock slopes. Several Alternative 2 components would involve excavation and building construction techniques that would produce vibrations, such as jackhammering, drilling, blasting, and pile installation (refer to Section 3.7, *Geology and Soils*, for a list of development components that would involve excavation activities). Per **MM GEO-1**, these slopes would be observed, mapped, and further evaluated for Alternative 2 components proposed adjacent to exposed rock slopes or if cuts slopes are planned in bedrock areas (e.g., California planning area). Therefore, Alternative 2 impacts related to landslide risks would be the same as the proposed Project and *less than significant with mitigation*.

GEO-4: Would the project result in substantial soil erosion or the loss of topsoil?

Alternative 2 construction presents the same potential for erosion, particularly within the existing undeveloped areas of the Zoo, as the proposed Project. Excavation activities for construction of the California and Africa planning area and Zoo aerial tram would disturb and loosen soils, resulting in the potential for erosion, especially during rain events. Similar to the proposed Project, Alternative 2 would develop approximately 22 acres of undeveloped areas with native topsoils, including 20 acres of topsoils in undeveloped areas in the California and Africa planning areas that would be graded and developed with pavement, structures, and landscaping. As with the proposed Project, Alternative 2 implementation would require preparation of a SWPPP to obtain an NPDES stormwater permit from the SWRCB in accordance with the federal Clean Water Act. All Alternative 2 components would be required to comply with all BMPs identified within the SWPPP and the City's Stormwater and Urban Runoff Pollution Control Ordinance (Chapter VI Article 4.4 of the LAMC) to address soil erosion and control the discharge of pollutants, including sediment, into the local surface water drainages. With adherence to existing state and local regulations that address soil erosion, Alternative 2 impacts potentially resulting from erosion or loss of topsoil would be the same as the proposed Project and *less than significant*.

GEO-5: Would the project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

During Alternative 2 construction phases, excavation for California's Condor Canyon, Treetop Terrace's subterranean kitchen, the Africa hillside, and the aerial tram foundations may

loosen exposed soils or slopes, potentially causing instability within the excavation site or compromised stability for adjacent properties. Similar to the proposed Project, adequate sloping or shoring of soils would be necessary to provide structural support for neighboring buildings to prevent soil collapse during excavation. All excavation activities associated with Alternative 2 would be required to adhere to mandatory regulations set forth by CalOSHA to ensure the safety of construction workers during excavation, and the Los Angeles Building Code, and CBC to ensure stable excavations and cut or fill slopes.

Alternative 2 would upgrade and replace outdated facilities at the Zoo that do not meet current Los Angeles Building Code and CBC building standards and may present a hazard to public safety during an earthquake. All new structures under Alternative 2 would be constructed to meet the most current and stringent building safety requirements, thus reducing the level of risk on a site and within the Zoo as a whole, compared to existing conditions. Therefore, compliance with the Los Angeles Building Code, CBC, and adherence to the design recommendations detailed in site-specific geotechnical studies would address potential impacts related to unstable soils.

Similar to the proposed Project, groundwater dewatering may be necessary for construction subterranean structures, such as the Treetops Terrace subterranean kitchen, and stormwater collection system. In cases where there is a high or perched groundwater table where the floor of subterranean structure encounters the groundwater table, ongoing groundwater dewatering may be necessary to prevent the percolation or inflow of groundwater into excavation pits and future basement levels. If the dewatering of groundwater is necessary, a dewatering permit from the RWQCB would be obtained (refer to Section 3.10, *Hydrology and Water Quality*).

Additionally, the required site-specific geotechnical reports would evaluate site-specific geotechnical hazards and soil stability and would be required to identify building design requirements to ensure soil stability to the maximum extent feasible. The geotechnical reports would also be required to identify known historic groundwater levels onsite and identify measures to address groundwater impacts such as dewatering during construction as needed to protect against water contact and to minimize the seeping of water into the subterranean structure. All recommendations and design features in the geotechnical report are required to be incorporated into the building design for Alternative 2 components. With **MM GEO-1**, these required geotechnical investigations would be completed for each phase of Alternative 2 development and engineering techniques and technologies would be integrated into final Zoo development plans. Implementation of **MM GEO-1** would ensure impacts are *less than significant with mitigation*, similar to the proposed Project.

GEO-6: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As described in Section 3.7, *Geology and Soils*, there are two sedimentary units beneath the Project site with Moderate to High potential to contain significant paleontological resources,

specifically within the Africa planning area. Similar to the proposed Project, phased development under Alternative 2 would involve excavation and building construction techniques that would potentially impact paleontological resources, such as the potential destruction of fossil specimens, depending upon their location and depth of excavation. Alternative 2 would similarly implement **MM GEO-2** and **MM GEO-3**, which would include monitoring of ground disturbing activities for discovery of fossil specimens as well as subsequent collection, preparation, and permanent deposition in a designated repository of fossil specimens. These actions would preserve paleontological resources that would otherwise be permanently lost and, similar to the Project, would reduce Alternative 2 impacts to *less than significant with mitigation*.

Greenhouse Gas Emissions

GHG-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment? Would the proposed Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Alternative 2 would result in reduced impacts to GHG emissions from mobile sources when compared to the proposed Project. Unlike the proposed Project, Alternative 2 would incorporate multi-modal improvements to encourage transit use and active transportation and reduce VMT and associated GHG emissions. In particular, Alternative 2 would coordinate with Metro, LADOT, and RAP to provide future connections to additional transit nodes and develop new pedestrian and bicycle connections to the Project site. Additionally, Alternative 2 would incentivize transit use by discounting tickets to transit riders and other incentives. Therefore, Alternative 2 would incorporate VMT reduction measures that align with GHG reduction goals of California's 2017 Climate Change Scoping Plan, SCAG's RTP/SCS, and the City's Green LA Climate Action Plan, Sustainable City pLAn, and Green New Deal.

Similar to the proposed Project, Alternative 2 implementation would not interfere with any statewide or regional initiatives to reduce GHG emissions, and would contribute to the expansion of renewable energy infrastructure by installing 70,000 square feet of rooftop solar panels, in addition to the separate LADWP project that would provide up to 163,000 square feet of solar panel coverage. Additionally, implementation of the proposed Project would enhance transportation sustainability by providing a more efficient internal circulation network for patrons, employees, and vendors, providing high-efficiency outdoor lighting throughout the Zoo property and in the parking lots and parking structure, and improving pedestrian and bicyclist safety and public transit accessibility along Western Heritage Way/Crystal Springs Road by roadway reconfigurations and signaling the intersection of Zoo Drive & Western Heritage Way.

Implementation of Alternative 2 would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This impact would be less than the proposed Project and *less than significant*. Though not directly required to reduce

impacts associated with GHG emissions, **MM UF-1**, **MM UF-2**, **MM HYD-2**, **MM T-2**, and **MM UT-1** would result in further reductions in overall GHG emissions generated by Alternative 2 and/or consistency with applicable plans, policies, and regulations adopted with the intent of reducing GHG emissions.

Hazards and Hazardous Materials

HAZ-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction and operation of Alternative 2 would result in similar impacts associated with hazardous materials when compared to the proposed Project. Similar to the proposed Project, construction for Alternative 2 implementation would result transportation, use, storage, and disposal of small quantities of commercially available hazardous materials, which would be handled in compliance with federal, state, and local regulations pertaining to their transport, use, or disposal. As such, the potential for hazardous materials release would be limited to disturbance of contaminated soil during ground-disturbing activities and accidental spill of chemicals, petroleum, oils, and lubricants within the construction staging areas on the Project site or transportation routes. Compliance with federal, state, and local regulations related to the safe transportation of hazardous materials as well as oversight by the appropriate federal, state, and local agencies would minimize the risk of hazardous materials exposure during transport. Additionally, ACM, LBP, contaminated soils, or other hazardous material encountered during demolition or construction activities would be disposed of in compliance with all pertinent federal, state, and local regulations for the handling of such waste. Therefore, construction associated with Alternative 2 implementation would result in *less than significant* impacts with regard to the transport of hazardous materials and disposal of hazardous wastes, similar to the proposed Project.

All hazardous materials used onsite for operation of Alternative 2 would be subject to all applicable regulations and documentation for the handling, use, and disposal of such materials consistent with all appropriate federal, state, and local regulations and standards established by the U.S. EPA, CalEPA, SCAQMD, Los Angeles County, and the City to protect the public health and safety. If necessary, appropriate permits, worker training, and agency inspections would be obtained and provided. Implementation of standard good housekeeping measures, BMPs, site maintenance, and security precautions, as well as compliance with standards and regulations would ensure potential impacts related to the routine transport, use, or disposal of hazardous materials are *less than significant*, similar to the Project.

HAZ-2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involved the release of hazardous materials into the environment?

Similar to the Project, ACM, LBP, contaminated soils, or other hazardous material encountered during demolition or construction activities would be disposed of in compliance

with all pertinent federal, state, and local regulations for the handling of such waste. Ground-disturbing activities (i.e., excavation, trenching, grading) during proposed improvements to Condor West, the Construction Shop and Support area, and the Gottlieb Animal Health and Conservation Center under Alternative 2 has the potential to disturb historic contaminated soil and hazardous vapors associated with the fueling station located within the visitor-restricted Zoo Construction Shop and Support area. Alternative 2 implementation may result in incrementally increased potential for encountering off-site contamination adjacent to the southern parking lot and Autry Museum (refer to Section 3.9, Hazards and Hazardous Materials) due to construction and depending on the location of off-site transportation improvements. Similar to the proposed Project, implementation of **MM HAZ-1** would require a Phase II ESA to evaluate the presence of hazardous soil contamination and vapor intrusion in the vicinity of the existing fueling station, the southern parking lot, and north of the Autry Museum prior to demolition and grading activities. In the event that the Phase II ESA identifies soil and/or groundwater contamination at or above regulatory levels, implementation of **MM HAZ-2** would require remediation activities prior to the issuance of grading permits to ensure no adverse impacts from exposure to soil contamination. With mitigation to address potential soil contamination and ACM and LBP within older structures during demolition and excavation, impacts to hazardous materials would be similar to the Project and *less than significant with mitigation*.

HAZ-3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Similar to the proposed Project, Alternative 2 would include construction involving the use of commercially available potentially hazardous materials in the immediate vicinity of the Zoo Magnet Center (i.e., circulation and parking improvements and Zoo Entry renovation in Phase 1). Alternative 2 implementation would result in incrementally increased construction impacts to the school and additional construction in the immediate vicinity for the multi-modal improvements (e.g., pedestrian and bicycle connections, transit facilities). However, all construction activities associated Alternative 2 would comply with applicable federal, state, and local regulations relating to protection of the public and the environment from exposure to hazardous materials. Further, **MM HAZ-1** would require the preparation of a Phase II ESA to ensure no adverse impacts related to hazardous emissions or spills would occur during implementation of Alternative 2. As such, construction impacts related to hazardous emissions and hazardous materials, substances, and waste within 0.25 miles of a school would be the same as the Project and *less than significant with mitigation*. After construction is complete and the heavy equipment is removed from the Project site, the potential for hazardous spills would be low and similar to existing conditions at the Project site. Therefore, operational impacts related to hazardous emissions and hazardous materials, substances, and waste within 0.25 miles of a school would be *less than significant*, similar to the Project.

HAZ-4: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

As described in Section 3.9, *Hazards and Hazardous Materials*, while the Project site is included on several databases for its operation as a small quantity generator of hazardous waste, the Zoo is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Alternative 2 would include the reconfiguration of Crystal Springs Drive along the periphery of the Zoo parking lots, which would potentially affect the area adjoining a listed leaking UST site, and development of a reduced-size parking structure and improvements to the Zoo Drive/Western Heritage Way intersection, which may encounter contaminated soils from an offsite site cleanup. Similar to the Project, **MM HAZ-2** would be implemented to ensure any contaminated soils are properly removed, handled, and transported to an appropriately licensed disposal facility, in accordance with local and state regulations. With implementation of **MM HAZ-2**, near-term and long-term construction activities would have a *less than significant* impact to sites included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and as such, would not create a significant hazard to the public or the environment, similar to the Project.

HAZ-5: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Zoo maintains emergency preparedness procedures in the event of an emergency and/or evacuation in accordance with the AZA accreditation standards. Similar to the proposed Project, all buildings and structures under Alternative 1 would be constructed in compliance with the applicable state and City building, fire, and emergency access codes to meet current fire protection standards. Alternative 2 does not propose changes, obstructions, or reconfigurations to public evacuation routes, so Alternative 2 would not result in physical interference or impairment to implementation of this existing emergency and evacuation plan. While construction activities associated with Alternative 2 would add vehicles (e.g., construction equipment, worker vehicles, etc.) to regional and local roads that could increase congestion, emergency access would be maintained during construction with implementation of **MM T-1**, which would require preparation and implementation of a Construction Traffic & Access Management Plan for each phase of Alternative 2 (refer to Section 3.15, *Transportation*). Therefore, similar to the Project, Alternative 2 would not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts would be *less than significant*.

Hydrology and Water Quality

HYD-1: Would the project violate any water quality standards or waste discharge requirements or otherwise degrade water quality?

Similar to the proposed Project, Alternative 2 would involve earthwork activities, including excavation, that would disturb soils and increase the potential for soil erosion and sediment transport into the Los Angeles River during periods of rainfall or runoff. Larger improvements such as excavation of Condor Canyon, installation of new exhibits within hillside areas, installation of the Zoo's proposed subterranean stormwater management system, and development of the reduced-size multi-story parking structure would result in the greatest amount of earthwork and soil disturbance across the Project site. Alternative 2 could result in additional impacts to the Los Angeles River during construction of additional bicycled and pedestrian improvements, which may include additional bridges across the river. Similar to the Project, Alternative 2 would be required to implement construction BMPs to address soil erosion, including topsoil mobilization and loss, and urban runoff in compliance with the City's Stormwater and Urban Runoff Pollution Control Ordinance (Chapter VI Article 4.4 of the LAMC). All stormwater generated during construction would continue to be directed either to the Zoo's existing storm drain system and Zoo Wastewater Facility (or to the proposed stormwater collection system for the respective area for each completed phase) in the near-term phases, or the proposed onsite stormwater management system in the long-term phases, similar to the proposed Project. The Zoo Wastewater Facility would continue to remove silt and grit from the stormwater before discharging to the City's North Outfall Sewer for treatment at the LAGWRP, significantly reducing or eliminating any sediment and polluted runoff generated during construction that would flow into the existing or proposed stormwater system. In addition, implementation of **MM HYD-1** through **MM HYD-3**, requiring preparation of a stormwater management plan to determine the appropriate sequencing of improvements, preparation of a SWPPP, and implementation of standard construction BMPs, and timing of construction to avoid adverse effects of seasonal storms would reduce potential for mobilization of sediments and typical construction pollutants during all phases of Alternative 2 construction. Therefore, implementation of these measures would reduce associated impacts on water quality from earthwork and typical construction activities to *less than significant with mitigation*, similar to the Project.

Ground disturbing activities associated with construction of the Africa planning area (Phase 3) and improvements to Condor West, the Construction Shop and Support area, and the Gottlieb Animal Health and Conservation Center (Phase 4) have the potential to degrade surface water quality through the disturbance of historic contaminated soil. Additionally, realignment of Western Heritage Way/Crystal Springs Road, installation of traffic signals and potential intersection lane improvements (e.g., road widening and sidewalk improvement), and installation of other multi-modal improvements (e.g., transit connections, bicycle and pedestrian facilities) could disturb potential contamination from equipment leaks or spill of stored hazardous chemicals or leaks from the USTs located at or adjacent to the Zoo's storage

yard at the southern parking lot and Autry Museum (refer to *Hazards and Hazardous Materials*). However, implementation of **MM HAZ-1** and **MM HAZ-2** would require a Phase II ESA to evaluate the presence of hazardous soil contamination and vapor intrusion in the vicinity of the existing fueling station, the southern parking lot, and north of the Autry Museum, and remediation activities if necessary to ensure no adverse impacts from exposure to soil contamination. Therefore, with these measures, potential impacts to water quality from soil contamination would be *less than significant with mitigation*, similar to the Project.

Operation of the Zoo during implementation of Phases 1 through 3 (through 2030) would result in pollutant discharges and runoff similar to existing conditions. However, following Phase 3, all stormwater within the Zoo would be directed to the proposed onsite stormwater management system and proposed LID features. Similar to the proposed Project, the proposed stormwater collection system under Alternative 2 would be designed to capture 100 percent of stormwater runoff generated during a typical 2-year, 24-hour rainfall event. During larger storm events when capacity of the stormwater collection system is exceeded, stormwater would overflow to the Zoo Wastewater Facility and undergo the same level of treatment as occurs under existing conditions. Implementation of the stormwater collection system and proposed LID features would improve the water quality within the Zoo drainage area during operation of the Zoo to the same extent as the proposed Project (refer to Section 3.10, *Hydrology and Water Quality*).

Similar to the proposed Project, the proposed stormwater collection system under Alternative 1 would be designed to capture 100 percent of stormwater runoff generated during a typical 2-year, 24-hour rainfall event. During larger storm events when capacity of the stormwater collection system is exceeded, stormwater would overflow to the Zoo Wastewater Facility and undergo the same level of treatment as occurs under existing conditions. Implementation of the stormwater collection system and proposed LID features would improve the water quality within the Zoo drainage area during operation of the Zoo to the same extent as the proposed Project (refer to Section 3.10, *Hydrology and Water Quality*). With implementation of **MM HYD-6**, stormwater impacts would be similar to the Project and *less than significant with mitigation*.

HYD-2: Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Similar to the proposed Project, Alternative 2 would continue to use the LADWP water supply and would not draw from local groundwater. Alternative 2 would expand the existing animal exhibits and develop currently undeveloped portions (i.e., California and Africa planning area hillsides) of the Zoo, which would increase impervious surfaces from 51 percent to approximately 70 percent in the near-term (i.e., by 2030). No increase in impervious surfaces would occur during the long-term (i.e., by 2040) development as long-term improvements

would involve redevelopment of currently paved and developed areas. Permeable pavements and other LID features would be included in the final design of Alternative 2 components to facilitate onsite percolation where feasible. As described for the proposed Project, Alternative 2 effects on amount of percolation and groundwater recharge would be incremental relative to the 144,640-acre San Fernando Valley Groundwater Basin (SFVGB) area. Therefore, Alternative 2 would not have an adverse effect on groundwater recharge, and impacts to groundwater infiltration would be *less than significant*, similar to the Project.

Groundwater at the Project site and immediate vicinity may be contaminated due to a former leaking UST and Superfund cleanup site in proximity to the Zoo's parking lot and Western Heritage Way, as well as from fueling dispensers, USTs, and associated piping within the Zoo Construction Shop and Support area and existing storage yard (refer to Section 3.9, *Hazards and Hazardous Materials*, for further discussion of the potential groundwater contamination onsite). Implementation of **MM HAZ-1** would require the City to prepare a Phase II ESA to determine whether contamination exists and, if so, the extent of contamination within the Project site. If contaminants are detected in soil at or above regulatory levels, then the results of the soil sampling shall be reviewed and acted upon by the LAFD and other regional or state regulatory agencies as needed. Therefore, Alternative 2 impacts to groundwater contamination on- and offsite would be similar to the Project and *less than significant with mitigation*.

The potential to encounter groundwater under Alternative 2 is limited, similar to the Project, particularly on hillsides in the California and Africa planning areas where depth to groundwater is greater than interior canyon areas of the existing Zoo. Groundwater dewatering may still be necessary for the construction of subterranean structures in areas with a high groundwater table (e.g., Treetops Terrace subterranean kitchen). In cases where there is a high or perched groundwater table where the floor of subterranean structure encounters the groundwater table, ongoing groundwater dewatering may be necessary to prevent the percolation or inflow of groundwater into excavation pits and future basement levels. If dewatering is necessary, the City would obtain a dewatering permit from the Los Angeles RWQCB in compliance with existing RWQCB regulations and the requirements of the NPDES permit program. A geotechnical report for each phase (required under **MM GEO-1**) would be required to identify known historic groundwater levels onsite and identify measures to address groundwater impacts such as dewatering during construction as needed to protect against water contact and to minimize the seeping of water into the subterranean structure. All recommendations and design features in the geotechnical report are required to be incorporated into the final building design. Therefore, impacts on groundwater quality and recharge from Alternative 2 implementation would be similar to the Project and *less than significant with mitigation*.

HYD-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite? Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?

Alternative 2 would alter the onsite drainage pattern to the same extent as the proposed Project through excavation, grading, and development of the undeveloped California and Africa hillsides, installation of the proposed stormwater collection system, and increases in development and impervious surfaces. Generally, all Alternative 2 construction activities, particularly those involving substantial soil excavation, would result in exposure of soils and would cause minor alterations to onsite drainage, including the potential for temporary ponding during storm events. However, all stormwater generated during construction would continue to be directed either to the Zoo's existing storm drain system in the near-term phases, or the proposed onsite stormwater management system in the long-term phases. Alternative 2 would also be required to comply with the Stormwater and Urban Runoff Pollution Control Ordinance (Chapter VI Article 4.4 of the LAMC) to address soil erosion, including topsoil mobilization and loss, and urban runoff. Compliance with existing City regulations and implementation of **MM HYD-1** through **MM HYD-3** would reduce soil erosion impacts of Alternative 2 to the same extent as the Project and would be *less than significant with mitigation*.

While not expected, if dewatering of groundwater is required based on onsite groundwater depth in some phases, it would be accomplished in accordance with Los Angeles RWQCB's Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (refer to Impact HYD-2). Construction activities would alter onsite drainage, subject to requirements to control water quality and stormwater flows, but would not alter drainage patterns or amounts offsite to the Zoo Wastewater Facility or the Los Angeles River; therefore; similar to the Project, construction activities associated with Alternative 2 would result in a *less than significant* impact.

Following construction, Alternative 2 would not increase the potential for soils to be subject to wind or water erosion. Implementation of **MM HYD-4** through **MM HYD-6** would require preparation of an O&M Plan, application of gorilla mulch over landscaped areas, and pre-treatment, filtering, and other LID features as part of the stormwater collection system to ensure continued water quality benefits from the LID features and the stormwater collection system. Similar to the proposed Project, Alternative 2 would result in beneficial impacts to soil erosion associated with reducing surface runoff and directing all stormwater runoff into the proposed stormwater collection system, rather than conveying runoff to the Los Angeles River. With adherence to existing state and local regulations and mitigation

measures that address soil erosion, impacts to receiving waters potentially resulting from erosion would be the same as the proposed Project and *less than significant with mitigation*.

Alternative 2 would result in the same increase in impervious surfaces onsite as compared to the proposed Project. Similar to the Project, Alternative 1 would include substantial stormwater retention and treatment facilities onsite to accommodate stormwater runoff and avoid on and offsite increases in flooding, consistent with the requirements of the City's Stormwater and Urban Runoff Pollution Control Ordinance (LAMC Article 4.4) and the SWRCB's Post-Construction Requirements. Similar to the Project, the proposed onsite stormwater management system under Alternative 1 would be designed to capture stormwater runoff, reduce peak flows, and reduce flow to the Zoo Wastewater Facility and ultimately the Los Angeles River. The remaining runoff not captured by the stormwater management system would be from the parking lots, which drain into existing LID features for onsite treatment prior to flowing to the Los Angeles River. The increase in pervious surfaces under Alternative 1 and additional point and non-point source water retention features (e.g., vegetated retention basins and pervious paving) would further slow and retain surface flows. Overflows of the stormwater management system would be directed to the Zoo Wastewater Facility. Following desilting and grit removal at the Zoo Wastewater Facility, stormwater would continue to be discharged to the North Outfall Sewer, which would direct water to the LAGWRP, similar to existing conditions for all stormwater within the Zoo. Since the volume of stormwater directed to the Zoo Wastewater Facility would be substantially reduced when compared to existing conditions, the Zoo Wastewater Facility total capacity of 1.8 million gallons would be adequately sized to accommodate overflow runoff from the Zoo. As such, stormwater would be adequately managed, maintained, and attenuated through on- and offsite stormwater control features, which are designed consistent with the requirements of the City Stormwater and Urban Runoff Pollution Control Ordinance and SWRCB Post Construction Requirements. Therefore, similar to the Project, Alternative 2 impacts to onsite and offsite flooding would be *less than significant*.

HYD-4: Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Alternative 2 would result in a 19 percent increase (51 percent to 70 percent) in impervious surfaces that would occur primarily from development of the California and Africa planning areas (Phases 1 and 3, respectively), which would decrease water infiltration and increase stormwater runoff at the Zoo. However, implementation of the proposed stormwater collection system would substantially reduce stormwater runoff and peak flow by capturing and storing all rainfall from the Zoo and the 79.7-acre hillside area adjacent to the Zoo for reuse onsite as irrigation water. Additional LID features, such as bioretention cells and vegetated bioswales, would be considered during final design of the planning areas to retain runoff and increase infiltration. The substantial reduction in surface runoff and peak flow would result in minor beneficial impacts on water quality, as the reduced volume and velocity

of stormwater flows would reduce the rate of soil erosion and sedimentation. Therefore, implementation of the stormwater collection system would result in beneficial and *less than significant* impacts to polluted runoff, similar to the Project.

The proposed stormwater collection system would reduce the volume of discharge to the Zoo Wastewater Facility by up to 35 million gallons per year (see also, *Utilities below*) and up to 95,890 gallons per day; therefore, this system would not be exceeded during the 2-year or the 100-year storm events (refer to Section 3.10, *Hydrology and Water Quality*). The proposed stormwater collection system would also subsequently reduce the volume of discharge from the Zoo Wastewater Facility to the City's North Outfall Sewer. The Zoo Wastewater Facility would continue to hold animal pond water and overflow stormwater from the Zoo until the demand for wastewater discharge is low (i.e., nighttime). Thus, the Zoo Wastewater Facility would prevent exceedance of the North Outfall Sewer's capacity. Therefore, implementation of the stormwater collection system would result in beneficial and *less than significant* impacts to existing stormwater drainage systems, similar to the proposed Project.

Land Use and Planning

LU-1: Would the project cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Alternative 2 would include TDM measures and improvements to transit and active transportation services and infrastructure that would better align with the VMT reduction and land use planning goals of the SCAG 2016 RTP/SCS. Alternative 2, with implementation of required mitigation measures and required consistency with existing regulations, would be consistent with the SCAG RTP/SCS, Los Angeles General Plan, Hollywood Community Plan, L.A.'s Green New Deal, and LAMC, as well as the Vision Plan for Griffith Park as it applies to areas outside of Zoo property. Therefore, similar to the proposed Project, land use impacts from Alternative 2 would be *less than significant with mitigation*.

Noise and Vibration

NOI-1: Would the proposed Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Similar to the proposed Project, construction activities associated with Alternative 2 would generate noise levels typical of construction. The most perceptible levels of construction noise would likely occur during Phase 1 when the Zoo Entry and California planning area improvements are underway, including excavation, blasting of Condor Canyon, and building construction, concurrent with improvements to the Zoo's southern parking lot, realignment of Western Heritage Way/Crystal Springs Road, the Zoo Drive & Western Heritage Way

intersection, and additional multi-modal improvements proposed under Alternative 2. Similar to the proposed Project, the building construction activity would be the loudest phase of construction and would generate a noise level of approximately 86.2 dBA L_{eq} at 50 feet. Equipment noise levels during general construction activities would exceed 75 dBA L_{eq} at nearby sensitive receptors during Phases 1, 2, 3, 5, and 6. During Phase 1 the Zoo Magnet Center and the Wilson and Harding Golf Courses would experience noise level above 75 dBA L_{eq} (Table 3.12-9). For Phases 2, 3, 5, and 6 the only sensitive receptor that would experience noise levels above 75 dBA L_{eq} is Wilson and Harding Golf Courses. Pile driving activity related to the Zoo aerial tram would result in a noise level of 77.4 dBA L_{eq} at the Wilson and Harding Golf Courses. However, golfers would move further away from the noise source as they play through each hole resulting in reduced noise levels. Furthermore, the existing ambient noise levels are elevated at the golf course due to the presence of the I-5 freeway to the east. Blasting activity associated with the proposed Condor Canyon would also result in the exceedance of 75 dBA L_{max} at the Skyline Trail in Griffith Park. Blasting noise would be an instantaneous event and would not result in extended noise impacts over the duration of construction activity.

MM NOI-1 through **MM NOI-5** would substantially reduce construction noise levels. The equipment mufflers associated with **MM NOI-1** would reduce construction noise levels by approximately 3 dBA. **MM NOI-2** through **MM NOI-4**, although difficult to quantify, would also reduce and/or control construction noise levels. **MM NOI-4** would require coordination with the construction contractor and the coordinator of the Zoo Magnet Center to avoid disruption to classroom instruction. **MM NOI-5** would reduce construction noise levels by approximately 10 dBA at Zoo Magnet Center by installing temporary noise barriers around the property boundary. Similar to the proposed Project, with implementation of these measures, noise levels would be reduced to approximately 66 dBA L_{eq} at the exterior of the school, which would be below the 75 dBA L_{eq} standard. Therefore, Alternative 2 impacts related to construction noise would be *less than significant with mitigation*, similar to the Project.

Stationary noise sources introduced under Alternative 2 would be similar to existing noise sources. Stationary noises sources include Zoo visitors conversing in the park, noise from animals, noise related to special events, mechanical equipment noise within the park, service vehicles, the PA system, parking noise, and background music. However, increased attendance due to Zoo expansion, new Zoo facilities, and Zoo programming may result in increased noise levels and expanded duration of operational noise, including after-hours noise from evening special events, similar to the proposed Project. While additional transit service to the Zoo may result in increased operational noise levels from buses, Alternative 2 would also incorporate active transportation improvements to encourage bicycling and walking to the Project site, which would reduce operational noise from vehicle traffic and parking. **MM NOI-6**, which would require the Zoo to orient shop faces inwards toward Zoo property, is intended to reduce service area noise through thoughtful design. Therefore,

Alternative 2 impacts related to operational noise from stationary and mobile sources would be similar to the proposed Project and *less than significant with mitigation*.

NOI-2: Would the proposed Project result in generation of excessive groundborne vibration or groundborne noise levels?

Alternative 2 would implement similar construction and blasting activities as the proposed Project. Therefore, construction associated with Alternative 2 would result in similar short-term, intermittent, and localized vibration levels from the use of typical construction equipment, pile driving, and blasting activity, and impacts would be *less than significant*.

Similar to the proposed Project, Alternative 1 does not include stationary sources of vibration, such as heavy-duty industrial equipment. Regarding additional traffic, the FTA has stated that rubber-tired vehicles do not typically generate perceptible vibration levels outside of the right-of-way. Additionally, Alternative 1 would result in reduced vehicle traffic to the Project site, as compared to the proposed Project. There are no operational sources of vibration that would generate vibration levels that exceed 75 VdB. Therefore, impacts associated with operational vibration would be similar to the Project and *less than significant*.

Reduced construction vibration under Alternative 1 would also result in reduced potential disturbance of Zoo animals, particularly elephants. As the Zoo has done in the past during construction, measures to protect these animals may include temporary relocation away from construction activities, closure of exhibits, or even the transfer of animals to other zoos. Accommodations specific to each animal would be developed during the planning process for each phase and details would be included in final construction plans. With continued management of each species of animal exhibited or rehabilitated at the Zoo and required compliance with the AWA, there would be no adverse effects on Zoo animals from vibration during construction of Alternative 2.

Public Services

PS-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection?

Construction of Alternative 2 would introduce a potential ignition source for fires (e.g., flammable materials, sparks) and may create hazardous conditions requiring EMS; however, LAFD maintains fire response and EMS at adequate levels to respond to incidents at the Zoo during Project construction. Construction contractors and their work crews would employ “good housekeeping” procedures (e.g., proper maintenance of mechanical equipment and proper storage of flammable or other hazardous materials) to reduce risk of potential fires, hazardous spills of other conditions during construction that would require fire protection

and EMS. Further, construction of Alternative 2 would comply with CalOSHA, LAMC Fire Code, and CBC regulations pertaining to application of BMPs and other measures for reducing risks associated with construction. Therefore, Alternative 2 construction would not require additional firefighting or EMS personnel or new or expanded facilities.

Construction activities would result in temporary changes to roadways, access points, and staging areas currently used by LAFD to respond to incidents in the Zoo and nearby areas in Griffith Park. However, Alternative 2 would not directly impair designated County or City Disaster Routes along I-5, SR-134 and San Fernando Road, as all development would be contained to the Zoo and roadways serving the Zoo. Implementation of **MM T-1**, requiring a Construction Traffic & Access Management Plan with measures for controlling and ensuring continued access to the Zoo and through the interior of the Zoo circulation system, would address impacts from construction of proposed improvements on emergency access and response. Therefore, impacts associated with hinderance of emergency response times during Alternative 2 construction would be *less than significant with mitigation*.

Under Alternative 2, the anticipated increase in annual visitation to 3,000,000 guests and the hiring of approximately 531 additional staff by 2040 has the potential to result in increases the frequency of incidents with commensurate increases in demand for fire protection and EMS from LAFD. Due to the acceptable response times from Station No. 56, which currently serves the Project site, the LAFD would have adequate resources and personnel to continue to serve the Zoo without needing to expand any facilities or personnel. Similar to the proposed Project, Alternative 2 components would be constructed in accordance with applicable sections of the LAMC Fire Code and CBC, which require the provision of adequate emergency access, use of ignition-resistant construction materials, installation of automated fire suppression systems, emergency water supply and adequate fire flow rates, and appropriate defensible space requirements. Alternative 2 would also include emergency evacuation plans allowing for quick and safe evacuation of Zoo guests, employees, and Zoo animals in the event of an emergency. Consistent with LAFD standards, this combination of development standards for new development and existing LAFD service capabilities would ensure demands for fire protection and EMS would continue to be met under Alternative 2. Therefore, no additional LAFD facilities or personnel would be required to serve Alternative 2, and impacts related to fire response and EMS demand would be *less than significant*.

