Initial Study/Mitigated Negative Declaration

Aleppo Pine Tree Removal and Replacement Project

Prepared for:

City of Burbank
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May 2024

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CONTENTS

APPENDICES

FIGURES

TABLES

1.0 INTRODUCTION

Project Title:	Aleppo Pine Tree Removal and Replacement Project
Project Location:	City of Burbank
Project Applicant:	City of Burbank Parks & Recreation Department 150 N. Third Street Burbank, California 91502
Lead Agency:	City of Burbank Parks & Recreation Department 150 N. Third Street Burbank, California 91502
Contact Person:	Mike del Campo 818.238.5300 AleppoPineTreesMND@burbankca.gov
General Plan Designation(s):	Undesignated Public Right-of-Way (ROW)
Zoning Designation(s):	N/A

PROJECT SUMMARY

The City of Burbank (City) is proposing to remove and replace 72 Aleppo Pine trees that have been found to be at risk of falling, in addition to the 49 Aleppo Pine trees and one Italian Stone Pine the City already removed on an emergency basis in late 2023 and early 2024, and one Aleppo Pine tree that fell during windy conditions in March 2024. The project will prioritize the removal of trees based on the greatest risk to life and property, in a multi-year phased approach within a designated timeframe. All removed trees will be replaced at or above a 1:1 ratio.

PURPOSE OF THIS INITIAL STUDY

The California Environmental Quality Act (CEQA) requires state and local agencies to identify potentially significant environmental impacts of their actions and where possible avoid or mitigate those impacts. The City of Burbank is the Lead Agency for the proposed project. This Initial Study has been prepared in accordance with CEQA by the City as Lead Agency to determine whether the proposed project may have a significant effect on the environment. As demonstrated below, the proposed project would not have any potentially significant environmental effects that cannot be mitigated to below the level of significance, and the City may prepare a Mitigated Negative Declaration (MND) consistent with State CEQA Guidelines Section 15070.

ORGANIZATION OF INITIAL STUDY

This Initial Study is organized into six sections as follows:

Section 1.0, Introduction, identifies the project and provides a summary of the project components. The Introduction also summarizes the purpose and structure of this Initial Study.

Section 2.0, Environmental Setting, describes the existing conditions, surrounding land use, general plan, and existing zoning of the project site.

Section 3.0, Project Description, provides a detailed description of the project.

Section 4.0, Environmental Analysis, includes an analysis for each resource topic and identifies the potential impacts of implementing the project.

Section 5.0, References, identifies printed references and individuals cited in this Initial Study.

Section 6.0, List of Preparers, identifies the individuals who prepared this Initial Study

2.0 ENVIRONMENTAL SETTING

PROJECT LOCATION

The City of Burbank is located in the central portion of Los Angeles County approximately 12 miles north of downtown Los Angeles. The northeastern part of the City is located along the foothills of the Verdugo Mountains and the western edge of the city is located near the eastern part of the San Fernando Valley. Burbank is bisected by Interstate 5 and adjacent to the cities of Los Angeles and Glendale (City of Burbank 2013). The regional location of the project site is shown on Figure 1. The hazardous trees the project would remove and replace are located throughout the City's public ROW areas in residential neighborhoods and park strips; the location of the project trees are shown in Figure 2, Tree Locations. A full list of the project tree locations is found in Section 3, Project Description, and in Appendix A.

EXISTING CONDITIONS

The hazardous trees the project would remove all have health issues and are at risk of falling. The trees' roots and root collar include buried/not visible roots, stem girdling, dead roots, decay, ooze, cracks, conks/mushrooms, cavity, cut/damaged roots, and root plate lifting. The trees' crown and branches include unbalanced crowns, dead twigs/branches, broken/hangers, over-extended branches, cracks, codominant, weak attachments, previous branch failures, cavity/nest hole, dead/missing bark, cankers/galls/burls, sapwood damage/decay, conks, heartwood decay, included bark, and response growth. The trees' pruning history ranges from topped, flush cuts, thinned, and lion-tailed. Project trees are identified as having either improbable, possible, probable, or imminent likelihood of failure.

SURROUNDING LAND USES

The Burbank2035 General Plan land use designations of the surrounding areas include low density residential, medium density residential, high density residential, regional commercial, open space, and institutional (City of Burbank 2013). The project trees are in urban areas, primarily surrounded by residential development.

General Plan Designation(s): Undesignated Public ROW
Zoning Designation(s): N/A

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3.0 PROJECT DESCRIPTION

BACKGROUND

The City of Burbank received an Arborist Report from RPM Services Inc. on September 13, 2023. The Arborist Report included a tree risk assessment for 121 Aleppo Pine trees (*Pinus halepensis*) and one Italian Stone Pine (*Pinus Pinea*)[1] located in the City of Burbank. The City has had a history of Aleppo Pine tree failures in the past year with two (2) complete tree failures occurring during rainy weather conditions and one (1) complete tree failure during windy conditions in March 2024. There were no reported injuries but there was a significant amount of property damage. The trees included in the tree risk assessment were planted approximately 100+ years ago when the properties were first developed. The trees are in park strips and residential neighborhoods with active pedestrian traffic and possible 24-hour occupancy in the homes and businesses located in the project area. The arborist report from RPW Services dated September 13, 2023 indicated that the majority of the trees should be removed, including three trees marked as Urgent, which the report recommended should be removed as soon as possible (Appendix A). The City commissioned a Level 2 Risk Assessment report from West Coast Arborists (WCA) to study the 38 trees identified in the RPW report as having a risk score of "3." This report was completed on January 10, 2024, with an addendum issued on January 29, 2024 (Appendix B).

PROJECT CHARACTERISTICS

The Aleppo Tree Removal and Replacement Project (project) would remove and replace approximately 72 Aleppo Pine trees in the City of Burbank that have been found to be at risk as a result of the Arborist Report's analysis of the tree health and risk of falling trees. The project would involve the removal and replacement of these trees ranging from removal within one year if warranted, to removal in the next three to five years. These are in addition to the 49 Aleppo Pine trees and one Italian Stone Pine the City already removed on an emergency basis in late 2023 and early 2024[2], and one Aleppo Pine tree that fell during windy conditions in March 2024. This MND, however, conservatively analyzes the potential environmental impact of removing and replacing both the trees that have already been removed and the remaining trees, for a total of 122 trees.

The removal of each tree would require approximately one workday (i.e., 8 hours per tree). Work would take place during daytime hours only (from 7 AM to 5 PM) Monday through Friday.

The City of Burbank will replace all Project trees with as large of a tree as the site can accommodate. The replacement trees shall not be smaller than a 36" box size tree, however the City will make every effort to plant a 48" box size tree, which is the largest size tree the most parkways can accommodate. When replanting for the removed Aleppo pines, the City of Burbank will replant at a minimum of one tree for each tree removed. When space permits (depending on safety, species selected, and infrastructure

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1 One tree at 1023 East Santa Anita Avenue was recently discovered to be an Italian Stone Pine, *Pinus Pinea*, despite being incorrectly identified as an Aleppo Pine for decades. The existence of this single example of a different species does not affect the overall Project, and the MND continues to refer to the Project as the "Aleppo Pine Removal and Replacement Project."

2 Two trees of the 38 approved from emergency removals (Tree # 6 at 500 S. Buena Vista and the tree at 1130 N. Niagara) were found to host birds' nests. The City temporarily halted removals. Removal will resume at the end of 2024 nesting season or after the nests are relocated, if feasible.

in the parkway that could affect the future growth of the new trees) the City of Burbank will plant more than one tree.

Residents/property owners will have the opportunity to select the replacement tree species for the tree adjacent to their property from the City of Burbank's Street Tree Master Plan. The Street Tree Master Plan includes an index of species "suitable for planting in city streets," and excludes species with "overly aggressive growth characteristics, unmanageable health issues, [and] climate incompatibility." Aleppo Pines are not on the Street Tree Master Plan's index (Appendix C) The cost of the tree, regardless of size, and installation will be paid by the City. Residents/property owners may also request a slow-release watering bag for the tree at no cost.

The City would maintain the replacement trees consistent with its existing practices for maintenance of the existing tree. The replacement trees would require less intensive and less frequent maintenance than the existing Aleppo Pines.

BASIS OF SCORING – ARBORIST REPORT

Aleppo Pine Trees with a score of "Urgent" (Already Removed on Emergency Basis)

On October 11, 2023, the City filed a Notice of Exemption (NOE) to remove the following three (3) Aleppo Pine trees scored as "Urgent" on an emergency basis due to the imminent danger they propose to the potential targets in the residential area.

434 N. Niagara St.
400 S. Keystone St.
113 N. Niagara St.

The trees were removed on October 11, 2023 (400 S. Keystone), October 12, 2023 (113 N. Niagara), and October 13, 2023 (434 N. Niagara).

Aleppo Pine Trees with a score of "3" (Already Removed on Emergency Basis)

On February 21, 2024, following heavy rains, the City filed a NOE to remove the following eight (8) trees on an emergency basis due to the imminent danger they propose to the potential targets in the residential area.

241 N. Niagara St.
246 N. Niagara St. (two trees)
1613 N. Niagara St.
1633 N. Niagara St.
734 N. Niagara St.
814 N. Niagara St.
1023 E. Santa Anita Ave. (Italian Stone Pine)

The trees were all removed between February 21 and February 26, 2024.

Additionally, on March 14, 2024, the Aleppo Pine tree at 1433 N. Niagara St. fell during windy conditions and has been removed. The City thereafter removed 36 of the 38 remaining trees with a score of "3" between March and May of 2024. Birds' nests were discovered in two trees (Tree # 6 at 500 S. Buena Vista and the tree at 1130 N. Niagara), and removal activities were halted. Removal of these two trees will resume at the end of the 2024 nesting season or after the nests are relocated, if feasible. However, this MND will conservatively analyze the removal of these trees. These trees were located at:

2920 W. Verdugo Ave.
716 Niagara St.
731 N. Niagara St.
1130 N. Niagara St.
1133 N. Niagara St. -1
1133 N. Niagara St. -2
1210 N. Niagara St.
1226 N. Niagara St.
1600 N. Niagara St. -2
1604 N. Niagara St.
3003 W. Olive Ave. -1
209 N. Orchard Dr.
1706 N. Pass Ave.
1707 N. Pass Ave.
1750 N. Pass Ave.
2100 N. Pass Ave.
519 E. Santa Anita Ave.
500 S. Buena Vista St. -1
500 S. Buena Vista St.- 2
500 S. Buena Vista St. - 6
500 S. Buena Vista St. - 7
129 N. Niagara St. -2
200 N. Niagara St.
204 N. Niagara St.
210 N. Niagara St.
211 N. Niagara St.
218 N. Niagara St.
219 N. Niagara St.
226 N. Niagara St. -2
236 N. Niagara St.
237 N. Niagara St.
242 N. Niagara St.
310 N. Niagara St.
324 N. Niagara St.
332 N. Niagara St.
540 S. Keystone St.
2027 N. Fairview St.
700 S. Sixth St.

Aleppo Pine Trees with a score of "2"

Fifty-four (54) of the Aleppo Pine trees that have been scored as "2" would be the second stage of the removals due to their overall health, structure, and potential targets if they were to fail. Canopy reduction on these trees began on November 27, 2023 and was completed on or about December 10, 2024. These trees would need to be inspected and monitored bi-annually over the next one to three years, at which time they would be removed.

532 S. Niagara St.
346 N. Niagara St.
433 N. Niagara St.
435 N. Niagara St-1
435 N. Niagara St-2
439 N. Niagara St.
739 N. Niagara St.
806 N. Niagara St.
810 N. Niagara St.
951 N. Niagara St.
1135 N. Niagara St. -1
1135 N. Niagara St. -2
1208 N. Niagara St.
4200 W. Woodland Ave.
130 N. Screenland Dr.
514 S. Keystone St.
500 S. Buena Vista St.- 5
500 S. Buena Vista St.- 8
500 S. Buena Vista St.- 9
500 S. Buena Vista St.-10
1012 N. Frederic St. -1
1012 N. Frederic St. -2
1536 N. Keystone St.
1539 N. Keystone St.
2017 W. Monterey Ave. -1
2017 W. Monterey Ave. -2

1348 N. Niagara St.	2017 W. Monterey Ave. -3
1513 N. Niagara St.	124 N. Niagara St.
1550 N. Niagara St. -1	125 N. Niagara St.
1550 N. Niagara St. -2	128 N. Niagara St.
1633 N. Niagara St. -2	129 N. Niagara St. -1
2239 N. Niagara St.	201 N. Niagara St.
3003 W. Olive Ave. -2	208 N. Niagara St.
620 E. Palm Ave	226 N. Niagara St. -1
1703 N. Pass Ave.	233 N. Niagara St.
1740 N. Pass Ave	926 N. Lima St
2011 N. Pass Ave	330 W. Lutge Ave.
2114 N. Pass Ave.	2829 W. Burbank Blvd.
2360 N. Reese Place	118 N. Niagara St.
1400 N. Naomi St.	315 N Niagara St.

Aleppo Pine Trees with a score of "1"

Eighteen (18) of the Aleppo Pine trees have been scored as "1" and would be monitored after any dead branches are removed. These trees would be planned for removal in the next three to five years if their condition does not change. Yearly inspections would be conducted until they are replaced to monitor for stressors and structural warnings.

719 N Niagara St.	2125 N. Pass Ave. -1
1245 N. Niagara St	2125 N. Pass Ave. -2
1525 N. Niagara St -1	1131 N. Sparks St.
1525 N. Niagara St -2	500 S. Buena Vista -3
1600 N. Niagara St -1	500 S. Buena Vista -4
1609 N. Niagara St -1	1036 N. Maple St.
1609 N. Niagara St -2	1415 N. Avalon St.
2921 W. Olive Ave -1	1010 Elmwood Ave.
1726 N. Pass Ave	2144 Evergreen St.

Relationship to Potential Future Urban Forest Master Plan

The City of Burbank's involvement with the Tree City USA program for over 46 years is a testament to the City's commitment to preserving its urban forest. To proactively manage the City's urban forest of 33,000 trees, and separate from the proposed Aleppo Tree Removal and Replacement Project, the City of Burbank is currently considering the potential future development of an Urban Forest Master Plan. This plan would include updating the City's park and street tree inventory, conducting a health assessment of all City-owned trees, completing an urban canopy study, reviewing the City's tree policies and procedures, and assessing the City-wide pruning cycle. This potential future plan is neither dependent on nor necessitated by the proposed Aleppo Tree Removal and Replacement Project. This potential future plan would not change the scope or nature of the proposed Aleppo Tree Removal and Replacement Project or its potential environmental impacts. The Aleppo Tree Removal and Replacement Project would address a specific set of Aleppo Pines (and one Italian Stone Pine) that were all planted at the same time in discrete areas of the City and present a unique danger to the public as they all reach the end of their natural lives within a relatively short period of time. Therefore, the Aleppo Tree Removal and Replacement Project has independent utility for the City of Burbank regardless of whether or not a future city-wide Urban Forest Master Plan project is adopted. The City would also conduct appropriate analysis under CEQA prior to adoption of any future Urban Forest Master Plan.

CITY OF BURBANK APPROVAL ACTIONS

Actions and approvals required from the City in association with the proposed project include:

- Review of the Aleppo Pine Tree Removal and Replacement Project and Environmental Review by the Parks and Recreation Board
- Approval of the Aleppo Pine Tree Removal and Replacement Project and Environmental Review by the Burbank City Council

RELATED TECHNICAL REPORTS

The following technical report was utilized in the preparation of this MND and are incorporated by reference:

- Appendix A: RPW Services Inc. 2023. *Arborist Report*. September 13, 2023.
- Appendix B: WCA. 2024. Addendum to the Level 2 Risk Assessment. January 29, 2024.
- Appendix C: City of Burbank – Street Tree Master Plan
- Appendix D: Air Quality, Greenhouse Gas Emissions, and Energy Memorandum
- Appendix E: Noise Memorandum

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4.0 ENVIRONMENTAL ANALYSIS

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

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

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

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

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

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

for Fred Ramirez

Signature

5-30-2024

Date

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a. Earlier Analysis Used. Identify and state where they are available for review.
   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c. Mitigation Measures. For effects that are “Less Than Significant With Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.

9. The explanation of each issue should identify:
   a. the significance criteria or threshold, if any, used to evaluate each question; and
   b. the mitigation measure identified, if any, to reduce the impact to less than significance

4.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion

a) Would the project have a substantial adverse effect on a scenic vista?

Less than Significant Impact. Scenic vistas generally refer to viewpoints that provide expansive views of a highly valued landscape for the benefit of the general public. The Burbank2035 General Plan identifies views of the Verdugo Mountains to the northeast and views of the eastern Santa Monica Mountains to the south. Downslope views from hillside development in the Verdugo Mountains toward the city and the Santa Monica Mountains beyond are considered to be valued scenic resources within the City. On a more urbanized scale, the character of neighborhoods, architecture, vegetation, and landscaping provide scenic value to the City (City of Burbank 2013). Removal of the project trees would not impact scenic views of mountains. Within the neighborhoods, removal of the trees would create a minimal, temporary decrease in landscaping, until the trees are replaced. Upon replacement of the Aleppo Pine trees, visual impacts would be less than significant. Therefore, the project would have a less than significant impact on scenic vistas.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

According to the Burbank2035 General Plan EIR and the California Department of Transportation's State Scenic Highway System Map, there are no officially designated scenic highways in Burbank (AECOM 2012a; Caltrans 2018). Therefore, the project would not substantially damage scenic resources within a state scenic highway and no impact would occur.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The project tree locations are within urbanized areas of the City. The proposed actions would take place within public ROW. The Burbank Municipal Code (BMC) Title 7 Chapter 4 contains guidelines for the maintenance and removal of trees and vegetation. Section 7-4-107 of the BMC states that the City will maintain street trees within a public area and/or public ROW. Section 7-4-110 if the BMC states that any tree standing in any street and overhanging or projecting into the street appears to be dead, liable to fall, dangerous or an obstruction to public travel, the Park, Recreation, and Community Services Department (Department) shall cause such tree, or such part thereof as appears to be dead, liable to fall, dangerous or an obstruction to travel, to be cut down and if in any street, to be removed therefrom (City of Burbank 2023a). The project would comply with the applicable standards and guidelines of the BMC.

In addition, the City adopted an updated a Street Tree Master Plan in 2008 that reflects the City's long-standing interest in providing aesthetically pleasing choices that provide the greatest canopy coverage, are appropriate for the environmental conditions, provide diversity, are reasonable to maintain and fit the available space. The Street Tree Master Plan includes a Tree Species Index of trees suitable for planting in the City's streets, a Street Tree Master Plan for each Street & Block, and a review of the City's previous Street Tree Master Plan for changing standards. According to the 2008 Street Tree Master Plan, Aleppo Pine trees are no longer recommended for planting in the streets of Burbank because this species becomes very large in advanced age and are subject to structural maladies as they reach senescence (Appendix C). The City would be required to refer to the Street Tree Master Plan regarding standards for the replacement of trees as part of this project.

The Burbank2035 General Plan Lane Use Element Policy 4.3 provides: "Use street trees, landscaping, street furniture, public art, and other aesthetic elements to enhance the appearance and identity of neighborhoods and public spaces." Here, the Project will replace the Aleppo Pines with trees from the Street Tree Master Plan. The Project is consistent with Policy 4.3 because it will replace street trees, at a greater than one-to-one ratio where feasible, and enhance the appearance and identity of the neighborhoods. The Project will replace the Aleppo Pines with trees from the Street Tree Master Plan, which was drafted "with the goal of increasing City-wide street tree canopy coverage in a sustainable manner while maintaining iconic groupings and gateway plantings associated with the aesthetic beauty of the neighborhoods." (Appendix C at p. 1.)