In addition to the roadway and circulatory improvements proposed by the Project (i.e., intersection improvements at Zoo Drive & Western Heritage Way, realignment of Western Heritage Way/Crystal Springs Road, increased parking), Alternative 2 would further reduce vehicle congestion through the expansion of transit service and bicycle connections to the Project site. These additional improvements under Alternative 2 would reduce congested circulation and improve direct access to the Zoo for firefighters and EMS. Similar to the proposed Project, emergency vehicle access to the interior of the Zoo would be expanded and enhanced by the reconfiguration of internal roads, installation of a perimeter ground tram road, and improved service roads with access to high fire hazard areas along the Zoo's

perimeter. Proposed improvements to site circulation and access under Alternative 2 would maintain or improve emergency access to the site to a greater extent than the proposed Project. Therefore, impacts to fire protection and emergency response services would be less than the proposed Project and *less than significant*.

PS-2: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

As Alternative 2 is anticipated to result in the same increase in annual visitation as the proposed Project, Alternative 2 would equally increase the demand for additional police protection at the Zoo, with calls possibly related to theft, trespassing, car break-ins, or vandalism, especially during highly-attended special events. To address anticipated increase in demand for law enforcement services, Alternative 2 would include construction of a new 13,000 sf single-story security and first aid center, located within the proposed entry plaza where it would be easily accessible to Zoo guests, and the hiring of additional security personnel to accommodate such needs. Zoo Security would continue to respond to most incidents at the Zoo, therefore, not causing a substantial increased demand for LAPD services. Because Zoo Security is provided onsite and would not regularly necessitate responses from community LAPD stations, Alternative 2 would not substantially interfere with LAPD response times.

As described in Section 3.13, *Public Services*, while the Project site is in an area with comparatively low crime rates, has an adequate officer-to-resident ratio, and provides adequate response times, the Zoo currently experiences a relatively high number of vehicle theft/break ins. Similar to the Project, this trend is expected to continue since Alternative 2 would maintain the open, publicly accessible parking lot and does not propose measures to limit access or increase patrol or parking lot security. However, Alternative 2 would encourage other modes of transportation to the Zoo through expansion of transit facilities and service lines to the Zoo, construction of additional bicycle connections to Griffith Park, and employee and visitor incentives for transit use. Therefore, Alternative 2 would result in slightly reduced impacts to vehicle safety when compared to the proposed Project. Implementation of **MM PS-1**, requiring the Zoo implement measures to increase security of the Zoo's parking lot areas such as frequent patrolling and installation of additional surveillance cameras, would help to reduce the likelihood of vehicle theft/break in and manage crime within the Zoo, thereby reducing LAPD and Zoo Security demands. Further, improvements to Zoo facilities would include modernization of security systems such as access control to buildings, secured parking facilities, walls/fences with key systems, and well-illuminated spaces designed with a minimum of dead space to eliminate areas of concealment.

If all 531 new jobs anticipated to be created under Alternative 2 were also new residents, this growth would represent less than a 0.02 percent increase in the existing service population and would not measurably affect the resident-to-officer ratio of the LAPD. Further, most jobs associated with the proposed Project are anticipated to be filled by the existing local or regional labor force within the City, surrounding cities, and surrounding Los Angeles region. Therefore, any net population increase generated by Alternative 2 is anticipated to be nominal and would not substantially affect LAPD officer-to-resident ratios. Existing resources of the LAPD and Northeast Community Police Station are adequate to continue providing acceptable levels of service to the Zoo with Alternative 2 implementation. As discussed above, with implementation of **MM PS-1** to address increased law enforcement issues from vehicle theft/break ins, impacts to public safety and police protection services would be similar to the proposed Project and *less than significant with mitigation*.

PS-3: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts?

Similar to the proposed Project, Alternative 2 would not include residential development, and therefore, would not result in an increased number of school-aged children in the LAUSD. Alternative 2 would create approximately 531 new jobs, but it is anticipated that these jobs would be filled by the existing local workforce, and, therefore, would not create population growth in the area, thereby increasing demand for public school services.

Alternative 2 would not result in physical changes to existing LAUSD facilities, including the Zoo Magnet Center, since most Alternative 2 improvements would occur within Zoo planning areas inside the Zoo and away from the Zoo Magnet Center. However, Alternative 2 would realign Crystal Springs Drive to the perimeter of the southern parking lot and would add approximately 300 guest surface parking spaces in the southern parking lot, immediately adjacent to the Zoo Magnet Center through removal of existing Zoo uses and restriping of parking spaces. While there has historically not been significant conflict in parking availability for Zoo Magnet Center and Zoo guests (refer to Section 3.13, *Public Services*), Alternative 2 implementation is anticipated to increase daily attendance to the Zoo and substantially increase demand for Zoo parking (refer to Section 3.15, *Transportation*). Even with the additional 300 parking spaces to the southern parking lot during Phase 1, the construction of a new parking structure during Phase 7, and the implementation of the TDM Program, the potential remains for an increased demand for parking to reduce parking availability for Zoo Magnet Center visitors, staff, and buses. To ensure parking availability remains for Zoo Magnet Center students and staff and avoid the need for additional facilities to serve school operations, **MM PS-2** would require improvements to the southern parking lot to include designated parking spaces for Zoo Magnet Center school buses and implement parking hour limitations to accommodate 10 teachers, the office administrator, and campus counselor, with an additional reserve space for visitors. Reserved parking stalls would be in

effect during hours of Zoo Magnet Center operation. With implementation of this measure, Alternative 2 impacts to schools would be *less than significant with mitigation*, similar to the Project.

Under Alternative 2, expansion of resources available to Zoo Magnet Center students, including animal observation space, may improve the quality or quantity of educational opportunities for students. Under Alternative 2, expanded Zoo facilities would aid in the Zoo's mission of expanding animal conservation programs and expand the Zoo's capacity to provide care for additional animals. As such, Alternative 2 could increase both the number of zookeepers employed by the Zoo and animals under their care, which in turn, could expand educational programs available to Zoo Magnet School students.

Recreation

REC-1: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Similar to the proposed Project, Alternative 2 would upgrade the Zoo Drive/Western Heritage Way intersection with a new signal in Phase 1. The signalization of this intersection would not affect the mobility of pedestrians, bicyclists, and equestrians along the Main Trail or affect their safety. Therefore, implementation of Alternative 2 would substantially reduce impacts to mobility and safety along the Main Trail as compared to the proposed Project, and impacts associated with accessibility to recreational resources would be *less than significant*.

Alternative 2 would increase Zoo visitation and increase visitor-serving spaces within the Project area to the same extent as the proposed Project. Expansions and improvements to Zoo facilities under Alternative 1 would be contained within existing Zoo boundaries. Thus, Alternative 1 would result in no net loss of recreational lands and would not cause direct impacts to recreational facilities within Griffith Park or elsewhere, similar to the proposed Project. Further, the addition of a 2-acre public park to the north of the proposed parking structure would slightly expand recreational amenities within Griffith Park. Within the Zoo, the proposed Nature Play Park would replace the existing children's playground within the Zoo, named the Papiano Play Park, increase the playground size threefold to 18,300 square feet of a natural play area equipped with play structures and water features, and relocate the park nearby the main entrance.

Similar to the proposed Project, Alternative 2 would not facilitate indirect population or economic growth within the City or greater region that would place demand on recreation and park services compared to the existing level of service available. The approximately 513 new jobs generated by Alternative 1 implementation are anticipated to be supplied by the existing local or regional labor force within the City, surrounding cities, and surrounding Los Angeles region. Therefore, any net population increase spurred by Alternative 1 is anticipated to be less than under the proposed Project and nominal. As such, no additional demand on

existing recreational facilities or for new recreational amenities is anticipated as a result of Alternative 1 implementation, similar to the Project. Therefore, Alternative 2 impacts would be *less than significant*.

REC-2: Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Under Alternative 2, redevelopment and expansion of existing facilities and the construction of new facilities within the Zoo would improve the recreational value and opportunities provided by the Zoo. Alternative 2 would include the public park in the northern parking lot as proposed for the Project. Alternative 2 would also involve the construction of additional bicycle and pedestrian enhancements and connected in the Project vicinity, which may serve as a recreational resource as well as additional connections to Griffith Park. These recreational improvements would result in impacts to the environment, including adverse effects to air quality, biological resources, cultural and tribal resources, the City's urban forest, geology and soils, hazards and hazardous materials, and transportation, as described in this EIR similar to the Project. Where potentially significant impacts are identified as they relate to the construction or expansion of recreational facilities, applicable existing regulations or appropriate mitigation is identified which would reduce associated Alternative 2 impacts. With implementation of the regulations and required mitigation measures, impacts from the construction or expansion of recreational facilities would be similar to the Project and *less than significant*.

Transportation

T-1: Would the project cause a significant environmental impact due to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Alternative 2 would include a comprehensive TDM program that expands multi-modal transportation to the Zoo and would align with the VMT reduction goals and objectives within the SCAG's 2016 RTP/SCS, Los Angeles General Plan, Mobility Plan 2035, Hollywood Community Plan, Griffith Park Vision Plan, Green New Deal Plan, and Plan for a Healthy Los Angeles. As described for the proposed Project, Alternative 2 would be consistent with the plans listed above to a greater extent than the proposed Project due to overall reduced VMTs, and multi-modal local and regional transportation policies. Alternative 2 would not cause significant environmental impacts due to conflicts with any transportation plan, policy, or regulation, and impacts would be similar to the Project and *less than significant with mitigation*.

T-2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Alternative 2 construction activities would result in additional VMT in the Project vicinity and on the I-5 and SR-134 freeways, associated with construction materials deliveries, soil import and export, export of demolition debris, and construction worker trips. Construction-related increases in VMT would occur intermittently and would be lower in volume than the construction vehicle trips and VMT associated with the proposed Project. The Construction Traffic & Access Management Plan required under **MM T-1** would further reduce construction VMT impacts through provisional measures to reduce construction traffic and associated VMT.

As described in Section 3.15, *Transportation*, the Zoo is currently isolated from major and local transit hubs, with only two transit lines (i.e., Parkline Shuttle and Metro Line 96) currently serving the Project site. Alternative 2 would include comprehensive TDM measures associated with the expansion of transit services to serve the Project site and encourage the use of transit by visitors and employees. While Alternative 2 implementation would increase daily VMT over existing conditions due to the addition of new employees and an increase of approximately 1.2 million new annual visitors, Alternative 2 would meet an overall goal of reducing projected Zoo VMT by 15 percent (5 percent greater than **MM T-2** under the proposed Project). As such, daily visitor VMT on weekends (the highest attendance days) in 2040 would be reduced from 136,287 under the proposed Project to approximately 115,844 under Alternative 2. Daily employee VMT on Mondays and Fridays in 2040 would be reduced from 24,436 under the proposed Project to 20,771 under Alternative 2. While Alternative 2 would result in a significant reduction in operational visitor and employee VMT when compared to the proposed Project without additional mitigation, this alternative's VMT estimates would still exceed the TAG's established net-zero VMT threshold for event centers and regional-serving entertainment venues. Therefore, Alternative 2, similar to the Project, would have *significant and unavoidable* impacts related to increased VMT.

T-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Alternative 2 construction would increase construction traffic and congestion associated with truck trips, construction worker vehicle trips, and other construction-related trips on the surrounding street network and I-5 and SR-134 freeways throughout the construction period. Heavy truck traffic entering and exiting the intersection of Zoo Drive & Western Heritage Way could interfere with pedestrian and bicycle flows along both streets, particularly during periods of high pedestrian activity such as events and festivals within Griffith Park and at the Zoo. Other potential construction-related impacts include idling and parked or queued heavy trucks that could potentially obstruct visibility. Specific construction access points and haul routes would be determined during the pre-construction design and permitting associated

with each individual construction phase. Further, implementation of **MM T-1** would require preparation of a Construction Traffic & Access Management Plan to address construction traffic routing and control, safety, construction parking, and vehicle, bicycle, and pedestrian safety. The Construction Traffic & Access Management Plan would require haul trips to be restricted between 9:00 AM and 2:00 PM to avoid pedestrian safety impacts associated with pick-up and drop-off at the Zoo Magnet Center, and would require construction flaggers, as necessary, to maintain the flow of traffic and allow safe passage for pedestrians across crosswalks and along the Main Trail. With the implementation of **MM T-1**, construction-related hazards would be reduced to *less than significant with mitigation*.

Similar to the proposed Project, each phase of development under Alternative 2 would be required to undergo review by City agencies, including a review of roadway improvements and operations so that vehicle, bicycle, and pedestrian access are adequately accommodated without obstructing, hindering, or impairing drivers' reasonable and safe views of other vehicles, people walking, or people bicycling on the same street and/or restricting the ability of a driver to stop a motor vehicle without danger of an ensuing collision. Design features of individual development projects would need to be consistent with Mobility Plan 2035 policies, Walkability Checklist standards, and Vision Zero policies, which focus on eliminating existing hazards and designing the transportation network so as to enhance safety of all ways of travel. Although Alternative 2 implementation would add vehicle trips to the surrounding roadways, this general increase in vehicle traffic volumes would be less than the proposed Project and distributed among multiple streets in the transportation study area, and therefore, would not be considered a traffic hazard.

Similar to the Project, the proposed realignment of Western Heritage Way/Crystal Springs Drive would improve pedestrian safety associated with Zoo Magnet Center students and staff crossing this roadway. The existing driveway serving the overflow parking lot and the Zoo Magnet Center would be eliminated, thereby reducing the potential vehicle and bicycle conflicts at that location. The realigned roadway and south driveway would be engineered to comply with LADOT standards and designed to intersect the roadway at a right angle to address line of sight, turning radii, spacing, etc. The roadway would also provide necessary sidewalks, crosswalks, and pedestrian movement controls to meet the City's requirements to protect vehicle, bicycle, and pedestrian safety. The overall reduction in vehicle trips and vehicle congestion under operation of Alternative 2 would improve safety for bicycles and pedestrians in the Project vicinity. Therefore, impacts related to driving hazards would be similar to the proposed Project and *less than significant*.

Similar to the Project, Alternative 2 would result in beneficial circulation and safety impacts associated with provision of the Primary Path Loop for pedestrians and the separated pedestrian and service roads. As described for the proposed Project, The proposed Zoo aerial tram would comply with the current applicable safety regulations (i.e., Safety Requirements for Passenger Tramways [ANSI B77.1] and CCR Title 8, Subchapter 6.1, Article 8 Wire Rope And Strand Requirements). Implementation of the current engineering design and

operational standards for the proposed Zoo aerial tram would ensure there are no near-term or long-term safety impacts associated with operation of these structures. Similar to the Project, Alternative 1 improvements to the Zoo's internal circulation would result in reduced beneficial and *less than significant* operational impacts to safety hazards.

T-4: Would the project result in inadequate emergency access?

While Alternative 2 would involve demolition, excavation, and construction of roadways, pathways, and access routes both internal and external to the Zoo, construction activities would not disrupt access to primary or secondary designated Disaster Routes along I-5, SR-134 and San Fernando Road. Further, this alternative's phasing plan would limit disruption or obstruction of access and evacuation routes within the Zoo (refer to *Public Services*). Implementation of **MM T-1**, requiring a Construction Traffic & Access Management Plan with measures for controlling and ensuring continued access to the Zoo and through the interior of the Zoo circulation system, would address impacts from construction of proposed improvements on emergency access and evacuation. Alternative 2 operation would also not impair adopted County or City mapped Disaster Routes along I-5, SR-134, and San Fernando Road, as all development would be contained within and immediately adjacent to the Zoo. Alternative 2 would include improvements to existing roadways and intersections surrounding the Zoo that would improve emergency response and access and improve internal circulation, wayfinding, and emergency access within the Zoo (refer to *Public Services*). Therefore, Alternative 2 would result in beneficial and *less than significant* impacts to emergency access, similar to the Project.

Utilities

UT-1: Would the project result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?

Similar to the proposed Project, Alternative 2 construction would require water for dust control, equipment cleaning, soil excavation and export, and re-compaction and grading activities. Water use is conservatively estimated at 2,000 gpd during construction, which would be substantially less than existing water consumption at the Project site, which is estimated to be approximately 107,508,000 gallons per year (approximately 294,542 gpd) and could be accommodated by the existing water infrastructure onsite. Therefore, temporary construction-related impacts associated with water demand and water infrastructure would be similar to the Project and *less than significant*.

Alternative 2 would require installation of new water lines to replace existing lines and expand to undeveloped areas of the Zoo in the California and Africa planning areas. Alternative 2 would connect to the City's water supply system with new laterals installed within the Project

site and existing outdated water mains within the Project site would remain protected, capped, and abandoned in place during construction. Construction impacts associated with the installation of laterals, and installation of a new recycled water connection would primarily involve minor trenching onsite. Prior to ground disturbance, all proposed work associated with the water laterals shall be subject to review and approval by the City Department of Public Works and all appropriate permits (e.g., public right-of-way permits) would be obtained, as necessary. The construction contractor would be required to notify the City Public Works Department in advance of ground disturbance activities to existing avoid water lines and/or disruption of water service to offsite properties. Therefore, impacts on water infrastructure from construction activities would be *less than significant*.

Based on the anticipated amount of growth to occur under Alternative 2, primarily as a result of expansion of visitor-serving and animal exhibit areas into existing undeveloped areas and increases in annual visitation, Alternative 2 implementation is expected to increase annual demand for potable water to 144,967,997 gallons per year (444.9 AFY), a 35 percent increase. The proposed stormwater management system would substantially offset the increased water demand and virtually eliminate the Zoo's irrigation water demand. As described under *Hydrology and Water Quality*, the proposed stormwater management system would be designed to retain 100 percent of flows generated under a 2-year, 24-hour storm event (equivalent to 2.44 inches of rainfall) or approximately 6.8 million gallons (20.9 AF). Based on historic precipitation data for the Los Angeles area, the proposed stormwater system once completed in Phase 3 of Alternative 2 implementation would be capable of capturing and retaining 35,000,000 gallons per year (107 AFY) (refer to Section 3.16, *Utilities*) for irrigation of landscaping and exhibit areas. With this offset in annual irrigation water demands, Alternative 2 is anticipated to increase annual potable water demand by 2,459,997 gallons per year (7.5 AFY), a 2.2 percent increase over existing water demands.

Following the completion of Alternative 2 construction in 2040, the operational water demand (144,967,997 gallons per year or 444.9 AFY) would constitute less than 1 percent of the City's total water supply. The City would be able to serve Alternative 2 without additional unplanned new or expanded entitlements and Alternative 2 implementation would not adversely affect the ability of the City to meet its goal to source 70 percent of water locally by 2035 under the Green New Deal pLAN. Potable water demand would be further reduced through compliance with the City's Water Efficiency Requirements and Green Building Code (LAMC Chapter XII, Article 5 and Chapter IX, Article 9), **MM UT-1**, and **MM HYD-7**, which would require the use of highly efficient plumbing fixtures, irrigation, and landscaping for new construction, expanded use of recycled water, and installation of efficient irrigation systems for all existing and proposed new landscaped areas within the Zoo. While not required to further reduce impacts from the Zoo's water demand, **MM UT-2** is recommended to include all recommended civil engineering and water efficiency measures recommended in the Appendix (*New Infrastructure: Plumbing*) of the Vision Plan.

Though the City's recycled water system has adequate capacity to serve the increase in Zoo recycled water use for irrigation of the parking lot areas and proposed public park, in accordance with the One Water L.A. Plan, **MM UT-1** would require the Zoo to extend recycled water lines throughout the interior areas of the Zoo to provide recycled water for washdown of the animal holding areas, irrigation, and power washers, in the Zoo's exhibits (e.g., treatment systems, ponds, aesthetics/water features, etc.) where feasible, as well as for fire suppression where feasible. Based on the City's current recycled water production capacity of 649,600 AFY and objectives for expanding opportunities for use of recycled water supplies, the City recycled water system has available capacity to adequately serve the recycled water demands of the Project. Expansion of the Zoo's non-potable water use as required by **MM UT-1** would require an additional connection to the City's water recycling system at the existing 8-inch recycled water main at the west end of the Zoo parking lot. The expanded use of recycled water for Zoo operations that do not require potable water quality would further reduce the Zoo's dependence on potable water supplies and implement the Green New Deal pLAN and One Water L.A. Plan. Impacts on the City's non-potable (recycled or reclaimed) water supplies would be reduced to *less than significant with mitigation*, similar to the Project.

UT-2: Would the project result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Similar to the Project, the proposed stormwater management system would result in environmental impacts associated with excavation and trenching of underlying soils, emissions from construction equipment and fugitive dust, construction vehicle traffic, construction stormwater runoff, potential disturbance of archaeological and paleontological resources, and construction-related noise. Detailed analysis of the potential impacts associated with installation of the proposed stormwater system is analyzed in each of the respective resources sections of Section 4.5.3, *Alternative 2 – Multi-Modal Transportation Alternative*. *Alternative 2* implementation, along with installation of the stormwater collection system would also result in or contribute to construction-related impacts on those resources. Mitigation measures necessary to reduce *Alternative 2* impacts associated with installation of the new stormwater collection system are also identified therein and would be capable of reducing environmental impacts to *less than significant with mitigation*. With regard to impacts from hydrology and water quality, the stormwater collection system would result in beneficial drainage impacts associated with stormwater reuse, similar to the Project.

UT-3: Would the project require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Similar to the Project, the proposed stormwater collection system would capture, convey, and store rainfall from the Zoo and the 79.7-acre hillside area adjacent to the Zoo for reuse onsite as irrigation water. Therefore, while Alternative 2 implementation would generate increased stormwater within the Zoo property due to the addition of impervious surfaces, the proposed stormwater collection system would substantially reduce flow to the Zoo Wastewater Facility. Since the Zoo Wastewater Facility would receive only overflow stormwater from flows greater than the 2-year, 24-hour storm event, the volume of water directed to the Zoo Wastewater Facility would be reduced by up to 35 million gallons per year and up to 6.8 million gallons in one day. Following completion of the proposed stormwater collection system, the majority of flows to the Zoo Wastewater Facility would be comprised of animal pond water from the Zoo's exhibits. There is no proposed increase in the total number of pools requiring periodic draining and refilling, requiring water demand and treatment at the Zoo Wastewater Facility. Any additional animal pools and other water features that would be constructed under Alternative 2 would be installed with Life Support Systems, which require a much lower frequency of draining and filling. Proposed expansion of the animal exhibits would increase generation of animal pond water within the Zoo Wastewater Facility by approximately 13,091 gpd, for a total of 43,091 gpd. Due to the substantial reduction in stormwater flows that would be conveyed to the Zoo Wastewater Facility, an incremental increase in generation of animal pond water would not exceed the 1.8-million-gallon maximum capacity of the Zoo Wastewater Facility.

Similar to the Project, Alternative 2 implementation would generate an increase of approximately 30,606 gpd (of 100,606 gpd total) of sewage flows within the Zoo's sewer system and the City's North Outfall Sewer due to the addition of a new employees and an annual increase of approximately 1.2 million new visitors. Additionally, proposed expansion of the animal exhibits would increase generation of animal pond water within the North Outfall Sewer by approximately 13,091 gpd, for a total of 43,091 gpd. Alternative 2 proposes a new plumbing system within the Zoo to replace the existing outdated sewer pipes and connect to new restrooms. The proposed new plumbing systems at the Zoo would be installed in accordance with the current California Building Code and Plumbing Code (CCR Title 24), Green Building Code (CCR Title 24, Part 11), State Water Conservation Guidelines, and Green Building Standards. In accordance with Section 64.15 of the LAMC, the Zoo would be required to submit a SCAR request to the BOE and pay a SCAR Fee prior to building plan approval to

evaluate the capacity of the existing North Outfall Sewer to convey the projected wastewater generation from the Zoo through 2040. If deemed necessary, replacement of several sewer mains in the North Outfall Sewer could also create secondary short-term periodic construction impacts, such as air emissions, noise, and disruption of traffic flows. However, with assurance of adequate planning-level surveys of the existing North Outfall Sewer per existing City regulations, impacts to the North Outfall Sewer associated with sanitary sewer water would be reduced to *less than significant*, similar to the Project.

Implementation of the proposed stormwater collection system would reduce the volume of discharge from the Zoo Wastewater Facility to the City's North Outfall Sewer by 56 percent during and following storm events (refer to Section 3.16, *Utilities*). Additionally, the Zoo Wastewater Facility would continue to hold animal pond water and overflow stormwater from the Zoo until periods of low flow to avoid overloading the North Outfall Sewer. Therefore, implementation of the stormwater collection system would result in beneficial and *less than significant* impacts to the North Outfall Sewer.

Alternative 2 would increase wastewater generation at the Project site by up to 43,697 gpd, which would be less than 1 percent of the LAGWRP's approximately 2.8 mgd of additional full tertiary treatment capacity. Given that the increased wastewater flow from implementation of the proposed Vision Plan would be a *de minimus* incremental increase, the LAGWRP would have sufficient capacity to serve Alternative 2's projected demand in addition to the provider's existing commitments and no new or expanded water or wastewater treatment facilities would be required to serve Alternative 2. Therefore, Alternative 2 impacts to the LAGWRP would be the same as the Project and *less than significant*.

UT-4: Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Alternative 2 construction would generate similar C&D waste to the proposed Project with demolition and redevelopment of existing areas of the Zoo. In accordance with the City's C&D Waste Recycling Ordinance, all mixed C&D waste generated during construction and not reused onsite would be hauled to a City-certified C&D waste processor. Therefore, solid waste impacts from C&D waste would be similar to the Project.

Based on the proposed increase in Zoo animal space, Alternative 2 would increase disposal of animal bedding and waste at the Griffith Park Compost Facility by up to 81.39 tons per day (refer to Section 3.16, *Utilities*). Therefore, future solid waste generation would remain below the Griffith Park Compost Facility's total permitted capacity of 156 tons per day.

Alternative 2 would also increase operational solid waste generation at the Zoo due to the limited new development and associated increase in annual visitation, similar to the Project. Based on the projected annual visitation growth, the estimated increased solid waste generation under Alternative 2 is 6.19 tons per day. Assuming the existing diversion rate of

76.4 percent, this would result in up to 1.46 tons per day. The additional 1.46 tons of solid waste per day that is anticipated to be generated by Alternative 2 implementation in 2040 would comprise less than 1 percent of the total daily permitted capacity of Sunshine Canyon Landfill (8,300 tons of solid waste per day). Further, the Zoo would manage trash and recycling generated by animal care, dining facilities, restrooms, and other visitor-serving facilities within the Zoo campus in accordance with all applicable state and local requirements. Therefore, similar to the Project, Alternative 2 would not conflict with federal, state, or local statutes and regulations related to solid waste disposal. Similar to the Project, Alternative 2 would be served by solid waste facilities that maintain an adequate capacity. Therefore, Alternative 2 would have a *less than significant* impact related to solid waste.

Wildfire

WF-1: Would the project impair an adopted emergency response plan or emergency evacuation plan?

While Alternative 2 would involve demolition, excavation, and construction of roadways, pathways, and access routes both internal and external to the Zoo, construction activities would not disrupt access to primary or secondary designated Disaster Routes along I-5, SR-134 and San Fernando Road and this alternative's phasing plan would limit disruption or obstruction of access and evacuation routes within the Zoo (refer to *Public Services*). Implementation of **MM T-1**, requiring a Construction Traffic & Access Management Plan with measures for controlling and ensuring continued access to the Zoo and through the interior of the Zoo circulation system, would address impacts from construction of proposed improvements on emergency access and evacuation of the Zoo in response to a wildfire. Impacts associated with increased risk of wildfire during Alternative 2 construction would be *less than significant with mitigation*.

As discussed in *Public Services* for Alternative 2 above, Alternative 2 operation would not impair adopted County or City mapped Disaster Routes along I-5, SR-134 and San Fernando Road, as all development would be contained within the Zoo and bordering areas of Griffith Park. Alternative 2 improvements would include improvements to existing roadways and circulatory systems both within and surrounding the Zoo that would improve emergency response and access, emergency evacuation, and sheltering in place (refer to *Public Services*). Therefore, Alternative 2 would not impair emergency response or evacuation, similar to the Project, and impacts would be *less than significant*.

WF-2: Would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors?

The Project site is located within a Very High FHSZ at the base of steep vegetated slopes within Griffith Park, with onsite and adjacent fire-prone vegetation, steep slopes, limited perimeter access, and annual Santa Ana winds. Alternative 2 construction would introduce

new potential ignition sources over the course of 20 years, such as the use of heavy machinery and fuels, which create the potential for sparking and could exacerbate wildfire risk. Major construction of the new California and Africa planning areas in Phases 1 and 3 would occur within areas that currently support flammable native and non-native vegetation and are located on steep slopes adjacent to wildlands in Griffith Park. Vegetation clearing, grubbing, grading, and facility construction, for the planned tram road, service facilities, and the California and Africa exhibits along Zoo's perimeter would similarly occur within and adjacent to areas that support flammable vegetation. Major excavation, including potential blasting, for Condor Canyon in the California planning area, could also add to construction-related fire ignition risks. Although all construction would be performed in a fire-safe manner consistent with existing regulations, potential for accidental ignition of onsite or adjacent wildland vegetation would remain.

Similar to the proposed Project, Alternative 2 would involve tree and vegetation removal, including hundreds of highly flammable eucalyptus trees, as well as over 13 acres of flammable native chaparral and up to 7 acres of oak woodland. Construction in these areas would remove unmaintained flammable native and nonnative vegetation and replace it with irrigated native and ornamental vegetation, potentially reducing the extent of onsite flammable vegetation. Additionally, Alternative 2 construction would be implemented in compliance with all applicable requirements of the City's Fire Code and NFPA 241 *Standards for Safeguarding Construction, Alteration, and Demolition Operations*. With implementation of existing regulations, risks associated with Alternative 2 construction would be reduced such that Alternative 2 construction impacts associated with increased risk of wildfire during Project construction would be the same as the Project and *less than significant*.

While changes in the interior of the Zoo may reduce risk of onsite vegetation ignition, increased visitation and new exhibits may provide new ignition sources, which could also incrementally increase risk of wildfire occurring within Griffith Park. For instance, similar to the proposed Project, Alternative 2 would expand nighttime activities, including campouts in the Africa and California planning areas, and additional special events throughout the year. These new activities may involve potential ignition sources ranging from regulated campfires, cooking/BBQ, electric wiring, and unpermitted smoking. The projected increase in visitor attendance would increase the total and density of people within a designated Very High FHSZ. In the event of a wildfire incident, Zoo visitors and animal residents would also be exposed to increased risk of fire-created pollutant emissions (smoke). Similar to the proposed Project, the Zoo would continue to implement procedures for managing fuels, ensuring adequate evacuation of the Zoo, and providing appropriate forms of access to the Zoo and surrounding WUI, as required in the City's Fire Code and by LAFD, and preparation and application of emergency management and evacuation plans per both City and AZA regulations. In addition, all development would undergo plan review by the LAFD to ensure appropriate designs for access and fire flow as required under Chapter 5 of the City Fire Code. Per **MM WF-2**, the Zoo would be required to update these plans as appropriate based on

proposed improvements and changes in site access and circulation through Alternative 2 implementation. Therefore, with the application of existing regulations and requirements to update wildfire management and evacuation plans, Alternative 2 would not significantly exacerbate wildfire risks resulting in the exposure of Zoo staff and visitors to wildfire hazards, and impacts would be the same as the Project and *less than significant with mitigation*.

WF-3: Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Alternative 2 would include the installation and maintenance of new or improved/realigned roads, emergency water sources, power lines, or other utilities throughout the Zoo within existing developed/disturbed areas. The risks associated with installation, operation, and maintenance of these facilities are discussed in detail under Impact WF-2 above. However, Alternative 2 would develop hillside areas within the Zoo that currently act as fuel breaks between the Zoo and wildland areas. Expansion or reestablishment of these fuel breaks elsewhere around these proposed areas of development would potentially result in loss of sensitive natural communities, species, and protected trees. Vegetation within portions of these undeveloped hillsides is currently managed through clearing, mowing, or trimming by the Zoo and LAFD as a fuel break between the Zoo and surrounding Griffith Park and WUI. It is likely new fuel breaks would be located along the perimeter of the California and Africa planning areas in compliance with existing City Fire Code and LAFD regulations. The installation and maintenance of new or expanded fire buffer and fuel breaks would require mowing, substantial trimming, or complete removal of almost all vegetation within up to a 100-foot buffer area around the Zoo perimeter, including native chaparral and oak woodland habitats, as well as nonnative grasses and scattered invasive species (e.g., eucalyptus). Precise measurements of habitat loss are difficult to calculate due to the conceptual nature of Project plans and are also contingent upon LAFD direction, which is provided annually based on site inspections. However, in total, installation and maintenance of this fuel buffer could result in up to 6 acres of disturbance or loss of native chaparral and oak woodland habitat within Griffith Park. With implementation of **MM UF-1**, **MM UF-2**, and **MM WF-1**, adverse impacts to biological resources as a result of installation and maintenance of these fuel breaks would be reduced through maximum avoidance of native vegetation and appropriate restoration offsite. Therefore, Alternative 2 impacts would be the same as the Project and *less than significant with mitigation*.

WF-4: Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Alternative 2 development would occur downslope or downstream of steep hillsides and three small drainages within Griffith Park. There are no creeks or rivers mapped within the Project

site, but stormwater flows from the hillsides through the Zoo's stormwater management system, which removes silt and grit from stormwater before it flows to the LAGWRP. If a wildfire burned large areas within Griffith Park adjacent to the Zoo, post-fire runoff from a major storm event, slope instability, landslides, drainage changes, and limited flooding or sedimentation could occur within the Zoo. The relatively small size of the watershed draining into the Zoo (~80-acres) would potentially limit problems. If wildfire-denuded surrounding hillsides were subjected to a high-intensity rain event, new development within the Zoo, especially new development at the base of the hillsides, has limited potential to experience damage from sedimentation. Sediment and debris could plug existing and planned drainage improvements, including the proposed stormwater collection system (refer to Section 3.10, *Hydrology and Water Quality*). Two of the proposed subsurface cisterns serving the Bird Show and Animal Programs amphitheater and the Nature Play Park planning area are located on high elevation sites relative to the flat interior of the Zoo. These new cisterns would capture all runoff, debris, and sediments conveyed through the watershed, resulting in the potential accumulation of sediment or debris within the system, especially in the event of high rainfall closely following burn of the watershed. However, the small size of the existing watersheds would not create significant runoff, debris flow, or landslides caused by post-fire slope instability that place Zoo occupants or structures at substantial risk. Therefore, impacts would be similar to the proposed Project and *less than significant*.

Conclusion and Relationship to Project Objectives

Alternative 2 would substantially expand multi-modal transportation opportunities for the Zoo to give visitors and employees the option to use transit, bicycles, walking, and ridesharing as a viable and attractive travel mode. In doing so, Alternative 2 would substantially reduce total Zoo VMT to a greater extent than the Project. As a result, this alternative would reduce potentially significant impacts to aesthetics, air quality and GHG emissions, energy, land use and planning, and transportation. VMT is the metric by which transportation impacts are measured in the City, per the 2020 TAG and consistent with state law. Reducing VMT through Alternative 2 aims to substantially reduce the significant transportation impact of the Project. However, given that the 2020 TAG's VMT threshold for regional attractions and event centers is net-zero new VMT, Alternative 2 would not result in zero new VMT. Therefore, transportation impacts would remain significant and unavoidable, even with TDM components that would reduce VMT consistent with the 2017 Scoping Plan and the 2035 Mobility Element.

Alternative 2 would guide redevelopment of the Zoo consistent with all of the Project objectives. Since Alternative 2 would include all of the same development components included in the proposed Project, this alternative would provide the same benefits to the Zoo associated with expanded animal exhibits, enhanced visitor-serving areas, improved circulation, and updated facilities. However, the possibility of funding from multiple stakeholders, and the amount of funding required for new transit facilities and services, bicycle and pedestrian bridges and connections, and multi-modal incentives for employees

and visitors would be costly. Therefore, Alternative 2 implementation may present challenges in terms of economic feasibility.

4.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Section 15126.6(e)(2) of the State CEQA Guidelines indicates that an analysis of alternatives shall identify an environmentally superior alternative among the alternatives evaluated in the EIR. In general, the environmentally superior alternative as defined by CEQA should minimize adverse impacts to the Project site and its surrounding environment. Table 4-2 summarizes the environmental advantages and disadvantages associated with the proposed Project and the four analyzed alternatives.

Each alternative analyzed in this section was evaluated based on significance criteria, location, extent and magnitude of impacts, potential benefits, and relative impacts in comparison to the Project. The alternative with the fewest adverse impacts and relatively greatest benefits is thereby considered the Environmentally Superior Alternative. Although the No Project Alternative would result in the least amount of impact, CEQA Guidelines section 15126.6 states that if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative from among the other alternatives.

Based on the information in this EIR, Alternative 1.5, the California Focused Conservation Alternative, is identified as the Environmentally Superior Alternative. Alternative 1.5 was found to generate the least adverse impacts compared to the Project, Alternative 1, and Alternative 2 due largely to the projected reduction in visitation from implementation of the proposed PVMP and the loss of exhibit and visitor space in the Africa planning area. Alternative 1.5 would result in the lowest growth in visitation of any scenario analyzed in this EIR. A reduced Zoo footprint and reduction in visitation of approximately 500,000 guests per year compared to the Project would eliminate the multi-story parking garage, the Zoo aerial tram, and the public park in the parking lot and would therefore reduce VMT, air emissions and GHGs, demand for energy and water, and a direct loss of habitat areas and protected trees. As a result, Alternative 1.5 would reduce impacts as compared to the Project in the following resource areas: aesthetics, air quality; biological resources; energy; urban forestry resources; greenhouse gas emissions; noise; transportation; and utilities. In addition, implementation of design guidelines encouraging the use of California native plant species and protection of existing sensitive species would reduce impacts to habitats onsite, including coast live oak woodlands, eucalyptus/mixed woodlands, coast live oak woodland, and to a lesser extent laurel sumac shrubland and California sage coastal sage scrub habitats. Alternative 1.5 would also minimize impacts to Nevin's barberry in the California planning area and Southern California black walnut in the Africa planning area. Elimination of the proposed parking structure would eliminate visual impacts to the public from roadways and areas fronting the Zoo in Griffith Park. However, Alternative 1.5 would continue to result in

significant and unavoidable impacts to transportation, similar to the Project, Alternative 1, and Alternative 2.

While this alternative would result in the lower adverse impacts compared to the proposed Project and other alternatives, Alternative 1.5 would continue to meet the Project objectives for animal welfare and care, capital improvements, and environmental sustainability. As described in Section 4.7 below, Alternative 1.5 would increase space dedicated to animal welfare by 162.1 percent compared to existing conditions. All Project objectives would be largely met by Alternative 1.5. For instance, the Zoo would continue to have the ability to increase and modernize Zoo exhibit space, develop conservation facilities and programs, promote learning and education, provide an immersive visitor experience, create a world class destination, and provide visitor-serving amenities, even with a reduced development footprint under Alternative 1.5. Unlike Alternative 1, Alternative 1.5 would retain several key features of the Vision Plan, including the three Visitor Centers with associated restaurant, meeting rooms, visitor shop, and restrooms, as well as Condor Canyon to support the Primary Looping Path within the Zoo. The loss of visitor serving space in the Africa planning area would be regained with the Zoo Entry Garden component to provide a better-located gathering space for Zoo visitors.

Alternative 1.5 would strike a greater balance between meeting the Project objectives and reducing environmental impacts. As noted in Table 4-2 and under the discussion of *Conclusions and Relationship to Project Objectives* in Section 4.5.3, *Alternative 1.5 – California Focused Conservation Alternative*, Alternative 1.5 would achieve all of the Project objectives, more so than Alternative 1 and Alternative 2. For instance, Alternative 1.5 would result in only a slightly reduced scale of development compared to the Project, excluding only a few limited features or areas of development that are considered to result in some degree of significant impacts with respect to aesthetics, biological resources, and urban forestry resources. By avoiding development of the undeveloped hillside area in the Africa planning area, implementation of development design guidelines prioritizing native species and habitats, and replacing some landscaped features with native plants and habitats, Alternative 1.5 would better achieve objectives relating to conservation (Project Objective No. 3), learning and education (Project Objective No. 4), visual appearance (Project Objective No. 11), and environmental sustainability (Project Objective No. 13).

Alternative 1.5 would substantially reduce impacts and better achieve the Project objectives when compared to Alternative 1 and would reduce impacts when compared to the proposed Project and Alternative 2. Therefore, given that Alternative 1.5 would result in a lesser degree of impacts, Alternative 1.5 is identified as the Environmentally Superior Alternative.

4.7 CHANGES IN ANIMAL WELFARE AREA UNDER THE PROJECT AND ALTERNATIVES

As provided in Appendix O, the Zoo analyzed the potential changes to the approximate area dedicated to animal care and welfare under the Project and the alternatives analyzed in this

EIR. As discussed in the EIR, Zoo animals are protected under the Animal Welfare Act (AWA), are exempt from the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA), and are not considered resources subject to the California Environmental Quality Act (CEQA) and City of Los Angeles (City) L.A. CEQA Thresholds Guide, so the EIR does not include an assessment of the change in space dedicated to animal welfare as part of the impact analysis. Animal welfare is a fundamental planning issue for the Zoo and a key aspect of the Project objectives. As such, this section summarizes a GIS-based analysis of proposed changes in the area of spaces dedicated to animal welfare to support the presentation and adoption of the Zoo's proposed Vision Plan to City decision-makers and the public.

Consistent with the Project's objectives, the Project and each alternative would result in an increase in animal welfare areas within the Zoo, but the total amount would vary depending on the degree to which each scenario balances the preservation of existing undeveloped areas with the provision of animal welfare spaces. While the 142-acre Project site encompasses the Zoo and surrounding roadways that would serve the Project, all animal welfare areas would be provided within the 133-acre Zoo. Please see Appendix O for a detailed assessment of animal welfare space under each scenario summarized below.

Under existing conditions, approximately 20.8 acres, or 14.7 percent of the Zoo area, is developed with habitats, exhibit spaces, barns, and other facilities dedicated to the care and wellbeing of animals. The largest percentage of animal welfare areas within the Zoo currently is located in the Asia and Africa planning areas; however, animal welfare space accounts for only a small percentage of the actual planning area across all Vision Plan planning areas (between 0.0 and 5.1 percent), an issue that stems primarily from antiquated design standards which existed at the time of development of the Zoo in 1966.

Under the proposed Project, the Zoo would undergo large-scale redevelopment of the Zoo property to increase both the number of exhibits and the total area dedicated to animal welfare. Based on the GIS analysis, Project implementation would increase the total area dedicated to animal welfare from 20.8 acres to 59.7 acres (approximately 42.3 percent of the Zoo area), an increase of approximately 187.5 percent compared to existing conditions, nearly tripling the area of existing animal welfare space. This increase in animal welfare areas under Alternative 2, the Multi-modal Transportation Alternative, would be identical to the proposed Project since Alternative 2 would retain all improvements proposed under the Project.

Alternative 1 would include a major reconfiguration of the proposed land use plan and conceptual plan to substantially avoid the development of approximately 21 acres of existing undeveloped hillsides within the California and Africa planning areas within the Zoo boundary. Based on the GIS analysis, implementation of Alternative 1 would increase the total area dedicated to animal welfare from 20.8 acres to 45.0 acres (approximately 31.0 percent of the Zoo area), an increase of approximately 116.6 percent compared to existing conditions.

Alternative 1.5 would include a focused reconfiguration of the proposed land use plan and conceptual plan to avoid the development of approximately 6 acres of existing undeveloped

hillsides within the Africa planning area. Based on the GIS analysis, implementation of Alternative 1.5 would increase the total area dedicated to animal welfare from 20.8 acres to 54.5 acres (approximately 38.5 percent of the Zoo area), an increase of approximately 162.1 percent compared to existing conditions.

APPENDIX O

Alternative 1.5 Project Description

Alternative 1.5 – California Focused Conservation Alternative Description

Under Alternative 1.5, the California Focused Conservation Alternative, 6 acres of undeveloped hillsides in the Africa planning area would remain as undeveloped native habitat and would be managed as a restoration and ecological education area of the Zoo. Within these 6 acres, approximately 5 acres supports sensitive native coast live oak woodland habitat, 20 Southern California black walnuts, 113 coast live oaks, 15 toyon, and 21 elderberry shrubs, which are City protected trees. Alternative 1.5 would reduce impacts on these resources by redesigning the proposed Vision Plan land use plan to avoid this area. To support biodiversity conservation within the Zoo, this area would be the focus of concerted native habitat restoration and any public access would be related to the restoration of the area and/or education about the restoration of the area. Some visitor-serving uses (e.g., safari picnic area) envisioned under the proposed Project in the Africa planning area would be eliminated to protect undeveloped native vegetation. Instead, similar visitor-serving uses would be provided at the Zoo Entry Garden and Park proposed within an underutilized, disturbed area adjacent to the Zoo Entry in Phase 1 of the Vision Plan. As with the proposed Project, animal welfare would continue to be substantially improved under this alternative, with space devoted to Zoo animals increasing from 20.8 acres to 54.5 acres, a 162.1% increase. Alternative 1.5 would also preserve views from public roadways inside Griffith Park, such as Zoo Drive and Western Heritage Way, by eliminating the multi-story parking structure proposed in the northern Zoo parking lot under the Project. Alternative 1.5 would substantially reduce annual Zoo visitation due to implementation of the Peak Visitation Management Program. To manage visitation within the capacity of the Zoo's surface parking lots, the Peak Visitation Management Program would control daily visitation on high-demand days and manage parking supply, which would decrease VMT, energy demand, and air pollutant and GHG emissions compared to the Project. All development would be designed according to proposed development design guidelines that would ensure the use of California native vegetation and stormwater best management practices. Under this alternative, the Vision Plan is estimated to be implemented over 18 years, which is 2 years less than the proposed Project.

The California Focused Conservation Alternative (Alternative 1.5) would guide long-term redevelopment and operations of the Zoo similar to the Project but under a revised land use plan that would avoid the development of approximately 6 acres of an undeveloped hillside within the Africa planning area that supports sensitive biological resources. Instead, Alternative 1.5 would include ongoing restoration of the area to improve its ecosystem health. This alternative would also modify other elements of planned site design, eliminate the Zoo aerial tram, eliminate the parking structure and public park in the Zoo's northern parking lot, implement the Peak Visitation Management Program, implement design guidelines that would ensure use of California native vegetation in landscaping, provide accessible visitor-

serving and special event space near the Zoo Entry, and implement design and operation measures to manage visitation as described further herein.

Alternative 1.5 Land Use Plan and Site Design

Alternative 1.5 would reconfigure the Vision Plan’s proposed land use plan to make several changes, particularly avoiding the development of the undeveloped hillsides containing native habitat and sensitive biological resources within the Africa planning area (Figure 1; Table 1)).

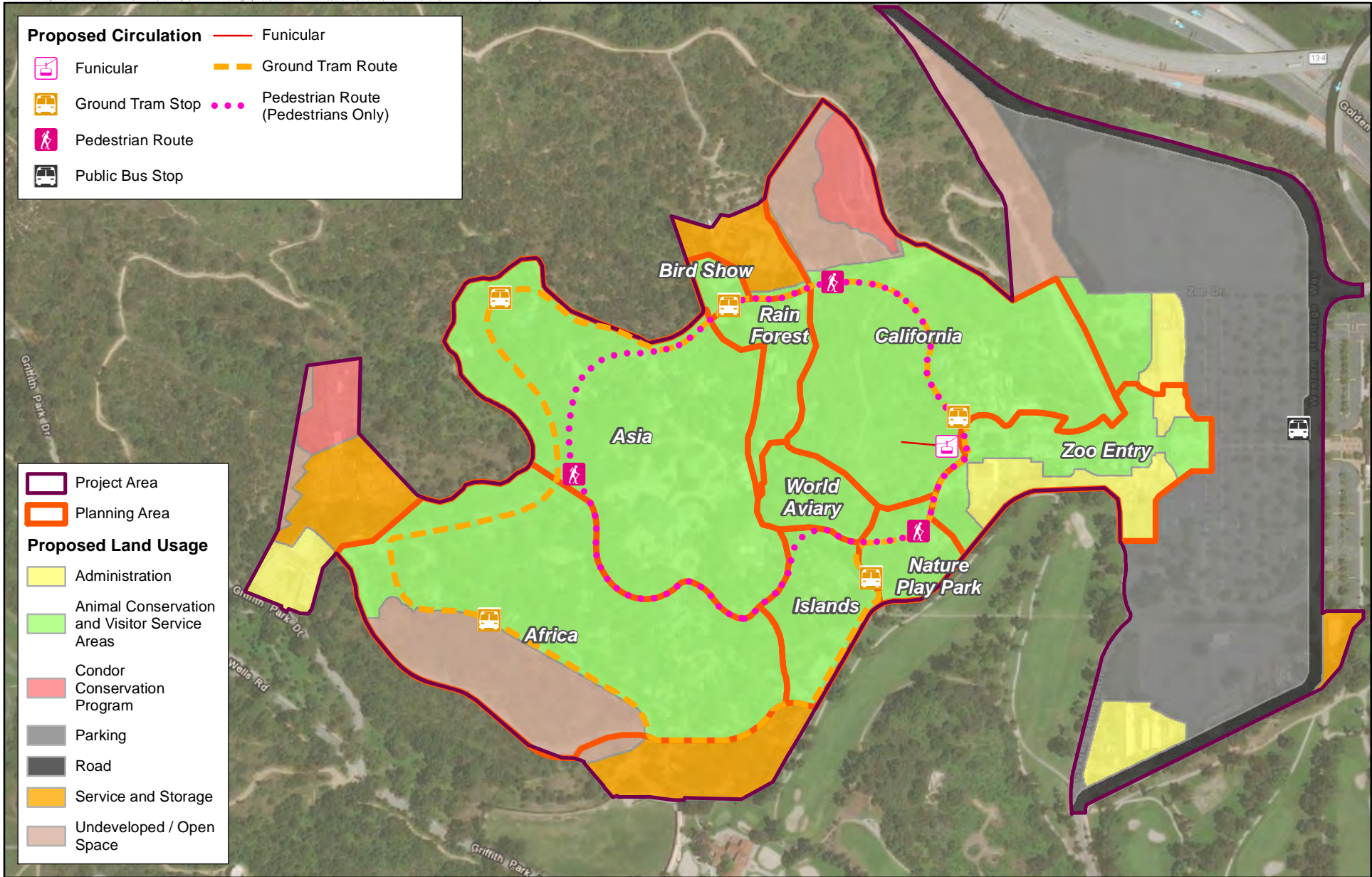
Compared to the Project, while Alternative 1.5 would expand space dedicated solely to animal welfare, it would incrementally reduce acreage dedicated to Animal Conservation and Visitor Service Areas by 6 acres and instead increase Undeveloped/Open Space Areas by 6 acres (Figure 1). As Alternative 1.5 also excludes the 2-acre public park in the northern parking lot from the Project, 2 acres of parking would be retained similar to existing conditions.

As a result of land use changes, Alternative 1.5 would have a smaller development footprint than the Project, which would substantially reduce direct and indirect disturbance of habitats and natural resources in the Africa planning area. The overall development footprint within the Zoo would be reduced by 6 acres, a 7.6 percent decrease from the Project. As a result, this alternative would protect sensitive biological resources within Africa while retaining key Vision Plan features, Project objectives, and improvements such as the proposed looping circulation system with Condor Canyon.

Table 1. Comparison of Land Use Under Alternative 1.5 and Proposed Project

Land Use	Proposed Project (acres)	Alternative 1.5 (acres)	Difference (acres)
Animal Conservation & Visitor Service Areas	79	73	-6
Administration	7	7	0
Service & Storage	10	10	0
Condor Conservation Program	3	3	0
Public Park	2	0	-2
Undeveloped/Open Space	7	13	6
Parking	29	31	2
Realigned Crystal Springs Drive	5	5	0
Total	142	142	0

Note: Land use acreages are approximate due to rounding based on GIS analysis.



Path: \\sdg1-fs1\GIS\3551_Planning\LA_Zoo\MXD\ReportFigures\EIR\Fig4_2_Alt1pt5.mxd, aaron.johnson 4/11/2022

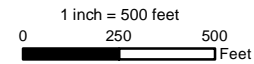


FIGURE 1



Under this alternative, the Zoo land use plan would be adjusted to reduce potential impacts on sensitive native California habitats with the planned Africa and California exhibits, while continuing the Project's emphasis on improving animal welfare. Areas dedicated to animal welfare, including Zoo animal habitats, enclosures, health care, feeding/bathing, and sleeping areas, would continue to be maintained and developed throughout the Zoo and would be separated from areas serving guests and Zoo staff. A detailed assessment of animal welfare space under the Project and the alternatives analyzed in this EIR sets forth such changes (see Appendix O). Similar to the proposed Project, Alternative 1.5 would substantially increase space for animal welfare within the Zoo compared to the current setting. Under the land use plan for Alternative 1.5 (Figure 1), animal welfare space would increase by 33.7 acres (162.1 percent) compared to the existing Zoo configuration. Because of the reduction of the 6 acres of Animal Conservation and Visitor Service Area in the Africa planning area, this alternative would reduce the number of Zoo animal habitats and the size and complexity of their animal habitats in the Africa planning area compared to the Project. Specifically, the amount of space dedicated to animal welfare would be reduced by 5.2 acres (8.8 percent) compared to the proposed Project. However, these changes would reduce environmental impacts associated with the development and loss of native habitat, sensitive plant species, and protected trees within these areas.

Similar to the proposed Project, redevelopment would occur within existing developed areas of the Zoo. Alternative 1.5 would also continue to develop the California planning area similar to the proposed Project and retain the proposed loop circulation system and ADA-accessible paths through the Zoo, which would be possible through the development of Condor Canyon. However, this alternative would emphasize use of native plants throughout newly developed areas, including elimination of the proposed vineyard feature within the California planning area under the Project and instead landscape the proposed ADA access pathway with California native species. Additionally, the proposed Zoo aerial tram would be eliminated, including the upper terminal in the Africa planning area, the lower terminal in the Zoo Entry area, and all footings.

Under Alternative 1.5, the 2,000-space parking structure and associated 2.0-acre public park proposed as part of the Project under Phase 7 would be eliminated. Under Alternative 1.5, the Zoo's northern parking lot would remain designated for surface parking similar to existing conditions. This alternative would retain that area as surface parking with stormwater improvements described in EIR Section 2.0, *Project Description*. All other parking and roadway improvements (e.g., relocation of Crystal Springs Drive and addition of 300 guest surface parking spaces north and east of the North Hollywood High School Zoo Magnet Center as part of Phase 1) proposed under the Project would be implemented, resulting in a total of 2,500 surface parking spaces within the Zoo's surface parking lot.

Further, Alternative 1.5 would refine the proposed use and development of a 1.87-acre area adjacent to the Zoo Entry and the California planning area. This area would continue to be designated for Animal Conservation and Visitor Serving Uses (Figure 1), similar to the

Project, and would be developed similar to the Project’s conceptual plan (see Figure 2-4). This area is the same site as Cumulative Project No. 1 (the Angela Collier Gardens project) analyzed in this EIR (see EIR Section 3.18, *Cumulative Impacts*). Instead of developing Cumulative Project No. 1 at this location within the Zoo, Alternative 1.5 would develop a publicly accessible garden and special event space to provide a range of visitor-serving uses that would also effectively replace those lost by the reduction of development in the Africa planning area, such as the safari picnic area. Landscaping would involve native, water-wise plantings and landscaping that is attractive to local wildlife, consistent with the goals of the Vision Plan and proposed development design guidelines to promote the use of California native plant species under this alternative (see below).

All other elements of the proposed Project not associated with the development of these areas would remain generally consistent with the Project under this alternative, including the Africa Visitor Center, Treetops Visitor Center, California Visitor Center, and hillside funicular in the California planning area. Table 2 summarizes the changes to components of the Project under Alternative 1.5.

Table 2. Key Land Use and Design Revisions to the Project Proposed Under Alternative 1.5

Phase	Planning Area/Improvement	Description of Modified Project Improvements
1	California	<ul style="list-style-type: none"> Eliminate vineyard landscape feature of ADA pathway Replace vineyard features with native vegetation to showcase the value of pollinators in the ecosystem and support Zoo animal habitat spaces
	Zoo Entry	<ul style="list-style-type: none"> Eliminate Zoo aerial tram, including the lower terminal in the Zoo orientation plaza
	Zoo Entry Garden and Park	<ul style="list-style-type: none"> Improve existing underutilized, disturbed areas with public gathering and special event space Install wildlife habitat gardens and native “water wise” drought-tolerant landscaping Designed to provide recycled water for irrigation
3	Africa	<ul style="list-style-type: none"> Retain 6 acres of hillside native habitats as undeveloped open space Undertake restoration and habitat maintenance program to enhance the native habitat and provide for interpretive and educational experiences Eliminate Zoo aerial tram, including upper terminal at Africa Visitor Center
7	Parking Structure*	<ul style="list-style-type: none"> Eliminate the multi-level parking structure within the Zoo’s northern parking lot and associated excavation and grading Eliminate the proposed 2-acre public park in the northern parking lot

Alternative 1.5 provides a more precise description of proposed development of the Zoo Entry Garden and Park in this area. The Zoo Entry Garden and Park would be implemented in Phase

1 concurrent with the redevelopment of the Zoo Entry and would entail the development of this unimproved dirt lot into a new 1.87-acre public gathering space to include approximately 60,000 sf of new visitor-services space, including:

- An ADA-compliant entryway with grades not exceeding 5 percent slope
- A main gate designed to either be open to Zoo guests or closed to create a special event area with a separate entrance from Zoo parking lots;
- Outdoor gathering spaces composed of permeable paving or water-wise turf/lawn with native plant gardens;
- Indoor gathering space served by public restrooms and storage rooms.

Landscaping within the Zoo Entry Garden and Park would include all native trees, shrubs, and flowering plants designed to demonstrate wildlife habitat gardens, provide interactive learning opportunities for children and adults, and supplement the Zoo's education program curricula focused on fields such as biology, wildlife, conservation, and environmental resource stewardship. Improvements would be designed to incorporate several established native trees, avoiding the removal of any existing native specimens and incorporating those specimens into the landscaping plan.

Similar to the proposed Project, infrastructure improvements would include underground sewer, electric utility, and potable water infrastructure connected to the main Zoo utility lines (see EIR Section 2.3.7, *Proposed Utility Infrastructure*). The Zoo Entry Garden and Park would be connected to recycled water and utilize recycled water for 100 percent of irrigation needs for the proposed landscaped areas and lawns. Stormwater would be managed onsite with the installation of a stormwater detention and infiltration system. All pedestrian pathways and hardscape areas would be constructed consistent with the Vision Plan's stormwater management system.

The Zoo Entry Garden and Park would be a community resource to meet a need for outdoor gathering space that became evident during the COVID-19 pandemic. The Zoo Entry Garden and Park would be a newly accessible area for Zoo visitors for picnics, recreation, and relaxation during visits to the Zoo, but would also be flexible for use as a private space to accommodate special events. This venue would support interpretive elements from the Zoo and allow event guests easy access to and from the rest of the Zoo while also locating special events in an area away from Zoo animal habitats. Children participating in education programs in the adjacent Children's Discovery Center classrooms and Witherbee Auditorium would also have access to this space for educational programs and outdoor recreation.

The Zoo Entry Garden and Park would be open to all Zoo patrons during operating hours daily unless the area is programmed for special events. Attendance at special events taking place in the Zoo Entry Garden and Park space during the daytime while the Zoo is open to the public would be subject to the proposed Peak Visitation Management Program, described below. The area would also accommodate evening events outside of Zoo daytime operating hours, similar to the proposed Project (see EIR Section 2.3.9, *Project Operation*).

Proposed Vision Plan Programs

In addition to the land use and design elements discussed above, Alternative 1.5 would implement Development Design Guidelines and a Peak Visitation Management Program, described herein.

Development Design Guidelines

Under Alternative 1.5, the Zoo would create and implement a new set of design guidelines to guide future development and upgrades. These additional design guidelines would build on the goals and objectives included in the Vision Plan (see EIR Section 2.0, *Project Description*). Design guidelines would include landscape design guidelines that prioritize the use of native plant species, especially preserving existing specimens and habitats with protected status and significant ecological function/importance and planting additional native plants species. For example, in the proposed Africa and California planning areas, existing specimen or sensitive native species and protected trees and shrubs per the City Tree Preservation Ordinance and Protected Tree Code Amendment would be preserved and incorporated into proposed landscaping and new native species planting used throughout the new exhibits. These guidelines would also prioritize planting of drought-tolerant species compatible with native plant species in balance with Zoo animal habitat needs where non-native species may be required or desirable. The goal would be to nurture the natural ecosystem of Griffith Park and the Los Angeles Basin and support regional biodiversity while providing immersive, safe, and dynamic habitats for Zoo animals. These guidelines would apply Zoo-wide to all proposed phases of redevelopment throughout Vision Plan implementation.

Peak Visitation Management Program

Under Alternative 1.5, the Zoo would implement a “Peak Visitation Management Program” (PVMP) to ensure the existing and expanded surface parking lots would be utilized as efficiently as possible through improved visitor demand management. The Zoo currently provides 2,144 surface parking spaces, including 2,081 regular spaces, 55 standard handicap accessible spaces, and 8 handicap van spaces, in four distinct parking areas: the north main parking lot, the south main parking lot, the far north parking lot, and the far south parking lot. Similar to the proposed Project, Alternative 1.5 would add 300 spaces to the existing surface parking lot for a total capacity of 2,444 visitor spaces. Alternative 1.5 would exclude the 2,000-space parking structure envisioned under the proposed Project. The Zoo does not have offsite or overflow parking so all parking demand for visitation under Alternative 1.5 must be met by the 2,444-space parking lot.

As described in Appendix N, growth in annual visitation projected for Alternative 1.5 would periodically exceed the capacity of the parking lot on peak visitation days. Based on the growth in capacity, the parking demand model indicates that demand will exceed capacity on days when attendance is 12,600 or higher. Using the parking demand model, Zoo parking

demand is expected to exceed supply for at least a portion of one hour on 15 days in 2025, 25 days in 2027, 42 days in 2030, and 53 days in 2040. Detailed parking calculations are presented in Appendix N.

During the COVID-19 pandemic, the Zoo developed and employed an Advanced Online Reservation system to regulate daily ticket sales and coordinate guest arrival times to limit Zoo capacity and achieve public health objectives. This system also helped the Zoo better manage the utilization of the Zoo parking lot to avoid exceeding parking lot capacity. Under Alternative 1.5, the PVMP would continue the use of the Zoo's online reservation system to manage Zoo visitation during peak times. This program would also optimize visitation during non-peak conditions to support the Zoo's goals for annual visitation through Vision Plan implementation. Techniques that could be employed to shift visitor demand away from peak periods to times when the Zoo's parking lot would have capacity include the following:

- Mandatory ticket reservation system to issue a limited number of tickets during peak days or timeframes (e.g., April – September) similar to the system employed during the COVID-19 pandemic to control the total number of people in the Zoo.
- Dynamic (non-peak) pricing discounts and incentives
- Incentives for shoulder season attendance
- Extended evening or morning hours
- Non-peak special events (e.g., after-hours events)
- Discounted tickets with proof of use of public transit or non-vehicular modes
- Tickets with no parking guarantee with potential discount; ticket requires drop-off/pick-up (i.e., rideshare, non-vehicular)

Annual Attendance and Special Events

Under Alternative 1.5, annual attendance at the Zoo would be substantially lower than under the proposed Project due to elimination of the parking structure and implementation of the PVMP, which would limit visitation capacity and optimize visitation outside of peak conditions at the Zoo. Annual visitation would also be reduced commensurate to the reduced physical capacity of the Zoo resulting from decreases of visitor-serving amenities in Africa, including the elimination of 6 acres of proposed animal conservation space and visitor-serving spaces (refer also to EIR Section 3.0.3, *Assessment Methodology*). Elimination of the aerial tram would also incrementally reduce visitation through provision of one less attraction at the Zoo under this alternative. Similar to the proposed Project, annual growth in visitation would be driven by improvements during Phases 1, 2, 3, 4, and 5 due to expansion or replacement of existing features and attractions associated with proposed Vision Plan improvements.

As the California planning area is developed and other areas such as the Zoo Entry redeveloped, parking limitations and implementation of the PVMP would begin to limit increases in visitor capacity as parking becomes less readily available on peak days, resulting in Zoo visitors being unable to gain entry on an estimated 53 days per year over the Vision

Plan's implementation. Annual growth projections for Phases 4 through 7 would also be substantially reduced from those projected under the proposed Project due to more frequent exceedances of parking availability with visitors being turned away or being unable to obtain reservations on more than 50 peak days per year. Phase 3 would also result in 6 acres less developed space for Animal Conservation and Visitor Serving Uses within the 23-acre Africa planning area, a 26.1 percent reduction. With the PVMP, the Zoo would optimize visitation during non-peak times to maximize visitation within the constraints of the existing parking lot. As such, the total estimated annual attendance of 2,500,000 visitors at the buildout of Alternative 1.5 would be a reduction of roughly 16.7 percent compared to the proposed Project's visitation goal of 3,000,000 visitors annually. Alternative 1.5 would also reduce employment needs to 861 employees, a 21.8 percent reduction compared to the Project.

Table 3. Projected Growth at the Zoo Under Alternative 1.5

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7
Operational Year	2025	2027	2029	2031	2033	2036	2038
Annual Attendance	1,910,771	2,095,689	2,334,726	2,451,555	2,500,000	2,500,000	2,500,000
% Change in Annual Attendance from Baseline Attendance	9.6%	10.6%	13.7%	6.7%	2.8%	0.0%	0.0%
Visitor Origin							
<i>Resident</i>	<i>85%</i>	<i>85%</i>	<i>80%</i>	<i>80%</i>	<i>80%</i>	<i>80%</i>	<i>80%</i>
<i>Tourist</i>	<i>15%</i>	<i>15%</i>	<i>20%</i>	<i>20%</i>	<i>20%</i>	<i>20%</i>	<i>20%</i>
Total Employees by Phase	625	691	786	838	861	861	861

Source: Draft Los Angeles Zoo Vision Plan; AECOM 2017

Notes:

Baseline annual attendance = 1,743,800 (2017) per Draft Vision Plan

Phase 1 assumes growth projected by the AECOM Financial Feasibility Study for Circulation/Parking improvements, California, Zoo Entry, and Sea Lions (Phase 1 and 2 per the Draft Vision Plan).

Phase 2 assumes growth projected by the AECOM Financial Feasibility Study for Asia, Nature Play, and Rainforest (Phase 4 in the Draft Vision Plan).

Phase 3 assumes reduced growth projections for Africa and southern service areas due to the reduction of 6 acres (26.1 percent) of animal exhibit and visitor-serving areas in the Africa planning area (Phase 3 in Draft Vision Plan).

Phase 4 assumes growth projections for World Aviary (Phase 5 in Draft Vision Plan, and formerly included the Water exhibit, which was eliminated from the Project through EIR scoping).

Phase 5 assumes growth projections for Islands (Phase 6 in the Draft Vision Plan).

Phases 6 and 7 do not incite or facilitate attendance growth.

Visitor Origin assumes an uptick in tourism following the implementation of Phase 2.