Burbank2035 General Plan Policy 4.5 requires that pedestrian-oriented areas include street trees and landscaping. The Project is consistent with Policy 4.5 because it will replace the Aleppo Pines with more street trees.

The Burbank2035 General Plan Land Use Element Green House Gas Reduction Plan, Policy CS-1.1 provides that the City will "Plant 2,000 net new trees by 2030 and 5,000 net new trees by 2045 to sequester carbon and create urban shade to reduce the urban heat island effect." The Project is consistent with this policy because the Aleppo pines will be replaced at least at a one-to-one ratio, and a greater than one-to-one ratio where feasible. *Based on these considerations, the project would be in compliance with the applicable zoning and regulations governing scenic quality and trees in the City and no impact would occur*.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The project trees are in residential neighborhoods in the City including homes and businesses where there are existing sources of ambient nighttime lighting. The canopies of the Aleppo Pine trees are sparse due to age and pruning, and currently do not provide significant protection from ambient nighttime lighting. Upon replacement of trees, light and glare would be similar to existing conditions and impacts would be less than significant.

4.2 AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

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

According to the California Important Farmland Finder database, the identified trees are located on land classified as “Urban and Built-Up Land.” Additionally, the Burbank2035 General Plan EIR states that there are no designated Important Farmland located within the City (AECOM 2012a). Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use and no impact would occur.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

According to the Burbank2035 General Plan EIR, no Williamson Act contracts are located within the City (AECOM 2012a). The project would not conflict with existing zoning for agricultural use or a Williamson Act contract. Therefore, no impact would occur.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

According to the Burbank2035 General Plan EIR, the City does not contain forestland (AECOM 2012a). The identified trees are located on developed areas of the city and are not zoned as forest, timberland or for Timberland Production. Therefore, no impact would occur.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

As discussed in Response 4.2(c) above, the City does not contain forestland. Therefore, the project would not result in the loss of forest land or conversion of forest land to non-forest use and no impact would occur.

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

As discussed in Response 4.2(a) through 4.2(c) above, the project would be located in urbanized areas with no existing agricultural uses, Farmland, or forest lands in the vicinity. No impact would occur.

4.3 AIR QUALITY

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) 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?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Approach and Methodology

The California Emissions Estimator Model (CalEEMod) Version 2022.1.1.21 was used to estimate emissions from the implementation[3] phase of the project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant and GHG emissions associated with construction activities (CAPCOA 2022). “Summer” emissions are representative of the conditions that may occur during the O_3 season (May 1 to October 31), and “winter” emissions are representative of the conditions that may occur during the balance of the year (November 1 to April 30).

4.3.1 IMPLEMENTATION

Criteria air pollutant emissions associated with implementation of the project, i.e., removal of the trees, were estimated using CalEEMod for the following emission sources: operation of off-road construction equipment, fugitive dust, on-road hauling, vendor (material delivery) trucks, and worker vehicles. CalEEMod input parameters were based on information provided by the applicant, or on default assumptions if project-specific data was not available. Project implementation was assumed to commence in October 2023 and last 122 days (i.e., one day for each tree). The assumed construction start date of October 2023 represents the earliest date the project would initiate. The earliest start year for the project represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years. In actuality, the project is projected to commence over a five-year period. As discussed above, the removal of each tree would require approximately one workday (i.e., 8 hours per tree). As discussed above, this is a conservative assumption due to the fact that the only 72 trees remain to be removed.

The project is anticipated to result in 8 one-way haul truck trips per day as a result of tree debris. The mix of construction equipment, estimated hours of equipment operation per day, and on-road vehicles used for the air emissions modeling of the project are shown in Table 1. Additional details regarding implementation assumptions are provided in the modeling output, Attachment A.

Table 1. Project Implementation (Tree Removal) Scenario Assumptions

Project Implementation Phase	Average Daily One-Way Vehicle Trips			Equipment		
	Workers	Vendor Trucks	Haul Trucks	Equipment Type	Quantity	Daily Usage Hours
Phase 1						
Tree Removal	18	0	8	Crane	1	8
				Rubber Tired Loader	1	4
				Chainsaws	1	8
				Woodchipper	1	6
				Stump Grinder	1	4

Notes: See Attachment A for details.

3 Due to the nature of the project, the term “implementation” has been use to describe the tree removal activities.

4.3.2 OPERATIONS

The project would not alter the City's operations. No additional staff would be necessary for the operation of the project.

Thresholds of Significance

The significance criteria used to evaluate project impacts to air quality are based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), as follows:

A. Conflict with or obstruct implementation of the applicable air quality plan
B. 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
C. Expose sensitive receptors to substantial pollutant concentrations
D. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

Appendix G of the CEQA Guidelines indicates that, where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon to determine whether the project would have a significant impact on air quality. SCAQMD has adopted thresholds to address the significance of air quality impacts resulting from a project. A project would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for O_3, which is a nonattainment pollutant, if the project's implementation emissions would exceed SCAQMD's VOC or NO_x significance thresholds shown in Table 2. These emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly, and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be reliably or meaningfully determined through air quality models or other quantitative methods.

Table 2. SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	**Construction (Pounds per Day)**	**Operation (Pounds per Day)**
VOCs	75	55
NO_x	100	55
CO	550	550
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Lead[a]	3	3
TACs and Odor Thresholds		
TACs[b]	Maximum incremental cancer risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic and acute hazard index ≥ 1.0 (project increment)	

Criteria Pollutants Mass Daily Thresholds		
Pollutant	**Construction (Pounds per Day)**	**Operation (Pounds per Day)**
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards for Criteria Pollutants[c]		
NO_2 1-hour average NO_2 annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.030 ppm (state) and 0.0534 ppm (federal)	
CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state /federal)	
PM_{10} 24-hour average PM_{10} annual average	10.4 $\mu g/m^3$ (construction)[d] 2.5 $\mu g/m^3$ (operation) 1.0 $\mu g/m^3$	
$PM_{2.5}$ 24-hour average	10.4 $\mu g/m^3$ (construction)[d] 2.5 $\mu g/m^3$ (operation)	

Source: SCAQMD 2023.

Notes: SCAQMD = South Coast Air Quality Management District; VOCs = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; NO_2 = nitrogen dioxide; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

a The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

b TACs include carcinogens and non-carcinogens.

c Ambient air quality standards for criteria pollutants are based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.

d Ambient air quality threshold are based on SCAQMD Rule 403.

The phasing out of leaded gasoline started in 1976. As gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

In addition to the emission-based thresholds listed in Table 2, SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the project as a result of construction activities. Such an evaluation is referred to as a localized significance threshold (LST) analysis. To account for truck activity, it was assumed that each truck would travel 1,000 feet on-site. For project sites of 5 acres or less, the SCAQMD LST Methodology includes lookup tables that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for NO_2, CO, PM_{10}, and $PM_{2.5}$) without performing project-specific dispersion modeling (SCAQMD 2009). The project would disturb less than 5 acres per day, so it is appropriate to use the lookup tables for the LST evaluation.

The LST significance thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust). The LST significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. The allowable emission rates depend on the following parameters:

- Source-receptor area (SRA) in which the project is located
- Size of the project site
- Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals)

The project site is located in SRA 7 (East San Fernando Valley). LST pollutant screening level concentration data is currently published for 1-, 2-, and 5-acre sites for varying distances. The nearest sensitive-receptor land uses are residences on the boundaries of which tree removal will occur. As such, the LST receptor distance was assumed to be 25 meters, the most conservative distance option. The LST values from the SCAQMD lookup tables for SRA 7 (East San Fernando Valley) for a 1-acre project site and a receptor distance of 25 meters are shown in Table 3.

Table 3. Localized Significance Thresholds for Source-Receptor Area 33 (Southwest San Bernardino Valley)

Pollutant	Threshold (pounds/day)
Construction	
NO_2	80
CO	498
PM_{10}	4
$PM_{2.5}$	3

Source: SCAQMD 2009.
Notes: NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter
Localized significance thresholds were determined based on the values for a 1-acre site at a distance of 25 meters from the nearest sensitive receptor.

Project Design Features

The Project would include a Project Design Feature (PDF) aimed to reduce project-generated criteria air pollutant emissions. This PDF will be included as an enforceable condition of approval by the City. The PDF, henceforth referred to as PDF-AQ-1, includes the following requirements:

- Improve fuel efficiency of construction equipment
  - Reduce unnecessary idling (modify work practices, install auxiliary power for driver comfort);
  - Perform equipment maintenance (inspections, detect failures early, corrections);
  - Train equipment operators in proper use of equipment;
  - Use the proper size of equipment for the job; and
  - Use equipment with new technologies (repowered engines, electric drive trains).

- Use alternative fuels for electricity generators and welders at construction sites such as propane or solar, or use electrical power.
- Use an ARB-approved low-carbon fuel for construction equipment. Emissions of NOx from the use of low carbon fuel must be reviewed and increases mitigated. Additional information about low-carbon fuels is available from ARB's Low Carbon Fuel Standard Program.
- Reduce electricity use in the construction offices by using best-available technology and replacing heating and cooling units with more efficient ones.
- Recycle or salvage nonhazardous construction and demolition debris.
- Use locally sourced or recycled materials for construction materials (goal of at least 20 percent based on costs for building materials, and based on volume for roadway, parking lot, sidewalk, and curb materials).
- Develop a plan to efficiently use water for adequate dust control. This may consist of the use of nonpotable water from a local source.

This PDF has not been quantified for the purpose of emissions modeling.

Discussion

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

The South Coast Air Quality Management District (SCAQMD) administers the South Coast Air Basin's (SCAB) Air Quality Management Plan (AQMP), which is a comprehensive document outlining an air pollution control program for attaining all California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The AQMP is the regional path towards improving air quality and meeting federal standards for air pollutants, and each AQMP incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The most recent approved SCAQMD AQMP is the 2022 AQMP (SCAQMD 2022), which was adopted by the SCAQMD Governing Board in December 2022. The SCAQMD 2022 AQMP was developed to address the attainment of the 2015 national 8-hour O_3 ambient air quality standard (70 parts per billion) for the SCAB and Coachella Valley. The 2022 AQMP provides actions, strategies, and steps needed to reduce air pollutant emissions and meet the O_3 standard by 2037.

The purpose of a consistency finding with regard to the AQMP is to determine if a project is consistent with the assumptions and objectives of the regional air quality plans, and if it would interfere with the region's ability to comply with federal and state air quality standards. SCAQMD has established criteria for determining consistency with the currently applicable AQMP in

Chapter 12, Sections 12.2 and 12.3 of the SCAQMD CEQA Air Quality Handbook. These criteria are (SCAQMD 1993):

- Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.

- Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

To address the first criterion, project-generated criteria air pollutant emissions have been estimated and analyzed for significance and are addressed in Section 4.3(b). Detailed results of this analysis are included in Appendix D. As presented in Section 4.3(b), tree removal and post-removal and replacement of trees would not generate criteria air pollutant emissions that exceed SCAQMD's thresholds.

The second criterion regarding the project's potential to exceed the assumptions in the AQMP or increments based on the year of project buildout and phase is primarily assessed by determining consistency between the project's land use designations and its potential to generate population growth. In general, projects are considered consistent with, and not in conflict with or obstructing implementation of, the AQMP if the growth in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook). SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2020). The most recent RTP/SCS is SCAG's 2020–2045 RTP/SCS (Connect SoCal), which was adopted on September 3, 2020. This document, which is based on general plans for cities and counties in the SCAB, is used by SCAQMD to develop the AQMP emissions inventory (SCAQMD 2022)[4].

The project involves the removal and replacement of hazardous trees, and would be non-operational in nature. As the project would be consistent with the Burbank2035 General Plan designation and zoning for the site, implementation of the project would not generate an increase in growth demographics that would conflict with existing projections within the region. Accordingly, the project is consistent with the SCAG RTP/SCS forecasts used in the SCAQMD AQMP development.

In summary, based on the considerations presented for the two criteria, impacts relating to the project's potential to conflict with or obstruct implementation of the applicable AQMP would be less than significant.

[4] Information necessary to produce the emissions inventory for the SCAB is obtained from SCAQMD and other governmental agencies, including the California Air Resources Board (CARB), California Department of Transportation (Caltrans), and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socioeconomic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into its Travel Demand Model for estimating/projecting vehicle miles traveled and driving speeds. SCAG's socioeconomic and transportation activities projections in the Connect SoCal are integrated in the 2022 AQMP (SCAQMD 2022).

b) Would the 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?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

IMPLEMENTATION EMISSIONS

Proposed implementation activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment) and off-site sources (i.e., haul trucks and worker vehicle trips). Emissions can vary substantially from day to day, depending on the level of activity; the specific type of activity; and, for particulate matter, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated. Internal combustion engines used by construction equipment, trucks, and worker vehicles would result in emissions of VOCs, NOx, CO, PM10, and PM2.5, PM10, and PM2.5. Emissions would also be generated by entrained dust, which results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil. Table 4 presents the estimated maximum daily implementation emissions generated during tree removal. Details of the emission calculations are provided in Appendix D.

Table 4. Estimated Maximum Daily Implementation Criteria Air Pollutant Emissions

Year	VOC	NOX	CO	SOX	PM10	PM2.5
	pounds per day					
Winter						
2023	21.82	12.01	31.95	0.02	1.36	0.95
2024	21.74	11.68	31.66	0.02	1.35	0.94
Maximum	**21.82**	**12.01**	**31.95**	**0.02**	**1.36**	**0.95**
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Emissions include compliance with SCAQMD Rule 403 and Rule 1113.
See Appendix D for complete results.

As shown in Table 4, project implementation would not exceed SCAQMD's daily thresholds. Therefore, implementation impacts associated with criteria air pollutant emissions would be less than significant.

Trees can improve air quality by (1) reducing air temperature, (2) reducing building energy consumption and (3) directly removing pollutants such as surface-level ozone and particulate matter from the air (NPS 2022). The amount of criteria air pollutants removed from the air by the pine trees slated for removal has been estimated using the United States Department of Agriculture's iTree Planting Calculator. The total pounds of pollutants removed over a 99-year period were averaged to find a removal value in pounds per day. The results are shown below in Table 5.

Table 5. Air Pollutants Removed by Existing Pine Trees

Daily Pollutants Removed by Existing Pines	NO_2	SO_2	$PM_{2.5}$
	Pounds per Day (All Trees Combined)		
	0.04	<0.01	<0.01

Source: iTree Planting Calculator
Notes: NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.

The majority of the existing mature Aleppo pine trees will be replaced by trees as listed in the City's Street Tree Master Plan belonging to one of the following species: Jacaranda Chinese Pistache, Deodar Cedar and Canary Island Pine. An iTree modeling run was conducted for pollutants removed. The results of the iTree modeling are shown below. Note that the replacement trees are conservatively assumed to have a DBH of 6 inches, which will increase as they mature. The modeling was conducted over a 30-year period, consistent with SCAQMD's recommended period for the amortization of construction emissions.

Table 6. Air Pollutants Removed by Replacement Trees

Tree Species	Approximate DBH (inches)	Condition	NO_2	SO_2	$PM_{2.5}$
			Pounds per Day (Singular Tree of Each Species)		
Chinese Pistache	6	Excellent	<0.01	<0.01	<0.01
Deodar Cedar	6	Excellent	<0.01	<0.01	<0.01
Canary Island Pine	6	Excellent	<0.01	<0.01	<0.01
		Average	<0.01	<0.01	<0.01

Notes: Criteria air pollutants removed are evaluated over a 30- year period, the SCAQMD-recommended period for amortized construction GHG emissions. iTree assumes an electricity emissions factor of 252.4 kg CO_2 equivalent/MWh.

OPERATIONAL EMISSIONS

The proposed project would not alter the City's operations. No additional staff would be necessary for operation of the project. Because the project would not result in substantial changes to routine operational activities, air quality impacts associated with operational air pollutant emissions would be less than significant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

LOCALIZED SIGNIFICANCE THRESHOLDS

Sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). The nearest sensitive-receptor land uses are residences on the boundaries of which tree removal will occur.

Implementation activities associated with the project would result in temporary sources of on-site fugitive dust, construction equipment emissions, and on-site mobile source emissions. The maximum allowable daily emissions that would satisfy the SCAQMD localized significance criteria for source-receptor area (SRA) 7 are presented in Table 7 and compared to the maximum daily on-site construction emissions.

Table 7. Localized Significance Thresholds Analysis for Project Construction – Unmitigated

Maximum On-Site Emissions	NO_2	CO	PM_{10}	$PM_{2.5}$
	Pounds per Day			
2023	21.82	12.01	31.95	0.02
2024	21.74	11.68	31.66	0.02
SCAQMD LST	*80*	*498*	*4*	*3*
LST Exceeded?	**No**	**No**	**No**	**No**

Source: SCAQMD 2009.
Notes: NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold. Localized significance thresholds are shown for a 1.5-acre project site corresponding to a distance to a sensitive receptor of 25 meters.

As shown in Table 7, the project LST would not exceed the established significance thresholds, and thus would result in a less than significant impact to sensitive receptors during construction.

CO HOTSPOTS

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed CO “hotspots.” CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

Title 40 of the Code of Federal Regulations, Section 93.123(c)(5), Procedures for Determining Localized CO, PM_{10}, and $PM_{2.5}$ Concentrations (Hot-Spot Analysis), states that “CO, PM_{10}, and $PM_{2.5}$ hot-spot analyses are not required to consider construction-related activities, which cause temporary increases in emissions. Each site which is affected by construction related activities shall be considered separately, using established ‘Guideline’ methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site” (40 CFR 93.123). While project implementation would involve on-road vehicle trips from trucks and workers during construction, construction activities would occur on a maximum of 72 days (one day per tree removal) over five years and would be temporary. Therefore, no a project-level construction hotspot analysis is required.

In addition, at the time that the SCAQMD Handbook (SCAQMD 1993) was published, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO. In 2007, the SCAQMD was designated in attainment for CO under both the CAAQS and NAAQS as a result of the steady decline in CO concentrations in the SCAB due to turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities. The SCAQMD conducted CO modeling for the 2003 AQMP (SCAQMD 2003) for the four worst-case intersections in the SCAB, including the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day.

The 2003 AQMP projected 8-hour CO concentrations at these four intersections for 1997 and from 2002 through 2005. From years 2002 through 2005, the maximum 8-hour CO concentration was 3.8 parts per million in 2002 and the maximum 8-hour CO concentration was 3.4 parts per million in 2002.

Accordingly, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least over 100,000 vehicles per day. Because the project would not increase daily traffic volumes at any study intersection to more than 100,000 vehicles per day, a CO hotspot is not anticipated to occur.

Based on these considerations, the project would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. In addition, due to continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB is steadily decreasing. Based on these considerations, the project would result in a less-than-significant impact to air quality with regard to potential CO hotspots.

TOXIC AIR CONTAMINANTS

Toxic air contaminants (TACs) are defined as substances that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. The closest sensitive receptors to the project site are residential land uses proximate to the project site.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SCAQMD recommends an incremental cancer risk threshold of 10 in 1 million. “Incremental cancer risk” is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. The SCAQMD recommends a Hazard Index of 1 or more for acute (short-term) and chronic (long-term) noncarcinogenic effects. The greatest potential for TAC emissions during implementation would be diesel particulate matter (DPM) emissions from heavy equipment operations and use of heavy-duty trucks.

DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts; however, no short-term, acute relative exposure level has been established for DPM. Total project implementation would last approximately 6 months, after which project-related TAC emissions would cease. According to the Office of Environmental Health Hazard Assessment, health risk assessments (which determine the exposure of sensitive receptors to toxic emissions) should be based on a 30-year exposure period for the maximally exposed individual receptor; however, such assessments should also be limited to the period/duration of activities associated with the project. An 8-month construction schedule represents a short duration of exposure (2% of a 30-year exposure period), while cancer and chronic risk from DPM are typically associated with long-term exposure. Thus, the project would not result in a long-term source of TAC emissions.