Baseline employment = 570 (2019)

See Appendix N for detailed description of the growth assumptions for Alternative 1.5

The proposed Zoo Entry Garden and Park under Alternative 1.5 would help to accommodate the growth in annual visitation and special events projected for the Vision Plan and described in EIR Section 2.3.9, *Project Operation*, particularly with the reduced visitor-serving space in the Africa planning area. Implementation of this improvement would not substantially affect attendance growth projections. As described in EIR Section 3.0, this EIR evaluates an extremely conservative annual attendance increase under the proposed Project of 3 million, which is approximately 523,500 annual visitors more than estimated in the 2017 AECOM economic analysis prepared to inform the 2018 Vision Plan (Appendix A). Projected visitation associated with the proposed Zoo Entry Garden and Park would fall well below the conservative EIR growth projections for the overall Vision Plan and the estimated annual demand for special events.

Construction and Phasing

Implementation of Alternative 1.5 would occur on a slightly shortened schedule compared to the proposed Project due to reduced development of the Africa planning area and elimination of the parking structure, public park, and aerial tram. Alternative 1.5 is projected to require roughly 18 years over seven phases, which would be reduced from 20 years under the proposed Project. Phases of Zoo development would continue to occur sequentially. All phases would be guided by the Vision Plan’s guiding principles (see EIR Sections 2.3.2, *Project Objectives*, and Section 2.3.3, *Vision Plan Guiding Principles*). The timing and components of each of the near-term phases are presented in Table 4. The Zoo Entry Garden and Park would be implemented concurrently with the development of the Zoo Entry planning area in Phase 1, over approximately 18 months. As such, the duration of Phase 1 would remain unchanged. Improvements associated with the Africa planning area would be reduced due to the lack of required excavation and development of the hillside area and would occur over a slightly shorter time frame (2 years). Overall, implementation of the near-term improvements for Alternative 1.5 would occur over nine years for this EIR analysis and consistent with the proposed Project.

Table 4. Alternative 1.5 Phases 1 - 3: Near-Term Project Components through 2029

Phase (Year Completed)	Project Components
1 (2025)	<p>Zoo Entry</p> <ul style="list-style-type: none"> • Excavate outdated utility lines • Install utility trunk lines at the Zoo entry • Grade entry corridor at 5 percent slope or less • Construct a new gift shop, security and first aid center, public programming space, restaurant, and administration buildings • Expand Sea Life Cliffs exhibit • Install water collection lines for subsurface cisterns • Landscape at the entrance and around buildings
	<p>Zoo Entry Garden and Park</p>

Phase (Year Completed)	Project Components
	<ul style="list-style-type: none"> • Grade 1.87-acre space at 5 percent slope or less • Install utility connecting to main Zoo utilities (water, sewer, energy) • Install onsite stormwater management (detention and infiltration) • Install a recycled water irrigation system • Construct gathering areas and pedestrian pathways • Construct an amenity building • Install fencing and service access gates • Landscape at the entry gate with wildlife habitat gardens <p>California Planning Area</p> <ul style="list-style-type: none"> • Demolish existing buildings • Excavate Condor Canyon • Construct with the California Condor Rescue Zone • Construct expanded animal facilities • Construct the California Visitor Center • Construct the funicular • Plant new native vegetation <p>Circulation and Parking</p> <ul style="list-style-type: none"> • Install signal at the intersection of I-5 and Western Heritage Way • Remove or relocate the Zoo planning trailer in the southern parking lot • Grade and reconfigure Crystal Springs Drive • Repave the southern parking lot and paint parking space lines to add additional parking spaces
2 (2027)	<p>Asia Planning Area</p> <ul style="list-style-type: none"> • Demolish existing outdated buildings and exhibits • Expand elephant exhibit space • Construct the Asian Forest with a lagoon and exhibit island • Renovate and expand existing animal exhibits and habitats • Install new underwater viewing for tiger and gharial exhibits and new water elements • Grade and construct new pathways with neighboring exhibits • Reconstruct Treetops Visitor Center into food service and gathering space • Install water feature (i.e., Splash Area) <p>Rainforest Planning Area</p> <ul style="list-style-type: none"> • Demolish the existing Zoopendous Park • Construct a Rainforest Interpretive Center • Construct expanded animal exhibits • Construct cafe and restrooms • Plant vegetation, including dense rainforest trees <p>Nature Play Park</p> <ul style="list-style-type: none"> • Construct a natural play area to relocate and replace the existing Papiano play area • Construct a food service structure • Construct new restrooms

Phase (Year Completed)	Project Components
3 (2029)	Africa Planning Area <ul style="list-style-type: none"> • Demolish existing outdated buildings and exhibits • Construct the Africa Visitor Center • Construct expanded animal exhibits and habitats • Install Zoo animal habitat water features • Maintain 6 acres of hillside area as a restoration and education open space
	Service Areas <ul style="list-style-type: none"> • Demolish outdated exhibit buildings • Construct a new service area with additional employee parking

Alternative 1.5 would involve the same long-term elements proposed under the Project but would exclude the parking structure and public park in Phase 7 (Table 5). These long-term improvements would be initiated following the completion of Phase 3 improvements, anticipated to be completed one year sooner (2029) than the Project, and implemented through Alternative 1.5’s horizon (2038).

Table 5. Alternative 1.5 Phases 4 - 7: Long-term Project Components

Phase	Project Components
4 (2031)	World Aviary Planning Area <ul style="list-style-type: none"> • Renovate the existing aviary to meet ADA requirements • Construct a new bird rearing complex • Construct new paths connecting to <i>Rainforest</i> and <i>California</i>
	Bird Show and Animal Programs <ul style="list-style-type: none"> • Renovate the existing amphitheater area with shade structures • Construct specialized animal care facilities • Renovate service space behind amphitheater for operations
	Service Areas (Condor West) <ul style="list-style-type: none"> • Construct two aviaries and one new conservation/classroom building at the Condor West exhibit • Create a new animal feed storage and commissary operations structure • Reconfigure truck access to the construction services area
5 (2033)	Islands <ul style="list-style-type: none"> • Renovate and expand the existing Australia House • Install new pathways and landscaping
6 (2036)	Administration Building <ul style="list-style-type: none"> • Construct a new Administration Building
7 (2038)*	Intersection Improvements <ul style="list-style-type: none"> • Excavation and grading • Replace signalized intersection at Zoo Drive/Western Heritage Way with either a roundabout or subgrade bypass, if needed

* Phase 7 would only occur if needed to accommodate demand from increased visitation. If not required, Phase 7 would not occur.

Similar to the Project, each phase under Alternative 1.5 would entail the same stages of construction, including pre-construction design and permitting; demolition and grading; site preparation (including installation of utilities and stormwater infrastructure); construction; architectural coatings/finishing; and final landscaping. Each phase would also require the temporary relocation of Zoo animals displaced during construction (see EIR Section 2.2.3, *Existing Zoo Operations* for the Zoo’s Animal Welfare Best Management Practices). Building construction, paving, and architectural coating activities would occur within each phase, sequentially. All construction Best Management Practices proposed or required under the Project would continue to be implemented under Alternative 1.5.

Due to the reduced amount of construction proposed under Alternative 1.5, the amount and intensity of grading activities would be incrementally reduced compared to the proposed Project. Alternative 1.5 would not involve grading of hillsides in the Africa planning area, reducing the anticipated volume of fill material necessary under Alternative 1.5 by at least 10,000 cubic yards (cy) (Table 6). Further, Alternative 1.5 excludes the soil excavation and construction associated with the footings and terminals of the Zoo aerial tram in the Africa, Asia, and Zoo Entry planning areas, as well as the multi-story parking structure in the Zoo’s northern parking lot. All other infrastructure improvements and building construction activities would continue to be implemented as described for the Project (refer to the discussion of *Infrastructure Improvements* and *Building Construction* in EIR Section 2.4.2, *Construction Activities*).

Table 6. Alternative 1.5 Grading Estimates by Phase

Phase	Cut (cy)	Fill (cy)	Export/Import (cy)
1	74,000	0	74,000 (export/stockpile)
2	0	0	0
3	0	0	0
4-7	0	38,000	38,000 (import/stockpile)
Grading Total	74,000	38,000	36,000 (net export)



LOS ANGELES ZOO DRAFT PLAN | 2022

**ALTERNATIVE 1.5:
The California Focused
Conservation Alternative**

**Creating a just
and sustainable world
where people and wildlife
thrive, together**

Preface



The Zoo recommends Alternative 1.5: The California Focused Conservation Alternative in 2022

In 2016, the Los Angeles Zoo began the process of reimagining its 133-acre campus for the future. We engaged the public to understand and consider what Angelenos wanted their Zoo to be. By 2018, we had created the Zoo's *Vision Plan for 2028 and Beyond*, which became the Proposed Project for an Environmental Impact Report (EIR) developed to evaluate the plan as required by the California Environmental Quality Act (CEQA). In 2021, the Project's final EIR was published by the City's Bureau of Engineering, which was developed with a public feedback process. The EIR was transmitted to the Los Angeles City Council for approval and public feedback continued with more than 300 comments submitted to the public City Council file records on the Vision Plan. In addition to the Proposed Project, the EIR fully evaluated three alternatives: a no project alternative, Alternative 1, and Alternative 2.

Because of the ongoing feedback, the Zoo decided to continue listening, engage key stakeholders, and reflect on how to honor these comments. As a result, the Zoo collectively created a new, fourth alternative: Project Alternative 1.5, the California Focused Conservation Alternative.

This document, the *2022 Los Angeles Zoo Draft Plan ALTERNATIVE 1.5: The California Focused Conservation Alternative*, describes the new alternative in detail. It prioritizes California biodiversity and best demonstrates the Zoo's values and mission, creating a place to save wildlife, enrich our communities, and create connections to nature for Angelenos today and in the future.

Letter from the Chief Executive Officer & Zoo Director



Creating a just and sustainable world where people and wildlife thrive, together.

This is the vision that guides your Los Angeles Zoo, and this Plan — Alternative 1.5, the California Focused Conservation Alternative — outlines our next chapter. Expanded habitats will provide our animals with the highest level of care and welfare in the Zoo's history. For the first time, guests will experience the incomparable California condor and learn about the amazing conservation work that takes place right here in Griffith Park to save them from extinction. This Plan will allow the Zoo to help lead Los Angeles's efforts in reaching net-zero carbon emissions and creating a more sustainable City where everyone has equitable access to the outdoors and nature that surrounds us. And all of this will be accomplished while protecting and restoring native habitat within the Zoo's existing 133 acre footprint.

This Plan envisions a Zoo designed to meet the needs of all of the communities of Los Angeles — a place where people of all ages, backgrounds, identities, and abilities are welcomed and have equitable access to the plants and animals that call the Zoo and Griffith Park home. It is about connecting with nature and each other. It is about the collective impact that we can have on global conservation when we create space for all people to be a part of the conversations and solutions.

Our effort is also rooted in justice, acknowledging the land on which the Los Angeles Zoo exists as the ancestral lands and home of the Gabrielino Tongva peoples, who are the original stewards and custodians of this territory. We recognize their continuing connection to the land, waters, and culture, and pay respects to their Elders past, present, and emerging.

Since 1966, the Los Angeles Zoo has welcomed over 80 million visitors and provided Angelenos with the unique opportunity to connect with a variety of rare and endangered species and with nature. Yet nothing could have truly prepared us for the last few years — a global pandemic, calls for action around social justice, and rapidly advancing climate change have brought immense loss and heartache, as well as increased awareness and resilience. It is with this new lens that we approach our next chapter, and commit to expanding our efforts as global leaders in conservation, animal welfare, sustainability, and equity.

I look forward to taking this next step on our journey to excellence and beyond in animal welfare, conservation, sustainability and regeneration, learning and engagement, accessibility and equity with all of you.

A handwritten signature in cursive script that reads "Denise Verret".

Denise M. Verret
CEO & Zoo Director, Los Angeles Zoo

A close-up photograph of a giraffe's face, showing its large, expressive eyes, long eyelashes, and distinctive brown and white spotted pattern. The giraffe is looking slightly to the left of the camera. The background is a soft, out-of-focus green, suggesting a natural habitat.

01 | A ZOO FOR LOS ANGELES

Even as our relationship to nature is changing, most Americans value nature in “remarkably broad, diverse ways” and place a high value on “contact with the natural world.”²



Underwater viewing opportunities and up-close hippo encounters are part of the Plan's Africa experience.

Zoos help make nature more accessible for millions of people around the world

For the first time in human history, the majority of us live in urban areas, often separated from daily reminders of nature's staggering beauty — and, increasingly, its alarming fragility. Human actions have dramatically altered our planet's climate. Many of the world's natural habitats are shrinking, endangering the plants and animals that call them home.

Many Americans face gaps between their interests in nature and their opportunities to pursue those interests in their lives.¹ Zoos accredited by the Association of Zoos and Aquariums (AZA) in urban centers can help bridge these gaps. They provide access to nature for everyone and create connections to nature that last a lifetime.

The AZA is dedicated to the advancement of zoos and aquariums in the areas of conservation, education, science, and recreation. AZA represents more than 235 institutions in the United States and overseas — including the L.A. Zoo — which collectively draw more than 200 million visitors every year worldwide (exceeding the annual attendance of the NFL, NBA, and MLB combined). AZA institutions meet the highest standards in animal care, spend more than \$200 million on field conservation annually, and enhance the public's understanding of wildlife and the need to conserve the places animals live.

The only zoo in the nation's second-largest city

Located near the heart of downtown Los Angeles in Griffith Park, the Los Angeles Zoo provides the nation's second most populous city with an outdoor refuge, a community hub, a gateway to nature, and a global conservation organization — all in one location. For millions of visitors, the Zoo embodies the values of caring for one another, our planet, and our shared resources.

Thirty-six percent of Angelenos do not have immediate access to a park.³

Serving a regional population of 18.7 million people, Griffith Park is the most-visited park in the City of Los Angeles, placing the L.A. Zoo at the epicenter of outdoor activities for Angelenos.⁴

Footnotes:

1. <https://natureofamericans.org/findings/interest-action-gap>
2. <https://natureofamericans.org/findings/valuing-nature>
3. <http://www.latimes.com/opinion/livable-city/la-ol-childhood-development-green-space-20160219-story.html>
4. <http://cloud.tpl.org/pubs/ccpe-largest-oldest-most-visited-parks-4-2011-update.pdf>
5. <https://esa.un.org/unpd/wup/publications/files/wup2014-highlights.pdf>
6. <https://www.kcet.org/shows/lost-la/how-la-got-one-of-the-countrys-largest-urban-parks>



Left: 82 percent of North America's population lives in an urban area.⁵

Above: At 4,310 acres, Griffith Park is among the largest urban parks in the continental U.S.⁶

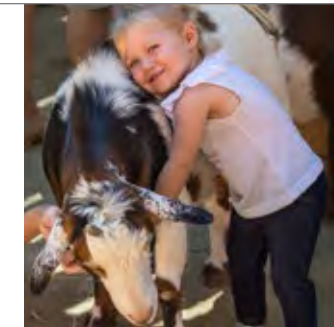
The Los Angeles Zoo meets local and global needs

“Mother Earth is not a resource, she is an heirloom.”

— DAVID IPINA, YUROK ARTIST

A NATURE EXPERIENCE FOR MILLIONS

The Los Angeles Zoo provides fun, safe, and meaningful outdoor experiences to millions of visitors. We foster lasting relationships between people and wildlife, at a time when many species are threatened in the wild. And we are an oasis for local residents and tourists to relax, recharge, and renew their connections to nature.



From up-close encounters to free nature play programs, the Los Angeles Zoo makes nature accessible to millions of area residents of all ages.

A HUB FOR ENVIRONMENTAL SUSTAINABILITY

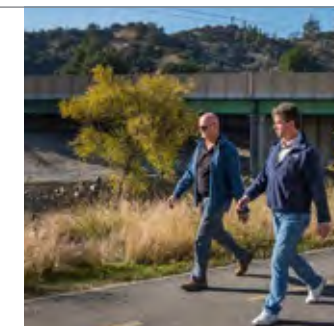
The Los Angeles Zoo is a hub for showcasing the economic, cultural, and social benefits of environmental sustainability. The Zoo’s 133-acre campus demonstrates to millions of visitors that healthy ecosystems are key not just to our communities, but also to thriving cities and natural areas everywhere.



Electric vehicle charging stations, drought tolerant landscaping, permeable pavement, and storm water management practices are already features of the Los Angeles Zoo.

A REGIONAL GATEWAY TO NATURE

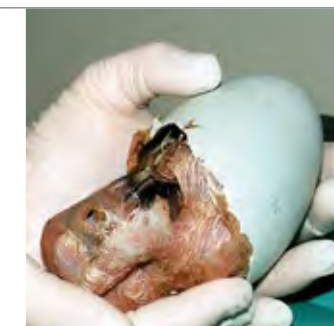
The Los Angeles Zoo is strategically located at the crossroads of the L.A. River, the I-5 corridor, and Griffith Park, providing a gateway to nature. Proximity to hiking trails in Griffith Park and bike paths along the L.A. River — and accessible public parking — ensures that the Zoo serves a community that is much broader than our annual visitorship alone.



Cyclists, kayakers, runners, hikers, horseback riders, and local residents are part of the diverse community that enjoys greater access to the revitalized L.A. River corridor.

A GLOBAL CONSERVATION LEADER

The Los Angeles Zoo is leading the charge on global conservation efforts, from repopulating mountain yellow-legged frogs to their native range in the San Gabriel Mountains to addressing human-elephant conflict in Cambodia. The Association of Zoos and Aquariums (AZA) gave special recognition to the Zoo’s efforts in 2016 and 2017, and our 2021 Conservation Strategic Plan guides our efforts today and into the future.



Hundreds of California condors again fly freely over the skies of California, Arizona, Utah, and Mexico, thanks to the efforts of the Los Angeles Zoo and its partners in this unprecedented endeavor.



02 | GUIDING PRINCIPLES

OUR MISSION

Through the passion of our team, the Los Angeles Zoo is leading the way in saving wildlife and connecting Angelenos to the natural world by providing exemplary animal care, delivering distinctive and diverse learning opportunities, and creating unforgettable experiences.

Saving Wildlife.
Enriching Our Communities.
Creating Connections to Nature.

OUR VISION

Creating a just and sustainable world where people and wildlife thrive, together

Six guiding principles inform our daily actions and shape our long-term strategic vision

The Los Angeles Zoo is fully committed to embodying these six fundamental principles every day as well as making them the foundation to this Plan.

**ANIMAL CARE**

Achieve the highest level of animal welfare

**CONSERVATION**

Advance conservation efforts locally and globally

**VISITOR EXPERIENCE**

Create meaningful, safe, and fun experiences for our visitors and our communities

**EQUITABLE ACCESS**

Ensure our facility, operations, and outreach are for all Angelenos

**ENVIRONMENTAL SUSTAINABILITY**

Demonstrate environmental sustainability and best practices

**OPERATIONAL EXCELLENCE**

Embody operational excellence at every level



Achieve the highest level of animal welfare

CARING FOR INDIVIDUALS, SAVING ENTIRE SPECIES

We are passionate about, and dedicated to, providing the highest level of welfare for each and every animal in our care. We will fulfill this vision with state-of-the-art facilities for our animals and the comprehensive and diverse resources our staff needs to ensure that the animals' medical, nutritional, behavioral, and environmental needs are met on a daily basis.



Top right: Skilled Zoo staff examine a California condor.

Bottom left: The giant river otters' naturalistic habitat is a model for future exhibits.



ENRICHING ANIMALS' LIVES AND PROTECTING ENDANGERED SPECIES

We will create facilities that provide enriched environments for all of our animals; invest in night quarters suited to each species' unique needs; and construct back-of-house spaces that support our conservation programs.

SUPPORTING OUR STAFF'S QUEST TO BE THE BEST

Our veterinary services are second to none, and our dedicated keepers provide the care and enrichment that animals need to thrive. We will support our staff through programs and facilities that help them grow professionally, including opportunities to continually learn through shared experiences and field conservation projects.

NATURAL SETTINGS WITH MIXED-SPECIES HABITATS

Building upon our previous success with Elephants of Asia and Rainforest of the Americas, we will create natural settings for each animal habitat. Mixed-species habitats will create enriched environments for animals as well as engaging experiences for Zoo guests.



Advance conservation efforts locally and globally

SAVING ANIMALS FROM CALIFORNIA TO CAMBODIA

The Los Angeles Zoo helped change the course of history when it partnered with other agencies and zoos to rescue the California condor from extinction. We will expand upon this legacy by creating facilities and programs that support conservation action around the world.



Top right: Through the efforts of the Los Angeles Zoo and its partners, the California condor population has increased from just 22 individuals in the 1980s to nearly 500 birds today.

Bottom left: The Zoo supports conservation programs in Cambodia to protect Asian elephants in the wild.



SHARING OUR WORK

To advance our work with endangered species, we will create facilities that support the full range of our conservation and breeding programs and that meet our commitment to transparency, inviting guests behind the scenes to learn about these programs firsthand.

ACHIEVING STRATEGIC GOALS

Launched in 2021, the L.A. Zoo Conservation Strategic plan provides increased focus and direction to expand our positive impact on biodiversity conservation and human livelihoods. This includes new programs to make conservation more accessible to youth from communities all across Los Angeles, directly engage in local conservation efforts, and strengthen global efforts to save species and the habitats we share.

PARTNERS IN THE FIELD

We will continue to partner with groups such as the Gorilla Rehabilitation and Conservation Education (GRACE) Center in the Democratic Republic of Congo. Our shared goal is to help wild animal populations survive threats such as human-animal conflict and habitat destruction in ways that are compatible with local economies and personal livelihoods.



Create meaningful, safe, and fun experiences for our visitors and our communities

NATURE FOR ALL OF US

Being in nature reduces stress and promotes physical, emotional, and mental well-being. The Zoo will create immersive nature experiences that will improve the quality of life for all.



Top right: A family explores during the Zoo's free program Family Nature Club, creating life-long connections to nature

Bottom left: Zoo guests connect with a chimpanzee — an only-at-the-Zoo experience for many Angelenos



UNIVERSAL ACCESS IS UNIVERSALLY BETTER

The Los Angeles Zoo welcomes a diverse audience and strives to make each visit safe, inclusive, and accessible. Our goal is to foster lasting relationships between animals, nature, and guests of all ages, backgrounds, identities, and abilities.

A LIVING CLASSROOM

The Zoo provides a living classroom and inspiring place for informal and formal learning. We are committed to integrating interpretive exhibits, engaging learning opportunities, and group activity spaces throughout the Zoo.

SOMETHING FOR EVERYONE

The Zoo offers opportunities for everyone, from quiet animal observations to facilitated adventures to taking action in actual conservation programs. We envision a Zoo where these opportunities are supported by a campus that is accessible for all.



Ensure our facility, operations, and outreach are for all Angelenos

AN ACCESSIBLE ZOO FOR ALL ANGELENOS

The Los Angeles Zoo is a place for all Angelenos to gather and connect to animals and nature. We will create an accessible campus designed to proactively meet the needs of visitors of all ages, backgrounds, identities, and abilities.



Top right: The Zoo is a certified sensory inclusive venue with KultureCity, helping guests who have challenges with sensory regulation to successfully navigate a visit.

Bottom left: The Zoo greets 1.8 million visitors every year from communities throughout Los Angeles. The Zoo is a partner in the LA For All campaign to help foster a safe and welcoming environment for everyone.



RESTROOMS

To ensure the Zoo is a place for everyone, we will include fully accessible non-gendered restrooms with adult changing tables and sensory friendly features.

GETTING AROUND

An accessible loop throughout the campus will help guests access all parts of the Zoo more easily and separate pedestrian traffic from Zoo vehicles and the tram. The campus design will offer various sensory spaces as well as viewing opportunities that meet the needs of all abilities.



Demonstrate environmental sustainability and best practices

EXEMPLIFYING L.A.'S GREEN NEW DEAL

The Los Angeles Zoo is committed to achieving greater environmental sustainability and to sharing stories of our past successes and future challenges with visitors. The entire Zoo campus will demonstrate the values and best practices set forth in the City of Los Angeles' Green New Deal.



Top right: Inspired by Thai architecture and built to LEED Silver standards, the elephant barn demonstrates the Zoo's commitment to environmental sustainability.

Bottom left: The Zoo is working with its City partners to install solar panels that will both feed the grid and supply the Zoo itself with power and battery backups to replace fossil fuel-based generators.



LEED STANDARDS

We have adopted LEED Silver standards or better for all new construction envisioned in this Plan. Each of the Zoo's structures added since 1998 already meet this standard, including the entry complex, the elephant barn, the L.A.I.R., and Gottlieb Animal Health and Conservation Center. This is in alignment with the City's goal of being a leader on environmental, economic, and social equity issues.

DEMONSTRATING ENVIRONMENTAL JUSTICE, BUILDING GREENER NEIGHBORHOODS

The Los Angeles Zoo provides access to nature that works in conjunction with the greener neighborhoods that the City is seeking to foster. The Zoo is a partner with the City to advocate for environmental justice for all of our residents. With nearly two million annual visitors, we are in a unique position to be a hub and showcase for the City's sustainability initiatives.

THE ENVIRONMENTALLY SUPERIOR OPTION

Evaluated in the Vision Plan's Environmental Impact Report as Alternative 1.5, this Plan is considered the Environmentally Superior Alternative.



Embody operational excellence at every level

OPERATING WITH EXCELLENCE AND EFFICIENCY

We will create facilities and systems that support staff in creating a world-class zoo experience for animals and visitors alike. Our physical campus and operational practices will empower the highest and best levels of safety, accessibility, efficiency, and customer service.



Top right: Providing staff with the robust facilities and support they need to excel at their jobs is central to the Plan.

Bottom left: Facility age and design impact operational efficiency. Collaboration, such as between vet and animal care teams during this seal exam, will be improved with the Plan.



OPERATIONAL EXCELLENCE

We will ensure that we have the facilities necessary to support a 133-acre Zoo, from retail shops and animal service areas to accessible restrooms and inviting cafes and restaurants with food options for the diverse dietary needs of our communities. We will provide robust facilities to support staff in all facets of their work, ensuring the Zoo is clean, efficient, well-maintained, and supportive of a thriving organizational culture.

OPERATIONAL EFFICIENCY

We will enhance our facilities, infrastructure, and operations to achieve maximum efficiency at all levels. Examples we envision include enlarged service and food storage areas for more efficient bulk purchasing, and separation of service traffic from visitor areas for more efficient flow.



**03 | PUBLIC
ENGAGEMENT**

Public participation

In an effort to truly reach out to the community, public engagement and participation was made integral to our process at the beginning, middle, and end.

"This is a fantastic vision of what our zoo can become. I truly hope that the vision's realized as the zoo is such an incredible asset to the community."

— COMMENT DURING PUBLIC FEEDBACK

In 2016-2017, during the original Vision Plan's creation:

- Three public meetings were held to receive input from community members.
- An interactive website (microsite) allowed those who could not attend the public meetings to give input and ideas.

In 2019-2021, during the initial Environmental Impact Report process:

- Public meetings with proper prior notice were held during the draft and final Environmental Impact Review phases.

In 2021-2022, during the development of the Alternative 1.5 Plan:

- Zoo staff conducted listening sessions and tours with key stakeholders, including neighborhood councils, elected officials, City partners, community thought leaders, and non-profit organizations.

All suggestions, concerns, and compliments were evaluated throughout the process and formed the basis of Alternative 1.5, the California Focused Conservation Alternative Plan.

Public meetings and online survey

PUBLIC FEEDBACK TO THE PLAN

“Looks very good from an animal collection/welfare point of view. Please keep that up. I am pleased with the plan.”

“We all need a place to see animals and nature working together.”

“We especially liked the focus on sustainability, improved visitor circulation, and expanded California habitats.”

“We need those canyon oaks and black walnut trees more than we can even imagine.... Restoration of these habitats and expansion of those trees should be the priority, not the other way around!”

“Citizens of LA will be provided an appreciation of the environment of our total world at the renovated zoo.”

The Los Angeles Zoo conducted two public meetings and one public open house (December 2016, February 2017, December 2017).

- Combined attendance: 254
- Total comments received: 367



For those that couldn't attend in person, a website and online survey were created. An important takeaway from the online survey was the ranking of key values to inform the plan:

1. Animal Care and Welfare
2. Conservation
3. Education
4. Guest Experience
5. Veterinary Science
6. Sustainability
7. Community Resource



Left: Members of the public discuss the Vision Plan with Zoo staff.

Right: Former Zoo Director John Lewis presents the plan at the December 2017 public meeting.

Public feedback

PUBLIC FEEDBACK TO THE PLAN

“Can’t wait for the work to start. Everything is really well thought out and this will really make the LA Zoo World-Class.”

“I love how it connects humans more to nature rather than the main focus to be the animals. I love how it equally focuses on both.”

“Do not kill trees; do not add more parking. We need more trees and fewer cars.”

“Something the Zoo and the City need.”

“Amazing vision.”

During the Plan’s Environmental Impact Report (EIR) process, public agencies, organizations, and individuals have given comments about the Plan through a process in compliance with the California Environmental Quality Act (CEQA).

Approximately 83 sets of comments from individuals, organizations, and agencies were received during the initial EIR process in 2019-2021.

In 2021, the Zoo held additional onsite meetings with stakeholders to better understand and address public input. The result is the 2022 Alternative 1.5 Plan, which is now the EIR’s Environmentally Superior Alternative.



Left: The project’s Environmental Impact Report process has been conducted in compliance with the California Environmental Quality Act (CEQA).

Right: People who attended an open house at the Zoo had the opportunity to complete surveys in person.

An aerial rendering of a city plan, likely for a conservation area. The scene shows a mix of urban buildings, green spaces, and a network of roads and paths. In the background, there are large, rugged mountains under a clear sky. The foreground is dominated by a large, bold text overlay in white, which reads: "04 | THE PLAN: ALTERNATIVE 1.5, THE CALIFORNIA FOCUSED CONSERVATION ALTERNATIVE".

**04 | THE PLAN:
ALTERNATIVE 1.5, THE
CALIFORNIA FOCUSED
CONSERVATION ALTERNATIVE**

A transformational vision for animals, nature, and our communities

“Without zoos to provide opportunities for young people to see and learn about animals so that they will grow up to become the conservationists of tomorrow — the world will be a pretty sad place.”

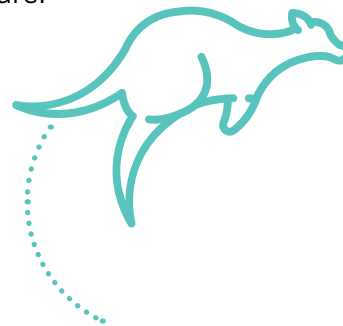
— BETTY WHITE

Our vision for your Los Angeles Zoo is transformative — for the animals in our care, for everyone who spends time at the Zoo, and the natural world we share. This Plan touches every aspect of the Zoo — from entry to exit, from underground infrastructure to rooftop solar, and from consolidated behind-the-scenes operations to strategically located visitor amenities throughout the campus. This Plan is comprehensive for each of the Zoo’s 2,100-plus animals as well as for each of our 1.8 million annual visitors from Los Angeles and around the world.

A TRANSFORMATIONAL VISION FOR ANIMALS

162% MORE SPACE

Space dedicated solely to animals and their welfare is increased by 162%, giving more room to meet the individual needs of each animal in our care.



A TRANSFORMATIONAL VISION FOR NATURE

95% TREES PROTECTED



Six acres of Coast Live Oak Woodland inside the Zoo are designated for protection, **preserving over 100 California live oak and Southern California black walnut trees.** With this action, we will protect 95% percent of all native, significant trees on the Zoo’s undeveloped land.

A TRANSFORMATIONAL VISION FOR OUR COMMUNITIES

ZERO EXPANSION

The future of Los Angeles is green, so the Plan achieves its goals for increased animal space while saving habitat with **zero expansion into Griffith Park.** Rainwater and runoff is captured to reduce water consumption by 44%, while integrated solar systems power 45% of the Zoo’s energy use.



ENVIRONMENTALLY SUPERIOR
 Evaluated in the Vision Plan’s Focused Recirculated Environmental Impact Report as Alternative 1.5, this Plan is considered the Environmentally Superior Alternative.

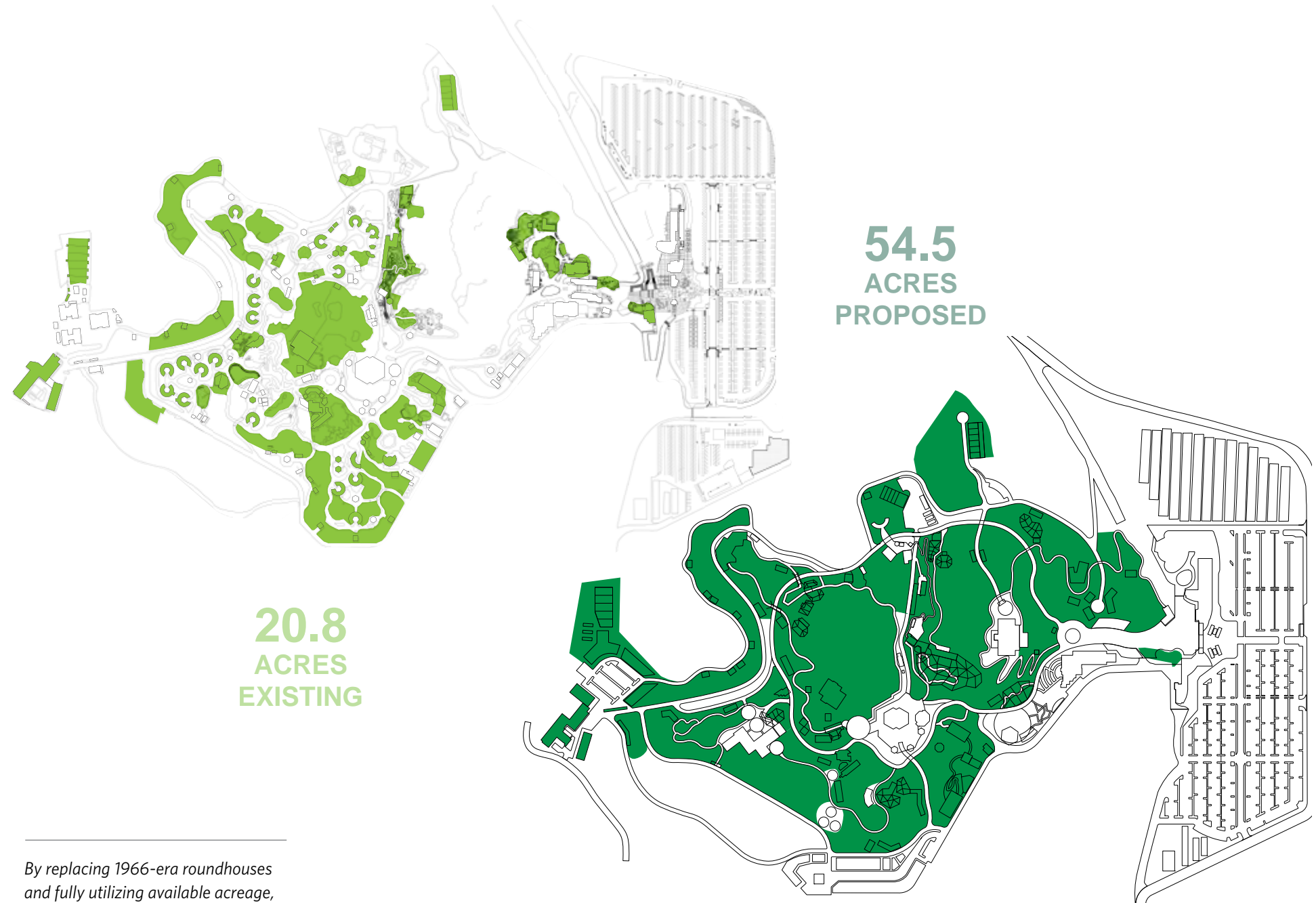


Animal welfare

PRIORITIZING ANIMAL WELFARE AT EVERY STEP

Previous Master Plans have addressed discrete sections of the Zoo and made improvements for one or two species at a time, such as the chimpanzees, elephants, gorillas, and orangutans. For the first time in the Zoo's history, this Plan dramatically expands spaces and services dedicated to the care and welfare of every animal in our charge. The magnitude of this change not only fulfills our vision of being one of the best zoos in the world for the animals that live here, it dramatically transforms the visitor experience as well.

- 1 The Zoo's spaces dedicated solely to animals and their welfare increases by 162%, from 20.8 acres to 54.5 acres.
- 2 The Zoo's Plan creates spaces for animals that prioritize discrete and varied animal welfare needs, ranging from habitat to enrichment — decisions that benefit **animal care** and create a better visitor experience at the same time.
- 3 Animal spaces include multi-species yards or yards that multiple species rotate through individually at different times of the day or the year.
- 4 Behind-the-scenes areas and night quarters are designed to meet specific animal needs throughout their entire lives, from birth to advanced age and from daily enrichment to access for on-site veterinary care.



By replacing 1966-era roundhouses and fully utilizing available acreage, the Plan dramatically transforms the spaces and facilities devoted to animal care.

Building a sustainable Zoo

UPDATED INFRASTRUCTURE AND PRACTICES

To fight climate change and ensure that future generations of Angelenos are able to embrace the Zoo as a valuable part of their daily lives, the Zoo will commit to wiser use of water and energy resources and will reduce waste, consistent with the City’s Green New Deal. This means the Zoo will update its facilities and utilities in a way that minimizes its Greenhouse Gas (GHG) emissions and ensures its operation and maintenance practices are sustainable, too.

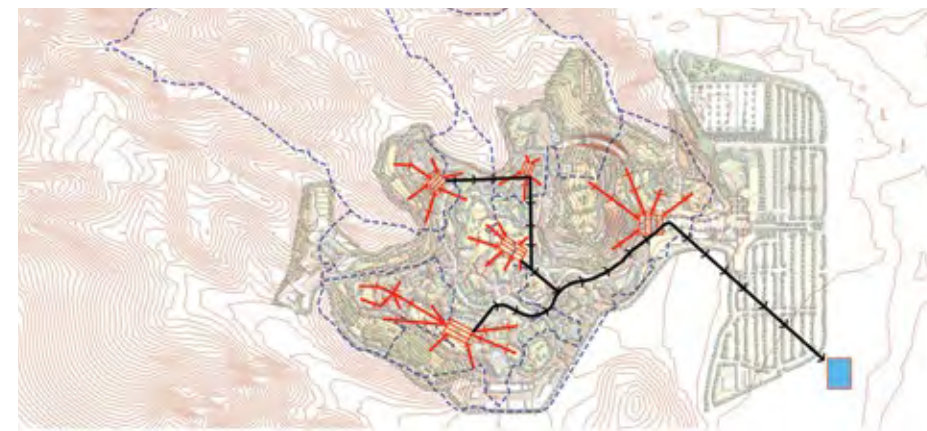
To do this, the Zoo will convert its landscape irrigation to recycled water and its exhibits’ use of water to recycled, treated and recirculated. The Zoo will also implement landscape care practices that result in an increase in the amount of native plants campus-wide and establish landscape and building design guidelines that 1) maximize the reuse of green materials, and 2) reduce its carbon footprint by using renewable energy sources, such as by installing solar power generation in the parking lot and on rooftops, and reducing heat by planting more trees and installing cooler walkway materials.

As the Zoo upgrades its facilities to be more accessible and welcoming to people of all abilities, it will ensure those improvements simultaneously achieve sustainability outcomes, such as changing the grading levels of pathways and ensuring stormwater runoff from those pathways is directed to new subterranean cisterns for storage and reuse.



Top: Solar panels are integral to the parking lot, Zoo Entry, and throughout the campus.

Bottom: Located in drainage zones, five subsurface cisterns will capture storm water throughout the Zoo campus



Phasing implementation

The phasing schedule — six phases spread out over 20 years — takes numerous factors into consideration, including economic projections, minimal disruption to Zoo operations, and balancing investment, community benefit, and increased attendance.

PHASE 1: CALIFORNIA, ZOO ENTRY COMPLEX, CIRCULATION & PARKING

PHASE 2: ASIA, TREETOPS, NATURE PLAY & RAINFOREST

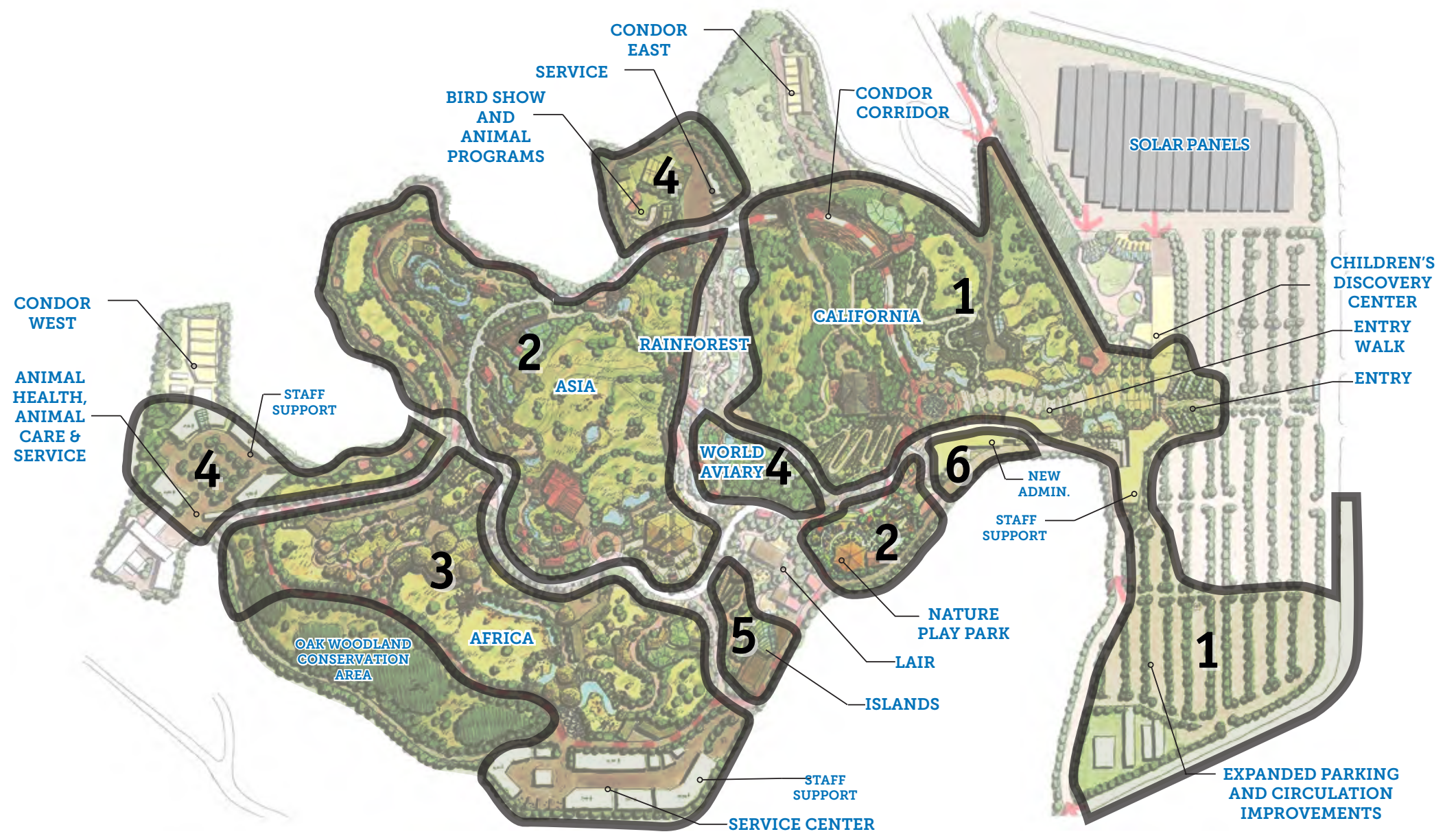
PHASE 3: AFRICA, SERVICE CENTER

PHASE 4: BIRD SHOW, ANIMAL PROGRAMS, WORLD AVIARY, ANIMAL HEALTH & SERVICE CENTER

PHASE 5: ISLANDS

PHASE 6: ADMINISTRATION BUILDING

For the first time in the history of the Zoo, this Plan addresses the entire campus and each of the 2,100 animals in our care.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



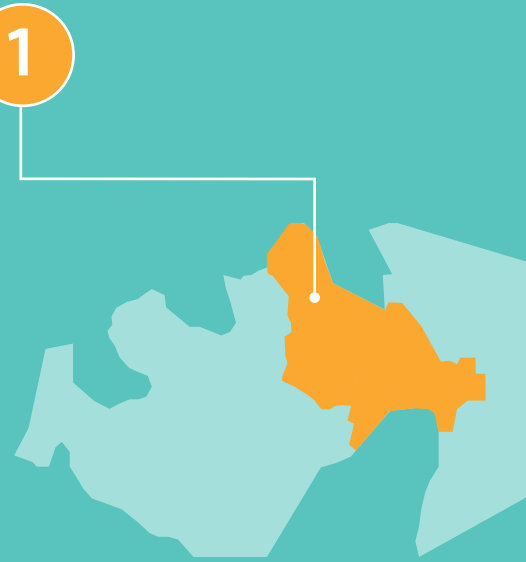
ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

Zoo Entry, California, and Enhancements to Access

PHASE 1



Welcome to your Los Angeles Zoo

Phase 1 of the Los Angeles Zoo's Plan prioritizes animal welfare, equitable access, conservation, and immersion in nature. Expansive habitats will create homes for both Zoo animals and local wildlife. The new Entry complex and circulation loop keep families and groups together on an accessible path. *California* will immerse visitors in native California landscapes. Zoo conservation projects will stretch their legs with new spaces for California condors and peninsular pronghorn. And all guests will have safer access to the Zoo through enhancements to traffic circulation.

Zoo Entry

A GATEWAY TO A WORLD OF NATURE, FOR EVERYONE

- 1 **Equitable Access** is prioritized with amenities such as stroller and wheelchair rental, as well as membership services, now located at the front entrance.
- 2 It's impossible to miss the solar panels on rooftops throughout the *Zoo Entry* complex, a sign of the Zoo's commitment to environmental **sustainability** and reduced consumption.
- 3 A gently sloping and accessible walkway replaces the previous entry's steps, so families stay together and everyone shares the same **experience**. At 80 feet wide, the entry promenade doubles its former width, creating a pleasant atmosphere, even on high-capacity days, and native trees line the pathway for **sustainably**-produced shade.
- 4 Iconic California species, including sea lions and grizzly bears, are welcoming ambassadors that start visitors' animal **experiences** right away.
- 5 Underfoot and hidden from view, a new utility backbone replaces deteriorating and undersized 50-year-old infrastructure. Upgrades to the entire campus flow through the *Zoo Entry*, improving **operational** capacity for everything from sewer and storm drains to the electric grid.



The five-percent grade entry walk replaces the front stairs and ramps, so that all guests approach their day at the Zoo together.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

California

CONNECTING OUR COMMUNITY TO NATURE

- 1 **California's visitor experience** prioritizes naturalistic settings, so that animals and people alike are immersed in the wilderness. A winding path leads guests through native habitats, creating a sensation that is more like a nature walk than a typical zoo outing.
- 2 **Animal care** is prioritized in *California's* habitat design. 74% of *California's* 21 acres are designated for animals and their welfare. Animals have expansive new living areas, with more space and enrichment opportunities than previously possible. The needs of large species are accommodated with features such as pools, natural terrain, and specialized night quarters.
- 3 Local **conservation** is at the heart of the Zoo's mission, and *California* expands the Zoo's capacity to save numerous species from extinction. In the 2010's only 26 free-ranging Peninsular pronghorn remained in the wild, and a new habitat expands the Zoo's successful conservation breeding program capabilities with large grazing fields and custom-built housing.
- 4 The Zoo's longest-running **conservation** project, the California Condor Recovery Program, is showcased in a dedicated habitat and redesigned California Condor Rescue Zone play space. Only 22 California condors survived in 1982. Through the efforts of the Zoo and its partners, these animals exist today and can be seen in *California* landscapes including Big Sur, Pinnacles National Park, and now, for the first time in public view, at the Los Angeles Zoo.

- 5 Improvements to the landscape, replacing concrete and non-native plants with high-quality native habitat, will benefit local wildlife from migrating songbirds to insect-eating bats.
- 6 Visitors continuing along *California's* meandering path ultimately reach the California Overlook. This understated structure will blend into the native landscape while creating space to cool off and relax. New classrooms and open spaces will give local students a chance to learn in nature.
- 7 The best views in the Zoo will be **equitably accessible** for all visitors. Guests can choose to use the native plant-lined ADA accessible pathway, a funicular, or the winding path through *California* to reach the top of the hill. After they descend, the rest of the Zoo is reachable via Condor Corridor or the tram, so everyone can pick the best path for their needs.

Just steps from the entrance, all of California is within reach. Guests will explore the diversity of terrain and wildlife of this great state, while the Zoo's local conservation work will expand and have a showcase for the first time.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

An Illustrated View of Alternative 1.5: California Area



THE ZOO, TRANSFORMED

1. Entry Plaza
2. Entry Walk
3. California Condor Exhibit
4. Entry Garden and Park
5. California Conservation Education Room
6. Griffith Park
7. California Overlook
8. Condor Corridor
9. Grizzly
10. Berrendo (Peninsular Pronghorn)
11. ADA Accessible Walkway
12. Griffith Park Condor Trail
13. Existing Zoo Administration Building
14. Closed Toyon Canyon Landfill
15. Big Horn Sheep
16. Wilson & Harding Golf Courses
17. Burbank
18. Glendale
19. L.A. Zoo / LADWP Solar Carport and Resiliency Project
20. Condors East

Some elements may only be visible in the view looking east (see page 30).

The view of California, looking west



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



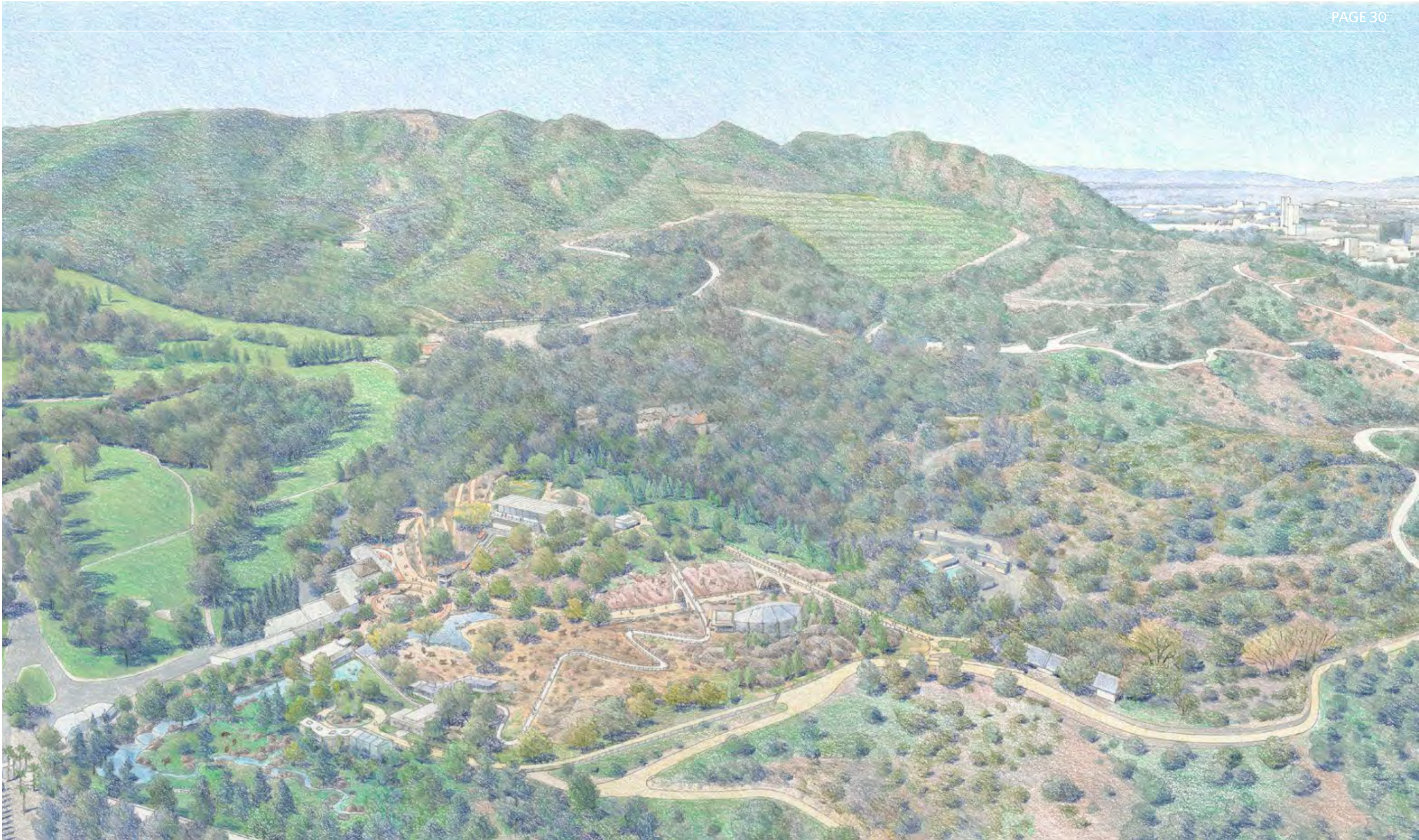
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ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE



The view of California, looking west

Phase 1 Focus: Creating Native Habitat



GROWING LOCAL HABITAT

While 14 acres of the *California* area are considered “underdeveloped,” they are far from pristine habitat and have been disturbed for past uses such as construction and storage.

Phase 1 will create more native habitat than previously existed in this part of the Zoo through its large, contiguous animal spaces and prioritization of a California native plant palette.

Native birds, pollinators, reptiles, and small mammals will have access to improved California native habitat with these improvements. The public, too, will be able to view vistas of Griffith Park and the surrounding urban landscape from within the Zoo for the first time.

The view of California, looking east. Legend on page 29.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

Phase 1 Focus: Conservation



Left: Young California condors at the Zoo's condor conservation facilities. The Zoo saved condors from extinction and will have room to tell that story, and inspire the next generation of conservationists, for the first time.



MORE ROOM FOR OUR MISSION

The Los Angeles Zoo's mission is to save wildlife, enrich our communities, and create connections to nature. Today, just 1.7 acres in the *California* area footprint are used for animals and their welfare. The Alternative 1.5 Plan increases this to 15.6 acres, or 74% of the total space in *California*. This added space will let the Zoo's mission-based priorities work in conjunction with each other, rather than be in competition. More space for breeding programs, such as for our peninsular pronghorn or southern mountain yellow-legged frog recovery programs, will also create more space for guests to experience animals in their natural settings. More California native habitat in Zoo animal spaces helps local wildlife conservation efforts at our home in Griffith Park. And more Angelenos engaged in conservation improves our collective future.

Right: Peninsular pronghorn will have larger habitats, giving Zoo staff more options for managing large herds that support our conservation partners.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

Phase 1 Focus: Access



ACCESS FOR ALL

A primary focus of Phase 1 is to improve access into and throughout the Zoo. Re-routing Crystal Spring Drive and other roadway improvements will separate vehicle and pedestrian traffic and create a safer place for everyone, including students from the North Hollywood High School Zoo Magnet Center, who must cross the busy street multiple times a day throughout the year. Inside the Zoo, a new graded path at the entrance and the Condor Corridor loop will combine to ensure the entire Zoo is accessible for people of all mobilities.



Upper Left: The Americans with Disabilities Act (ADA) sets standards for accessible design. Slopes should be less than 5% grade, and Condor Corridor provides an ADA accessible loop around the entire Zoo for the first time.

Upper Right: Re-routing Crystal Springs Drive and other roadway improvements create safer separation between pedestrians and vehicles.



Bottom: The Zoo Entrance becomes a shade-filled ADA-accessible ramp, removing the separate stairs and ramp of today.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



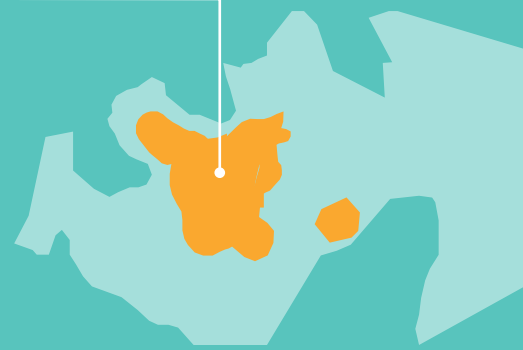
ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

Asia, Rainforest, and Nature Play Park

PHASE 2



Space to roam, play, and explore

Phase 2 of the Plan updates the heart of the Zoo. In the enlarged *Asia*, the Zoo's world-class elephant habitat is joined by new facilities to care for tigers, gibbons, and more. Rhinos have expanded habitats, growing the Zoo's legacy of ground-breaking rhinoceros care and conservation. Meaningful connections to nature — the heart of our conservation mission — are best forged during childhood. The new *Nature Play Park* will give young conservationists inclusive access to natural areas while in the presence of supportive family members: key ingredients to developing this lifelong bond. Additions to the Zoo's excellent *Rainforest of the Americas* round out this phase's improvements.

Asia

THE HEART OF THE ZOO

- 1 The existing *Elephants of Asia* exhibit is expanded to be even bigger, covering 6.8 acres and allowing for awe-inspiring connections between elephants and guests.
- 2 Visitors exploring *Asia's* lush trails **experience** incredible biodiversity. New species, more visible animals, and natural habitats are transformative to this part of the Zoo's original 1966 campus.
- 3 Repeat visitors will never have the same experience twice thanks to the Zoo's commitment to creating large, enriched, and flexible **animal care** spaces. In *Asia*, an area might be used by multiple species simultaneously or by different species throughout the day — just as in the wild.
- 4 The expansive habitats that ring *Asia's* center are home to the Zoo's resident Indian rhinos. The Zoo's long legacy of working with this species and its **conservation** is a tradition that *Asia* proudly continues.



With expanded animal care spaces, new paths and circulation, and a refurbished Treetops of Asia, Asia becomes the heart of the Zoo.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY

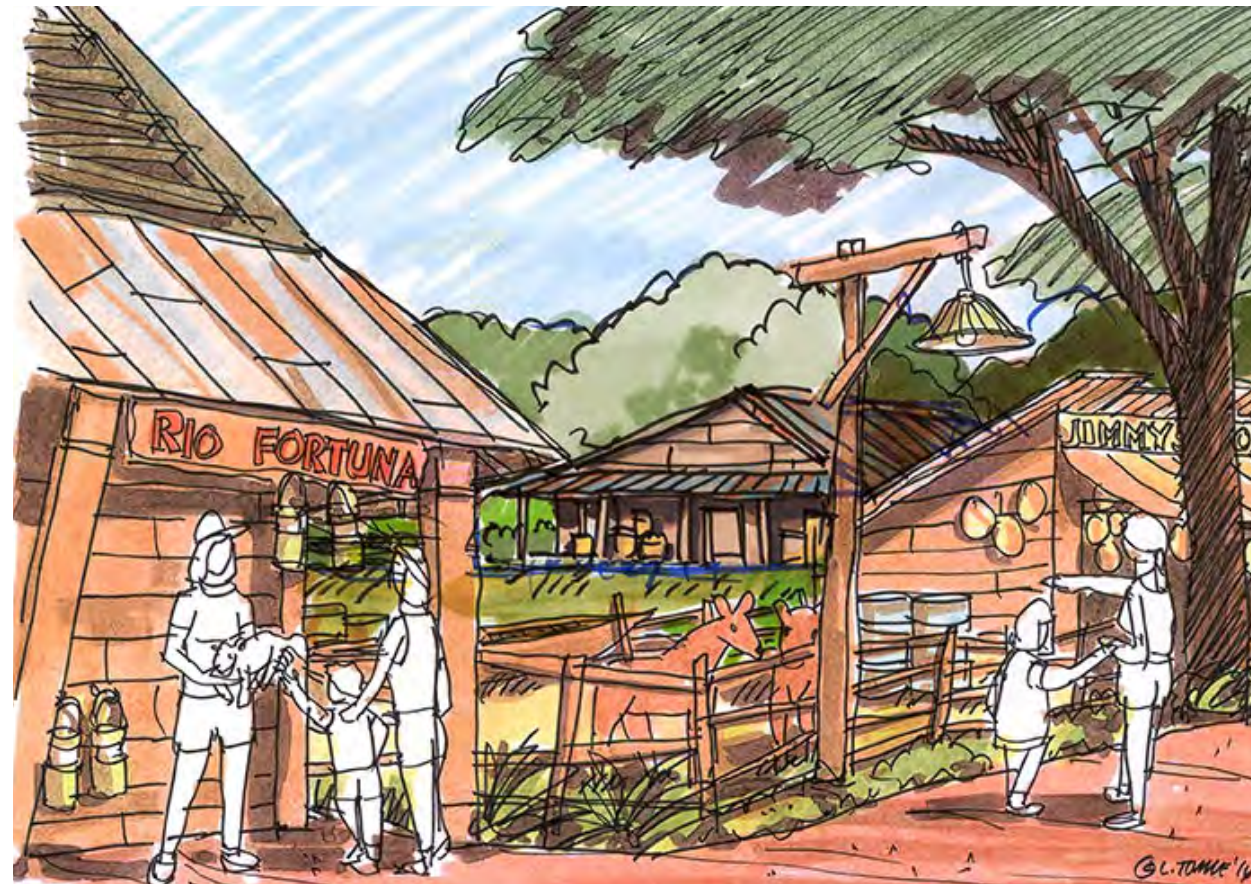


OPERATIONAL EXCELLENCE

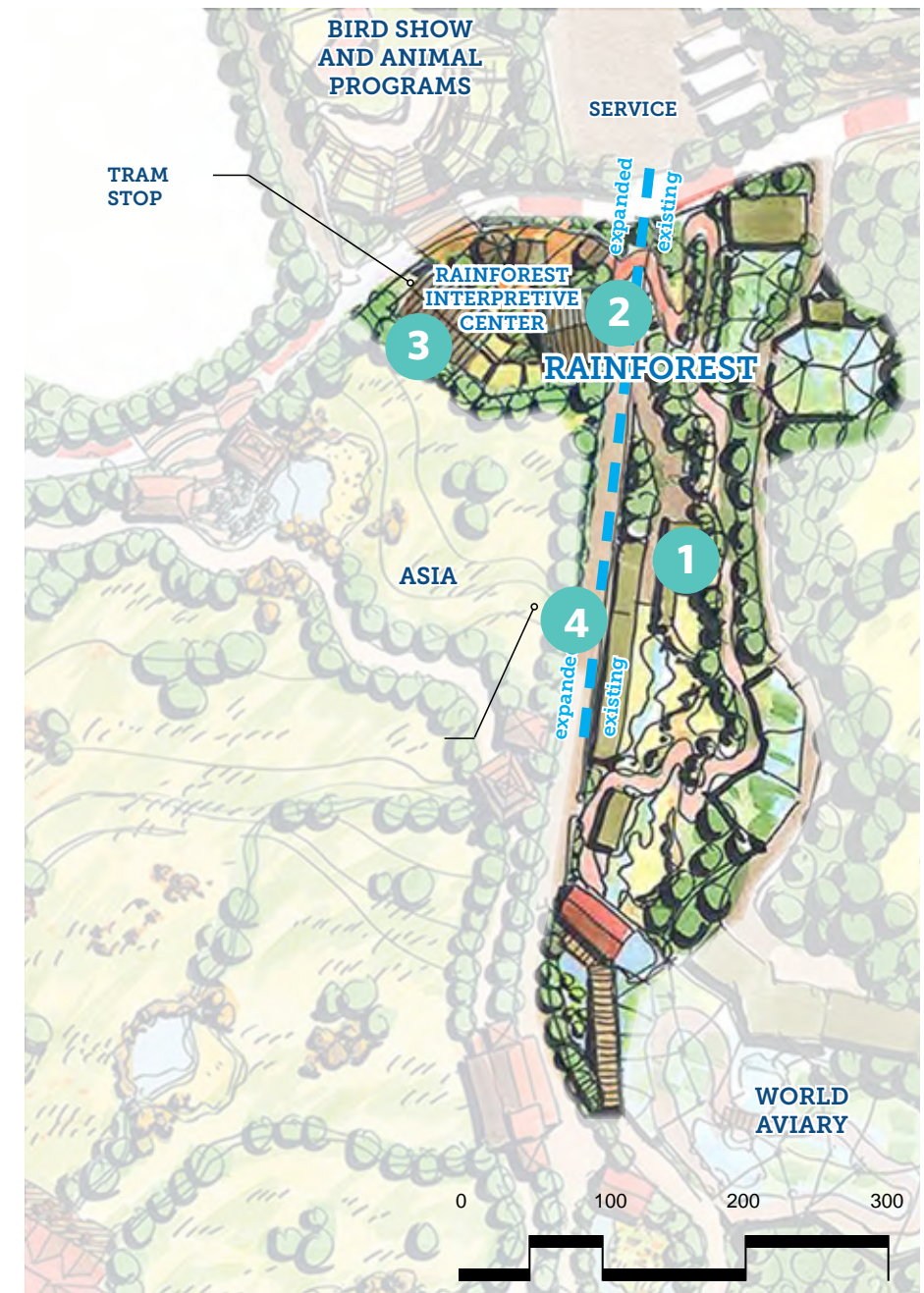
Rainforest

A HOME FOR EVERY LIVING THING

- 1 Guests exploring *Rainforest of the Americas* (completed in 2014) discover that rainforests are some of the most biodiverse and densely populated plant and animal homes anywhere on Earth. Previously, poor wayfinding limited the number of visitors that experienced the important story that *Rainforest of the Americas* tells. New circulation improvements address this problem, allowing visitors to find and navigate this area more easily.
- 2 The advancements in **animal care** that enabled unprecedented success in raising giant river otters — the charismatic stars of *Rainforest of the Americas* — continue in *Rainforest*, with expanded habitats for anteaters, spider monkeys, and more.
- 3 At the heart of the adjoining *Rainforest* and *Rainforest of the Americas*, visitors find an interpretive center. Part outdoor classroom, this interpretive center tells **conservation** education stories, and teaches about sustainability.
- 4 The roadway between *Asia* and *Rainforest*, previously used as a guest path, is now service-only for both areas, increasing **operational efficiencies** and improving the visitor experience.



A new interpretive center offers opportunities for animal interactions and conservation education.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

Nature Play Park

NURTURING THE NEXT GENERATION OF CONSERVATIONISTS

- 1 At three times the original play park's size, the *Nature Play Park* significantly expands one of the most popular areas in the Zoo. For frequent visitors, its reason enough to return time and again.
- 2 Integration with animal habitats takes the **visitor experience** to the next level. Reggie and Tina the alligators, two of the Zoo's most famous residents, are the *Nature Play Park's* stars.
- 3 Naturalistic play structures, balancing activities, and **accessible** structures designed for all abilities create graduated challenges for children as they grow, so that the young — and the young at heart — always have something new to try.
- 4 Dirt and water play encourage families to get as messy as they wish, forging future **conservationists** every time a child feels the cool rush of a stream, discovers a natural treasure for the first time, or creates a lovingly crafted mud pie.