Exhaust PM_{10} is typically used as a surrogate for DPM, and as shown in Table 4, which presents total PM_{10} from fugitive dust and exhaust, project-generated construction PM_{10} emissions are anticipated to be below the SCAQMD threshold. Due to the relatively short period of exposure and minimal DPM emissions on site, TACs generated during implementation would not be expected to result in concentrations causing significant health risks.

HEALTH EFFECTS OF CRITERIA AIR POLLUTANTS

Implementation of the project would generate criteria air pollutant emissions; however, the project would not exceed the SCAQMD mass-emission thresholds.

The SCAB is designated as nonattainment for O_3 for the NAAQS and CAAQS. Thus, existing O_3 levels in the SCAB are at unhealthy levels during certain periods. Health effects associated with O_3 include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue (CARB 2019a). Because the project would not involve implementation activities that would result in O_3 precursor emissions (VOC or NO_x) that would exceed the SCAQMD thresholds, the project is not anticipated to substantially contribute to regional O_3 concentrations and associated health impacts.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for NO_2 (since NO_2 is a constituent of NO_x). Health effects associated with NO_x and NO_2 include lung irritation and enhanced allergic responses (CARB 2019b). As depicted in Table 4, project implementation emissions would not exceed the SCAQMD thresholds for NO_x. Thus, the project is not expected to exceed the NO_2 standards or contribute to associated health effects.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (CARB 2019c). CO tends to be a localized impact associated with congested intersections. CO hotspots were discussed previously as a less than significant impact. Thus, the project's CO emissions would not contribute to the health effects associated with this pollutant.

The SCAB is designated as nonattainment for PM_{10} under the CAAQS and nonattainment for $PM_{2.5}$ under the NAAQS and CAAQS. Particulate matter contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing (EPA 2016). As with O_3 and NO_X, the project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed SCAQMD's mass daily or LST thresholds.

In summary, the project would not result in any potentially significant contribution to local or regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be less than significant.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The project is not anticipated to result in other air quality emissions that have not been addressed under the previous text in Section 4.3. As such, this analysis focuses on the potential for the project to generate odors.

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors would be potentially generated from vehicles and equipment exhaust emissions during tree removal. Potential odors produced during this phase would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment (e.g., gas powered work trucks, chain saws, woodchipper, et cetera). Such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during implementation would be less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities (SCAQMD 1993). The project is non-operational in nature and would not create any new sources of substantial odor during operation. Therefore, project operations would result in odor impact that is less than significant.

4.4 BIOLOGICAL RESOURCES

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

Discussion

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

The City's planning area supports suitable habitat for 11 special-status plant species and 9 special-status wildlife species occur. Because the City is built out, with the exception of the Verdugo Mountains, most of these species' suitable habitats are located in the foothills of the Verdugo Mountains (AECOM 2012b). The project would involve the removal of Aleppo pine trees, which are not a candidate, sensitive, or special-status plant species, and would not impact any other candidate, sensitive, or special-status plant species. The special-status wildlife species in the City that could occur or are known to occur would not be impacted by the removal of Aleppo pine trees, because these trees are not suitable habitat for these species.

Ornamental conifers, such as the Aleppo pine trees, could however support common, urban-adapted native and nonnative birds and small mammals (AECOM 2012b). These common, unprotected species, however, have large, stable populations throughout the region. The Project will replace only 122 of over 33,000 trees in the City. Aleppo pines do not provide any unique or special habitat for common native and nonnative bird and small mammals as compared to the replacement tree species or any other common street tree species in southern California. Aleppo pines do not provide a source of forage or food for either common, unprotected species, or any special-status wildlife. While the existing, mature Aleppo pines could provide marginally more habitat for common, unprotected species than the replacement trees due to simply their larger size, the marginal reduction of habitat would have a less than significant impact on these common species.

The California Department of Fish and Wildlife submitted a comment letter on March 18, 2022, on the City's Final EIR for the City's Housing Element update, which noted possible impacts from planned housing development citywide on three species: least Bell's vireo, special-status species of bats, and monarch butterflies.[5] The Project would not have an impact on least Bell's video because they require riparian habitat, which does not occur near the Aleppo pines. The Project area is not known to be habitat for any special-status species of bats. The impact on bats would be less than significant because the Aleppo pines are not expected to support a maternity or winter roost because they are within a residential neighborhood. The loss of a few individual non-listed species of bats from the loss of day/night roosts would not rise to the level of significance. No impacts to monarch butterflies are expected because the majority of wintering sites are within 1.5 miles from the ocean and have very specific microclimate conditions, including dappled sunlight, high humidity, access to fresh water, and an absence of freezing temperatures or high winds (The Western Monarch Milkweed Mapper 2024), which are not present on site.

The Migratory Bird Treaty Act prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species, including approximately 800 native species, without prior authorization by the Department of Interior U.S. Fish and Wildlife Service; this applies to

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5 The Housing Element FEIR is available at https://www.burbankhousingelement.com/wp-content/uploads/2022/09/Final-EIR.pdf.

active nests. California Fish and Game Code Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act. Removal of project trees could cause mortality to bird species and/or destruction of eggs or active nests if occurring during the general nesting season of February 1 through August 31. This would be a potentially significant impact without mitigation. However, nesting bird surveys prior to removal or maintenance avoids and minimizes the risk of taking an active nest. Implementation of mitigation measure **MM-BIO 1**, would reduce potentially significant impacts to nesting birds to a less-than-significant level. This mitigation is consistent with what is required in the Housing Element EIR

MM-BIO-1 **Nesting Bird Avoidance.** Project tree removal activities shall be conducted in compliance with the conditions set forth in the Migratory Bird Treaty Act and California Fish and Game Code to protect active bird/raptor nests. Vegetation removal shall occur during the non-breeding season for nesting birds and nesting raptors (October 1–January 31) to avoid impacts to nesting birds and raptors. If the project requires that work be performed during the breeding season for nesting birds (March 1–September 30) and nesting raptors (February 1–June 30), a pre-construction survey shall be conducted at the project trees and immediately adjacent to the project trees by qualified biologists for nesting birds and/or raptors within 3 days before project activities in order to avoid direct or indirect impacts on active nests. If the biologist does not find any active nests within or immediately adjacent to the project trees, the vegetation clearing/tree removal shall be allowed to proceed.

If the biologist finds an active nest within or immediately adjacent to the project trees and determines that the nest may be impacted or breeding activities substantially disrupted, the biologist shall delineate an appropriate buffer zone around the nest depending on the sensitivity of the species and the nature of the project activity. To protect any nest site, the following restrictions to project activities shall be required until nests are no longer active, as determined by a qualified biologist: (1) clearing limits shall be established within a buffer around any occupied nest; and (2) access and surveying shall be restricted within the buffer of any occupied nest, unless otherwise determined by a qualified biologist. The buffer shall be 100–300 feet for non-raptor nesting birds and 300–500 feet for nesting raptors. Vegetation clearing/tree removal can only proceed into the buffer after the qualified biologist determines that the nest is no longer active.

The Burbank2035 General Plan Open Space and Conservation Element Policies 8.2 and 8.5 would require the improvement of ecological and biological conditions when making public improvements and encourage landscaping that incorporates native plant species. The project trees would be replaced with trees from the Street Tree Master Plan Tree Species Index, which includes trees that are suitable for planting in the streets of Burbank. These trees are screened for overly aggressive growth characteristics, unacceptable structural weaknesses, unmanageable health issues, climate incompatibility, and more (Appendix C). The project would comply with the Burbank2035 General Plan policies by replacing hazardous trees with trees that would improve the ecological and biological conditions of the City. These trees would be suitable for the common native and nonnative wildlife species in the City. As such, the project would not result in impacts to candidate, sensitive, or special status species and impacts would be less than significant.

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

The project tree locations are within residential neighborhoods in the City; these areas have been developed and do not contain riparian habitat or sensitive natural communities. No impact to these biological resources would occur as a result of the project.

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The project tree locations are within residential neighborhoods in the City and are not located on or near federally protected wetlands (USFWS 2023). No impact to these biological resources would occur as a result of the project.

d) Would the 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?

Wildlife movement in the City is primarily within open space areas in the Verdugo Mountains and are linked by canyons and natural drainages (AECOM 2012a). The project tree locations are within urban, developed areas of the City that do not act as wildlife corridors. According to the CDFW’s Areas of Conservation Emphasis, last updated in 2019, the project area is mapped as having the lowest connectivity ranking (1 out of 5), designated as having limited connectivity opportunity (CDFW 2022). Implementation of the proposed project will not significantly affect wildlife movement. Therefore, impacts would be less than significant.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Title 7, Chapter 4 of the BMC, Trees and Vegetation, includes rules and regulations about the maintenance and removal of trees in the City. Section 7-4-108 of the BMC requires the City to develop and maintain a list of trees in the City, including landmark trees, trees of outstanding size and beauty, and dedicated trees. These trees must be identified, mapped and recorded, and given special treatment to retain and protect them (City of Burbank 2023a). Trees not on this list are not afforded special protection. The Street Tree Master Plan no longer recommends Aleppo Pine trees for planting in the streets of Burbank because this species becomes very large in advanced age and are subject to structural maladies as they reach senescence (Appendix C). In addition, Section 7-4-110 of the BMC states that if any tree standing in any street, or standing on any private property and overhanging or projecting into the street appears to be dead, liable to fall, dangerous or an obstruction to public travel, the Department shall cause such tree, or such part thereof as appears to be dead, liable to fall, dangerous or an obstruction to travel, to be cut down and if in any street, to be removed therefrom (City of Burbank 2023a). The Arborist Report (Appendix A) identified 121 Aleppo Pine trees and one Italian Stone Pine with the risk of falling; the project would involve the removal and replacement of Aleppo Pine trees identified in the Arborist Report ranging from urgent removal to removal in the next three to five years. The trees would be replaced with appropriate tree species identified in the Street Tree Master Plan. Therefore, the project would comply with the local policies and ordinances protecting trees and impacts would be less than significant.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There are no habitat conservation plans, natural community conservation plans, or other related plans for lands within the City's planning area (AECOM 2012a). Therefore, no impact would occur.

4.5 CULTURAL RESOURCES

	Potentially Significant Impact	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Discussion

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

The City of Burbank Historic Preservation Plan provides helps identify and manage cultural resources within the City. Based on a review of the City of Burbank's Historic Preservation Plan, none of the project trees or locations are listed as potentially significant historic properties (City of Burbank 1999). Additionally, the neighborhoods surrounding the project trees do not have any recognized historic or aesthetic value derived from the trees. The project would remove and replace trees within public right-of-way and would not impact any existing structures. As such, the project would prevent at-risk trees from falling and damaging nearby structures. Therefore, the project would not cause a substantial adverse change in the significance of a historical resource as defined in Section §15064.5 of the CEQA Guidelines and no impact would occur.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The project tree locations are within urban, previously disturbed areas of the City. Minimal ground disturbance would occur to remove and replace trees, and there are no known archaeological resources in the areas where trees would be removed and replaced.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

The project tree locations are within previously disturbed areas of public right-of-way. It is unlikely that human remains would be found or disturbed in the process of removing and replacing select trees. However, should human remains be unexpectedly encountered during ground-disturbing activities, they shall be treated consistent with applicable law including, without limitation, Health and Safety Code Section 7050.5, PRC Section 5097.98, and CEQA Guidelines Section 15064.5(e). In accordance with Section 7050.5 of the Health and Safety Code, if human remains are found, the county coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains can occur until the county coroner has determined the appropriate treatment and disposition of the human remains. If the county coroner determines that the remains are, or are believed to be, Native American, the county coroner shall follow all required protocols according to PRC Section 5097.98. Compliance with these regulations would ensure that impacts to human remains resulting from the projects would be less than significant.

4.6 ENERGY

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Energy – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Discussion

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

IMPLEMENTATION

Electricity

Temporary electric power for as-necessary lighting and electronic equipment would be provided by Burbank Water and Power (BWP). The amount of electricity used during project implementation would be minimal because typical demand stems from the use of electronic equipment, in addition to electrically powered hand tools. As the electricity used for implementation activities would be temporary and minimal, impacts related to electricity consumption during project implementation are determined to be less than significant.

Natural Gas

Natural gas is not anticipated to be required during implementation of the proposed project. Fuels used for implementation would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum". Any minor amounts of natural gas that may be consumed as a result of implementation would be temporary and negligible and would not have an adverse effect on the environment; therefore, impacts are determined to be less than significant.

Petroleum

Offroad equipment used during implementation of the project would primarily rely on diesel fuel, as would vendor and haul trucks. In addition, construction workers would travel to and from the project site throughout the duration of implementation.

The estimated diesel fuel usage from construction equipment, haul trucks, and vendor trucks, as well as estimated gasoline fuel usage from worker vehicles, is shown in Table 8.

Table 8. Total Proposed Project Implementation Petroleum Demand

Scenario	Off-Road Equipment (diesel)	Haul Trucks (diesel)	Vendor Trucks (diesel)	Worker Vehicles (gasoline)
	Gallons			
Project Implementation	7,114.96	0.00	2,982.59	1,495.90

Source: Appendix D

In summary, implementation of the project is estimated to consume a total of approximately 11,593 gallons of petroleum. Notably, the project would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation (1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; (2) requires all vehicles to be reported to

CARB (using the Diesel Off-Road Online Reporting System) and labeled; (3) restricts the adding of older vehicles into fleets starting on January 1, 2014; and (4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The fleet must either show that its fleet average index was less than or equal to the calculated fleet average target rate, or that the fleet has met the Best Achievable Control Technology requirements.

Overall, while project implementation would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. Further, the petroleum consumed related to construction would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what are typically consumed in California. Therefore, because petroleum use during project construction would be temporary and minimal and would not be wasteful or inefficient, impacts are determined to be less than significant.

POST TREE REMOVAL

The proposed project would not alter the City's operations. No additional staff would be necessary for operation of the project. However, building electricity demand could change due to the removal of the mature Aleppo pines (NPS 2022). The United States Department of Agriculture's iTree Planting Calculator was used to estimate the total electricity saved due to the presence of the Aleppo pines over a 99-year period. The average electricity savings provided by the 122 trees was estimated to be approximately 9,082 kWh per year. The average annual energy use for single-family homes in California is approximately 9,612 kWh per year (Wigness 2023). Therefore, the sum of the energy savings provided by all 122 trees annually will approximately equal the annual energy demand of one single-family home in California.

SUMMARY

The project would use renewable energy onsite as determined to be feasible and would not result in wasteful, inefficient, or unnecessary consumption of energy resources, including electricity, natural gas, or petroleum during project implementation or operation. Impacts would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The project would be subject to and would comply with, at a minimum, the California Building Energy Efficiency Standards (24 CCR Part 6). Part 11 of Title 24 sets forth voluntary and mandatory energy measures that are applicable to the project under CALGreen. CALGreen institutes mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, high-rise residential, state-owned buildings, schools, and hospitals, as well as certain residential and non-residential additions and alterations. As the project concerns the removal and planting of trees, these standards would not be applicable.

Additionally, as discussed in Section 4.8, the proposed project would not conflict with the City of Burbank Greenhouse Gas Reduction Plan Update (GGRP). The proposed project would also not conflict with CARB's Climate Change Scoping Plan, which identifies several strategies to reduce

GHG emissions through energy efficiency. As discussed in further detail in Section 4.8, the proposed project would be subject to these strategies as many are state actions requiring no additional involvement at the project level. As such, implementation of the proposed project would not conflict with applicable plans for energy efficiency, and the impacts during implementation and operation would be less than significant.

4.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☒

Discussion

a) ***Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:***

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

According to the Burbank2035 General Plan, not Alquist-Priolo Earthquake Fault Zones have been designated in the City. The City contains one active fault, the Verdugo Fault, located just south of the Verdugo Mountains (City of Burbank 2013). No faults run through the project tree locations; therefore, the project would not expose people or structures to substantial adverse effects from rupture of a known earthquake fault. Impacts would be less than significant.

ii) ***Strong seismic ground shaking?***

The Verdugo Fault system and other regional faults are the main contributors to seismic ground shaking potential in the City and the surrounding region (AECOM 2012a). The project would contain no habitable structures or other structural development that would directly or indirectly cause potential substantial adverse effects due to strong seismic ground shaking. Rather, the project would involve removing trees that have been found to be at risk of falling and replace the trees with more stable and resilient trees; the project would prevent the risk of substantial adverse effects of at-risk falling trees due to strong seismic ground shaking. Impacts would be less than significant.

iii) ***Seismic-related ground failure, including liquefaction?***

Liquefaction occurs when shaking increases pore water pressure and causes the soil to lose its strength and behave as a liquid. The excess pore pressures are often pushed upward through fissures and soil cracks, which causes water-soil slurry to bubble onto the ground surface. Liquefaction occurs primarily in saturated and loose, fine- to-medium-grained soils, in areas where the groundwater table lies within 50 feet of the surface. As depicted in Exhibit S-4 of the Burbank2035 General Plan, much of Burbank is located atop soils susceptible to liquefaction, including many of the project tree locations (City of Burbank 2013). The project would prevent the risk of substantial adverse effects of at-risk falling trees due to seismic-related ground failure. No impact would occur.

iv) ***Landslides?***

Landslides typically occur on moderate to steep slopes that are affected by such physical factors as slope height, slope steepness, shear strength, and orientation of weak layers in the underlying geologic units. The project site and surroundings are generally flat, with soils stabilized by development and landscaping. The project would not result in the creation of moderate to steep slopes that may become susceptible to landslides. In addition, the project would not result in placement of habitable structures that would put people or property at risk due to landslides. Therefore, no impact would occur.

b) Would the project result in substantial soil erosion or the loss of topsoil?

The project would involve removing and replacing approximately 121 Aleppo Pine trees and one Italian Stone Pine in the City of Burbank that have been found to be at risk of falling. The removal of trees may result in soil erosion and loss of topsoil; however, best management practices (BMPs) such as covering of exposed soil stockpiles, sediment barriers, storm drain protection, and various other measures designed to minimize potential for soil erosion and loss of topsoil would be implemented during removal and replacement (CASQA 2003). Therefore, the project would not result in substantial soil erosion or the loss of topsoil, and impacts would be less than significant.

c) 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 on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

The potential for landslides, debris flows, and shallow mudslides is a potential geologic hazard in the hilly portions of the planning area, including areas located at the base of the Verdugo Mountains north of Sunset Canyon Drive. Additionally, collapsible soils are typically young, loose deposits that have the potential for significant abrupt volumetric change when wetted. An increase in surface water infiltration such as from heavy irrigation or prolonged rainfall (AECOM 2012a). The project does contain trees in hilly areas of the City, however, as described in Section 3.0, the City has experienced complete tree failures occurring during rainy weather conditions. Severe weather conditions such as prolonged rainfall would increase the risk of falling trees; therefore, with implementation of the project, removal and maintenance of trees identified in the Arborist Report would reduce the risk of unstable soils and falling trees. The project would not involve development on an unstable geologic unit or soil; the project would prevent damage resulting from unstable geologic units or soils and no impact would occur.

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

Expansive soils are characterized by shrink/swell properties that, over time, can lead to cyclical volumetric changes that can damage structures such as building foundations and roadways. The project trees are located in park strips and residential neighborhoods where development have been approved and constructed, and the soils present were considered suitable to support the structures. The project would not involve construction of any habitable structures or other built elements that would be considered susceptible to adverse effects from expansive soils. Therefore, soil expansion would not pose a potential concern for project implementation. No impact would occur.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The project would not result in construction of septic tanks or alternative wastewater disposal systems. No impact would occur.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

According to the Burbank2035 General Plan EIR, the City's planning area includes areas of non-fossil-bearing granitic rocks in the Verdugo Mountains. However, the portions of the City's planning area that lie within the San Fernando Valley are underlain by potentially fossil-bearing Pleistocene nonmarine sediment and Holocene alluvium (AECOM 2012a). The project tree locations are located within developed areas of the City underlain by non-fossil bearing rocks. In addition, project activities would not excavate deep enough to encounter native soil with paleontological resources. Therefore, no impact would occur.