Children of all ages will be able to experience the joy of play in nature.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

Phase 2 Focus: More Land for Elephants



ELEPHANT-SIZED SPACE

Elephants of Asia, built in 2010, provides 3.5 acres of connected space for the Zoo's elephant herd. The amount of space and enrichment it provides is world-class, but the Zoo wanted to do even more -- and so did many of the community members who commented during the Plan's creation.

The entire *Asia* area will substantially expand, making room for *Elephants of Asia* to provide an additional 3.3 acres of space for the Zoo's elephants, almost doubling the usable land to 6.8 acres in total.

The new *Elephants of Asia* will maximize area for elephant space while providing expansive and immersive views of the animals and their habitat for guests.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

Africa and Service Center

PHASE 3



Multi-species, changing habitat

Phase 3 will complete the Zoo's near term transformation. Largely untouched by the previous Master Plan, the 50-year-old spaces within the *Africa* area will be transformed with natural environments and open vistas dotted with rocky outcroppings. Visitors will explore multiple ecoregions, from the African forest to savanna, populated with ever-changing animals and mixed-species groupings. Meanwhile, updates to the Zoo's behind-the-scenes service center will ensure the operational capacity necessary to save wildlife and enrich our communities for years to come.

Africa

DESTINATION AFRICA — A DYNAMIC, ALWAYS EVOLVING EXPERIENCE

- 1 Visitors entering into *Africa* encounter compelling stories of **conservationists** doing the on-the-ground work of saving species such as gorillas, lemurs, and okapi in the continent’s challenging and fragile forests.
- 2 Turning a corner and coming face-to-face with an unexpected animal can be an exciting encounter. Discovering a 4,000 pound behemoth tiptoeing through its watery home elevates exciting to unforgettable. Underwater viewing of hippos will make this **experience** possible daily for all Angelenos.
- 3 No two days — or even hours — are exactly alike at watering holes in the savanna. Likewise, *Africa*’s innovative design means that different animals are visible in different parts of the savanna throughout the day, while landscapes change with the seasons. This dynamic environment enriches **animal care** and is a reason for visitors to come back again and again.
- 4 The Africa Vista offers 360° views and a place to relax before your next adventure; giraffe feedings and animal close-ups make every visit memorable; and food service and an inviting veranda offer respite and rejuvenation.

- 5 The tram is separated from pedestrian traffic for **operational efficiency**, but the stunning views and exclusive animal encounters that it affords passengers make it a can’t-miss experience.
- 6 Previously undeveloped acreage within the Zoo, the *Oak Woodland Conservation Area* is home to more than 100 native oak and black walnut trees. This land will be newly preserved and restored, creating habitat for local wildlife and a natural backdrop to exhibits in the valley below.



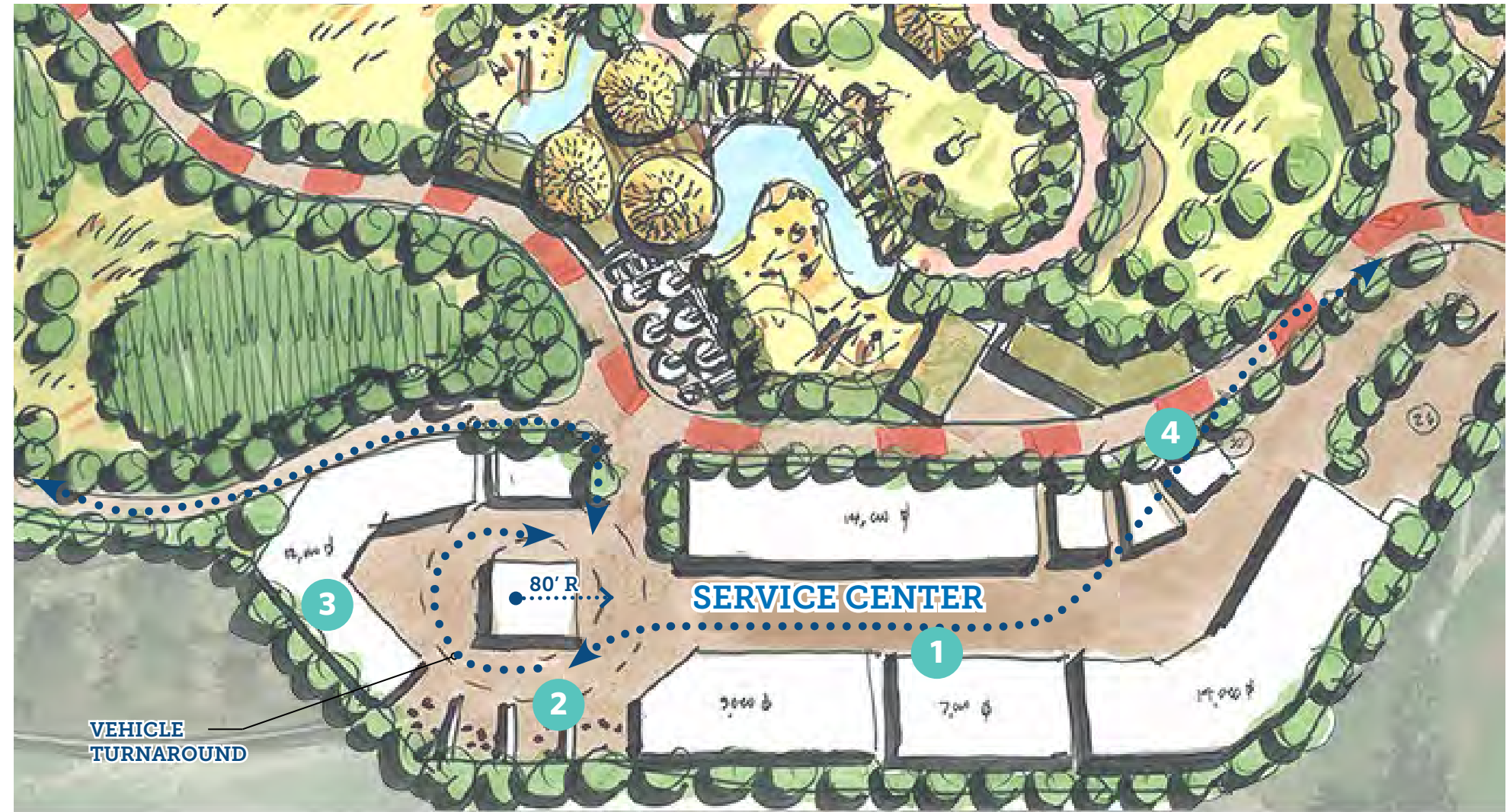
The transformed Africa area nearly doubles the existing space for animals compared to today, from 6.4 to 12.3 acres.

Service Center and Circulation

OPTIMIZING SERVICE AREAS AND CIRCULATION

The Plan provides needed space for service areas, and, for the first time, dedicated service roads and turnarounds for delivery trucks. Dedicated staff parking saves valuable employee time and maximizes guest parking spaces, all to better support the Zoo's mission.

- 1 A new service center increases capacity of the work space seven-fold, from 8,000 square feet to 56,000 square feet, creating space to build, run, and enhance the Zoo's **operations** in ways never before possible.
- 2 Service areas are consolidated and separated from animal care and visitor areas, keeping noise and construction away from animals and guests.
- 3 A large 160-foot-diameter turnaround (one of two, the other in the new Animal Service area) allows larger trucks to serve the Zoo, making deliveries and returning down the service road, increasing **operational efficiencies**.
- 4 56 additional parking spaces allow staff to park close to their work area and relieve pressure in guest lots on peak days.



Consolidated maintenance operations in a dedicated service area enhances operational excellence and efficiency.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

Phase 3 Focus: Restoring Native Oak Woodland



BACKYARD BIODIVERSITY

Six acres of undeveloped hillside border the *Africa* planning area. A backdrop to *Africa's* multi-species savanna, this Coast Live Oak Woodland contains over 100 California live oak (*Quercus agrifolia*) and approximately 22 Southern California black walnut (*Juglans californica* var. *californica*).

The 2018 Vision Plan called for this land to be largely kept intact, with various African hoof-stock grazing among the trees and light terracing where needed for animal safety and stability. Public feedback was clear, though, that this land should be preserved to its fullest extent. The Zoo not only agreed, but is taking that idea even further.

Instead of preserving the land untouched with its mix of native and non-native plants, the Zoo will restore the Coast Live Oak Woodland to be healthier, more productive habitat for Griffith Park's native wildlife. Following best environmental practices, this space will be a model for what can be done to restore and protect our collective heritage. While adjacent to Phase 3's *Africa*, this work will begin as soon as the Plan is approved.

The Coast Live Oak Woodland has both native trees and non-native grasses.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

Phase 3 Focus: Multi-species, Changing Habitats



EMBRACING CHANGE

Imagine drinking your morning coffee at the Africa Vista, overlooking a large savanna with zebra, giraffe, and more gathered around a watering hole. The view is so stunning and serene that you decide to return for lunch, but when you do, a herd of African painted dogs is now visible, eagerly sniffing as they explore the grasslands. You remember that when you were last here a few months prior, the grass itself was much shorter, but has now grown to be feet high in places, transforming the savanna into a sea of gold.

The habitats of *Africa* will contain the Zoo's most innovative multi-species, changing exhibits. Building on best practices to ensure excellent welfare, animals may mingle or move throughout the course of a day. The land may also transform throughout the seasons, offering enriching change to the animals who live there and a reason for guests to come back again and again.

The multi-species Africa savanna, looking towards restored Coast Live Oak Woodland



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY

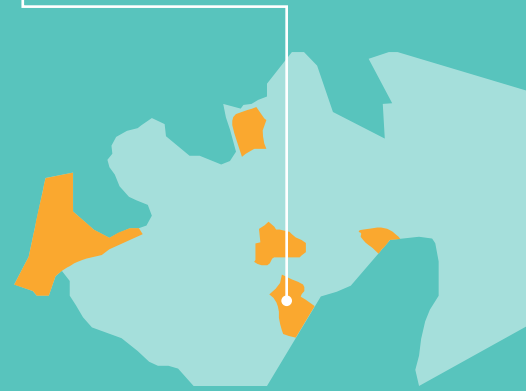


OPERATIONAL EXCELLENCE

Future Phases

PHASES

4-6



Finishing Touches

Future phases will complete the Zoo's transformation, with each square foot updated to be modern, accessible, and sustainable. Whether behind-the-scenes at the Bird Show and adjacent service areas, within the Zoo's Animal Health Center complex and administrative buildings, or among the Zoo's popular Australian residents, the Zoo will be poised to have each of its 133 acres working towards our mission to save wildlife, enrich our communities, and create connections to nature.

World Aviary

WINGED AND WONDERFUL

- 1 The Zoo's dedicated breeding facilities have played a critical part in saving California condors from extinction. The *World Aviary* builds on the Zoo's successes, from hatching blue-throated macaws to raising gray-crowned cranes, in a new **conservation** center that is open to visitors.
- 2 At 70,000 square feet, the *World Aviary* is one of the largest and most immersive aviaries in the United States. Incorporating waterfalls, pools, and birds from around the world, the *World Aviary* is truly a can't-miss destination.
- 3 Improvements from the previous-generation aviary mean each level of the *World Aviary* is accessible to everyone. All visitors are able to get a bird's-eye view of this unforgettable Zoo **experience**.
- 4 While the previous aviary was a hidden gem, circulation improvements with multiple entry and exit points from *Asia*, *Rainforest*, and *California* now make the *World Aviary* front-and-center.

Integrating water features, lush plantings, and improved breeding facilities, the World Aviary complex brings together dozens of bird species from around the world.



Islands

MAKING NEW CONNECTIONS

- 1 A path from Treetops of Asia links two previously disconnected areas (*Asia* and *Islands*), improving **visitor experience** and flow.
- 2 Visitors can take a direct path from the *L.A.I.R.* to *Islands*, cutting down on travel time and confusion as they explore this popular section of the Zoo.
- 3 The **animal care** needs of Australia's unique and wonderful fauna create unique opportunities for visitor interactions, from wandering among wallabies to up-close encounters with emu.
- 4 Los Angeles' Mediterranean climate makes it one of the few places in the world suitable for growing the native plants that Australia's animals need to thrive. Visitors will encounter the Zoo's commitment to meeting these unique **animal care** needs each time the dinosaur-like cassowary emerges from the shadows of a Victorian box tree or a koala quietly munches on eucalyptus leaves.
- 5 The Zoo's **sustainability** efforts in *Islands* noticeably include both reduction and reuse. The updated Australia House repurposes existing structures while adding solar panels and updating to LEED Silver standards or better.



In addition to advancing animal care for dozens of rare and endangered species, Islands also improves direct accessibility to more areas of the Zoo.



ANIMAL CARE



CONSERVATION



VISITOR EXPERIENCE



EQUITABLE ACCESS



ENVIRONMENTAL SUSTAINABILITY



OPERATIONAL EXCELLENCE

Bird Show and Animal Programs

UP CLOSE AND PERSONAL

- 1 Behind the scenes, new facilities are custom built to meet the specialized **animal care** needs of the ambassador animals who regularly participate in outreach and public engagement.
- 2 New shade structures provide respite for guests enjoying the updated bird show. **Visitor experience** and comfort have been prioritized in the amphitheater’s upgrades and enhancements.
- 3 Repurposed service space better meets the Zoo’s **operational** needs and eliminates distracting views into work areas.

With improved shade over the amphitheater and additional behind-the-scenes support spaces, this area showcases the Zoo’s commitment to deepening personal connections to nature and wildlife.



Animal Health and Service Center & Administration

CONSOLIDATING ANIMAL CARE OPERATIONS

Animal care operations are consolidated under one roof for the first time in the Zoo's history, improving operational efficiency and excellence. Also for the first time, the California condor facility (Condor West) will be enhanced for behind-the-scenes viewing, so that visitors will have the opportunity to observe firsthand the Zoo's critical role in rescuing these amazing birds from extinction.

- 1 California condor facility improvements enhance the program's **conservation** capabilities and upgrade the program's "temporary" trailers, which have been in use since the 1980s.
- 2 The area continues to house the Zoo's important reptile breeding facility, critical for **animal care** at the Los Angeles Zoo and contributing to the greater body of knowledge in the zoo community. With the increased capacity of this area, additional similar programs can grow and thrive here.

- 3 The Zoo previously lacked an area for large trucks to turn around, so delivery trucks had to navigate the entire perimeter road, which was shared by visitors. The animal service center now is accessed via a dedicated service road and has one of two new turnarounds for trucks, saving time and making deliveries and **operations** more efficient and safe.
- 4 The animal care facilities complement and expand upon the recently built animal health center, ensuring the quality of **animal care** at the Zoo continues to evolve with advances in the field.
- 5 Feed storage is expanded, allowing for full beds of hay and bulk quantities of both dry and refrigerated foods to be delivered and stored. Larger deliveries reduce frequency and costs, as well as improve **operations**.
- 6 The Zoo's Administration buildings will be updated in Phase 6, ensuring the entire campus has **sustainable** infrastructure.



Top Right: The Zoo's Administration buildings will be constructed with sustainability as a top priority.

Left: Consolidating the Animal Health and Service Center increases operational efficiency and animal welfare in equal measure.





**05 | CHANGES
FROM 2018 TO 2022**

We've been listening

The COVID-19 pandemic, renewed calls for social justice action, and the increasing impact of climate change all have contributed to a different set of needs today than in 2018 when the Vision Plan was created. The Zoo has responded, adding a new division of Equity Programs, creating its first ever Conservation Strategic Plan, and conducting hundreds of conversations with dozens of interested parties.

"In Los Angeles, sustainability is a core value that guides all of our work, because our survival depends on it."

— MAYOR ERIC GARCETTI,
"L.A.'S GREEN NEW DEAL"

"The L.A. Zoo sees nearly two million annual visitors from all ages, languages and backgrounds — they all should know that L.A. is for Everyone."

— CAPRI MADDOX, L.A. CIVIL RIGHTS
EXECUTIVE DIRECTOR



Left: Impacts from the COVID-19 pandemic were felt by Zoo staff, guests, and animals.

Above: Representatives from the Mayor's office met with Zoo staff in December 2021, surveying the California area.

Changes from the 2018 Vision Plan to the 2022 California Focused Conservation Alternative

“All of us bring light to exciting solutions never tried before

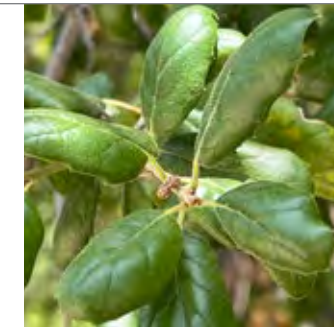
For it is our hope that implores us, at our uncompromising core,

To keep rising up for an earth more than worth fighting for.”

— AMANDA GORMAN, FIRST YOUTH POET LAUREATE OF LOS ANGELES, “EARTHRISE”

RESTORE COAST LIVE OAK WOODLAND

The Zoo will restore six acres of undeveloped hillside to be healthier, more productive habitat for Griffith Park’s native wildlife. The 2018 Plan included this space in the *Africa* area, but the 2022 Plan calls for it to be managed separately. A backdrop to *Africa*’s multi-species savanna, this Coast Live Oak Woodland contains over 100 California live oak (*Quercus agrifolia*) and approximately 22 Southern California black walnut (*Juglans californica* var. *californica*).



95% of the protected trees in the Zoo’s undeveloped land are within the six acre Coast Live Oak Woodland restoration zone.

REPLACE PARKING GARAGE WITH SOLAR PANELS

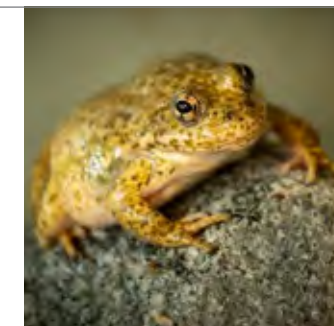
The Zoo has removed the proposed parking garage originally planned for the final phase of the 2018 Vision Plan. In its place is a joint Zoo-LADWP project to add a solar panel carport to the north parking lot. The 3.4 megawatt system will be the largest in City history. Additionally, the proposed aerial tram from the *California* to *Africa* areas has been removed from the Plan.



The solar panel carport will include up to 100 make-ready EV charging ports and up to 25 DC fast chargers.

INCREASE EMPHASIS ON CALIFORNIA BIODIVERSITY

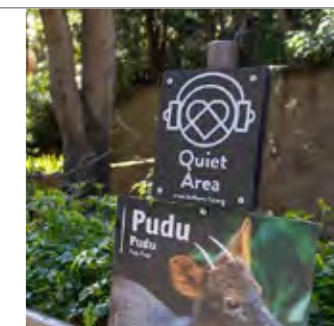
The *California* and *Entry* projects are moved to Phase 1 to have the biggest impact for guests and more quickly transform the underdeveloped shrubland of that section into productive native California habitat. The ADA accessible ramp from the Entry Plaza to the top of the hill at the California Overlook has its plant palette changed from vineyards to a native Californian focus. The Zoo’s California-based conservation projects will be given more space, more quickly with these updates.



In 2020, Zoo herpetology staff released a total of 1,600 Zoo-bred southern mountain yellow-legged frog tadpoles into native mountain streams where the species had gone locally extinct.

RENEW COMMITMENT TO EQUITABLE ACCESS

The 2022 Plan adds the guiding principle “Equitable Access” to make explicit our commitment to this value. We’ve kept Condor Corridor (renamed from Condor Canyon) to ensure an ADA accessible loop around the entire Zoo, and moved the construction of a new entry ramp to better welcome all visitors into Phase 1. We’ve committed to build restrooms that are inclusive and to create spaces that meet the varying sensory needs of our communities throughout the 133 acre campus.



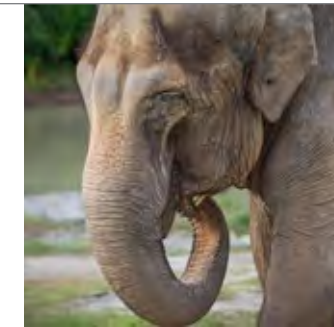
The Zoo’s partnership with KultureCity helps guests with sensory needs have the tools necessary for a successful visit.

Changes from the 2018 Vision Plan to the 2022 California Focused Conservation Alternative

The Vision Plan's updated Environmental Impact Report identifies the 2022 Plan ("Alternative 1.5: The California Focused Conservation Alternative") as the Environmentally Superior Alternative.

MORE ROOM FOR ELEPHANTS

Elephants of Asia, built in 2010, currently provides 3.5 acres of connected space for the Zoo's elephant herd. After feedback during the initial Environmental Impact Report process, *Asia* was redesigned to create even more room for elephants, almost doubling the usable space to 6.8 acres in total. *Asia* itself grows to 20 acres in total, ensuring room for other visitor favorites such as tigers and rhinos.



The Zoo's herd of Asian elephants will have more space in the updated Plan.

MAKE PLAY MORE ACCESSIBLE

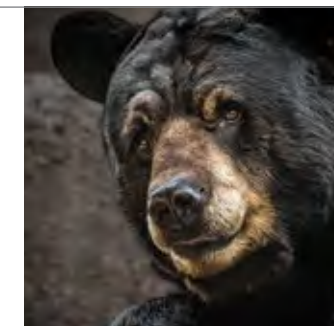
The *Nature Play Park* is moved from the current play park location at the top of the Zoo to just outside California, near the front entrance. Designed as an accessible play-based experience for people of all abilities, its new location will now allow even more families to enjoy this space together.



The Zoo's current play park is one of its most popular destinations for children and families.

CHANGE PHASING TO INCREASE IMPACT

Throughout the design process, community feedback was clear that the Zoo needed more animal experiences near the front entrance. *California* and the *Entry* area are moved to Phase 1 to address this concern as well as increase conservation impact and native California habitat early in the project. *Asia* and the *Nature Play Park* move up to Phase 2, and the entire plan shrinks from eight phases down to just six.



Bears return to the Zoo sooner with the reconfigured phasing schedule as a part of Phase 1's California.

COMMIT TO MULTI-MODAL ACCESS SOLUTIONS

In addition to removing the parking garage from the Plan's late phases, the Zoo is committing to work with City and regional partners to increase multi-modal access to the Zoo. The Zoo is currently served by a single bus route to Griffith Park. Future Zoo visitors should have the option to bike, ride, or access the Zoo in whatever way best suits their needs, with systems that aim to reduce traffic and minimize vehicle miles traveled.



Biking is just one of the ways future visitors will reach the Zoo and Griffith Park.

A photograph of two mountain goats. The goat on the left is dark brown with thick, shaggy fur. The goat on the right is a lighter, golden-brown color with curved horns. They are standing on a grey, rocky surface and appear to be interacting, with their heads close together.

06 | ACKNOWLEDGMENTS

Los Angeles Zoo Alternative 1.5 Plan (2022) Acknowledgments



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Eric Garcetti

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- Mei Kwan, Deputy Director
- Carol Armstrong, Director of Sustainability & Capital Programs
- Dan Keeffe (he/him), Director of Learning & Engagement
- Jess Kohring (she/her), Director of Equity Programs
- Carl Myers, Director of Communications
- Dr. Jake Owens, Director of Conservation
- Darryl Pon, Manager of Planning & Development Programs
- Beth Schaefer, Director of Animal Programs

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TDCL VISION PLAN (2018) TEAM

- Torre Design Consortium, Inc. - Architect, Landscape Architect, Zoo Vision Plan Leader
- AECOM - Economics
- PCA Global Life - Life Support Systems
- Building Solutions Group, Inc. - Mechanical and Electrical Engineer
- JCE Structural Engineering Group, Inc. - Structural Engineer
- Watearth, Inc. - Sustainable Water
- Circlepoint, Inc. - Outreach
- Psomas - Civil Engineer



California area illustrations by Studio-MLA



Los Angeles Zoo Vision Plan (2018) written by Heather Lindquist, and designed and produced by KBDA.



A close-up photograph of a chimpanzee hugging a baby chimpanzee. The adult chimpanzee is on the left, with its arm around the baby. The baby chimpanzee is on the right, looking directly at the camera with a curious expression. The background is dark and out of focus.

**MAKE THE VISION
A REALITY**

**VISIT WWW.LAZOO.ORG/VISIONPLAN
AND LEARN HOW YOU CAN HELP**

   @lazoo

APPENDIX P

Parking Analysis for Alternative 1.5 of the LA Zoo Vision Plan EIR Memorandum

Memorandum

Date: July 8, 2022
To: Erika Leachman, Wood Environment & Infrastructure Solutions, Inc.
From: Netai Basu & Nico Boyd, Fehr & Peers
Subject: **Parking Analysis for Alternative 1.5 of the LA Zoo Vision Plan EIR**

LA21-3059.01

This memorandum was prepared at the request of City of Los Angeles (City) Bureau of Engineering (BOE) staff to summarize our analysis of parking demand under Alternative 1.5 of the LA Zoo Vision Plan (Vision Plan) Environmental Impact Report (EIR) and inform recommendations for the development of a Peak Visitation Management Program. The Peak Visitation Management Program is intended to ensure that the Zoo's parking lots would sufficiently accommodate the increased visitation that is projected to occur under Alternative 1.5.

Background

Vision Plan EIR & Parking Demand Assessment

In November 2020, Fehr & Peers prepared the Los Angeles Zoo Vision Plan Transportation Assessment (Transportation Assessment; Appendix N of the EIR) to inform the Vision Plan EIR. Under the proposed Project, parking capacity at the Zoo would increase in Phase 1 of the Vision Plan from the existing 2,144 spaces to approximately 2,444 spaces when Crystal Springs Drive is realigned and the far south parking lot is restriped. The Vision Plan would also increase parking capacity further in Phase 7 with the construction of an approximately 2,000-space above-ground parking structure in the far north parking lot. Because the parking structure is planned to be built upon an existing surface parking lot, approximately 450 existing parking spaces would be lost, resulting in the net addition of 1,550 parking spaces, bringing the total Zoo parking capacity to just under 4,000 spaces. As part of the Transportation Assessment, Fehr & Peers analyzed parking demand at the Zoo. Zoo parking counts and visitor ingress/egress counts were collected in 2019 and a parking demand model was prepared. Future parking demand for the Vision Plan was calculated for each phase utilizing the growth percentages presented in Table 2 of Appendix N to the EIR. The Vision Plan EIR and the Transportation Assessment assumed that total annual visitation to the Zoo would reach 3 million visitors by 2040 for the proposed Project.



Based on the growth in capacity, the parking demand model provided in the Transportation Assessment indicates that, in Phases 1 – 6, parking demand will exceed capacity on days when attendance is 12,600 or higher, and that, after construction of the parking structure in Phase 7, demand will exceed capacity when attendance is 19,200 or higher. Using the parking demand model for the Vision Plan proposed Project, Zoo parking demand is expected to exceed supply for at least a portion of one hour on 15 days in 2025, 25 days in 2027, 51 days in 2030, and 5 days in 2040.

Overview of Project Alternative 1.5

Following the Final EIR, the Zoo designed an additional project alternative to consider in a Focused Recirculated EIR. Alternative 1.5, the California Focused Conservation Alternative, adjusts the proposed Project to substantially reduce visitation and associated parking demand. Alternative 1.5 would guide long-term redevelopment and operations of the Zoo, similar to the proposed Project, but would reduce the proposed Project's land use plan and conceptual design plan to substantially avoid the development of the undeveloped hillsides containing native habitat and sensitive biological resources within the Africa planning area. This alternative would also eliminate the Zoo aerial tram, the 2-acre public park, and the 2,000-space parking structure that were elements of the proposed Project.

Compared to the Project, Alternative 1.5 would reduce acreage dedicated to Animal Conservation and Visitor Service Areas by 6 acres and instead increase Undeveloped/Open Space Areas by 6 acres. As Alternative 1.5 excludes the 2-acre public park in the northern parking lot from the proposed Project, there would be 2 acres retained as surface parking similar to existing conditions. **Table 1** summarizes the land use and buildout assumptions proposed under Alternative 1.5. As a result of land use changes, Alternative 1.5 would have a smaller development footprint than the proposed Project. The overall development footprint within the Zoo would be reduced by 6 acres, a 7.6 percent decrease from the proposed Project.

Peak Visitation Management Program

Under Alternative 1.5, in addition to implementing Mitigation Measures TDM-1 and TDM-2, requiring a Transportation Demand Management Program, the Zoo would also implement a "Peak Visitation Management Program" to ensure the existing and expanded surface parking lots would be utilized as efficiently as possible through improved visitor demand management. The Zoo currently provides 2,144 surface parking spaces. Similar to the proposed Project, Alternative 1.5 would add 300 spaces to the existing surface parking lot for a total capacity of 2,444 visitor spaces. Alternative 1.5 would exclude the 2,000-space parking structure envisioned under the proposed Project. The Zoo does not have offsite or overflow parking so all parking demand for visitation under Alternative 1.5 must be accommodated by the 2,444-space parking lot.



Table 1. Comparison of Land Uses Under Alternative 1.5 and Proposed Project

Land Use	Proposed Project (acres)	Alternative 1.5 (acres)	Difference (acres)
Animal Conservation & Visitor Service Areas	79	73	-6
Administration	7	7	0
Service & Storage	10	10	0
Condor Conservation Program	3	3	0
Public Park	2	0	-2
Undeveloped/Open Space	7	13	6
Parking	29	31	2
Realigned Crystal Springs Drive	5	5	0
Total	142	142	0

Source: Wood Environment & Infrastructure Solutions, Inc.

During the COVID-19 pandemic, the Zoo developed and employed an Advanced Online Reservation system to regulate daily ticket sales and coordinate guest arrival times to limit Zoo capacity and achieve public health objectives. This system also helped the Zoo better manage the utilization of the Zoo parking lot to avoid exceeding parking lot capacity. Under Alternative 1.5, the Peak Visitation Management Program would continue the use of the Zoo's online reservation system to manage Zoo visitation during peak times. This program would also optimize visitation during non-peak conditions to support the Zoo's goals for annual visitation through the implementation of the Vision Plan.



Under Alternative 1.5, annual attendance at the Zoo would be substantially lower than under the proposed Project due to the elimination of the parking structure and implementation of the Peak Visitation Management Program, which would limit visitation capacity and optimize visitation outside of peak conditions at the Zoo. Annual visitation would also be reduced commensurate with the reduced physical capacity of the Zoo resulting from decreases of visitor-serving amenities in the Africa planning area, including the elimination of 6 acres of proposed animal conservation space and visitor-serving spaces. Under this alternative, elimination of the aerial tram is anticipated to incrementally reduce visitation. Similar to the proposed Project, annual growth in visitation would be driven by improvements during Phases 1, 2, 3, 4, and 5 due to the expansion or replacement of existing features and proposed improvements.

Parking Analysis Methodology

Existing Conditions

As described in the LA Zoo Vision Plan EIR, the Zoo currently provides a total of 2,144 surface parking spaces, including 2,081 regular spaces, 55 standard accessible spaces, and 8 van-accessible spaces, in four distinct parking areas: the north main parking lot, the south main parking lot, the far north parking lot, and the far south parking lot (Figure 1). Most Zoo parking spaces are free of charge at all times. The Zoo reports that parking demand exceeds supply on busy days. To address capacity issues, currently, on busy days only, the Zoo charges \$10 to park all day at preferred parking spaces adjacent to the Zoo entrance. The parking fee is collected in cash prior to parking.

For the parking demand analysis, existing parking demand was assessed in two ways. First, hourly parking occupancy sweeps were conducted on a weekend day in November 2019. Parking occupancy counts were compared to 30-minute visitor main gate ingress and egress counts from the same day provided by the Zoo and were subsequently adjusted by visitor average vehicle occupancy (AVO). Second, parking demand was estimated for a variety of attendance scenarios, including a 67th percentile day (7,854 visitors), a 95th percentile day (11,532 visitors), and a maximum attendance day (14,187 visitors), utilizing 30-minute visitor main gate ingress and egress counts for the dates on which driveway counts were collected in May 2019. Visitor ingress and egress counts (person trips) were adjusted by visitor AVO (3.7 persons per vehicle) and validated using driveway count data. This data was used to develop a parking accumulation model that estimates parking occupancy by hour based on the entering and exiting volume of vehicles.

Using the parking accumulation model, it is estimated that the Zoo currently experiences demand for parking which exceeds capacity for at least a portion of the day on any day when attendance is 11,500 or higher, approximated by the model's theoretical 95th percentile day. Based on historic attendance data received from the Zoo, there were four days in 2018 when attendance exceeded 95th percentile conditions.



Figure 1. Zoo Existing Setting



Future Conditions – Alternative 1.5

Under Alternative 1.5, parking capacity is expected to increase in Phase 1 of the Vision Plan from the existing 2,144 spaces to approximately 2,444 spaces when Crystal Springs Drive is realigned and the far south parking lot is restriped. As described above, it is estimated that the Zoo currently experiences demand for parking which exceeds capacity for at least a portion of the day on any day when attendance is 11,500 or higher. Using the parking accumulation model, this peak visitation scenario is conservatively approximated by the model's theoretical 95th percentile day, or approximately 11,500 total visitors. The parking accumulation model basis in visitor ingress and egress data makes it an accurate reflection of parking demand patterns on the days the counts were collected.

Visitor arrival and departure patterns may vary based on weather, the presence or absence of school trips, holidays, etc., and actual parking capacity may be exceeded on days with attendance below 11,500 if visitation on that day is more peaked. In addition, traffic congestion around the Zoo entrance may have discouraged some patrons from entering, so the observed historic attendance may not represent maximum attendance demand. Further, the Zoo's recent use of an online reservation system demonstrates the effectiveness of the program in managing overall visitation. Since early 2021, the Zoo has capped daily visitation at a maximum of 10,000 daily visitors, which was exceeded on 15 days in 2018. The implementation of the online reservation system has



significantly limited visitation even on peak days. For example, from May 2021 to May 2022, the Zoo had approximately 1.4 million visitors. On Memorial Day weekend in 2022, the Zoo accommodated 9,062 total visitors on Saturday, 9,811 total visitors on Sunday, and 10,206 total visitors on Monday; on Monday, total visitation exceeded the cap but there were less than 10,000 patrons in the Zoo at any one time (Personal communication, Darryl Pon. June 2022).