4.8 GREENHOUSE GAS EMISSIONS

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

Approach and Methodology

4.8.1 IMPLEMENTATION

CalEEMod was used to estimate potential project-generated GHG emissions during implementation, i.e., tree removal. Implementation of the project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road haul trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 4.3 are also applicable for the estimation of construction-related GHG emissions. See Section 4.3 for a discussion of construction emissions calculation methodology and assumptions used in the GHG emissions analysis.

4.8.2 OPERATIONS

The proposed project would not alter the City's operations. No additional staff would be necessary for operation of the project.

4.8.3 CARBON LOSS

The United States Department of Agriculture's (USDA) iTree Planting Calculator was used to evaluate the potential carbon loss due to increase in building energy use and loss of carbon sequestration associated with the Project (USDA 2023). Carbon loss was estimated using tree diameter at breast height (DBH) and tree condition provided by the City, along with default parameters within iTree.

Thresholds of Significance

The significance criteria used to evaluate the project impacts to GHGs are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to GHG emissions would occur if the project would:

A. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the proposed project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated at a project level under CEQA.

The State CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the State CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009). The State of California has not adopted emission-based thresholds for GHG emissions under CEQA. The Governor's Office of Planning and Research's Technical Advisory, titled "Discussion Draft CEQA and Climate Change Advisory," states that:

> "[N]either the CEQA statute nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for performing an impact analysis. This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable.… Even in the absence of clearly defined thresholds for GHG emissions, such emissions must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact. (OPR 2018)

Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice." Section 15064.7(c) of the CEQA Guidelines specifies that "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

In October 2008, the SCAQMD proposed recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects as presented in its *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (SCAQMD 2008a). This guidance document, which builds on the previous guidance prepared by the CAPCOA, explored various approaches for establishing a significance threshold for GHG emissions. The draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. However, in December 2008, the SCAQMD adopted an interim 10,000 metric tons carbon dioxide-equivalent (MT CO_2e) per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (SCAQMD 2008b). The 10,000 MT CO_2e per-year threshold, which was derived from GHG reduction targets established in Executive Order (EO) S-03-05, was based on the conclusion that the threshold was consistent with achieving an emissions capture rate of 90% of all new or modified stationary source projects.

SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1 Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2 Consider whether or not the project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3 Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2e per year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2e per year would be used for all non-stationary source projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4 Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per service population for project level analyses and 6.6 MT CO_2e per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5 Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

The City of Burbank GGRP proposes GHG thresholds based on service population, but since the project is non-operational in nature and will not result in a change in housing or employment, the thresholds provided in the GGRP are not applicable to the project.

Per the SCAQMD guidance, project emissions will be compared to the SCAQMD's draft threshold of 3,000 MT CO_2e per year. Implementation emissions will be amortized over the operational life of the project, which is assumed to be 30 years (SCAQMD 2008a). This impact analysis, therefore, adds amortized implementation emissions to the estimated annual operational emissions and then compares operational emissions to the proposed SCAQMD threshold of 3,000 MT CO_2e per year.

Discussion

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

IMPLEMENTATION EMISSIONS

Implementation Activity

Implementation of the project would result in greenhouse gas (GHG) emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. GHG emissions generated by project implementation are presented below in Table 9.

Table 9. Estimated Annual Implementation Greenhouse Gas Emissions

Year	CO2	CH4	N2O	R	CO2e
	Metric Tons				
2023	61.84	>0.01	>0.01	0.03	62.92
2024	52.64	>0.01	>0.01	0.03	53.56
Total	**114.49**	**0.01**	**0.01**	**0.06**	**116.48**
Amortized Implementation Emissions (Over 30 Years)					*3.88*

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R = refrigerants; CO_2e = carbon dioxide equivalent.
Totals may not sum due to rounding.
See Appendix D for complete results.

As shown in Table 9, the estimated total GHG emissions during implementation would be approximately 116 metric tons of CO_2 equivalent (MT CO_2e). Estimated project-generated construction emissions amortized over 30 years would be approximately 4 MT CO_2e per year.

Carbon Loss

The project will result in the removal of 121 mature Aleppo pine trees and one Italian Stone pine tree, which contribute to the sequestration of atmospheric carbon. A simulation using the USDA's iTree software was conducted to estimate the carbon benefit provided by the pines slated for removal. This benefit will be added to the project's amortized implementation emissions and will be evaluated against the SCAQMD's 3,000 MT CO_2e GHG emissions threshold. The results of the iTree simulation are provided below in Table 10.

Table 10. Aleppo Pine Removal iTree Simulation Results

Approximate DBH (inches)	Condition	Number of Trees	CO2 Avoided (MT)	CO2 Sequestered (MT)
12	Good	2	4.22	8.95
18	Good	6	12.66	29.95
24	Good	10	21.11	52.23
24	Fair	5	9.85	23.66
30	Good	9	19.00	45.75
30	Fair	7	13.79	32.77
36	Good	27	56.99	120.08
36	Fair	14	27.58	57.80
42	Good	26	54.88	84.58
42	Fair	15	29.55	45.72
Italian Stone Pine (38 in)	Good	1	2.11	4.41
	Total	**122**	**251.73**	**505.89**

Notes: CO_2 Avoided and CO_2 Sequestered are evaluated over a 99- year period, the maximum amount of time able to be analyzed in iTree. iTree assumes an electricity emissions factor of 252.4 kg CO_2 equivalent/MWh.

Note that CO_2 avoided refers to the decrease in CO_2 emitted due to a reduction in building energy use provided by the trees. CO_2 sequestered refers to the amount of CO_2 stored in the biomass of the trees themselves. Over a 99- year period, the Aleppo pine trees to be removed as a part of the project will avoid the emission of approximately 252 MT CO_2 and will sequester approximately 506 MT CO_2, which are equivalent to annual rates of 2.54 MT CO_2 avoided and 5.11 MT CO_2 sequestered.

For numeric comparison and significance determination, the 30-year amortization period for one-time implementation emissions was conservatively applied as opposed to a 99-year period, as recommended by the SCAQMD. The project results in annual rates of 8.39 MT CO_2 avoided and 16.86 MT CO_2 sequestered when amortized over a 30- year period. Accounting for the amortized implementation emissions of 3.88 MT CO_2e per year, the project will result in the annual emission of approximately 29.13 MT CO_2e per year, less than the SCAQMD threshold of 3,000 MT CO_2e per year.

The majority of the mature Aleppo pine trees will be replaced by trees as listed in the City's Street Tree Master Plan belonging to one of the following species: Jacaranda, Chinese Pistache, Deodar Cedar and Canary Island Pine. An iTree modeling run was conducted for the four species of replacement trees in order to present per-tree average values for CO_2 avoided and sequestered. The results of the iTree modeling are shown below. Note that the replacement trees are conservatively assumed to have a DBH of 6 inches, which will increase as they mature. The modeling was conducted over a 30-year period, consistent with SCAQMD's recommended period for the amortization of implementation emissions.

Table 11. Replacement Trees iTree Simulation Results

Tree Species	Approximate DBH (inches)	Condition	CO2 Avoided (MT)	CO2 Sequestered (MT)
Jacaranda	6	Excellent	1.02	1.86
Chinese Pistache	6	Excellent	0.33	3.40
Deodar Cedar	6	Excellent	0.62	3.49
Canary Island Pine	6	Excellent	1.06	1.31
		Average	*0.75*	*2.52*

Notes: CO_2 Avoided and CO_2 Sequestered are evaluated over a 30- year period, the SCAQMD-recommended period for amortized construction GHG emissions. iTree assumes an electricity emissions factor of 252.4 kg CO_2 equivalent/MWh.

As shown in Table 11, the average replacement tree would avoid the emissions of 0.75 MT CO_2 and would sequester 2.52 MT CO_2 over a 30-year period. Replacement trees in the Street Tree Master Plan were specifically selected for long-term sustainability taking into account climate change, including drought tolerance.

POST REMOVAL EMISSIONS

The proposed project would not alter the City's operations. No additional staff would be necessary for operation of the project. Because the project would not result in substantial changes to routine operational activities, GHG emissions impacts associated with post removal emissions would be less than significant.

b) Would the project generate conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potential to Conflict with the City of Burbank GHG Reduction Plan Update

This project is unique, as it is non-operational in nature and therefore will not result in any operational vehicle trips or emissions. The City of Burbank GGRP Update utilizes efficiency thresholds, which require a per resident, per employee, or per service person metric; as the project will not result in an operational service population, it cannot use the GGRP for CEQA streamlining (City of Burbank 2023b). Instead, the environmental analysis will include a discussion of the overall consistency with each of the 11 strategies of the Climate Action Plan (CAP), as provided below.

Table 12. Consistency with The City of Burbank's Climate Action Plan

CAP Policy	Project Consistency
C-1.1 Lead by example by focusing on equity constraints associated with existing building electrification by leveraging BWP's operations and efficiency programs to develop an Affordable Housing Electrification Program to lead Burbank's electrification targets through retrofitting low-income and affordable housing units in Burbank to all electric, retrofitting 100 affordable housing units by 2030 and all 320 affordable housing units owned by Burbank Housing Corporation in the City by 2045.	*Not Applicable*. The project does not impede the City's ability to meet its electrification targets.
BE-1.1 Electrify 100% of new construction in the City by 2023. BE-1.2 Leverage BWPs marketing programs to convert 3,000 residential and 170 commercial natural gas-fueled HVAC and water heating units in existing private buildings to electric heat pumps by 2030, and 10,000 residential and 560 commercial units by 2045. BE-1.3 Continue to increase building energy efficiency through BWP's rebate and incentive programs to reduce annual customer energy use by a collective 63 GWh by 2030.	*Not Applicable*. The project does not impede the City's ability to meet its electrification targets.
EG-1.1 Goal to achieve 100% GHG-neutral electricity generation by 2040.	*Not Applicable*. The project does not impede the City's ability to meet its electrification targets.
T-1.1 Implement the Complete Our Streets Plan, increasing active transportation modeshare 2% by 2030 and 3% by 2045. T-1.2 Provide clean, abundant, affordable and accessible public transit, with a zero-emissions bus fleet by 2030.	*Not Applicable*. The project is non-operational and will not result in operational vehicle trips.
T-2.1 Continue Transportation Management Organization (TMO) Expansion, reaching 60% of employees by 2030 and 90% by 2045. T-2.2 Update the TMO program and ordinance to increase compliance with the City's 1.61 Average Vehicle Ridership (AVR) Goal to reduce employees commuting to Burbank via single occupancy vehicle. Require 30% of TMO businesses achieve the 1.61 AVR target by 2030, and 60% by 2045.	*Not Applicable*. The project is non-operational and will not result in operational vehicle trips.
T-3.1 Increase zero-emission vehicle adoption to 23% of all passenger vehicles by 2030 and 100% by 2045.	*Not Applicable*. The project is non-operational and will not result in operational vehicle trips.

CAP Policy	Project Consistency
T-4.1 Implement Parking Management as identified in the Burbank2035 General Plan Mobility Element and the City Council's Six Parking Management Principles.	*Not Applicable*. The project is non-operational and will not result in operational vehicle trips.
W-1.1 Reduce per capita water consumption from current levels of 132 GPCD (gallons per capita per day) to 124 GPCD by 2030 (a 6.1% reduction) and to 120.5 GPCD by 2045 (an 8.7% reduction).	*Not Applicable*. The project is non-operational and will not impact per capita water consumption.
SW-1.1 Meet SB 1383 organics and recycling requirements, reducing organic waste disposal 75% by 2025.	*Not Applicable*. The project is non-operational and will not impact organics and recycling requirements.
CS-1.1 Plant 2,000 net new trees by 2030 and 5,000 net new trees by 2045 to sequester carbon and create urban shade to reduce the urban heat island effect.	*Consistent.* The project will result in no net loss in trees. Although the project would result in a temporary decrease in shade that could result in an increase in the urban heat island effect, this will not be the case long-term. The new replacement trees plus the City's policy to plant 2,000 net new trees, will result in a net increase in trees, and ultimately will result in an increase in shade.
CG-1.1 Complete annual progress reporting and a triennial GGRP review and update. CG-1.2 Retrofit all City Streetlights and Outdoor Lighting to Light-Emitting Diode (LED) by 2030. CG-3.1 Electrify 25% of existing City facilities by 2030 and 100% of existing City facilities, where electrification is practical and feasible, by 2045, as well as all newly constructed City buildings. CG-4.1 Implement a flexible employee commute program, with a target of 25% of applicable City employee staff time utilize telecommuting by 2030.	*Not Applicable.* The project does not involve City facilities.

Source: City of Burbank 2023b.

Potential to Conflict with State Reduction Targets and CARB's Scoping Plan

The California State Legislature passed the Global Warming Solutions Act of 2006 (AB 32) to provide initial direction to limit California's GHG emissions to 1990 levels by 2020 and initiate the state's long-range climate objectives. Since the passage of AB 32, the State has adopted GHG emissions reduction targets for future years beyond the initial 2020 horizon year. For the project, the relevant GHG emissions reduction targets include those established by Senate Bill 32 (SB 32) and AB 1279, which require GHG emissions be reduced to 40% below 1990 levels by 2030, and 85% below 1990 levels by 2045, respectively. In addition, AB 1279 requires the state achieve net zero GHG emissions by no later than 2045 and achieve and maintain net negative GHG emissions thereafter.

As defined by AB 32, CARB is required to develop The Scoping Plan, which provides the framework for actions to achieve the State's GHG emission targets. The Scoping Plan is required to be updated every five years and requires CARB and other state agencies to adopt regulations and initiatives that will reduce GHG emissions statewide. The first Scoping Plan was adopted in 2008, and was updated in 2014, 2017, and most recently in 2022. While the Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations,[6] it is the official framework for the measures and regulations that will be implemented to reduce California's GHG emissions in alignment with the adopted targets. Therefore, a project would be found to not conflict with the statutes if it would meet the Scoping Plan policies and would not impede attainment of the goals therein.

CARB's 2017 Climate Change Scoping Plan update was the first to address the state's strategy for achieving the 2030 GHG reduction target set forth in SB 32 (CARB 2017), and the most recent CARB 2022 Scoping Plan for Achieving Carbon Neutrality update outlines the state's plan to reduce emissions and achieve carbon neutrality by 2045 in alignment with AB 1279 and assesses progress is making toward the 2030 SB 32 target (CARB 2022). As such, given that SB 32 and AB 1279 are the relevant GHG emission targets, the 2017 and 2022 Scoping Plan updates that outline the strategy to achieve those targets, are the most applicable to the project.

The 2017 Scoping Plan included measures to promote renewable energy and energy efficiency (including the mandates of SB 350), increase stringency of the Low Carbon Fuel Standard (LCFS), measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increase stringency of SB 375 targets. The 2022 Scoping Plan builds upon and accelerates programs currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high global warming potential (GWP); providing communities with sustainable options for walking, biking, and public transit; and displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines) (CARB 2022). Many of the measures and programs included in the Scoping Plan would result in the reduction of project-related GHG emissions with no action required at the project- level.

The 2045 carbon neutrality goal required CARB to expand proposed actions in the 2022 Scoping Plan to include those that capture and store carbon in addition to those that reduce only anthropogenic sources of GHG emissions. However, the 2022 Scoping Plan emphasizes that reliance on carbon sequestration in the state's natural and working lands will not be sufficient to address residual GHG emissions, and achieving carbon neutrality will require research, development, and deployment of additional methods to capture atmospheric GHG emissions (e.g., mechanical direct air capture). Given that the specific path to neutrality will require development of technologies and programs that are not currently known or available, the project's role in supporting the statewide goal would be speculative and cannot be wholly identified at this time.

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6 The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009).

Overall, the project would comply will all regulations adopted in furtherance of the Scoping Plan to the extent applicable and required by law. As mentioned above, several Scoping Plan measures would result in reductions of project-related GHG emissions with no action required at the project-level, including those related to energy efficiency, reduced fossil fuel use, and renewable energy production by the utility. As demonstrated above, the project would not conflict with CARB's 2017 or 2022 Scoping Plan updates and with the state's ability to achieve the 2030 and 2045 GHG reduction and carbon neutrality goals.

Potential to Conflict with the Southern California Association of Governments 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

The SCAG 2020–2045 RTP/SCS is a regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light trucks in the Southern California Region pursuant to SB 375 (SCAG 2020). In addition to demonstrating the region's ability to attain the GHG emission-reduction targets set forth by CARB, the 2020-2045 RTP/SCS outlines a series of actions and strategies for integrating the transportation network with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. Thus, successful implementation of the 2020-2045 RTP/SCS would result in more complete communities with various transportation and housing choices while reducing automobile use.

The following strategies are intended to be supportive of implementing the 2020-2045 RTP/SCS and reducing GHGs: focus growth near destinations and mobility options; promote diverse housing choices; leverage technology innovations; support implementation of sustainability policies; and promote a green region (SCAG 2020). The strategies within the SCAG would not apply to the project, as it is non-operational in nature and would not result in any trips or employees once tree removal and replacement is complete.

Based on the analysis above, the project would be consistent with the SCAG 2020-2045 RTP/SCS.

In summary, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and no mitigation is required. Therefore, the project's impact associated with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs would be less than significant.

4.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Discussion

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

The project would involve removing and replacing approximately 121 Aleppo Pine trees and one Italian Stone Pine in the City of Burbank that have been found to be at risk of falling. The removal or replacement of the trees would not involve routine transport, use, or disposal of hazardous materials. The project does not involve construction that would require transport, storage, use, and disposal of hazardous materials, including fueling and servicing construction equipment on site, and transporting fuels, lubricating fluids, and solvents. Therefore, no impact would occur.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

As discussed in Section 4.9(a), the project would not involve the use of hazardous materials. The project would involve removing and replacing hazardous trees around the City and would not involve the release of materials into the environment. No impact would occur.

c) 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?

The project includes trees located within one-quarter mile of existing schools, however, as discussed in Section 4.9(a) and 4.9(b) above, the project would not involve the use of hazardous materials. Potential health impacts related to implementation air emissions are analyzed in Section 4.3 of this MND. As such, implementation related air emissions would result in less than significant impacts. Therefore, impacts to schools within one-quarter mile of the project trees would be less than significant.

d) Would the project be located on a site that 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?

The California Department of Toxic Substances Control's EnviroStor database tracks cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known contamination. According to the database search, no sites or facilities listed in the database are located at the project tree locations (DTSC 2023). The SWRCB's GeoTracker database identifies leaking underground storage tanks, waste discharge sites, oil and gas sites, and other waste or cleanup sites. A review of GeoTracker did not identify any open sites or facilities at the project tree locations (SWRCB 2023). The City has many hazardous waste facilities and sites, and leaking underground storage tanks, waste discharge sites, oil and gas sites, and other waste or cleanup sites; however, the project is not located on these sites and implementation of the project would not create a significant hazard to the public or the environment. Therefore, no hazardous materials are expected to be present, and no impact would occur.

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

The Hollywood Burbank Airport is within the Los Angeles County Airport Land Use Plan (ALUP). The project contains trees located within the Airport Influence Area 65 CNEL Noise Contour of the Hollywood Burbank Airport. The project would involve the removal and replacement of trees around the City and would prevent safety hazards of falling trees. In addition, removal and replacement of the trees would result in minimal, temporary sources of noise. Impacts would be less than significant.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The project would prevent falling trees from creating emergency situations or damage. The project trees are in public right-of-way and could result in temporary partial road closures to remove and replace trees. However, prior to commencing work, if needed, all applicable encroachment and/or traffic control permits would be obtained by the applicant to ensure that adequate emergency access is maintained. The project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. No impact would occur.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The City contains Mountain Fire Zones, depicted in Exhibit S-1 Fire Zones of the Burbank2035 General Plan along the foothills of the Verdugo Mountains in the northeast part of the city and in the southwestern edge of the city adjacent to an undeveloped portion of the Hollywood Hills (City of Burbank 2013), also identified as Very High Fire Hazard Severity Zones (VHFHSZ) as recommended by CAL FIRE (CAL FIRE 2011). The majority of the trees being in the middle of the City where extreme wildfires are not a risk. Hazardous trees at risk of falling could increase fire risk if it were to fall on a powerline. The project would involve removal and replacement of trees that have been found to be at risk of falling and would prevent hazardous trees from exacerbating wildfire risks. Therefore, impacts would be less than significant.

4.10 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Discussion

a) ***Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?***

Removal of trees would require earthwork activities that could potentially result in erosion and sedimentation, which could subsequently degrade downstream receiving waters and violate water quality standards. However, as discussed in Section 4.7(b), BMPs such as covering of exposed soil stockpiles, sediment barriers, storm drain protection, and various other measures designed to minimize potential for soil erosion and loss of topsoil would be implemented during removal and replacement (CASQA 2003).In addition, the project, during and after tree removal activities, would be required to comply with Section 8-1-1003 of the BMC, Discharge to the Storm Drain System, which prohibits illicit connection and illicit discharges to the MS4 drainage system, and Section 8-1-1004 of the BMC, Runoff Management Requirements, which primarily consists of control measures necessary to mitigate and control storm water pollution.

Upon completion of the project, the project sites would be similar to existing conditions, and would not violate any water quality standards or water discharge requirements. Therefore, impacts related to violations of water quality standards and or waste discharge would be less than significant.

b) ***Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

The project would not involve groundwater extraction or recharge that would produce any effect on the local groundwater supply or groundwater table. No impact would occur.

c) ***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 through the addition of impervious surfaces, in a manner which would:***

i) ***Result in substantial erosion or siltation on- or off-site?***

ii) ***Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?***

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

and

iv) ***Impede or redirect flood flows?***

As described in Section 4.7(b) and above, BMPs implemented during tree removal would minimize potential for soil erosion. The project would involve minimal, temporary ground alteration to remove the trees. Upon replacement of trees, drainage patterns would be similar to existing conditions. The project sites are located in urban areas with large impervious areas and storm drains. Any surface runoff or flood flows would be directed into storm drains that would not be impacted by the project. Therefore, impacts would be less than significant.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The project sites are in urban areas of the City and are distanced from the ocean and other bodies of water. According to Exhibit S-6: FEMA Flood Zone Areas of the Burbank2035 General Plan, the City contains 500-year floodplains and 100-year floodplains mostly surrounding the hydraulic features in the City including Lockhead Channel and Burbank Western Channel. Flooding may occur when stream and channels overflow as a result of excessive precipitation. There are three reservoirs upstream from the City, however as stated in the Burbank2035 General Plan, these reservoirs are not large enough to result in considerable risk of inundation in Burbank (City of Burbank 2013). The project would be implemented prior to severe weather conditions to prevent the risk of falling trees. Therefore, the project would not risk release of pollutants due to inundation in a flood hazard, tsunami, or seiche zone. Impacts would be less than significant.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The City's Urban Water Management Plan (UWMP) serves as the long-term planning document that will help to ensure the City can provide its customers with reliable water supplies through 2045 (City of Burbank 2021). The project sites are located on urban areas of the City, largely covered with impervious surfaces. Implementation of the project would result in removal and replacement of trees; upon completion, the project would result in a similar amount of impervious surfaces when compared to existing conditions. The project would not result in the use of groundwater supplies that would result in conflicts with a sustainable groundwater management plan and impacts would be less than significant.

4.11 LAND USE AND PLANNING

	Potentially Significant Impact	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
XI. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	☐	☐	☒	☐
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Discussion

a) Would the project physically divide an established community?

The physical division of an established community typically refers to the construction of a linear feature (e.g., a major highway or railroad tracks) or removal of a means of access (e.g., a local road or bridge) that would impair mobility within an existing community. The project trees are in public ROW of residential neighborhoods. The surrounding land uses include residential, commercial, open space, and institutional uses. Implementation activities to remove trees would result in temporary closure of sidewalks and streets, however, removal of trees would not occur all at once and removal of an individual tree would not significantly impair mobility within communities. The project would be implemented to prevent falling trees from falling onto homes, businesses, or into streets, therefore impairing mobility of a community and street. Impacts would be less than significant.

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

The project tree locations are within Public ROW in the City. As described in the City of Burbank2035 General Plan, public rights-of-way areas are not parcels, but include the areas surrounding the parcels that underlie streets, freeways, and some public utilities. They are not assigned a land use designation and are typically not zoned (City of Burbank 2013).

Policy 1.6 of the Burbank2035 General Plan Air Quality & Climate Change Element requires measures to control air pollutant emissions at construction sites and during soil-disturbing or dust-generating activities. As described in Section 4.3, the project would not exceed the SCAQMD mass-emission thresholds and would not result in significant air pollutant emissions. Although the project would result in a temporary decrease in shade that could result in an increase in the urban heat island effect, this will not be the case long-term. As the project will result in a net increase in trees, it ultimately will result in an increase in shade, consistent with the Burbank2035General Plan Air Quality & Climate Change Element Policy 2.4. Policy 8.2 of the Burbank2035General Plan Open Space & Conservation Element requires the improvement of ecological and biological conditions when making public improvements. The Project will also not reduce shade as compared to the status quo, as the existing trees have reached the end of their natural lives. In addition, Policy 4.3 of the Burbank2035General Plan Land Use Element seeks to use street trees to enhance the appearance and identify of neighborhoods. The project trees, Aleppo Pine, are no longer recommended as street trees in the City due to their structural maladies; therefore, replacement of these hazardous trees with new trees, consistent with the species listed in the City's Street Tree Master Plan, would be consistent with the City's identity and would improve the biological and ecological conditions within the City. As described in Section 4.2, the project would incorporate renewable energy strategies, consistent with Policy 10.1 of the Burbank2035General Plan Open Space & Conservation Element. As such, the project would not conflict with the Burbank2035 General Plan's goals or policies.

Title 7, Chapter 4, Trees and Vegetation, of the BMC contain standards and regulations for the planting, care, and removal of trees, shrubs, and plants in public streets. Section 7-4-107 of the

BMC states that the Department may remove trees, shrubs, and plants situated in the streets whenever the tree, shrub, or plant is actually or potentially defective, dangerous, or an obstruction to public travel, or is otherwise in violation of Section 7-4-110. Section 7-4-110 states that if any tree standing in any street, or standing on any private property and overhanging or projecting into the street appears to be dead, liable to fall, dangerous or an obstruction to public travel, the Department shall cause such tree, or such part thereof as appears to be dead, liable to fall, dangerous or an obstruction to travel, to be cut down and if in any street, to be removed therefrom (City of Burbank 2023a). As described in Section 3.0, 121 Aleppo Pine and one Italian Stone Pine trees have been identified a tree risk assessment indicated that the majority of the trees should be removed. The project would be consistent with the BMC by removing trees that are potentially hazardous. Additionally, the project would be consistent with the Street Tree Master Plan by selecting replacement trees from the Tree Species Index to ensure an appropriate tree species for each location (Appendix C). The proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. Impacts would be less than significant.

4.12 MINERAL RESOURCES

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

Discussion

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The City is located atop areas classified as MRZ-2, a mineral classification that indicates that mineral resources may be present, and MRZ-3, a mineral classification which indicates that the significance of mineral resources could not be evaluated from available data (City of Burbank 2013). The project tree locations are located within urbanized neighborhoods in both MRZ-2 and MRZ-3. Due to the urbanization of the City, mining of potential mineral resources would not be feasible. Past land use changes to accommodate planned urbanization now preclude mining activities in Burbank and Burbank is not considered to be a potential future source for mineral resources (City of Burbank 2013). Therefore, the project would have no impact on mineral resources.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

As described in 4.12(a), the project tress locations are not delineated as locally important mineral resource recovery sites. As such, the project would have no impact on the availability of a locally important mineral resource recovery site.

4.13 NOISE

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE – Would the project result in:				
a) 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?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Discussion

EXISTING CONDITIONS

Noise measurements were conducted near the project site on November 17, 2023, to characterize the existing noise levels (see Figure 3 of Appendix E). The sites were chosen as representative of the general areas surrounding the trees listed in the Arborist report. Table 13 provides the location, date, and time the noise measurements were taken. The noise measurements were taken using a Rion NL-52 sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute standard for a Type 1 (Precision) sound level meter. The accuracy of the sound level meter was verified using a field calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Table 13. Measured Noise Levels

Receptors	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	Adjacent to residence at 1613 North Niagara Street	11/17/23	2:16 p.m.– 2:31 p.m.	56.1	76.2
ST2	Adjacent to residence at 739 North Niagara Street	11/17/23	3:23 p.m.– 3:38 p.m.	51.6	70.2
ST3	Adjacent to residence at 226 North Niagara Street	11/17/23	3:46 p.m.– 4:01 p.m.	55.7	78.5
ST4	Adjacent to residence at 2114 North Pass Avenue	11/17/23	2:42 p.m.– 2:57 p.m.	62.4	85.5
ST5	Adjacent to residence at 1131 North Sparks Street	11/17/23	1:48 p.m. – 2:03 p.m.	51.2	69.4
ST6	Adjacent to residence at 514 South Keystone Street	11/17/23	4:10 p.m. – 4:25 p.m.	55	76.9

Source: Appendix E
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibels; L_{max} = maximum sound level during the measurement interval.

Six short-term noise measurement locations (ST1–ST6) were conducted adjacent to nearby noise-sensitive land uses (residences). The measured L_{eq} and maximum noise levels are provided in Table 13. The field noise measurement data sheets are provided in Attachment A of Appendix E. The primary noise sources consisted of traffic on the local roadways; secondary noise sources included distant landscaping noise, distant aircraft, distant conversations, and birds. As shown in Table 13, the measured sound levels ranged from approximately 51 to 62 dBA L_{eq}.

REGULATORY SETTING

Federal

There are no federal noise standards that would directly regulate environmental noise during construction and operation of the project.

State

In its Transportation and Construction Vibration Guidance Manual, Caltrans recommends a vibration velocity threshold of 0.2 inches per second peak particle velocity (ips PPV) (Caltrans 2020) for assessing annoying vibration impacts to occupants of residential structures. Although this Caltrans guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the local jurisdictional level. Similarly, thresholds to assess building damage risk due to construction vibration vary with the type of structure and its fragility but tend to range between 0.2 ips and 0.3 ips PPV for typical residential structures (Caltrans 2020).

Local

CITY OF BURBANK MUNICIPAL CODE

The City's allowable construction activity hours are found in Section 9-1-1-105.10 of the BMC, which indicates between 7:00 a.m. to 7:00 p.m. for Monday through Friday and between 8:00 a.m. to 5:00 p.m. on Saturdays—Sundays or City holidays are not allowed. The Community Development Director, Planning Commission, or City Council may grant exceptions pursuant to land use entitlements or wherever there are practical difficulties involved in carrying out the provisions of the above-mentioned chapter or other specific onsite activity that warrants unique consideration.

BURBANK2035 GENERAL PLAN

Chapter 5 (the Noise Element) of the Burbank2035 General Plan includes the following policies (under "Goal 7") with respect to reducing construction, maintenance, and nuisance noise in residential areas and at noise-sensitive land uses:

- Policy 7.1 Avoid scheduling city maintenance and construction projects during evening, nighttime, and early morning hours.
- Policy 7.2 Require project applicants and contractors to minimize noise in construction activities and maintenance operations.
- Policy7.3 Limit the allowable hours of construction activities and maintenance operations located adjacent to noise-sensitive land uses.
- Policy 7.4 Limit the allowable hours of operation for and deliveries to commercial, mixed - use, and industrial uses located adjacent to residential areas.

Furthermore, the Noise Element states the following with respect to construction noise:

"In the City of Burbank Municipal Code, construction noise that occurs between the hours of 7 a.m. and 7 p.m. Monday through Friday and 8 a.m. to 5 p.m. on Saturday is exempt from applicable noise standards. With this regulatory exemption, the City acknowledges that construction noise is an acceptable public nuisance when conducted during the least noise-sensitive hours of the day. The City also acknowledges that construction noise could cause a substantial temporary increase in the ambient noise environment at nearby noise-sensitive receptors if construction occurs during the more noise-sensitive hours (i.e., evening, nighttime, early morning), or if construction equipment is not properly equipped with noise control devices."

a) Would the 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?

Noise generated by the project would be limited to short-term, on-site noise from the proposed removal of identified Aleppo Pine trees; no long-term or operational noise would occur as a result of the proposed project[7]. This short-term noise would only occur during the hours allowed by the City (BMC Section 9-1-1-105.10). As explained in the Noise Element of the General Plan, such noise is exempt from any otherwise applicable noise standards. Therefore, the proposed project would not increase noise levels in excess of any applicable standards. Nevertheless, the analysis below is provided for informational purposes.

SHORT-TERM IMPACTS

Tree work inherently generates high intensity, short duration, temporary noise events. Based upon information from City of Burbank Landscape and Urban Forestry staff, the removal of each tree would require approximately one workday (i.e., 8 hours per tree). Work would take place during daytime hours only (from 7 AM to 5 PM) Monday through Friday. Project noise and vibration levels would vary from hour to hour and day to day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor. As part of the site preparation process, affected residents and other sensitive receptors will be notified regarding the purpose of the project and the expected schedule a minimum of 48 hours advance of the commencement of work.

Equipment types that would be in use during tree removals would include a chain saw, wood chipper, crane, skip loader, flatbed truck, man lift, and a stump grinder. The noise levels of the tree removal equipment would be similar to that of typical construction equipment. The typical maximum noise levels for various pieces of construction and tree removal equipment at a distance of 50 feet are presented in Table 14. Note that the equipment noise levels presented in Table 14 are maximum noise levels. Typically, the equipment operates in alternating cycles of full power and low power, producing average noise levels less than the maximum noise level. The average sound level of tree removal and implementation activity also depends on the amount of time that the equipment operates and the intensity of activities during that time.

7 The long-term effect of the tree removal in terms of noise reduction would be negligible: “Trees and bushes are very poor noise barriers; they provide very little attenuation as a result of shielding”. (Harris 1991). A very dense and continuous expanse of foliage would be required to effect a measurable or noticeable reduction in ambient noise levels. Per the Caltrans Technical Noise Supplement: “It is uncommon for trees and vegetation to result in a noticeable reduction in noise. A vegetative strip must be very dense and wide for there to be any meaningful shielding effect.” (Caltrans 2013).

Table 14. Tree Removal and Implementation Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (dBA at 50 Feet)	Typical Equipment (dBA at 40 Feet)
Chain saw	84	86
Crane	81	83
Flatbed truck	74	76
Man lift	75	77
Skip loader	80[1]	82
Stump grinder	61.8[2]	63.7
Wood chipper	95.5[3]	97.4

Source: FTA 2018, except where noted. Published FTA noise levels at the reference distance of 50 feet are also shown here adjusted for a distance of 40 feet, using the attenuation rate for a point source of 6 dB per doubling of distance.
Notes: dBA = A-weighted decibels.
[1] Ref: CPUC 2015.
[2] Ref: Ventrac 2018.
[3] Ref: Vermeer 2023.

The maximum noise levels at 40 feet for the identified tree removal equipment would be approximately 97.4 dBA for the equipment typically used for construction projects, although the hourly noise levels can vary substantially. For this project in which the size of the site as well as the scope of the work is limited, the number and types of equipment would be relatively small, and the hours of operation are estimated to be relatively short, at approximately 8 hours per tree removal site. Tree removal noise would attenuate at approximately 6 dB per doubling of distance. Most activities associated with the project would occur at distances of approximately 40 feet or more from the nearest residences.

A spreadsheet-based emulator of the Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate tree removal noise levels at the typical distance to the nearest residences. (Although the model was funded and promulgated by the Federal Highway Administration, the RCNM is often used for non-roadway projects, because the same types of equipment used for roadway projects are often used for other types of construction work). Input variables for the RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., one crane), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis.

Details as to the type and number of pieces of (shown in Table 15) were provided by City of Burbank Landscape and Urban Forestry staff.

Table 15. Tree Removal Scenario Assumptions

Implementation Phase	Anticipated Duration	Equipment		
		Equipment Type	Quantity	Daily Usage Hours
Tree Removal	8 hours per tree	Chain saw	1*	8
		Wood chipper	1	6
		Crane	1	8
		Skip loader	1	4
		Flat bed truck	1*	4
		Man lift	1	8
		Stump grinder	1	4

Source: City of Burbank Landscape and Urban Forestry Department. *up to two or three, but intermittent usage expected within a single day and thus treated as one.

Using the Federal Highway Administration's RCNM and the provided construction equipment information, the estimated noise levels from the removal activities were calculated, as presented in Table 16. The RCNM inputs and outputs are provided in in Appendix E.

Table 16. Tree Removal Activity Noise Model Results Summary

Land Use	Off-site Receptor Location	Distance from Implementation Activity to Noise Receptor (feet)	Estimated Implementation Noise Levels (dBA Leq 8-hr)
			Tree removal activities
Residential (Single Family)	Adjacent to the project site (nearest residences)	Typical Implementation Activity Receiver Distance (40' - 65')	87.6
Residential (Single Family)	Near the project site (within 1-2 houses away)	Typical Implementation Activity Receiver Distance (90' - 115')	81.7
Residential (Single Family)	In the vicinity of the project site (several houses away)	Typical Implementation Activity Receiver Distance (200' - 250')	75.0

Source: Appendix E
Notes: $L_{eq\ 8\text{-}hr}$ = 8-hour equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibel.

As shown in Table 16, short-term noise levels at the nearest noise-sensitive land uses (the residences adjacent to the tree removal site) are estimated to be approximately 88 dBA L_{eq} 8-hr during the typical 8-hour period of tree removal activities. For residences not immediately adjacent to the project site but at least 200 feet away, the noise from tree removal activities would be less at 75 dBA 8-hr L_{eq}. The tree removal activity noise would be above measured neighborhood ambient noise levels, which ranged from 51 to 62 dBA L_{eq}), as shown in Table 13. However, the short-term noise impact several houses away from the site would be similar to the maximum 20-dBA increases allowed for leaf blowers per BMC 9-3-208-A.

The tree removal activity would comply with Section 9-1-1-105.10 of the BMC, which prohibits construction activity that could create disturbing, excessive, or offensive noise between 7:00 p.m. and 7:00 a.m. Monday through Friday, between 5:00 p.m. and 8:00 a.m. on Saturdays, and at any time on Sundays or national holidays. The proposed project would not conduct noisy implementation activities between the specified hours or days. All noise-generating implementation would take place between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday and would not occur on Sundays and holidays. In addition, affected residents would be notified a minimum of 48 hours in advance of the commencement of work. Because of the nature of the project, the noise would only be present on a single day for each tree, meaning a maximum of 122 removals spread out over 5 years, without repeating noise at any single location.

For all of the forgoing reasons, noise from project implementation would not increase noise levels in excess of any applicable standards and would be less than significant. No mitigation is required.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Tree removal activities that might expose persons to excessive ground-borne vibration or ground-borne noise could cause a potentially significant impact. Groundborne vibration from construction activities is typically attenuated over short distances. The heavier pieces of construction equipment used for this project would include loaded trucks, a crane, and a large wood chipper.