The analysis of parking demand under the proposed Project described above was updated to reflect the parking capacity and attendance growth assumptions for Alternative 1.5 without the Peak Visitation Management Program. This analysis was conducted to understand how many days the Zoo would expect to enact measures of the Peak Visitation Management Program to attenuate parking demand that would exceed parking supply within the 2,444 available spaces. Compared to the Proposed Project, Alternative 1.5 growth was reduced commensurate with the reduced physical capacity of the Zoo resulting from decreases of visitor-serving amenities in the Africa planning area, including the elimination of 6 acres of proposed animal conservation space and visitor-serving spaces (refer also to Section 3.0.3, *Assessment Methodology*). Elimination of the aerial tram would also incrementally reduce visitation through provision of one less amenity at the Zoo under this alternative. **Table 2** shows the attendance growth percentages by phase that were applied to the future conditions parking analysis for Alternative 1.5 in comparison to the growth percentages that were applied to the future conditions parking analysis for the Proposed Project.

Table 2. Projected Growth in Zoo Attendance Compared to Existing Conditions – Proposed Project and Alternative 1.5 without Peak Visitation Management Program

Scenario	Phase 1	Phase 2	Phase 3-4	Phase 7
Proposed Project	27%	40%	61%	72%
Alternative 1.5	27%	40%	55%	66%

With the increase in parking supply in Phase 1, the parking demand model indicates that demand will exceed capacity in all phases at some time on days when attendance is 12,600 or higher. Using the parking demand model for Alternative 1.5, Zoo parking demand is expected to exceed supply for at least a portion of one hour on 15 days in 2025, 25 days in 2027, 42 days in 2030, and 53 days in 2040 without the Peak Visitation Management Program. **Attachment A** to this memorandum presents the results of the parking accumulation models for Alternative 1.5 without a Peak Visitation Management Program on a 67th percentile day, a 95th percentile day, and a maximum attendance day.



Conclusions & Recommendations

The parking demand model indicates that the Peak Visitation Management Program is an essential component for Alternative 1.5 for maintaining the availability of parking spaces for Zoo visitors and avoiding overcrowding and congestion during peak days over the course of Vision Plan implementation. Specifically, the use of an online reservation system during the COVID-19 pandemic demonstrates the effectiveness of this tool in controlling both the total daily visitation below the estimated maximum capacity (12,600 visitor per day) and distributing visitation to assigned timeslots throughout the day to assuage peak parking demand during specific hours, as identified in Attachment A.

Based on this assessment, implementation of the Peak Visitation Management Program would substantially limit annual growth projections compared with those projected under Alternative 1.5 without the Peak Visitation Management Program. Without the Peak Visitation Management Program, the Zoo would experience more frequent exceedances of parking availability, which is estimated to result in visitors being turned away or being unable to obtain reservations on up to 53 peak days per year. With the Peak Visitation Management Program, the Zoo would optimize visitation during non-peak times to maximize visitation within the constraints of the existing parking lot. As such, the total estimated annual attendance of 2,500,000 visitors at the buildout of Alternative 1.5 would be a reduction of roughly 16.7 percent compared to the proposed Project’s visitation goal of 3,000,000 visitors annually. Alternative 1.5 would also reduce employment needs to 861 employees, a 21.8 percent reduction compared to the Project.

Table 3. Projected Growth at the Zoo Under Alternative 1.5 with Peak Visitation Management Program

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7
Operational Year	2025	2027	2029	2031	2033	2036	2038
Annual Attendance	1,910,771	2,095,689	2,334,726	2,451,555	2,500,000	2,500,000	2,500,000

Source: Draft Los Angeles Zoo Vision Plan; AECOM 2017

Notes: Baseline annual attendance = 1,743,800 (2017) per Draft Vision Plan

To ensure the effectiveness and flexibility of the Peak Visitation Management Program, recommended techniques include the following to shift visitor demand away from peak periods to times when the Zoo’s parking lot would have capacity:



- Mandatory ticket reservation system to issue a limited number of tickets during peak days or timeframes (e.g., April – September) similar to the system employed during the COVID-19 pandemic to control the total number of people in the Zoo.
- Dynamic (non-peak) pricing discounts and incentives
- Incentives for shoulder season attendance
- Extended evening or morning hours
- Non-peak special events (e.g., after-hours events)
- Discounted tickets with proof of use of public transit or non-vehicular modes
- Tickets with no parking guarantee with potential discount; ticket requires drop-off/pick-up (i.e., rideshare, non-vehicular)

In addition, the Final EIR for the LA Zoo Vision Plan (pages 3.15-70 through 3.15-75, June 2021) describes a Transportation Demand Management (TDM) program (Mitigation Measure (MM) T-2) to reduce annual VMT generated by LA Zoo visitors and employees. MM T-2 would be required to mitigate transportation impacts of Alternative 1.5. Among the strategies that are recommended for reducing annual VMT generated by LA Zoo visitors is a Peak Period Parking Program that would charge for preferred parking during the highest visitation periods, including all weekends (Saturdays and Sundays), holidays, the spring months (April and May), and December, collecting fees for preferred parking on approximately 170 days of the year (based on the 2020 calendar year). Given the relationship of this mitigation measure to parking management, it is also recommended that like the TDM Program required under MM T-2, the effectiveness of the Peak Visitation Management Program is monitored on an ongoing basis and adjusted to align with observed conditions in order to maximize visitation and efficient use of the parking supply.

Attachment A - Zoo Parking Demand for Alternative 1.5 without Peak Visitation Management Program (Capacity = 2,444 spaces)

Based on a 67th Percentile Attendance Saturday (7,854 attendees)

Time	Year Capacity		2019 2,144		2025 2,444		2027 2,444		2030 2,444		2040 2,444		
	Visitor Ingress	Visitor Egress	Visitor Accumulation	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy
10:00 - 10:30 AM	1,368	0	1,368	370	17%	471	19%	516	21%	575	24%	616	25%
10:30 - 11:00 AM	344	0	1,712	463	22%	589	24%	646	26%	720	29%	771	32%
11:00 - 11:30 AM	1,610	-37	3,285	888	41%	1,129	46%	1,239	51%	1,380	56%	1,478	60%
11:30 AM - 12:00 PM	770	-102	3,953	1,068	50%	1,358	56%	1,490	61%	1,660	68%	1,777	73%
12:00 - 12:30 PM	711	-308	4,356	1,177	55%	1,497	61%	1,642	67%	1,829	75%	1,959	80%
12:30 - 1:00 PM	721	-397	4,680	1,265	59%	1,609	66%	1,765	72%	1,966	80%	2,105	86%
1:00 - 1:30 PM	811	-456	5,035	1,361	63%	1,731	71%	1,899	78%	2,115	87%	2,265	93%
1:30 - 2:00 PM	861	-402	5,494	1,485	69%	1,889	77%	2,072	85%	2,308	94%	2,471	101%
2:00 - 2:30 PM	259	-407	5,346	1,445	67%	1,838	75%	2,016	82%	2,246	92%	2,405	98%
2:30 - 3:00 PM	269	-844	4,771	1,289	60%	1,640	67%	1,798	74%	2,003	82%	2,145	88%
3:00 - 3:30 PM	130	-1,119	3,782	1,022	48%	1,300	53%	1,426	58%	1,588	65%	1,701	70%
3:30 - 4:00 PM	0	-3,735	47	13	1%	17	1%	18	1%	20	1%	22	1%
4:00 - 4:30 PM	0	0	47	13	1%	17	1%	18	1%	20	1%	22	1%
4:30 - 5:00 PM	0	0	47	13	1%	17	1%	18	1%	20	1%	22	1%

Based on a 95th Percentile Weekday (11,532 attendees)

Time	Year Capacity		2019 2,144		2025 2,444		2027 2,444		2030 2,444		2040 2,444		
	Visitor Ingress	Visitor Egress	Visitor Accumulation	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy
10:00 - 10:30 AM	2,009	0	2,009	543	25%	691	28%	758	31%	844	35%	904	37%
10:30 - 11:00 AM	505	0	2,514	679	32%	864	35%	947	39%	1,055	43%	1,130	46%
11:00 - 11:30 AM	2,364	-54	4,824	1,304	61%	1,659	68%	1,819	74%	2,027	83%	2,170	89%
11:30 AM - 12:00 PM	1,131	-150	5,805	1,569	73%	1,996	82%	2,189	90%	2,438	100%	2,611	107%
12:00 - 12:30 PM	1,044	-452	6,397	1,729	81%	2,199	90%	2,412	99%	2,687	110%	2,877	118%
12:30 - 1:00 PM	1,059	-583	6,873	1,857	87%	2,362	97%	2,591	106%	2,886	118%	3,090	126%
1:00 - 1:30 PM	1,191	-670	7,394	1,998	93%	2,541	104%	2,787	114%	3,105	127%	3,325	136%
1:30 - 2:00 PM	1,264	-590	8,068	2,180	102%	2,773	113%	3,041	124%	3,388	139%	3,628	148%
2:00 - 2:30 PM	380	-598	7,850	2,121	99%	2,698	110%	2,959	121%	3,296	135%	3,530	144%
2:30 - 3:00 PM	395	-1,239	7,006	1,893	88%	2,408	99%	2,641	108%	2,942	120%	3,150	129%
3:00 - 3:30 PM	191	-1,643	5,554	1,501	70%	1,909	78%	2,094	86%	2,333	95%	2,498	102%
3:30 - 4:00 PM	0	-5,484	70	19	1%	24	1%	27	1%	30	1%	32	1%
4:00 - 4:30 PM	0	0	70	19	1%	24	1%	27	1%	30	1%	32	1%
4:30 - 5:00 PM	0	0	70	19	1%	24	1%	27	1%	30	1%	32	1%

Based on a Maximum Attendance Day (14,187 attendees)

Time	Year Capacity		2019 2,144		2025 2,444		2027 2,444		2030 2,444		2040 2,444		
	Visitor Ingress	Visitor Egress	Visitor Accumulation	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy	No. of Vehicles (Divided by AVO)	Occupancy
10:00 - 10:30 AM	2,471	0	2,471	668	31%	850	35%	932	38%	1,038	42%	1,112	45%
10:30 - 11:00 AM	621	0	3,092	836	39%	1,063	43%	1,166	48%	1,299	53%	1,391	57%
11:00 - 11:30 AM	2,908	-67	5,933	1,603	75%	2,039	83%	2,236	91%	2,491	102%	2,668	109%
11:30 AM - 12:00 PM	1,391	-184	7,140	1,930	90%	2,455	100%	2,692	110%	3,000	123%	3,212	131%
12:00 - 12:30 PM	1,284	-556	7,868	2,126	99%	2,704	111%	2,966	121%	3,304	135%	3,538	145%
12:30 - 1:00 PM	1,302	-717	8,453	2,284	107%	2,905	119%	3,186	130%	3,550	145%	3,801	156%
1:00 - 1:30 PM	1,465	-824	9,094	2,458	115%	3,126	128%	3,429	140%	3,820	156%	4,091	167%
1:30 - 2:00 PM	1,555	-726	9,923	2,682	125%	3,411	140%	3,742	153%	4,168	171%	4,463	183%
2:00 - 2:30 PM	468	-735	9,656	2,610	122%	3,320	136%	3,641	149%	4,056	166%	4,344	178%
2:30 - 3:00 PM	486	-1,525	8,617	2,329	109%	2,962	121%	3,249	133%	3,620	148%	3,876	159%
3:00 - 3:30 PM	235	-2,021	6,831	1,846	86%	2,348	96%	2,575	105%	2,869	117%	3,072	126%
3:30 - 4:00 PM	0	-6,747	84	23	1%	29	1%	32	1%	36	1%	38	2%
4:00 - 4:30 PM	0	0	84	23	1%	29	1%	32	1%	36	1%	38	2%
4:30 - 5:00 PM	0	0	84	23	1%	29	1%	32	1%	36	1%	38	2%

APPENDIX Q

Comparative Analysis of Area Dedicated to Animal Welfare Under Implementation of the LA Zoo Vision Plan Project and EIR Alternatives Analysis

MEMORANDUM

To: Denise Verret, Chief Executive Officer & Zoo Director, Los Angeles Zoo and Botanical Gardens
Darryl Pon, Manager of Planning & Development Programs, Los Angeles Zoo Department

From: Erika Leachman, Project Manager, Wood Environment & Infrastructure, Inc.
Taylor Lane, Deputy Project Manager, Wood Environment & Infrastructure, Inc.

CC: Dr. Jan Green Rebstock, Environmental Affairs Officer, Bureau of Engineering, City of Los Angeles
Norman Mundy, Environmental Supervisor II, Bureau of Engineering, City of Los Angeles

Date: May 26, 2022

Re: Comparative Analysis of Area Dedicated to Animal Welfare Under Implementation of the Los Angeles Zoo Vision Plan Project and Environmental Impact Report Alternatives

Summary

This memorandum summarizes an analysis of the potential changes to the approximate area dedicated to animal care and welfare proposed by the Los Angeles Zoo and Botanical Gardens (Zoo) Draft Vision Plan (Vision Plan; Project) and the alternatives analyzed in the Program Environmental Impact Report (EIR). Consistent with the Project's objectives, the Project and each alternative would result in an increase in animal welfare areas within the Zoo, but the total amount would vary depending on the degree to which each scenario balances the preservation of existing undeveloped areas with the provision of animal welfare spaces. While the 142-acre Project site encompasses the Zoo and surrounding roadways that would serve the Project, all animal welfare area would be provided within the 133-acre Zoo. As detailed herein, the analysis resulted in the following:

- The **proposed Project (and Alternative 2)** would maximize the animal welfare area by developing existing undeveloped hillsides within the California and Africa planning areas within the Zoo boundary and increasing space for animals by **187.5%**.
- **Alternative 1** would result in the smallest increase, **116.6%**, because the development of approximately 21 acres of undeveloped habitat areas in the California and Africa planning areas would not occur and Zoo redevelopment would be largely contained within the existing developed footprint within the Zoo property.
- **Alternative 1.5** would result in a substantial **162.1%** increase in space for animals by developing the California planning area but avoiding the development of 6 acres of contiguous undeveloped habitat areas in the Africa planning area.

These results demonstrate quantitatively how each scenario may fulfill the Project objectives that prioritize animal welfare and expanded, modernized spaces for Zoo animals. The assessment presented herein supplements the EIR to analyze and disclose the changes to the total animal welfare area envisioned under the Project and its alternatives to help evaluate how each scenario meets the Zoo's objectives and inform decision making. The assessment also clarifies and corrects the discussion of animal welfare areas in the Draft Vision Plan and EIR to assuage known concerns and confusion expressed by key stakeholders and City decision-makers.

Background

The Zoo's Vision Plan was initiated in mid-2016 and developed by the Vision Plan team, comprising Zoo and Greater Los Angeles Zoo Association (GLAZA) staff with planning services from the Torre Design Consortium (Torre) as consultants. Following completion of the Draft Vision Plan, the Zoo and the City Department of Public Works Bureau of Engineering (BOE) proceeded with the preparation of the environmental analysis of the Project under the California Environmental Quality Act (CEQA) with assistance from Wood Environment & Infrastructure, Inc. (Wood), the EIR consultant. Preparation of the EIR began following the public engagement process for the Notice of Preparation (NOP) and Initial Study (IS) in 2019. In December 2020, the Draft EIR was circulated for a 60-day public review period. Following the Draft EIR public engagement process, the Final EIR was prepared and published in June 2021.

Throughout the Vision Plan and CEQA process, animal welfare has been a primary objective for the Zoo and a topic of great interest and concern to the public. The Zoo is an Association of Zoos and Aquariums (AZA)-accredited facility subject to the highest standards for animal care and welfare. It is regarded as a best-in-class animal care institution, meeting or exceeding the AZA's rigorous and comprehensive standards for excellence in animal management, welfare, safety, conservation, and public education. As such, animal welfare is also considered the top priority in the EIR's objectives for the Vision Plan and alternatives and is included under Project Objectives 1 and 2, as follows:

1. **Animal Welfare and Care.** Provide an environment for all the animals that call the Zoo home to thrive through the development of state-of-the-art exhibits and animal care facilities that meet or exceed Association of Zoos and Aquariums (AZA), U.S. Department of Agriculture (USDA), and state of the industry care standards, as well as upgraded Zoo service centers and veterinary facilities that ensure optimal animal welfare.
2. **Increase and Modernize Zoo Exhibit Space.** Increase and modernize Zoo exhibit space to maximize animal habitat areas, create infrastructure for innovative and proactive animal care and welfare practices, and represent ecosystems and lifecycles by transforming underutilized and underdeveloped areas of the Zoo.

The Draft Vision Plan included an assessment of existing spaces dedicated to animal welfare and a plan for expansion of those spaces. Based on the Draft Vision Plan's assessment, the Zoo has 21.5 acres of area that is currently dedicated to animal welfare within the Zoo and the Draft Vision Plan would increase this area to 58.7 acres. The Draft Vision Plan also describes that the areas dedicated to animal welfare would increase by 273 percent (see EIR Appendix A, Draft Vision Plan, pg. 72). The Draft Vision Plan's assessment of proposed increases in animal welfare areas is referenced as needed in the EIR, including as a component of the Project as described in Section

2.0, *Project Description* in the EIR. As discussed in the EIR, Zoo animals are protected under the Animal Welfare Act (AWA), are exempt from the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA), and are not considered resources subject to the California Environmental Quality Act (CEQA) and City of Los Angeles (City) L.A. CEQA Thresholds Guide, so the EIR did not include an assessment of the change in space dedicated to animal welfare as part of the impact analysis. Animal welfare is a fundamental planning issue for the Zoo. As such, the EIR includes a discussion of the potential effects on Zoo animals from Vision Plan implementation, particularly related to construction activities (e.g., noise, vibrations), and the measures the Zoo would take to ensure that the wellbeing of Zoo animals is maintained (see Section 3.3, *Biological Resources*). The EIR's analysis of potential effects on Zoo animals acknowledges proposed increases in Zoo animal welfare space but did not perform an independent analysis of changes in the area of space dedicated to animal care and welfare for the Project and alternatives.

Following the publication of the Final EIR, the Zoo received comments and requests for further clarification from the public and key stakeholders regarding proposed increases in dedicated animal welfare areas under the Project and alternatives analyzed in the Final EIR. Comments indicated confusion about where and how the total area for Zoo animals was derived and how the total acreage would change between each alternative. For example, upon further inspection in response to comments, this EIR team learned that the acreage of the existing and proposed animal welfare area was not based on a GIS. Instead, animal welfare space was estimated using graphic design software and the percent increase in animal welfare area was based on proportional math (i.e., $58.7 \text{ acres} / 21.5 \text{ acres} = 2.73$ or 273%), rather than the actual percentage increase in acreage compared to the existing setting (i.e., $(58.7 \text{ acres} - 21.5 \text{ acres}) / 21.5 \text{ acres} = 1.73$ or 173%). To address comments and requests from the public following publication of the Final EIR, the EIR team has prepared this analysis of proposed changes in the area of spaces dedicated to animal welfare to support the presentation and adoption of the Zoo's proposed Vision Plan to City decision-makers and the public.

Methodology

The EIR delineates Zoo planning areas within the Zoo boundary, depicts the conceptual design of the Zoo under the Project, and includes the Zoo land use and circulation plans for the existing Zoo design, the proposed Project, Alternative 1, and Alternative 1.5.¹ To analyze proposed changes in animal welfare areas across these four scenarios, the EIR consultant received geographic data (provided in computer-aided design [CAD] format) of animal welfare spaces delineated for the existing developed Zoo and under the proposed Vision Plan (proposed Project) by the Vision Plan design consultant (Torre Design Consortium). Wood's GIS specialist then digitized this data into GIS format to form georeferenced polygons that more precisely define the animal welfare areas within the Zoo relative to the Zoo planning areas and the land use plans. Then, based on the land use and circulation plans, the Wood GIS specialist delineated animal welfare areas in GIS for the Reduced Project Alternative (Alternative 1) and the California Focused Conservation Alternative

¹ Alternative 1.5 was analyzed in the focused recirculation of the EIR in 2022. Alternative 2 would have identical effects on animal welfare to the proposed Project since the land use and circulation plan is the same.

(Alternative 1.5). The animal welfare areas delineated for the proposed Project and alternatives follow a consistent methodology for delineating these areas based on proposed land uses and the Vision Plan's conceptual design.²

Following delineation of the animal welfare areas for the existing setting, proposed Project, and alternatives, Wood then performed a GIS-based comparative analysis of changes in the total area of animal welfare spaces Zoo-wide, as well as by Vision Plan planning area (e.g., Zoo Entry, California, Asia, Africa, etc.) and by Zoo land use (e.g., Administration, Animal Welfare and Visitor Service Areas, Service and Storage, etc.) described in the EIR. The results of this GIS analysis were then mapped for the four scenarios (see Figures 1 through 4) to indicate where animal welfare space is delineated relative to these features.

Maps of animal welfare areas under each scenario are provided in Attachment 1. Figures 1 through 4 depict the GIS-based animal welfare areas relative to the Zoo land uses and planning areas for the existing Zoo, the proposed Project, and Alternative 1 and 1.5. The GIS results are comparatively summarized in Tables 1 through 3 below, depicting the total area of animal welfare space across the four scenarios and the percent change compared to existing conditions and the Project. A complete assessment of all scenarios is provided in Attachment 2.

Summary Results

The existing Project site consists of approximately 142 acres of land, comprising the 133-acre Zoo property plus approximately 9 acres of roadways and right-of-way outside the Zoo that would receive improvements under the Project (i.e., realignment of Crystal Springs Drive/Western Heritage Way). The Project would not expand the Zoo property. All animal welfare area would remain within the 133-acre Zoo boundary. Table 1 summarizes the total acreage and percentage of the Zoo Project area under the four scenarios, while Table 2 summarizes the percent change in the animal welfare area under the proposed Project and alternatives compared to existing conditions.

² As described in the EIR, the Zoo lies in an area with varied, steep terrain. However, the geographic CAD data could not account for terrain and, as a result, was developed based on a flat map assuming level ground. As such, this GIS analysis also does not account for sloped areas or existing and proposed terrain. Given the sloped areas where new development is proposed under the Vision Plan and alternatives, the total area of usable/accessible animal welfare space is likely to be greater than that identified in this GIS-based analysis considering the use of slopes and hillsides within exhibit spaces.

Table 1. Animal Welfare Area for Project and Alternatives

	Total Animal Welfare Area			
	Existing	Draft Vision Plan (Proposed Project)	Reduced Project (Alternative 1)	California Focused Conservation (Alternative 1.5)
Total Acres	20.8	59.7	45.0	54.5
% of 142-acre Project Area	14.7%	42.3%	31.9%	38.5%
% of 133-acre Zoo Property	15.6%	44.9%	33.8%	41.0%
Planning Area	Animal Welfare Area by Planning Area (acres) (% of Project Area)			
	Existing	Draft Vision Plan (Proposed Project)	Reduced Project (Alternative 1)	California Focused Conservation (Alternative 1.5)
<i>Zoo Entry</i>	0.4 (0.1%)	0.3 (0.2%)	0.2 (0.1%)	0.3 (0.2%)
<i>California</i>	1.7 (1.2%)	15.6 (11.0%)	5.7 (4.0%)	15.6 (11.0%)
<i>Asia</i>	7.3 (5.1%)	14.2 (10.1%)	14.2 (10.4%)	14.2 (10.7%)
<i>Bird Show & Animal Programs</i>	0.2 (0.1%)	0.5 (0.3%)	0.5 (0.3%)	0.5 (0.3%)
<i>Africa</i>	6.4 (4.5%)	17.6 (12.5%)	12.9 (9.1%)	12.3 (8.7%)
<i>Rainforest</i>	0.8 (0.5%)	1.7 (1.2%)	1.7 (1.2%)	1.7 (1.2%)
<i>World Aviary</i>	0.2 (0.2%)	2.0 (1.4%)	2.0 (1.4%)	2.0 (1.4%)
<i>Islands</i>	1.0 (0.7%)	3.1 (2.2%)	3.1 (2.2%)	3.1 (2.2%)
<i>Nature Play</i>	0.0 (0.0%)	0.5 (0.4%)	0.5 (0.4%)	0.5 (0.4%)
<i>Other</i>	2.8 (2.0%)	4.2 (3.0%)	4.2 (3.0%)	1.2 (3.0%)

Table 2. Percent Change in Animal Welfare Area

Planning Area	% Change in Animal Welfare Area Compared to Existing Conditions		
	Draft Vision Plan (Proposed Project)	Reduced Project (Alternative 1)	California Focused Conservation (Alternative 1.5)
Total % Change in Acreage	187.5%	116.6%	162.1%
Planning Area	% Change in Animal Welfare Area Compared to Existing Conditions by Planning Area		
	Draft Vision Plan (Proposed Project)	Reduced Project (Alternative 1)	California Focused Conservation (Alternative 1.5)
<i>Zoo Entry</i>	-22.6%	-56.5%	-22.6%
<i>California</i>	812.6%	223.3%	812.6%
<i>Asia</i>	95.9%	95.9%	95.9%
<i>Bird Show & Animal Programs</i>	175.4%	175.4%	175.4%
<i>Africa</i>	174.1%	100.7%	92.1%
<i>Rainforest</i>	125.3%	125.3%	125.3%
<i>World Aviary</i>	748.7%	748.7%	748.7%
<i>Islands</i>	204.4%	204.4%	204.4%
<i>Nature Play</i>	--	--	--
<i>Other</i>	49.3%	49.2%	49.3%

Under existing conditions, approximately 20.8 acres, or 14.7 percent of the Zoo area, is developed with habitats, exhibit spaces, barns, and other facilities dedicated to the care and wellbeing of animals. The largest percentage of animal welfare areas within the Zoo currently is located in the Asia and Africa planning areas; however, animal welfare space accounts for only a small percentage of the actual planning area across all Vision Plan planning areas (between 0.0 and 5.1 percent), an issue that stems primarily from antiquated design standards which existed at the time of development of the Zoo in 1966.

Under the proposed Project, the Zoo would undergo large-scale redevelopment of the Zoo property to increase both the number of exhibits and the total area dedicated to animal welfare. Based on the GIS analysis, Project implementation would increase the total area dedicated to animal welfare from 20.8 acres to 59.7 acres (approximately 42.3 percent of the Zoo area), an increase of approximately 187.5 percent compared to existing conditions, nearly tripling the area of existing animal welfare space. This increase in animal welfare areas under Alternative 2, the Multi-modal Transportation Alternative, would be identical to the proposed Project since Alternative 2 would retain all improvements proposed under the Project.

Alternative 1 would include a major reconfiguration of the proposed land use plan and conceptual plan to substantially avoid the development of approximately 21 acres of existing undeveloped hillsides within the California and Africa planning areas within the Zoo boundary. Based on the GIS analysis, implementation of Alternative 1 would increase the total area dedicated to animal welfare

from 20.8 acres to 45.0 acres (approximately 31.0 percent of the Zoo area), an increase of approximately 116.6 percent compared to existing conditions.

Alternative 1.5 would include a focused reconfiguration of the proposed land use plan and conceptual plan to avoid the development of approximately 6 acres of existing undeveloped hillsides within the Africa planning area. Based on the GIS analysis, implementation of Alternative 1.5 would increase the total area dedicated to animal welfare from 20.8 acres to 54.5 acres (approximately 38.5 percent of the Zoo area), an increase of approximately 162.1 percent compared to existing conditions.

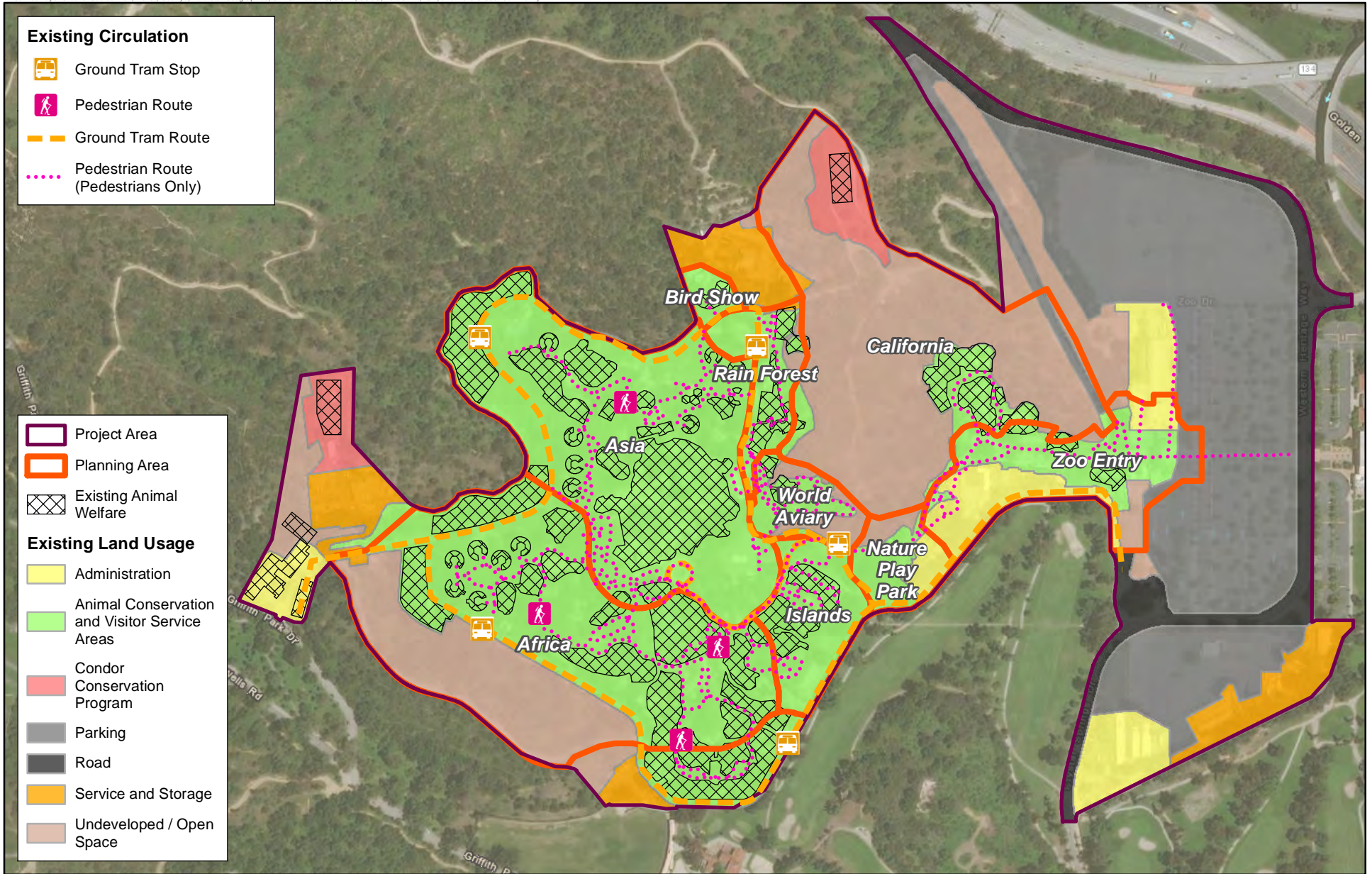
Table 3 summarizes the percent change in animal welfare areas under Alternative 1 and Alternative 1.5 when compared to the proposed Vision Plan Project. Alternative 1, which would substantially reduce the total area of new development by avoiding the development of undeveloped hillside areas in the California and Africa planning areas, would reduce the total area of animal welfare spaces by 24.7 percent compared to the proposed Project. Alternative 1.5, which would reduce the total area of new development by avoiding the undeveloped hillside area in the Africa planning area, would reduce the total area of animal welfare spaces by 8.8 percent compared to the proposed Project.