Based on published vibration data, the anticipated heavy construction equipment would generate a vibration level of approximately 0.089 inches per second peak particle velocity (PPV) at a distance of 25 feet from the source; lighter construction equipment, such as a skip loader (i.e., small bulldozer), would generate a substantially lower vibration level of approximately 0.003 inches per second PPV at a distance of 25 feet from the source (FTA 2018). It is anticipated that heavy equipment would operate as close as approximately 40 feet from existing residences. At the distance from the nearby residences to where construction activity would be occurring on the project site, the peak particle velocity vibration level would be approximately 0.044 inches per second. As such, vibration levels would be less than the Caltrans threshold of 0.20 inches per second for human annoyance or the standard used by Caltrans for the prevention of structural damage to typical residential buildings of 0.3 ips PPV (Caltrans 2020). Because groundborne vibration from project construction would not exceed recognized standards, and due to the temporary occurrence of vibration levels, vibration impacts would be less than significant. No mitigation measures are required.

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

No private airstrips exist in the project vicinity. The nearest airport is Hollywood Burbank Airport, located generally to the north of the project site, within 2 miles. Based upon the airport's current noise contour map, the identified tree removal locations are outside the 65 dBA airport noise contours (Coffman Associates 2016; Burbank2035 General Plan Noise Element). As discussed previously, based upon the literature, no measurable or audible change in airport noise levels resulting from the removal of the trees is anticipated. Furthermore, the workers would be equipped with and wearing personal protective equipment (PPE) including hearing protection (i.e., ear plugs and/or muffs) as needed. Therefore, the proposed project would not expose or result in excessive noise for people residing or working in the project area, and no impact would occur. No mitigation measures are required.

4.14 POPULATION AND HOUSING

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

Discussion

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

The proposed project would involve the removal and replacement of hazardous trees around the City. The project would not involve the development of housing or businesses or the extension of infrastructure. Therefore, the proposed project would have no impact on population growth.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The proposed project would involve the removal and replacement of hazardous trees located near residential neighborhoods. However, the project would have no impact on the existing housing and would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. No impact would occur.

4.15 PUBLIC SERVICES

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

Discussion

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

Fire protection?

The project would not involve the construction of any new land uses that could increase permanent or temporary population in the area, and thus would not increase demand for fire protection or emergency response services for residential, commercial, or industrial areas. In addition, the removal of hazardous trees reduces the potential for destruction of private property and loss of life or serious injury, which resulting tree failures could draw emergency services from responding to other emergency situations. No impacts related to fire protection services would occur as a result of the project.

Police protection?

The project would not involve construction of any new land uses that could increase permanent or temporary population in the area. Therefore, the project would not result in a higher level of human activity that could increase demand for law enforcement or emergency response services. As such, the project would reduce the risk of emergency response services from falling trees. In addition, the removal of hazardous trees reduces the potential for destruction of private property and loss of life or serious injury, which resulting tree failures could draw emergency services from responding to other emergency situations. Therefore, no impacts related to police protection services would occur as a result of the project.

Schools?

The project would not involve creating new housing or a large number of employment opportunities. Therefore, implementation of the project would not generate new students or increase the demand on local school systems, and no impact to school services would occur.

Parks?

The project would not involve creating new recreational areas or parks. It also would not increase population in the area and thus would not increase demand for parks and recreation facilities. The City has a Joint Use Agreement with Burbank Unified School District to make schools available during non-institutional hours for community use, which increases park use for the community. The removal and replacement of trees would result in a minimal decrease in tree canopy throughout the City and would not increase the need for additional parks. Therefore, the project would have no impact on parks and recreation.

Other public facilities?

The project would involve the removal and replacement of hazardous trees in the City. The project would not involve construction of any new land uses or infrastructure, and would not result in increased population in the project region. Thus, implementation of the project would not create demands for use or maintenance of other public facilities. There would be no impact to other public facilities.

4.16 RECREATION

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

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

The project would target select trees around the City for removal and replacement due to hazardous conditions. The project tree locations are not located on existing neighborhood and regional parks or other recreational facilities. The project would not entail construction of any new land uses that could increase permanent or temporary population in the area, and thus would not increase use of any existing neighborhood parks, regional parks, or other recreational facilities. In addition, the decrease in tree canopy throughout the City would be minimal, and would not result in a substantial increase in the use of parks or recreational facilities. The City currently has a parkland to resident ratio above the required (City of Burbank 2013); as such, the existing parks could support an increase in use. Therefore, the project would not result in the substantial physical deterioration of a recreational facility. As such, there would be no impact to recreational facilities.

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

The project site does not contain recreational facilities, nor would the project require the construction or expansion of recreational facilities. No impacts would occur.

4.17 TRANSPORTATION

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION – Would the project:				
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

Discussion

a) Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The project has the potential to create temporary lane closures, sidewalk closures, and bicycle lane closures during the removal and replacement of trees. Project activities may increase congestion during peak travel times due to a decrease of vehicle lane capacity, however due to temporary nature of implementation activities, the project would not have the potential to conflict with goals and policies in the Burbank2035 General Plan Mobility Element (City of Burbank 2013) or Bicycle Master Plan (City of Burbank 2009). The contractor would obtain all applicable permits required for temporary encroachment to allow use of City-owned right-of-way (BMC Section 7-3-7) , street use to allow the complete or partial closure of sidewalks for short term purposes (BMC Sections 6-1-17 and 6-1-23), excavation/construction permit requiring excavation, trenching or any type of digging in the City right of way (BMC Section 7-1-206(b)) and/or transportation of oversized loads in the City (BMC Section 6-1-25). Advance notification of work would be provided to affected residents and businesses per excavation/construction permit requirements. Driveway and pedestrian access will be maintained at all times during construction activities. For any lane closures or work in the public right-of-way, Traffic Control Plan based on the California Manual of Traffic Control Devices and approved by City's Traffic Engineer will be implemented. Therefore, access for all road using vehicles, transit, bicycle and pedestrian facilities would be maintained at all times during implementation. Upon completion, no impacts to the circulation system would occur. Impacts would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

CEQA Guidelines Section 15064.3(b) focuses on vehicle miles traveled (VMT) for determining the significance of transportation impacts. It is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. CEQA Guidelines Section 15064.3(a) states that "generally, vehicle miles traveled is the most appropriate measure of transportation impacts," and defines VMT as "the amount and distance of automobile travel attributable to a project." "Automobile" refers to on-road passenger vehicles, specifically cars and light trucks. The OPR has clarified in its Technical Advisory (OPR 2018) that heavy-duty truck VMT is not required to be included in the estimation of a project's VMT. Per CEQA Guidelines Section 15064.3(a), "Other relevant considerations may include the effects of the project on transit and non-motorized traveled."

The project would require vehicle usage of construction vehicles to remove and replace trees; however, the amount and distance of automobile travel for project activities would be minimal and temporary as they would be within a specific project area within the city boundaries. Upon completion of the project, VMT in the City would not increase. Impacts would be less than significant.

c) 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)?

The project would not involve geometric design features or incompatible uses. Upon replacement of trees, the project locations would return to existing conditions. No impact would occur.

d) Would the project result in inadequate emergency access?

The project has the potential to create temporary lane closures, sidewalk closures, and bicycle lane closures during the removal and replacement of trees. Any potential lane and driveway closures would be coordinated with area residents and businesses to provide proper access for residents within the affected neighborhood as well as continued emergency access for first responders when necessary. Upon completion, no impacts to the emergency access would occur. Removal of hazardous trees would prevent falling trees from blocking emergency access during a storm event. Impacts would be less than significant.

4.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
XVIII. TRIBAL CULTURAL RESOURCES				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

Discussion

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

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

As discussed in Section 4.5, Cultural Resources, based on a review of the City of Burbank's Historic Preservation Plan, none of the project trees or locations are listed as potentially significant historic properties (City of Burbank 1999). Therefore, the Project would not cause any substantial adverse change in the significance of a tribal cultural resources that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

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

The City of Burbank contacted the following California Native American tribes via an email on January 29, 2024 and a letter on January 29, 2024, informing them of the project, including providing a description of the proposed project, project location, and the name of our project point of contact, should they wish to schedule a consultation. Upon receiving an updated Tribal Consultation List on February 14,2024, letters were promptly mailed to the updated contacts on the same day.

Fernandeno Tataviam Band of Mission Indians
Gabrieleno Band of Mission Indians - Kizh Nation
Gabrieleno Band of Mission Indians - Kizh Nation
Gabrieleno/Tongva San Gabriel Band of Mission Indians
Gabrielino /Tongva Nation
Gabrielino Tongva Indians of California Tribal Council
Gabrielino Tongva Indians of California Tribal Council
Gabrielino-Tongva Tribe
Gabrielino-Tongva Tribe
San Fernando Band of Mision Indians
San Gabriel Band of Mission Indians
Santa Rosa Band of Cahuilla Indians
Soboba Band of Luiseno Indians
Soboba Band of Luiseno Indians
Tongva Tribe

On February 23, 2024 the Gabrieleno Band of Mission Indians – Kizh Nation, responded to the City with a request for a consultation. However, after further consideration, on March 26, 2024 they indicated they no longer had any concerns due to the work being above ground.

4.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new or expanded water, waste water treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the waste water treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion

a) Would the project require or result in the relocation or construction of new or expanded water, waste water treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

The project would involve the removal and replacement of hazardous trees and would not generate a demand for water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. No impact would occur.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The project would involve the removal and replacement of hazardous trees and would not generate a demand for potable water. Section 7-4-104 of the BMC states that property owners/occupants of property abutting public area/ right-of-way shall be responsible for watering street trees located within the abutting public area and/or public right-of-way. Therefore, water required for the replacement trees would not substantially differ from the existing tree water requirements. As such, the project would not generate any new or increased demand for water or expanded entitlements. No impact would occur.

c) Would the project result in a determination by the waste water treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The project would not generate wastewater; therefore, it would not require or result in construction of a new or expansion of an existing wastewater treatment facility. No impact would occur.

d) Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

The project would involve the removal and replacement of hazardous trees. Trees that would be removed would be turned to mulch, some of which would be available to all residents at no cost. Therefore, the project would not result in solid waste. Therefore, no impact would occur.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

As discussed in Section 4.19(d) above, the project would not result in solid waste. The project would comply with federal, state, and local regulations related to solid waste and recycling. No impact would occur.

4.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) 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?	☐	☐	☐	☒
d) 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?	☐	☐	☒	☐

Discussion

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

According to CAL FIRE’s and the Burbank2035 General Plan, the project tree locations are not located in areas designated as Fire Hazard Severity Zones (FHSZ), except for two project trees (532 S. Niagara St and 1010 Elmwood Ave.), located towards the edges of the City at the foothills of the Verdugo Mountains and at the southern edge of the City. These trees are located within Mountain Fire Zones, depicted in Exhibit S-1 Fire Zones of the Burbank2035 General Plan, which are also areas designated as Very High Fire Hazard Severity Zones (VHFHSZ) in Local Responsibility Area (LRA) (City of Burbank 2013; CAL FIRE 2011). Implementation activities to remove trees would result in temporary closure of sidewalks and streets, however, removal of trees would not occur all at once and removal of an individual tree would not significantly impair an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

b) Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Only two project trees are located within Mountain Fire Zones and VHFHSZ (City of Burbank 2013; CAL FIRE 2011). Areas at risk for extreme wildfires include lands where dense vegetation with severe burning potential is present (AECOM 2012). The project is in urban neighborhoods of the City, with the majority of the trees being in the middle of the City where extreme wildfires are not a risk. The project would involve removal and replacement of trees that have been found to be at risk of falling and would prevent unhealthy trees from exacerbating wildfire risks. Furthermore, the project tree locations are relatively flat and would not influence prevailing winds or other factors that could exacerbate wildfire risk. Tree species slated for replacement would be listed in the City's Master Tree Plan and would not be prone to high wildfire risks. As such, the project would not exacerbate wildfire risks such that project users would be exposed to pollutants concentrations. Impacts would be less than significant.

c) 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?

The project would not require the installation or maintenance of infrastructure; the project would involve the removal and replacement of trees a specific project area within the City. The Project area is already served by sidewalk and roadway infrastructure that would not need to be significantly modified to facilitate removal and replacement of trees. Therefore, no impact would occur.

d) 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?

For reasons described previously in Sections 4.9(g) and 4.20(a), (b), and (c), the project would not pose a substantial risk for wildfire. The project would be located on relatively flat land. As such, implementation of the project would not expose people or structures to significant risks from post-fire slope instability or drainage changes. Impacts would be less than significant.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

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

Potential impacts related to sensitive and special-status habitat, wildlife species, and plant species are discussed in Section 4.4. As discussed in Section 4.4, impacts to biological resources would be less than significant with incorporation of **MM-BIO-1**. The proposed project would not substantially degrade the quality of the environment or impact fish or wildlife species or plant communities. Overall, impacts would be less than significant with incorporation of mitigation measures.

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

As indicated in the analysis presented throughout Section 4 of this MND, the proposed project would not result in significant and unavoidable impacts in any issue area. Mitigation measures would reduce impacts to below a level of significance. The City has approximately 28,000 parkway trees, for a total of approximately 33,000 trees citywide. As such, in the absence of significant Project-level impacts, the incremental contribution of the proposed project in removing and replacement of 122 trees would not be cumulatively considerable. Impacts would be less than significant.

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

The potential for adverse direct or indirect impacts to human beings was considered throughout Section 4 of this MND. Based on this evaluation, there is no substantial evidence that the project with the proposed mitigation measures incorporated would result in a substantial adverse effect on human beings. Impacts would be less than significant with incorporation of mitigation measures.

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5.0 REFERENCES

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act.

AECOM. 2012a. Burbank 2035 Environmental Impact Report. November 2012. https://www.burbankca.gov/documents/173607/0/Planning_2021_Burbank2035+DEIR.pdf/7b9f4666-6b6e-915e-a2fd-785535462c67?t=1638490370426

AECOM. 2012b. Burbank2035 General Plan EIR Appendix A Technical Background Report. July 2012. https://www.burbankca.gov/documents/173607/0/2021_planning_Burbank2035+EIR+Appendices+A-E.pdf/60f6ccba-bea4-7912-2d59-e6547a3fa071?t=1627598572876

CAL FIRE. 2011. Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE. September 2011. https://osfm.fire.ca.gov/media/5807/burbank.pdf

Caltrans (California Department of Transportation). 2013. Transportation and Construction Vibration Guidance Manual. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. September, 2013.

Caltrans. 2018. *California State Scenic Highway System Map*. 2018. Accessed November 2023. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa

Caltrans. 2020. Transportation and Construction Vibration Guidance Manual. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. April 2020.

CARB (California Air Resources Board). 2017. *The 2017 Climate Change Scoping Plan Update*. January 20. Accessed January 2019. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

CARB. 2019a. “Ozone & Health.” https://ww2.arb.ca.gov/resources/ozone-and-health.

CARB. 2019b. “Nitrogen Dioxide & Health.” https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health.

CARB. 2019c. “Carbon Monoxide & Health.” https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health.

CARB. 2022. *2022 Scoping Plan for Achieving Carbon Neutrality.* November 2022. Accessed January 2023. https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan- documents.

CASQA (California Stormwater Quality Association). 2003. California Stormwater BMP Handbook. January 2003.

CDFW. 2022. BIOS Habitat Connectivity Viewer. Version 5.96.99. (Commercial Subscription). Sacramento: CDFW, Biogeographic Data Branch. https://wildlife.ca.gov/Data/BIOS.

City of Burbank. 1999. Historic Preservation Plan. November 1999. https://www.burbankca.gov/documents/173607/0/HistoricPreservationPlan.pdf/874e1979-a0b6-abac-88d2-c8aeb036ae9d?t=1612304426623

City of Burbank. 2009. Bicycle Master Plan, Adopted December 15, 2009. Accessed at https://www.burbankca.gov/documents/173607/240347/20210204-Bicycle-Master-Plan-001.pdf/53be8720-2d59-19ad-bd4a-168ac74d7d22?t=1612567201263

City of Burbank. 2013. *Burbank 2035 General Plan*. Adopted February 19, 2013. https://www.burbankca.gov/documents/173607/0/Burbank2035+General+Plan.pdf/139656b0-80e9-3b11-dc6d-751642c85b38?t=1612301807431.

City of Burbank. 2021. 2020 Urban Water Management Plan. June 2021. https://www.burbankwaterandpower.com/images/administrative/downloads/BWP_2020UWMP_Final.pdf

City of Burbank. 2023a. Burbank Municipal Code. September 12, 2023. https://www.codepublishing.com/CA/Burbank

City of Burbank. 2023b. City of Burbank Greenhouse Gas Reduction Plan Update. https://www.burbankca.gov/documents/173607/0/GGRP+Update+Final_w.App.pdf/5c876fb6-fed4- 49e5-d7b6-dbcf058491a1?t=1666594217752

CPUC (California Public Utilities Commission). 2015. Proponent's Environmental Assessment April 2015 Mesa 500 kV Substation Project. April 2015.

DTSC (Department of Toxic Substances Control). 2023. EnviroStor Database. Accessed November 2023. https://www.envirostor.dtsc.ca.gov/public/.

EPA (U.S. Environmental Protection Agency). 2016. “Health and Environmental Effects of Particulate Matter (PM).” https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm.

FHWA (Federal Highway Administration). 2008. Roadway Construction Noise Model (RCNM), Software Version 1.1. Washington, DC: U.S. Department of Transportation, Research and Innovative Technology Administration, John A. Volpe National Transportation Systems Center, Environmental Measurement and Modeling Division.

FTA (U.S. Department of Transportation, Federal Transit Administration). 2018. Transit Noise and Vibration Impact Assessment Manual. September 2018.

Harris, Cyril M., ed. 1991. Handbook of Acoustical Measurements and Noise Control. Third Edition. McGraw-Hill, Inc.

NPS (National Park Service) 2022. Air Pollution Removal by Urban Forests. https://www.nps.gov/articles/000/uerla-trees-air-pollution.htm

OEHHA (Office of Environmental Health Hazard Assessment). 2015. Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February 2015. Accessed January 2019. http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

SCAG (Southern California Association of Governments). 2020. The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments, Connect SoCal. Adopted September 3, 2020.

SCAQMD (South Coast Air Quality Management District). 1993. CEQA Air Quality Handbook. Accessed January 2019. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993).

SCAQMD. 2003. Final 2003 AQMP Appendix V Modeling and Attainment Demonstrations. August 2003. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/ 2003-air-quality-management-plan/2003-aqmp-appendix-v.pdf?sfvrsn=2.

SCAQMD. 2022. 2022 Air Quality Management Plan. Adopted December 2, 2022. Accessed March 2023. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air- quality-management-plan/final-2022-aqmp/final-2022-aqmp.pdf?sfvrsn=16

SWRCB (State Water Resources Control Board). 2023. GeoTracker Database. Accessed November 2023. https://geotracker.waterboards.ca.gov/.

The Western Monarch Milkweed Mapper. 2024. Western Monarch Biology. Accessed April 2024. https://www.monarchmilkweedmapper.org/western-monarch-biology/.

USDA (United States Department of Agriculture) Forestry Service. 2023. iTree Planting Calculator. https://planting.itreetools.org/.

USFWS (U.S. Fish and Wildlife Service). 2023. National Wetlands Inventory. Accessed November 2023. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

Ventrac. 2018. LC150 Stump Grinder. Operator’s Manual & Parts Drawings, December 2018.

Vermeer. 2023. BC1800XL Wood Chipper. Accessed December 7, 2023. https://www.vermeeraustralia.com.au/bc1800xl-wood-chipper/

Wigness, Sam. 2023. *How Much is the Average Electric Bill in California?* https://www.solar.com/learn/how-much-is-the-average-electric-bill-in-california/#:~:text=In%20fact%2C%20our%20analysis%20of,kWh%20per%20month%20for%20apartments

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6.0 LIST OF PREPARERS

INITIAL STUDY PREPARATION

LEAD AGENCY

CITY OF BURBANK

Marisa Garcia, Parks and Recreation Director
Mike del Campo, Parks and Recreation Assistant Director

CEQA CONSULTANT

DUDEK

Carey Fernandes, Practice Director
Tuesday Christopher, Environmental Planner
Mark Storm, INCE Bd. Cert., Acoustic Services Manager
Michael Cady, Senior Biologist
Shane Russett, Air Quality Specialist
Sabita Tewani, Senior Transportation Planner
Olana Chow, GIS Analyst

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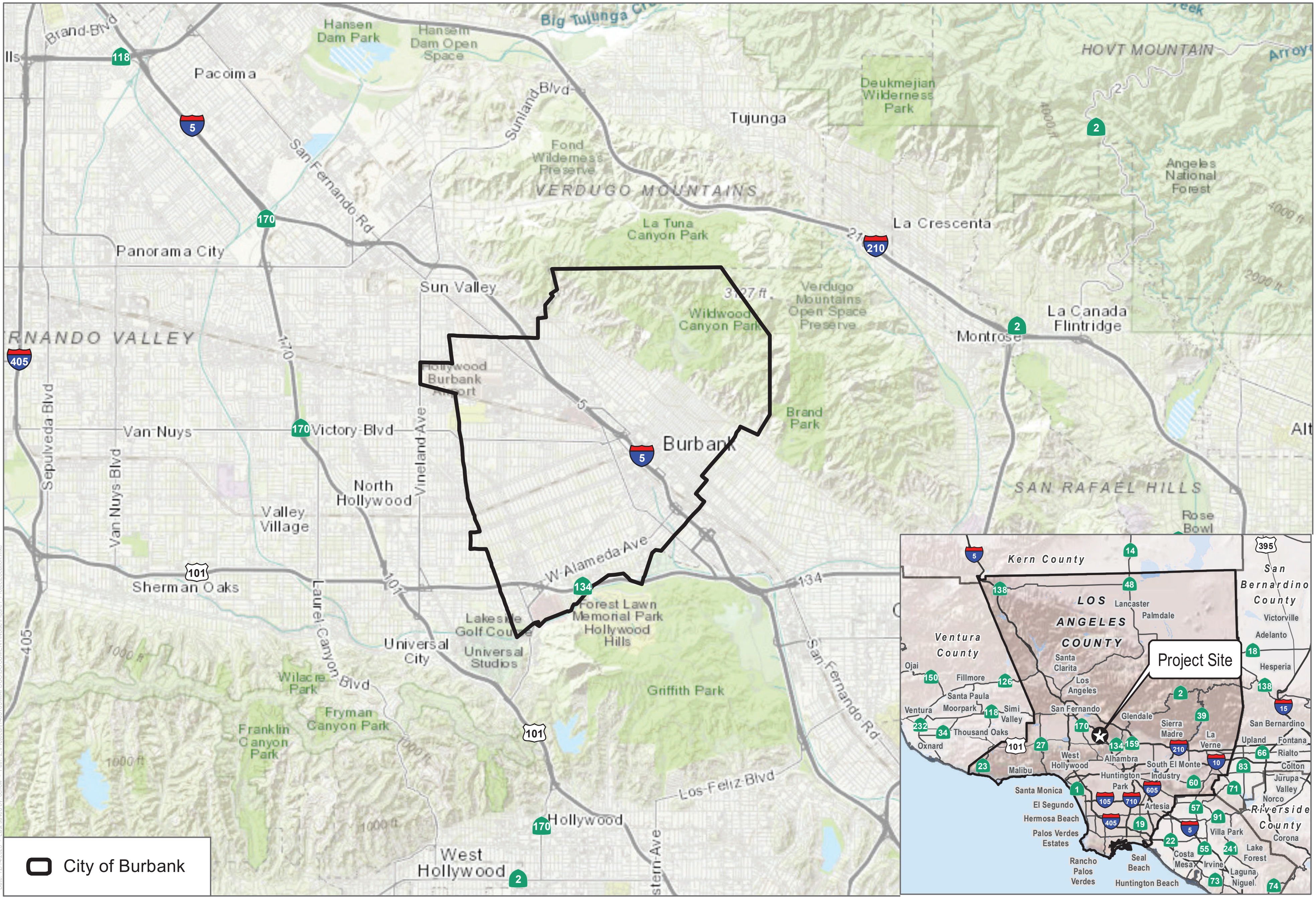

SOURCE: Bing Maps 2022

DUDEK

0 5,000 10,000 Feet

FIGURE 1

Project Location

Aleppo Pine Tree Removal Project

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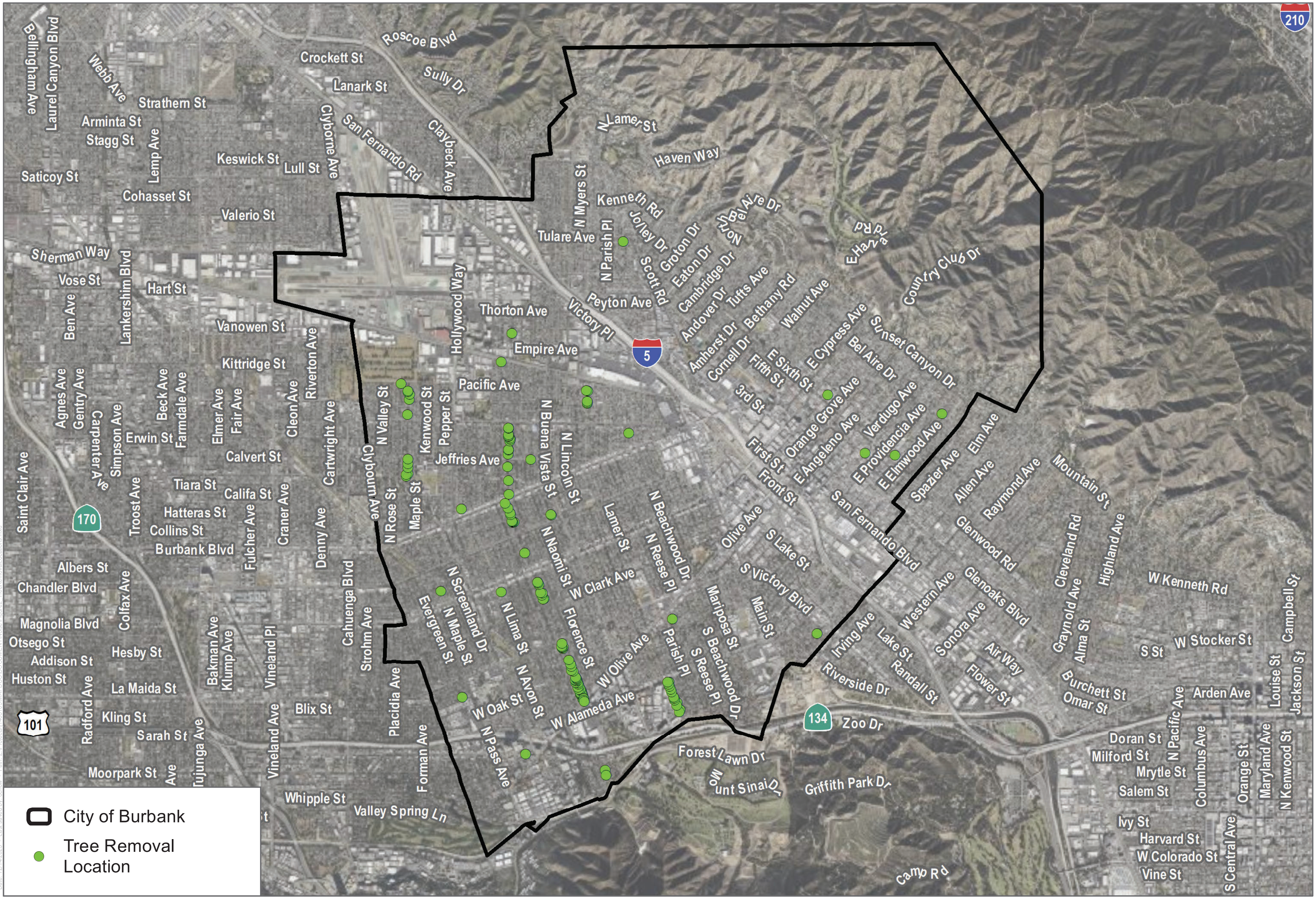

SOURCE: Bing Maps 2022

DUDEK

0 2,300 4,600 Feet

FIGURE 2

Tree Locations

Aleppo Pine Tree Removal Project

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Appendix A

Arborist Report

Customer Information:

City of Burbank
Attn: Mike del Campo
(818) 238-5343
mdelcampo@burbankca.gov
Aleppo Pine Tree Inspection
150 N. Third St., 3rd Floor
Burbank, CA 91502-1232

ARBORIST REPORT

☐ Residential ☒ Commercial ☐ HOA ☐ Other:
☐ New Client ☒ Existing Client ☐ New Job Site/Property

Date: 09/13/2023

Summary

Tree risk assessment for (122) Aleppo Pine trees (*Pinus halepensis*) located in the city of Burbank. There are concerns about failing trees or tree parts and has requested a tree risk assessment be conducted on all Aleppo Pine trees for general health and safety concerns (potential failures). There has been a history of tree failures in the past year with two (2) complete tree failures occurring during rainy weather conditions. There were no reported injuries but there was a significant amount of property damage. The trees in question were planted roughly 100+ years ago when the properties were first developed. These trees are located in a residential neighborhood with active pedestrian traffic and possible 24-hour occupancy in the homes and businesses located in the target zone. Trees are planted in park strips. The project's objectives and requirements are referred to as the "Scope of Work" and stated below.

Scope of Work

The goals of the assessment are to:
• Evaluate the current health, conditions, and defects of the trees listed.
• Identify and evaluate potential targets, tree parts, and likelihood of failure.
• Assess and categorize overall tree risk.
• Make recommendations/mitigation options for hazardous trees and any additional recommendations.

Management's acceptable risk (amount of risk manager is willing to accept) has been determined to be very low. Per the client's request, any hazardous trees that are deemed unsafe or expected to fail under normal or extreme weather conditions within the next five years will be recommended for removal or mitigation (i.e. trimming, treatment, etc.).

Level(s) of Assessment & Job Details

A limited visual assessment (level 1) will be conducted on all requested tree species to identify trees with imminent, probable, or possible likelihood of failures. Visual assessments will be done via drive-by (car) and walk-by (on foot) to look for obvious defects or other conditions of concern. Any trees that require a higher level of assessment (level 2- Basic Assessment) due to significant defects will be identified and conducted.

Tools to be used for level 1 & 2 assessments includes:

• Measuring tools
• Binoculars
• Magnifying glass
• Probe and soil probe
• Compass
• Camera

Limitations

I relied upon information of the site and subject tree(s) that you have provided to me and assumed all the information to be correct and true. If any of the information is found to be inaccurate, the conclusion of the final report may be invalidated. Observations and findings are valid up to the day the assessment(s) is performed and cannot predict natural phenomenon, unexpected events, or tree health issues (i.e. pest infestations, diseases, cultural practices, etc.) that may arise later resulting in tree failure or decline.

My observations will be based only on a visual inspection of the tree(s) at the time of inspection. Any issues buried within the trees or ground that are not visible will require specialists or a Level 3 assessment.

All trees are associated with some levels of risk. According to Dunster, Smiley, Matheny and Lilly (2017), "It is impossible to maintain trees free of risk; some level of risk must be accepted to experience the benefits that trees provide." Trees are living organisms and cannot predict with certainty when, where or how a tree will fail in the future. However, trees and the risks they carry can be manage at acceptable levels, but they cannot be entirely eliminated. The only way to do so is to remove all trees.

Arborists use their education, knowledge, skills, and experience to inspect trees, make recommendations to enhance their beauty and health, and reduce potential risks that are associated with living trees. Often times conditions are hidden within the trees or below ground that are not always visible. Trees and the environment they are situated in are dynamic and change throughout the year. Arborists cannot guarantee the health or safety of the tree(s) assessed under all circumstances, or within the specified time frame. Cultural practices, weather conditions (abiotic) or living organisms (biotic) can contribute to the decline or failure of tree(s) and tree parts. Mediation recommendations are based on the arborist's experience, professional judgement and opinion, and up to the clients to choose or disregard the provided information and/or recommendations. There is no guarantee, expressed or implied, that tree failure will not occur in the near future.

Recommendations

After inspecting and reviewing the list of addresses with Aleppo pine trees throughout the city, I am recommending the majority of the trees to be removed. In general, the trees inspected have a multitude of problems including poor structure, included bark, severe leans, canopy die back, and in some cases, borers compromising the structures, the average age of the trees, and limited root space. I have created a scoring table to organize the list of trees into four categories to correspond with the attached excel sheet of each tree's evaluation. Three (3) trees I recommend removing as soon as possible due to the imminent danger they propose to the potential targets in the residential area. These three (3) trees are marked as Urgent on the attached excel chart. Forty-seven (47) of the trees I have recommended as the next hazardous due to their overall health, structure, and potential targets if they were to fail. These trees have been scored with a number 3 on the attached excel chart. I recommend this group be removed before severe weather seasons. Fifty-four (54) of the trees I recommend as a third stage of potential removals due to their overall health, structure, and potential targets if they were to fail. These trees have been scored with a number 2 on the attached excel chart. Many of these trees need to have the canopy heavily reduced due to large over extended branches and large dead/dying limbs that need to be removed. I recommend this work be completed before severe weather seasons. Trees should be inspected and monitored bi-annually after canopy reduction is completed over the next 1-3 years. If canopy reduction is not an option, I recommend to be removed within the next physical year. The final eighteen (18) trees I am recommending to be monitored after any dead branches are removed. These trees have been scored with a number 1 on the attached excel chart. I recommend yearly inspections to monitor this set of trees for stressors and structural warnings. These eighteen (18) trees should be put on a planned list of removals in the next 3-5 years if their condition does not change.

Aleppo Pine Trees with a Score of "Urgent"

434 N. Niagara St.
400 S. Keystone St.
113 N. Niagara St.

Aleppo Pine Trees with a Score of "3"

2920 W. Verdugo Ave
716 Niagara St.
731 N. Niagara St
734 N. Niagara St
814 N. Niagara St
1130 N. Niagara St
1133 N. Niagara St -1
1133 N. Niagara St -2
1210 N. Niagara St
1226 N. Niagara St
1433 N. Niagara St
1600 N. Niagara St -2
1604 N. Niagara St
1613 N. Niagara St
1633 Niagara St -1
3003 W. Olive Ave. -1
209 Orchard Dr.
1706 Pass Ave.
1707 Pass Ave
1750 N. Pass Ave
2100 N. Pass Ave.
519 Santa Anita Ave.
500 S. Buena Vista -1
500 S. Buena Vista -2
500 S. Buena Vista -6
500 S. Buena Vista -7
129 N. Niagara St -2
200 N. Niagara St
204 N. Niagara St
210 N. Niagara St
211 N. Niagara St
218 N. Niagara St.
219 N. Niagara St
226 N. Niagara St. -2
236 N. Niagara St
237 N. Niagara St
241 N. Niagara St.
242 N. Niagara St
246 N. Niagara St -1
246 N. Niagara St -2
310 N. Niagara St
324 N. Niagara St
332 Niagara St
540 S. Keystone St.
2027 N. Fairview St.
1023 E. Santa Anita Ave.
700 S Sixth St

Aleppo Pine Trees with a Score of "2"

532 S. Niagara St.
346 N. Niagara
433 N. Niagara St.
435 N. Niagara St-1
435 N. Niagara St-2
439 N. Niagara
739 N. Niagara St.
806 Niagara St.
810 N. Niagara St
951 N. Niagara St
1135 N. Niagara St -1
1135 N. Niagara St -2
1208 N. Niagara St
1348 N. Niagara St
1513 N. Niagara St
4200 Woodland Ave
130 N. Screenland Dr.
514 S. Keystone St.
500 S. Buena Vista -5
500 S. Buena Vista -8
500 S. Buena Vista -9
500 S. Buena Vista -10
1012 N. Frederic St. -1
1012 N. Frederic St. -2
1536 N. Keystone St.
1539 N. Keystone St.
2017 Monterey Ave -1
2017 Monterey Ave -2
2017 Monterey Ave -3
124 N. Niagara St

1550 N. Niagara St -1
1550 N. Niagara St -2
1633 Niagara St -2
2239 N. Niagara St
3003 W. Olive Ave. -2
620 Palm Ave
1703 Pass Ave.
1740 N. Pass Ave
2011 N. Pass Ave
2114 N. Pass Ave.
2360 N. Reese Place
1400 N Naomi St
125 N. Niagara St
128 N. Niagara St.
129 N. Niagara St -1
201 N. Niagara St
208 N. Niagara St
226 N. Niagara St. -1
233 N. Niagara St.
926 N. Lima St
330 Lutge Ave.
2829 Burbank Blvd
118 N. Niagara St
315 N Niagara St

Aleppo Pine Trees with a Score of "1"

719 N Niagara St.
1245 N. Niagara St
1525 N. Niagara St -1
1525 N. Niagara St -2
1600 N. Niagara St -1
1609 N. Niagara St -1
1609 N. Niagara St -2
2921 W. Olive Ave -1
1726 N. Pass Ave
2125 N. Pass Ave. -1
2125 N. Pass Ave. -2
1131 N. Sparks St.
500 S. Buena Vista -3
500 S. Buena Vista -4
1036 N. Maple St.
1415 N. Avon St.
1010 Elmwood Ave
2144 Evergreen St.

If you have further questions, feel free to give me a call or email. Thank you.

Mandy Flaig
ISA Certified Arborist WE-12910A
ISA Qualified Tree Risk Assessor (TRAQ)
DPR Qualified Applicator License (QAL) #140441

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Disclaimer & Limitations

Appendix B

Addendum to the Level 2 Risk Assessment

City of Burbank

Addendum to the Level 2 Risk Assessment
47 Aleppo Pines and 1 Italian Stone Pine

SUBMITTED TO:

Michael Del Campo
City of Burbank
275 E. Olive Street
Burbank, CA 91502

PREPARED BY:

Jeff Crain
Plant Health Care Arborist
ISA Board Certified Master Arborist
WE-6658B
ISA Tree Risk Assessment Qualification

JANUARY 29, 2024

Contents

Summary

This addendum to the initial Risk Assessment for 47 Aleppo Pines and 1 Stone Pine is an update for a select group of the subject trees based on additional information regarding historical root pruning for sidewalk repair that was not available at the time of the original assessment.

The repair work included pruning of roots within twelve to twenty-four inches (12" – 24") of the base of the trees. Cutting structural roots this close to the base of a tree, especially those three inches (3") in diameter or greater, can significantly reduce the stability of tree and would have an impact on the likelihood of failure at the root plate. Unfortunately, the records do not indicate the size or number of roots that were removed; therefore, it is not possible to determine the extent to which the likelihood of failure might change with any certainty.

If roots with a diameter of three inches (3") or greater were cut during the sidewalk repairs, this could potentially change the Likelihood of Failure of some of the observed defects and the overall Risk Ratings that were presented in the original assessment report for four (4) of the trees included in this addendum: 246 N. Niagara Street – Front-1; 246 N. Niagara Street – Front-2; 734 N. Niagara Street – Front-1; and 814 N. Niagara Street – Front-1. All four (4) trees would change from a current Risk Rating of **Moderate** to **High** under these conditions. Because the location, size, and number of roots cut was not indicated on the historical work orders, these changes in Risk Rating are only hypothetical.

All the trees included in this addendum were **Recommended for Removal** in the original assessment report. Those recommendations are unchanged in this addendum, although the added information may be useful for prioritization and scheduling if the City of Burbank staff, as the controlling authority, decides to follow the recommendations for removal.