Table 3. Percent Change in Animal Welfare Area Under Alternative Scenarios Compared to the Proposed Project

	% Change in Animal Welfare Area Compared to Proposed Project	
	Reduced Project (Alternative 1)	California Focused Conservation (Alternative 1.5)
Total % Change in Acreage	-24.7%	-8.8%
Planning Area	% Change in Animal Welfare Area Compared to Proposed Project by Planning Area	
	Reduced Project (Alternative 1)	California Focused Conservation (Alternative 1.5)
Zoo Entry	-43.8%	0.0%
California	-63.5%	0.0%
Asia	0.0%	0.0%
Bird Show & Animal Programs	0.0%	0.0%
Africa	-26.8%	-29.9%
Rainforest	0.0%	0.0%
World Aviary	0.0%	0.0%
Islands	0.0%	0.0%
Nature Play	0.0%	0.0%
Other	0.0%	0.0%

Attachments

1. Figures 1 – 4
2. Detailed Assessment Worksheets



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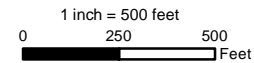
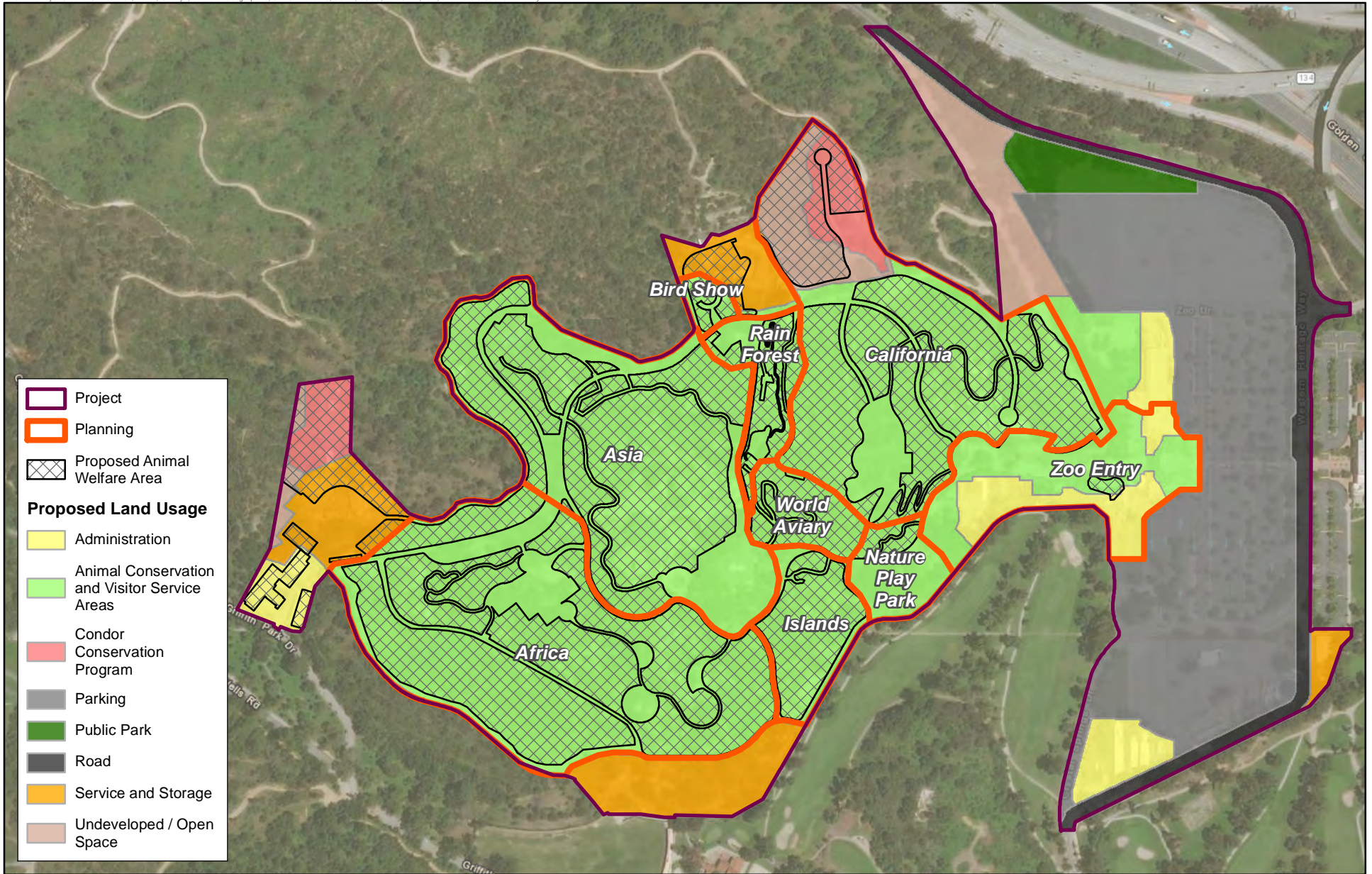


FIGURE 1

Existing Animal Welfare and
Zoo Land Uses
Los Angeles Zoo Vision Plan EIR
Los Angeles, CA



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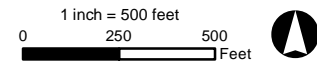
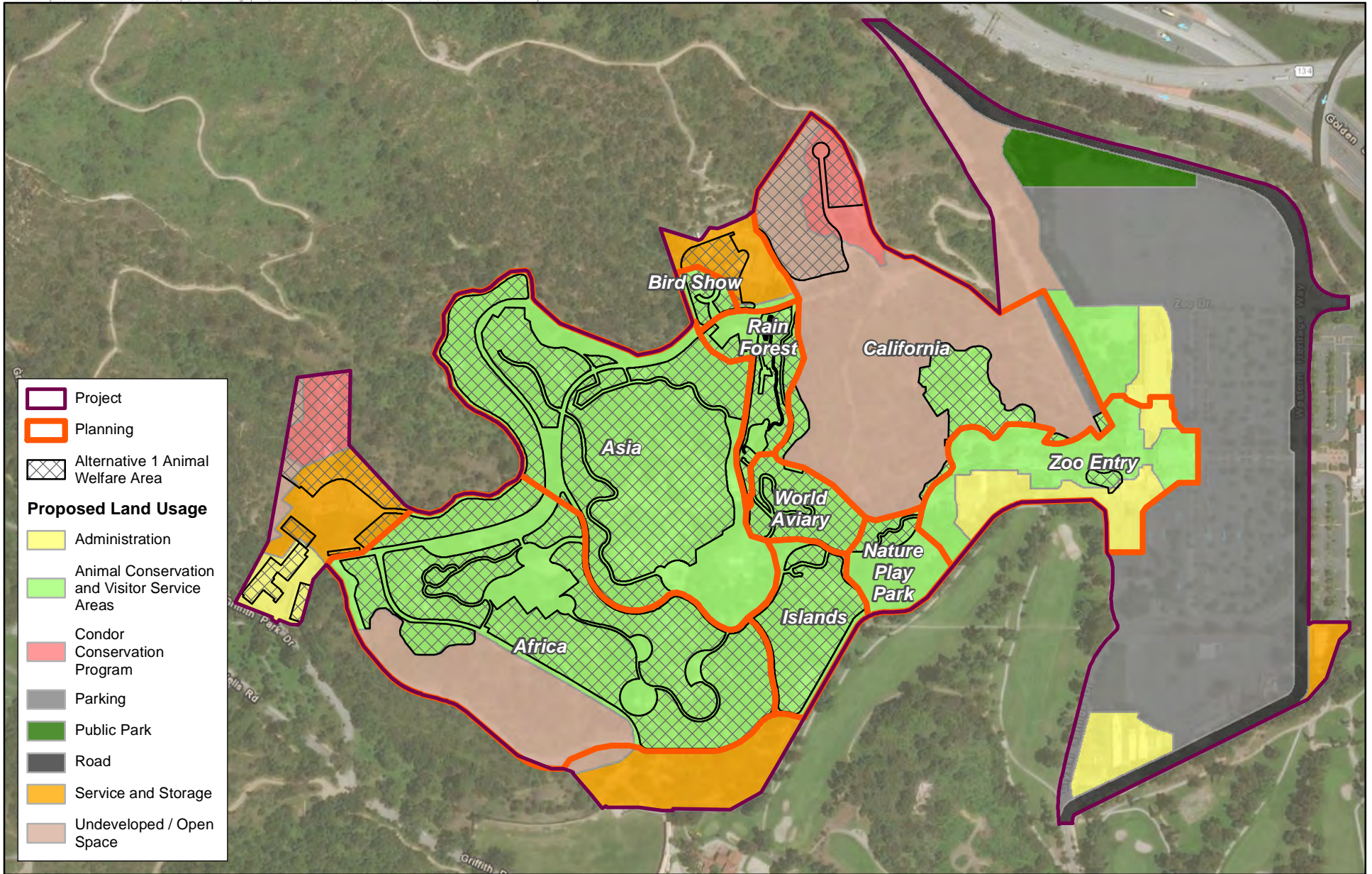


FIGURE 2

Proposed Project Animal Welfare Areas and Zoo Land Uses
 Los Angeles Zoo Vision Plan EIR
 Los Angeles, CA





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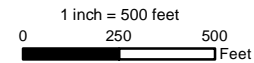
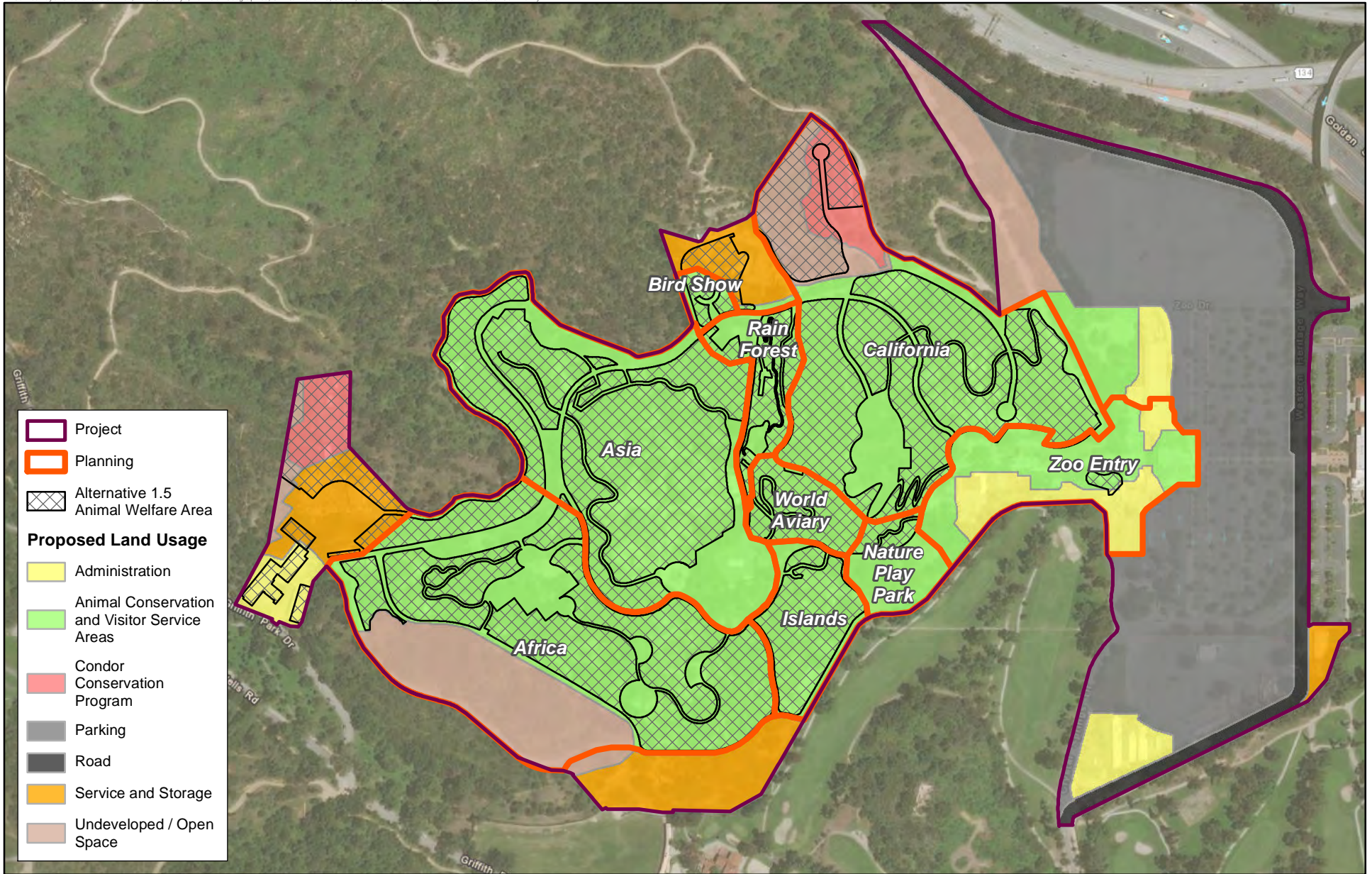


FIGURE 3

Alternative 1 Animal Welfare Areas and
Zoo Land Uses
Los Angeles Zoo Vision Plan EIR
Los Angeles, CA



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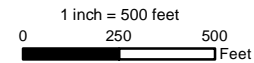


FIGURE 4

Alternative 1.5 Animal Welfare Areas and
Zoo Land Uses
Los Angeles Zoo Vision Plan EIR
Los Angeles, CA

Proposed Project: Change in Area Dedicated to Animal Welfare
 Los Angeles Zoo Vision Plan
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Animal Welfare Area in Los Angeles Zoo Project Area						
Zoo Planning Area	Total Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Zoo Project Area	Proposed Project Animal Welfare Area (Acres)	Proposed Project Animal Welfare Area (%) of Zoo Project Area	% Change from Existing
Zoo Entry	7.6	0.4	0.3%	0.3	0.2%	-22.6%
California	21.0	1.7	1.2%	15.6	11.0%	812.6%
Asia	20.3	7.3	5.1%	14.2	10.1%	95.9%
Africa	23.2	6.4	4.5%	17.6	12.5%	174.1%
Bird Show & Animal Programs	0.7	0.2	0.1%	0.5	0.3%	175.4%
Rainforest	2.9	0.8	0.5%	1.7	1.2%	125.3%
World Aviary	2.4	0.2	0.2%	2.0	1.4%	748.7%
Islands	3.9	1.0	0.7%	3.1	2.2%	204.4%
Nature Play Park	2.3	0.0	0.0%	0.5	0.4%	#DIV/0!
Other areas	57.1	2.8	2.0%	4.2	3.0%	49.3%
Total	141.3	20.8	14.7%	59.7	42.3%	187.5%

Animal Welfare Area in the Zoo Entry Planning Area							
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Proposed Area (Acres)	Proposed Animal Welfare Area (Acres)	Proposed Animal Welfare Area (%) of Planning Area	% Change from Existing
Animal Conservation & Visitor Service Areas	3.5	0.4	10.5%	4.7	0.3	5.6%	-27.2%
Administration	2.8	0.0	0.0%	2.8	0.0	0.6%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Parking	0.6	0.0	0.0%	0.0	0.0	0.0%	0.0%
Undeveloped/Open Space	0.7	0.0	0.0%	0.0	0.0	0.0%	0.0%
Total	7.6	0.4	4.8%	7.6	0.3	3.7%	-22.6%

Animal Welfare Area in the California Planning Area							
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Proposed Area (Acres)	Proposed Animal Welfare Area (Acres)	Proposed Animal Welfare Area (%) of Planning Area	% Change from Existing
Animal Conservation & Visitor Service Areas	2.5	1.4	56.3%	16.5	12.3	499.9%	788.4%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Service & Storage	0.1	0.0	0.0%	0.1	0.0	27.0%	0.0%
Condor Conservation Program	1.9	0.3	15.9%	1.9	1.1	61.1%	284.1%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Parking	0.4	0.0	0.0%	0.0	0.0	0.0%	0.0%
Undeveloped/Open Space	16.1	0.0	0.2%	2.5	2.1	13.2%	7820.4%
Total	21.0	1.7	8.1%	20.9	15.6	74.4%	812.6%

Proposed Project: Change in Area Dedicated to Animal Welfare
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Animal Welfare Area in the Asia Planning Area							
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Proposed Area (Acres)	Proposed Animal Welfare Area (Acres)	Proposed Animal Welfare Area (%) of Planning Area	% Change from Existing
Animal Conservation & Visitor Service Areas	20.3	7.3	35.7%	20.2	14.2	70.0%	95.9%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Undeveloped/Open Space	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Total	20.3	7.3	35.7%	20.2	14.2	70.3%	95.9%

Animal Welfare Area in the Bird Show & Animal Programs Planning Area							
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Proposed Area (Acres)	Proposed Animal Welfare Area (Acres)	Proposed Animal Welfare Area (%) of Planning Area	% Change from Existing
Animal Conservation & Visitor Service Areas	0.7	0.2	24.5%	0.7	0.5	67.5%	175.4%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Undeveloped/Open Space	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Total	0.7	0.2	24.4%	0.7	0.5	67.3%	175.4%

Animal Welfare Area in the Africa Planning Area							
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Proposed Area (Acres)	Proposed Animal Welfare Area (Acres)	Proposed Animal Welfare Area (%) of Planning Area	% Change from Existing
Animal Conservation & Visitor Service Areas	16.0	6.4	40.1%	23.1	17.6	109.8%	174.1%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Service & Storage	0.1	0.0	0.0%	0.0	0.0	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Undeveloped/Open Space	7.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Total	23.2	6.4	27.7%	23.1	17.6	76.2%	174.1%

Proposed Project: Change in Area Dedicated to Animal Welfare
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Animal Welfare Area in the Rainforest Planning Area							
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Proposed Area (Acres)	Proposed Animal Welfare Area (Acres)	Proposed Animal Welfare Area (%) of Planning Area	% Change from Existing
Animal Conservation & Visitor Service Areas	2.6	0.8	28.7%	2.9	1.7	66.5%	131.3%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Service & Storage	0.1	0.0	16.3%	0.0	0.0	0.0%	-100.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Undeveloped/Open Space	0.2	0.0	4.8%	0.0	0.0	0.0%	-100.0%
Total	2.9	0.8	26.8%	2.9	1.7	60.3%	125.3%

Animal Welfare Area in the World Aviary Planning Area							
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Proposed Area (Acres)	Proposed Animal Welfare Area (Acres)	Proposed Animal Welfare Area (%) of Planning Area	% Change from Existing
Animal Conservation & Visitor Service Areas	1.5	0.2	16.2%	2.4	2.0	139.6%	760.1%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Undeveloped/Open Space	0.9	0.0	0.3%	0.0	0.0	0.0%	-100.0%
Total	2.4	0.2	10.1%	2.4	2.0	85.6%	748.7%

Animal Welfare Area in the Islands Planning Area							
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Proposed Area (Acres)	Proposed Animal Welfare Area (Acres)	Proposed Animal Welfare Area (%) of Planning Area	% Change from Existing
Animal Conservation & Visitor Service Areas	3.9	1.0	25.8%	3.9	3.1	78.6%	204.4%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Undeveloped/Open Space	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Total	3.9	1.0	25.8%	3.9	3.1	78.6%	204.4%

Proposed Project: Change in Area Dedicated to Animal Welfare
Los Angeles Zoo Vision Plan
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Animal Welfare Area in the Nature Play Planning Area							
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Proposed Area (Acres)	Proposed Animal Welfare Area (Acres)	Proposed Animal Welfare Area (%) of Planning Area	% Change from Existing
Animal Conservation & Visitor Service Areas	1.3	0.0	0.0%	2.3	0.5	38.6%	#DIV/0!
Administration	0.6	0.0	0.0%	0.0	0.0	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%
Undeveloped/Open Space	0.4	0.0	0.0%	0.0	0.0	0.0%	0.0%
Total	2.3	0.0	0.0%	2.3	0.5	21.8%	#DIV/0!

Animal Welfare Area in Other Areas of the Zoo Vision Plan Project Area							
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Proposed Area (Acres)	Proposed Animal Welfare Area (Acres)	Proposed Animal Welfare Area (%) of Planning Area	% Change from Existing
Animal Conservation & Visitor Service Areas	3.1	1.7	54.6%	2.2	0.0	1.3%	-97.6%
Administration	4.8	0.6	12.5%	4.0	0.6	12.2%	-2.2%
Service & Storage	6.6	0.0	0.0%	9.3	2.0	29.5%	2915831.3%
Condor Conservation Program	1.4	0.4	27.5%	1.4	1.4	98.6%	258.3%
Public Park	0.0	0.0	0.0%	2.2	0.0	0.0%	0.0%
Parking	35.0	0.0	0.0%	33.9	0.0	0.0%	0.0%
Undeveloped/Open Space	6.0	0.2	2.5%	4.0	0.3	4.3%	69.8%
Total	57.1	2.8	5.0%	57.0	4.2	7.4%	49.3%

Alternative 1: Change in Area Dedicated to Animal Welfare
Los Angeles Zoo Vision Plan
May 20,2022

Animal Welfare Area in Los Angeles Zoo Project Area									
Zoo Planning Area	Total Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Zoo Project Area	Alternative 1 Animal Welfare Area (Acres)	Alternative 1 Animal Welfare Area (%) of Zoo Project Area	% Change from Existing	% Change from Proposed Project		
Zoo Entry	7.6	0.4	0.3%	0.2	0.1%	-56.5%	-43.8%		
California	21.0	1.7	1.2%	5.7	4.0%	233.3%	-63.5%		
Asia	20.3	7.3	5.1%	14.2	10.1%	95.9%	0.0%		
Africa	23.2	6.4	4.5%	12.9	9.1%	100.7%	-26.8%		
Bird Show & Animal Programs	0.7	0.2	0.1%	0.5	0.3%	175.4%	0.0%		
Rainforest	2.9	0.8	0.5%	1.7	1.2%	125.3%	0.0%		
World Aviary	2.4	0.2	0.2%	2.0	1.4%	748.7%	0.0%		
Islands	3.9	1.0	0.7%	3.1	2.2%	204.4%	0.0%		
Nature Play Park	2.3	0.0	0.0%	0.5	0.4%	#DIV/0!	0.0%		
Other areas	57.1	2.8	2.0%	4.2	3.0%	49.2%	-0.1%		
Total	141.3	20.8	14.7%	45.0	31.9%	116.6%	-24.7%		

Animal Welfare Area in the Zoo Entry Planning Area									
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Alternative 1 Area (Acres)	Alternative 1 Animal Welfare Area (Acres)	Alternative 1 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project	
Animal Conservation & Visitor Service Areas	3.5	0.4	10.5%	4.7	0.1	3.0%	-61.1%	-46.5%	
Administration	2.8	0.0	0.0%	2.8	0.0	0.6%	0.0%	0.0%	
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Parking	0.6	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Undeveloped/Open Space	0.7	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Total	7.6	0.4	4.8%	7.6	0.2	2.1%	-56.5%	-43.8%	

Animal Welfare Area in the California Planning Area									
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Alternative 1 Area (Acres)	Alternative 1 Animal Welfare Area (Acres)	Alternative 1 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project	
Animal Conservation & Visitor Service Areas	2.5	1.4	56.3%	1.9	1.9	76.2%	35.3%	-84.8%	
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Service & Storage	0.1	0.0	0.0%	0.1	0.0	27.0%	0.0%	0.0%	
Condor Conservation Program	1.9	0.3	15.9%	1.9	1.1	61.1%	284.1%	0.0%	
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Parking	0.4	0.0	0.0%	0.5	0.0	0.0%	0.0%	0.0%	
Undeveloped/Open Space	16.1	0.0	0.2%	16.5	2.6	16.3%	9718.2%	24.0%	
Total	21.0	1.7	8.1%	20.9	5.7	27.2%	233.3%	-63.5%	

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Animal Welfare Area in the Asia Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Alternative 1 Area (Acres)	Alternative 1 Animal Welfare Area (Acres)	Alternative 1 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	20.3	7.3	35.7%	20.2	14.2	70.0%	95.9%	0.0%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Total	20.3	7.3	35.7%	20.2	14.2	70.3%	95.9%	0.0%

Animal Welfare Area in the Bird Show & Animal Programs Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Alternative 1 Area (Acres)	Alternative 1 Animal Welfare Area (Acres)	Alternative 1 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	0.7	0.2	24.5%	0.7	0.5	67.5%	175.4%	0.0%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Total	0.7	0.2	24.4%	0.7	0.5	67.3%	175.4%	0.0%

Animal Welfare Area in the Africa Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Alternative 1 Area (Acres)	Alternative 1 Animal Welfare Area (Acres)	Alternative 1 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	16.0	6.4	40.1%	17.7	12.9	80.4%	100.7%	-26.8%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Service & Storage	0.1	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	7.0	0.0	0.0%	5.5	0.0	0.0%	0.0%	0.0%
Total	23.2	6.4	27.7%	23.2	12.9	55.7%	100.7%	-26.8%

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Animal Welfare Area in the Rainforest Planning Area									
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (% of Planning Area)	Alternative 1 Area (Acres)	Alternative 1 Animal Welfare Area (Acres)	Alternative 1 Animal Welfare Area (% of Planning Area)	% Change from Existing	% Change from Proposed Project	
Animal Conservation & Visitor Service Areas	2.6	0.8	28.7%	2.9	1.7	66.5%	131.3%	0.0%	
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Service & Storage	0.1	0.0	16.3%	0.0	0.0	0.0%	-100.0%	0.0%	
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Undeveloped/Open Space	0.2	0.0	4.8%	0.0	0.0	0.0%	-100.0%	0.0%	
Total	2.9	0.8	26.8%	2.9	1.7	60.3%	125.3%	0.0%	

Animal Welfare Area in the World Aviary Planning Area									
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (% of Planning Area)	Alternative 1 Area (Acres)	Alternative 1 Animal Welfare Area (Acres)	Alternative 1 Animal Welfare Area (% of Planning Area)	% Change from Existing	% Change from Proposed Project	
Animal Conservation & Visitor Service Areas	1.5	0.2	16.2%	2.4	2.0	139.6%	760.1%	0.0%	
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Undeveloped/Open Space	0.9	0.0	0.3%	0.0	0.0	0.0%	-100.0%	0.0%	
Total	2.4	0.2	10.1%	2.4	2.0	85.6%	748.7%	0.0%	

Animal Welfare Area in the Islands Planning Area									
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (% of Planning Area)	Alternative 1 Area (Acres)	Alternative 1 Animal Welfare Area (Acres)	Alternative 1 Animal Welfare Area (% of Planning Area)	% Change from Existing	% Change from Proposed Project	
Animal Conservation & Visitor Service Areas	3.9	1.0	25.8%	3.9	3.1	78.6%	204.4%	0.0%	
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Undeveloped/Open Space	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Total	3.9	1.0	25.8%	3.9	3.1	78.6%	204.4%	0.0%	

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Animal Welfare Area in the Nature Play Planning Area									
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (% of Planning Area)	Alternative 1 Area (Acres)	Alternative 1 Animal Welfare Area (Acres)	Alternative 1 Animal Welfare Area (% of Planning Area)	% Change from Existing	% Change from Proposed Project	
Animal Conservation & Visitor Service Areas	1.3	0.0	0.0%	2.3	0.5	38.6%	#DIV/0!	0.0%	
Administration	0.6	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Undeveloped/Open Space	0.4	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%	
Total	2.3	0.0	0.0%	2.3	0.5	21.8%	#DIV/0!	0.0%	

Animal Welfare Area in Other Areas of the Zoo Vision Plan Project Area									
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (% of Planning Area)	Alternative 1 Area (Acres)	Alternative 1 Animal Welfare Area (Acres)	Alternative 1 Animal Welfare Area (% of Planning Area)	% Change from Existing	% Change from Proposed Project	
Animal Conservation & Visitor Service Areas	3.1	1.7	54.6%	2.1	0.0	1.3%	-97.6%	-0.8%	
Administration	4.8	0.6	12.5%	4.0	0.6	12.2%	-2.6%	-0.4%	
Service & Storage	6.6	0.0	0.0%	9.0	2.0	29.5%	2915832.8%	0.0%	
Condor Conservation Program	1.4	0.4	27.5%	1.4	1.4	98.6%	258.3%	0.0%	
Public Park	0.0	0.0	0.0%	2.2	0.0	0.0%	0.0%	0.0%	
Parking	35.0	0.0	0.0%	34.0	0.0	0.0%	0.0%	0.0%	
Undeveloped/Open Space	6.0	0.2	2.5%	4.4	0.3	4.3%	69.6%	-0.1%	
Total	57.1	2.8	5.0%	57.0	4.2	7.4%	49.2%	-0.1%	

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Animal Welfare Area in Los Angeles Zoo Project Area								
Zoo Planning Area	Total Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Zoo Project Area	Alternative 1.5 Animal Welfare Area (Acres)	Alternative 1.5 Animal Welfare Area (%) of Zoo Project Area	% Change from Existing	% Change from Proposed Project	
Zoo Entry	7.6	0.4	0.3%	0.3	0.2%	-22.6%	0.0%	
California	21.0	1.7	1.2%	15.6	11.0%	812.6%	0.0%	
Asia	20.3	7.3	5.1%	14.2	10.1%	95.9%	0.0%	
Africa	23.2	6.4	4.5%	12.3	8.7%	92.1%	-29.9%	
Bird Show & Animal Programs	0.7	0.2	0.1%	0.5	0.3%	175.4%	0.0%	
Rainforest	2.9	0.8	0.5%	1.7	1.2%	125.3%	0.0%	
World Aviary	2.4	0.2	0.2%	2.0	1.4%	748.7%	0.0%	
Islands	3.9	1.0	0.7%	3.1	2.2%	204.4%	0.0%	
Nature Play Park	2.3	0.0	0.0%	0.5	0.4%	#DIV/0!	0.0%	
Other areas	57.1	2.8	2.0%	4.2	3.0%	49.3%	0.0%	
Total	141.3	20.8	14.7%	54.5	38.5%	162.1%	-8.8%	

Animal Welfare Area in the Zoo Entry Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Alternative 1.5 Area (Acres)	Alternative 1.5 Animal Welfare Area (Acres)	Alternative 1.5 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	3.5	0.4	10.5%	4.7	0.3	5.6%	-27.2%	0.0%
Administration	2.8	0.0	0.0%	2.8	0.0	0.6%	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.6	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	0.7	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Total	7.6	0.4	4.8%	7.6	0.3	3.7%	-22.6%	0.0%

Animal Welfare Area in the California Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Alternative 1.5 Area (Acres)	Alternative 1.5 Animal Welfare Area (Acres)	Alternative 1.5 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	2.5	1.4	56.3%	16.5	12.3	499.9%	788.4%	0.0%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Service & Storage	0.1	0.0	0.0%	0.1	0.0	27.0%	0.0%	0.0%
Condor Conservation Program	1.9	0.3	15.9%	1.9	1.1	61.1%	284.1%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.4	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	16.1	0.0	0.2%	2.5	2.1	13.2%	7820.4%	0.0%
Total	21.0	1.7	8.1%	20.9	15.6	74.4%	812.6%	0.0%

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Animal Welfare Area in the Asia Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Alternative 1.5 Area (Acres)	Alternative 1.5 Animal Welfare Area (Acres)	Alternative 1.5 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	20.3	7.3	35.7%	20.2	14.2	70.0%	95.9%	0.0%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Total	20.3	7.3	35.7%	20.2	14.2	70.3%	95.9%	0.0%

Animal Welfare Area in the Bird Show & Animal Programs Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Alternative 1.5 Area (Acres)	Alternative 1.5 Animal Welfare Area (Acres)	Alternative 1.5 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	0.7	0.2	24.5%	0.7	0.5	67.5%	175.4%	0.0%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Total	0.7	0.2	24.4%	0.7	0.5	67.3%	175.4%	0.0%

Animal Welfare Area in the Africa Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (%) of Planning Area	Alternative 1.5 Area (Acres)	Alternative 1.5 Animal Welfare Area (Acres)	Alternative 1.5 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	16.0	6.4	40.1%	17.1	12.3	76.9%	92.1%	-29.9%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Service & Storage	0.1	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	7.0	0.0	0.0%	6.1	0.0	0.0%	0.0%	0.0%
Total	23.2	6.4	27.7%	23.2	12.3	53.3%	92.1%	-29.9%

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Animal Welfare Area in the Rainforest Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (% of Planning Area)	Alternative 1.5 Area (Acres)	Alternative 1.5 Animal Welfare Area (Acres)	Alternative 1.5 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	2.6	0.8	28.7%	2.9	1.7	66.5%	131.3%	0.0%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Service & Storage	0.1	0.0	16.3%	0.0	0.0	0.0%	-100.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	0.2	0.0	4.8%	0.0	0.0	0.0%	-100.0%	0.0%
Total	2.9	0.8	26.8%	2.9	1.7	60.3%	125.3%	0.0%

Animal Welfare Area in the World Aviary Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (% of Planning Area)	Alternative 1.5 Area (Acres)	Alternative 1.5 Animal Welfare Area (Acres)	Alternative 1.5 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	1.5	0.2	16.2%	2.4	2.0	139.6%	760.1%	0.0%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	0.9	0.0	0.3%	0.0	0.0	0.0%	-100.0%	0.0%
Total	2.4	0.2	10.1%	2.4	2.0	85.6%	748.7%	0.0%

Animal Welfare Area in the Islands Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (% of Planning Area)	Alternative 1.5 Area (Acres)	Alternative 1.5 Animal Welfare Area (Acres)	Alternative 1.5 Animal Welfare Area (%) of Planning Area	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	3.9	1.0	25.8%	3.9	3.1	78.6%	204.4%	0.0%
Administration	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Total	3.9	1.0	25.8%	3.9	3.1	78.6%	204.4%	0.0%

Alternative 1.5: Change in Area Dedicated to Animal Welfare
Los Angeles Zoo Vision Plan
May 20, 2022

Animal Welfare Area in the Nature Play Planning Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (% of Planning Area)	Alternative 1.5 Area (Acres)	Alternative 1.5 Animal Welfare Area (Acres)	Alternative 1.5 Animal Welfare Area (% of Planning Area)	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	1.3	0.0	0.0%	2.3	0.5	38.6%	#DIV/0!	0.0%
Administration	0.6	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Service & Storage	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Condor Conservation Program	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	0.4	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Total	2.3	0.0	0.0%	2.3	0.5	21.8%	#DIV/0!	0.0%

Animal Welfare Area in Other Areas of the Zoo Vision Plan Project Area								
Land Use Type	Total Existing Area (Acres)	Existing Animal Welfare Area (Acres)	Existing Animal Welfare Area (% of Planning Area)	Alternative 1.5 Area (Acres)	Alternative 1.5 Animal Welfare Area (Acres)	Alternative 1.5 Animal Welfare Area (% of Planning Area)	% Change from Existing	% Change from Proposed Project
Animal Conservation & Visitor Service Areas	3.1	1.7	54.6%	2.1	0.0	1.3%	-97.6%	0.0%
Administration	4.8	0.6	12.5%	4.0	0.6	12.2%	-2.2%	0.0%
Service & Storage	6.6	0.0	0.0%	9.0	2.0	29.5%	2915832.8%	0.0%
Condor Conservation Program	1.4	0.4	27.5%	1.4	1.4	98.6%	258.3%	0.0%
Public Park	0.0	0.0	0.0%	0.0	0.0	0.0%	0.0%	0.0%
Parking	35.0	0.0	0.0%	36.3	0.0	0.0%	0.0%	0.0%
Undeveloped/Open Space	6.0	0.2	2.5%	4.2	0.3	4.3%	69.8%	0.0%
Total	57.1	2.8	5.0%	57.0	4.2	7.4%	49.3%	0.0%