Introduction

Trees Included in this Addendum

Additional root pruning history for sidewalk and curb repairs was provided for the trees listed in Table 1. The date(s) when root pruning occurred are also provided in this table.

Address	Tree #	Root Pruning Date(s)
211 N. Niagara Street	Front-1	07/06/2004
246 N. Niagara Street	Front-1	09/08/2021
246 N. Niagara Street	Front-2	09/08/2021
734 N. Niagara Street	Front-1	10/10/2012, 04/12/2023
814 N. Niagara Street	Front-1	06/26/2013, 04/10/2018

Address	Tree #	Root Pruning Date(s)
1130 N. Niagara Street	Front-1	02/06/2008, 05/10/2016
1433 N. Niagara Street	Front-1	01/23/2013
1600 N. Niagara Street	Front-2	01/23/2013
1604 N. Niagara Street	Front-1	01/23/2013
1613 N. Niagara Street	Front-1	11/13/2006
1633 N. Niagara Street	Front-1	02/23/2006, 03/31/2009, 01/23/2013
209 S. Orchard Drive	Front-1	05/30/07
1707 N. Pass Avenue	Front-1	2014
519 E. Santa Anita Avenue	Front-1	01/28/2004
700 S. Sixth Street	Side-3	03/31/2009
2027 N. Fairview Street	Front-1	06/16/2015

Table 1: Trees Included in the Addendum

Limits of the Assignment

Only the trees shown in Table 1 were included in this addendum. All other trees in the original assessment are excluded. The recommendations in this report are based on the site information provided. Discrepancies in the provided information from actual conditions may alter the findings of the assessment.

The recommendations presented are intended to provide the City with tree management options. The City, as the controlling authority, will make the final decisions as to which trees shall be retained and which recommended mitigation measures, if any, will be implemented.

The report is not intended to be legal advice and does not represent legal advice as such.

Purpose and Use of the Report

This addendum is intended to provide the City of Burbank, Department of Parks and Recreation, Landscape and Forestry Services with additional information regarding the risk and likelihood of failure for the trees and tree parts included in the original assessment based on historical records of root pruning activity provided by the City after the initial report was submitted. The original assessment was conducted by International Society of Arboriculture (ISA) Tree Risk Assessment Qualified Board Certified Master Arborist Jeff Crain (WE-6658B) in accordance with the American National Standards Institute (ANSI) A300 (Part 9) – 2017 Tree Risk Assessment standards and ISA Best Management Practices (BMP) Tree Risk Assessment 2017. The updated findings represent the professional opinions of the assessor, based on the new information provided by the City and these standards and BMP's, for use by the City in tree management decisions for the subject trees as the controlling authority.

Observations

The original assessment observations for each of the subject trees included in this addendum following the Level 2 Basic Tree Risk Assessment is provided in Tables 2 (Health), 3 (Site Conditions), and 5 (Risk Assessment). Table 4 lists the identified targets used in the risk assessment. The data in these tables was based on available information and site conditions at the time of the site visit. Photos of the trees included in this addendum at the time of the site visit are provided in Appendix A.

Species	Diameter at Breast Height (DBH, in.)	Height (ft.)	Crown Spread Diameter (ft.)	Vigor	Foliage			Pests
					Normal	Chlorotic	Necrotic	
211 N. Niagara Street – Front 1								
Pinus halepensis	35.5	40 – 45	35	Normal	85	10	5	No signs observed
246 N. Niagara Street – Front-1								
Pinus halepensis	30	50 – 55	45	Normal	95	0	5	No signs observed
246 N. Niagara Street – Front-2								
Pinus halepensis	41.5	55 – 60	60	Normal	95	0	5	No signs observed
734 N. Niagara Street – Front-1								
Pinus halepensis	45.5	40 – 45	60	Normal	90	0	10	No signs observed
814 N. Niagara Street – Front-1								
Pinus halepensis	31	40 – 45	40	Low	90	0	10	No signs observed
1130 N. Niagara Street – Front-1								
Pinus halepensis	35	60 – 65	70	Normal	95	0	5	No signs observed
1433 N. Niagara Street – Front-1								
Pinus halepensis	42	50 – 55	45	Low	90	0	10	No signs observed
1600 N. Niagara Street – Front-2								
Pinus halepensis	47.5	50 – 55	50	Normal	95	0	5	No signs observed
1604 N. Niagara Street – Front-1								
Pinus halepensis	35	50 – 55	40	Normal	95	0	5	No signs observed
1613 N. Niagara Street – Front-1								
Pinus halepensis	64	55 – 60	40	Normal	95	0	5	Rounded borer holes
1633 N. Niagara Street – Front-1								
Pinus halepensis	38	55 – 60	40	Normal	95	0	5	No signs observed
209 Orchard Drive – Front-1								
Pinus halepensis	24.5	40 – 45	55	Normal	90	0	10	No signs observed
1707 N. Pass Avenue – Front-1								
Pinus halepensis	36	60 – 65	50	Normal	95	0	5	No signs observed
519 E. Santa Anita Avenue – Front-1								
Pinus halepensis	42	60 – 65	50	Normal	90	0	10	No signs observed

Species	Diameter at Breast Height (DBH, in.)	Height (ft.)	Crown Spread Diameter (ft.)	Vigor	Foliage			Pests
					Normal	Chlorotic	Necrotic	
700 S. Sixth Street – Side-3								
Pinus halepensis	42	50 – 55	65	Normal	90	0	10	No signs observed
2027 N. Fairview Street – Front-1								
Pinus halepensis	34.5	45 – 50	40	Normal	95	0	5	No signs observed.

Table 2: Health Conditions for the subject trees.

Slope (%)	Aspect	Soil Conditions	Pavement Over Roots	Wind Exposure	Site Changes
211 N. Niagara Street – Front 1					
Flat	N/A	Limited Volume	50%	Partial	N/A
246 N. Niagara Street – Front-1					
Flat	N/A	Limited Volume	50%	Partial	Historic root cuts for past sidewalk and curb repairs.
246 N. Niagara Street – Front-2					
Flat	N/A	Limited Volume	50%	Partial	N/A
734 N. Niagara Street – Front-1					
Flat	N/A	Limited Volume	75%	Partial	N/A
814 N. Niagara Street – Front-1					
Flat	N/A	Limited Volume	75%	Partial	Historic root cuts for sidewalk repair.
1130 N. Niagara Street – Front-1					
Flat	N/A	Limited Volume	75%	Partial	N/A
1433 N. Niagara Street – Front-1					
Flat	N/A	Limited Volume	75%	Partial	Historic root cuts for sidewalk repair.
1600 N. Niagara Street – Front-2					
Flat	N/A	Limited Volume	50%	Partial	N/A
1604 N. Niagara Street – Front-1					
Flat	N/A	Limited Volume	50%	Partial	N/A
1613 N. Niagara Street – Front-1					
Flat	N/A	Limited Volume	50%	Partial	N/A
1633 N. Niagara Street – Front-1					
Flat	N/A	Limited Volume	75%	Partial	N/A
209 Orchard Drive – Front-1					
Flat	N/A	Limited Volume	50%	Partial	N/A
1707 N. Pass Avenue – Front-1					
Flat	N/A	Limited Volume	50%	Partial	N/A
519 E. Santa Anita Avenue – Front-1					
Flat	N/A	Limited Volume	75%	Partial	N/A
Slope (%)	**Aspect**	**Soil Conditions**	**Pavement Over Roots**	**Wind Exposure**	**Site Changes**
700 S. Sixth Street – Front-1					
Flat	N/A	Limited Volume	100%	Partial	N/A
2027 N. Fairview Street – Front-1					
Flat	N/A	Limited Volume	100%	Partial	N/A

Table 3: Site Factors for the subject trees

Target #	Target Description	Occupancy Rate
1	Homes at Specified Address and Adjacent	Constant
2	Street at Specified Address	Constant
3	Parked Vehicles in Street	Frequent
4	Parked Vehicles in Residence Driveway	Occasional
5	People on Sidewalk/Street	Occasional
6	People in Homes/Building	Occasional
7	Fence at Specified Address	Constant
8	Buildings a Specified Address and Adjacent	Constant
9	Overhead Utility Line	Constant

Table 4: Targets identified in the subject area.

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
211 N. Niagara Street – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Unbalanced crown with weight concentrated at the end of overextended branches.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Trunk	Two cavities (25% of circumference, 12" depth, 10% of circumference, 6" depth) and associated heart rot.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Limited soil volume with pavement over 50% of roots.	1	Improbable	Low	Unlikely	Significant	Low
		2		High	Unlikely	Significant	Low
		3		High	Unlikely	Significant	Low
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
246 N. Niagara Street – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Twisted scaffold branches with sharp turns in opposite directions and weight at ends.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
	Overextended branches with load concentrated at the ends.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
Trunk	Twisted trunk with several corrected leans and weight concentrated in upper canopy.	1	Possible	Medium	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Dead and decaying visible structural roots.	1	Possible	Medium	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Limited soil volume with pavement over 50% of roots.	1	Improbable	Medium	Unlikely	Significant	Low
		2		High	Unlikely	Significant	Low
		3		High	Unlikely	Significant	Low
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

<table>
<tr><th rowspan="2">Tree Part</th><th rowspan="2">Defect</th><th rowspan="2">Target # (From Table 3)</th><th colspan="3">Likelihood</th><th rowspan="2">Consequences of Failure</th><th rowspan="2">Risk Rating</th></tr>
<tr><th>Failure</th><th>Impact</th><th>Failure and Impact</th></tr>
<tr><td colspan="7">246 N. Niagara Street – Front-2 (Pinus halepensis)</td><td>Moderate</td></tr>
<tr><td rowspan="12">Crown / Branches</td><td rowspan="6">Load on main scaffold with weak connection concentrated at the top and end of branches.</td><td>1</td><td rowspan="6">Possible</td><td>Medium</td><td>Unlikely</td><td>Significant</td><td>Low</td></tr>
<tr><td>2</td><td>High</td><td>Somewhat Likely</td><td>Significant</td><td>Moderate</td></tr>
<tr><td>3</td><td>High</td><td>Somewhat Likely</td><td>Significant</td><td>Moderate</td></tr>
<tr><td>4</td><td>Low</td><td>Unlikely</td><td>Significant</td><td>Low</td></tr>
<tr><td>5</td><td>Low</td><td>Unlikely</td><td>Severe</td><td>Low</td></tr>
<tr><td>6</td><td>Low</td><td>Unlikely</td><td>Severe</td><td>Low</td></tr>
<tr><td rowspan="6">Overextended branches with load concentrated at the ends.</td><td>1</td><td rowspan="6">Possible</td><td>Low</td><td>Unlikely</td><td>Minor</td><td>Low</td></tr>
<tr><td>2</td><td>High</td><td>Somewhat Likely</td><td>Minor</td><td>Low</td></tr>
<tr><td>3</td><td>High</td><td>Somewhat Likely</td><td>Significant</td><td>Moderate</td></tr>
<tr><td>4</td><td>Low</td><td>Unlikely</td><td>Significant</td><td>Low</td></tr>
<tr><td>5</td><td>Low</td><td>Unlikely</td><td>Significant</td><td>Low</td></tr>
<tr><td>6</td><td>Low</td><td>Unlikely</td><td>Significant</td><td>Low</td></tr>
<tr><td rowspan="6">Trunk</td><td rowspan="6">Significant included bark at union with main scaffold.</td><td>1</td><td rowspan="6">Possible</td><td>Medium</td><td>Unlikely</td><td>Significant</td><td>Low</td></tr>
<tr><td>2</td><td>High</td><td>Somewhat Likely</td><td>Significant</td><td>Moderate</td></tr>
<tr><td>3</td><td>High</td><td>Somewhat Likely</td><td>Significant</td><td>Moderate</td></tr>
<tr><td>4</td><td>Low</td><td>Unlikely</td><td>Significant</td><td>Low</td></tr>
<tr><td>5</td><td>Low</td><td>Unlikely</td><td>Severe</td><td>Low</td></tr>
<tr><td>6</td><td>Low</td><td>Unlikely</td><td>Severe</td><td>Low</td></tr>
<tr><td rowspan="12">Roots / Root Collar</td><td rowspan="6">Decay in visible structural roots.</td><td>1</td><td rowspan="6">Possible</td><td>High</td><td>Somewhat Likely</td><td>Significant</td><td>Moderate</td></tr>
<tr><td>2</td><td>High</td><td>Somewhat Likely</td><td>Significant</td><td>Moderate</td></tr>
<tr><td>3</td><td>High</td><td>Somewhat Likely</td><td>Significant</td><td>Moderate</td></tr>
<tr><td>4</td><td>Low</td><td>Unlikely</td><td>Significant</td><td>Low</td></tr>
<tr><td>5</td><td>Low</td><td>Unlikely</td><td>Severe</td><td>Low</td></tr>
<tr><td>6</td><td>Low</td><td>Unlikely</td><td>Severe</td><td>Low</td></tr>
<tr><td rowspan="6">Limited soil volume with pavement over 50% of roots.</td><td>1</td><td rowspan="6">Possible</td><td>High</td><td>Somewhat Likely</td><td>Significant</td><td>Moderate</td></tr>
<tr><td>2</td><td>High</td><td>Somewhat Likely</td><td>Significant</td><td>Moderate</td></tr>
<tr><td>3</td><td>High</td><td>Somewhat Likely</td><td>Significant</td><td>Moderate</td></tr>
<tr><td>4</td><td>Low</td><td>Unlikely</td><td>Significant</td><td>Low</td></tr>
<tr><td>5</td><td>Low</td><td>Unlikely</td><td>Severe</td><td>Low</td></tr>
<tr><td>6</td><td>Low</td><td>Unlikely</td><td>Severe</td><td>Low</td></tr>
</table>

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
734 N. Niagara Street – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Overextended branches with load concentrated at the ends towards residence.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
	Twisted scaffold branches with sharp turns in opposite directions and weight at ends.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
	Previous failure of large scaffold branch not completely compartmentalized with signs of decay.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
Trunk	Uncorrected 15° lean with load concentrated at the top of the canopy in the direction of the lean.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Signs of decay in trunk.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Dead and decaying visible structural roots.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
734 N. Niagara Street – Front-1 (*Pinus halepensis*) [cont.]							
Roots / Root Collar	Dead and decaying visible structural roots.	4	Possible	Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Limited soil volume with pavement over 75% of roots.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
814 N. Niagara Street – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Twisted, codominant scaffold branches with sharp turns in opposite directions and weight at ends.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
Trunk	Uncorrected 20° lean with load concentrated at the top of the canopy and in the direction of the lean.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Decay in visible structural roots.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Visible circling roots.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Limited soil volume with pavement over 75% of roots.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
1130 N. Niagara Street – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Overextended branches with load concentrated at the ends.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
Trunk	Cavity (5% of circumference, 6" – 8" deep) and signs of decay from old pruning wound.	1	Improbable	Low	Unlikely	Significant	Low
		2		High	Unlikely	Significant	Low
		3		High	Unlikely	Significant	Low
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Visible circling roots.	1	Unlikely	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Limited soil volume with pavement over 75% of roots.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood: Failure	Likelihood: Impact	Likelihood: Failure and Impact	Consequences of Failure	Risk Rating
1433 N. Niagara Street – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Twisted, overextended branches with load concentrated at the ends.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
	Large dead branch on south side of tree.	1	Possible	Low	Unlikely	Minor	Low
		2		Low	Unlikely	Minor	Low
		3		Low	Unlikely	Minor	Low
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
Trunk	Twisted trunk with poor taper at base.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		Low	Unlikely	Significant	Low
		3		Low	Unlikely	Significant	Low
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Signs of decay.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		Low	Unlikely	Significant	Low
		3		Low	Unlikely	Significant	Low
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Decay in visible structural roots.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		Low	Unlikely	Significant	Low
		3		Low	Unlikely	Significant	Low
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Limited soil volume with pavement over 75% of roots.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		Low	Unlikely	Significant	Low
		3		Low	Unlikely	Significant	Low
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
1600 N Niagara Street – Front-2 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Overextended branches with load concentrated at the ends.	1	Possible	Medium	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
Trunk	10° uncorrected lean with load concentrated at the top of the canopy and in the direction of the lean.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Codominant Scaffold Branches with included bark in the union and weight concentrated at the top of the canopy and end of branches.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Decay in visible structural roots.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Limited soil volume with pavement over 50% of roots.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
1604 N. Niagara Street – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Twisted, overextended branches with load concentrated at the ends.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
Trunk	Partially corrected 17° lean with load concentrated at the top of the canopy and in the direction of the lean.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Limited soil volume with pavement over 50% of roots.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
1613 N. Niagara Street – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Overextended branches with load concentrated at the ends.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
Trunk	Dead/Missing bark with signs of decay into sapwood.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Codominant Scaffold Branches with included bark in the union and weight concentrated at the top of the canopy and end of branches.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Decay in visible structural roots.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Limited soil volume with pavement over 50% of roots.	1	Probable	High	Somewhat Likely	Significant	Moderate
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
1633 N. Niagara Street – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Twisted, overextended branches with load concentrated at the ends.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
Trunk	Partially corrected 19° lean with load concentrated at the top of the canopy and in the direction of the lean.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Decay in visible structural roots.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Limited soil volume with pavement over 75% of roots.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Medium	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood Failure	Likelihood Impact	Likelihood Failure and Impact	Consequences of Failure	Risk Rating
209 S. Orchard Drive – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Unbalanced canopy with majority of foliage in the direction of the trunk lean toward Orchard Drive.	2	Possible	High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
		7		Low	Unlikely	Significant	Low
	Twisted, overextended branches with weak attachments.	2	Possible	High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
		7		Low	Unlikely	Significant	Low
Trunk	24° uncorrected lean with load concentrated at the top of the canopy in the direction of the lean.	2	Possible	High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
		7		Low	Unlikely	Significant	Low
Roots / Root Collar	Previous root cuts for sidewalk repair 18" from trunk on tension side of lean.	2	Possible	High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
		7		Low	Unlikely	Significant	Low
	Limited soil volume with pavement over 50% of roots.	2	Possible	High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
		7		Low	Unlikely	Significant	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood: Failure	Likelihood: Impact	Likelihood: Failure and Impact	Consequences of Failure	Risk Rating
1707 N. Pass Avenue – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Overextended branches with load concentrated at the ends.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
Trunk	Codominant trunks with load concentrated at the top and ends of branches.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
	Incomplete compartmentalization of old pruning wound with signs of decay in the union of codominant secondary trunks.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Limited soil volume with pavement over 50% of roots.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
519 E. Santa Anita Avenue – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Overextended branches with load concentrated at ends and weak attachments.	1	Possible	Medium	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
Trunk	Codominant secondary trunks with included bark in the union.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
Roots / Root Collar	Limited soil volume with pavement over 75% of roots.	1	Possible	High	Somewhat Likely	Significant	Moderate
		2		High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
700 S. Sixth Street – Side-3 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Overextended branches with load concentrated at the end.	2	Possible	High	Somewhat Likely	Minor	Low
		3		High	Somewhat Likely	Significant	Moderate
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
		8		Medium	Unlikely	Minor	Low
Trunk	Lowest scaffold branch attached at 90° angle to main trunk, with a cavity below attachment.	2	Possible	High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
		8		Medium	Unlikely	Minor	Low
Roots / Root Collar	Pavement over 100% of roots. Tree has outgrown the well with structural roots growing over the pavement.	2	Possible	High	Somewhat Likely	Significant	Moderate
		3		High	Somewhat Likely	Significant	Moderate
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
		8		High	Somewhat Likely	Significant	Moderate

Tree Part	Defect	Target # (From Table 3)	Likelihood			Consequences of Failure	Risk Rating
			Failure	Impact	Failure and Impact		
2027 N. Fairview Street – Front-1 (*Pinus halepensis*)							**Moderate**
Crown / Branches	Overextended branches with load concentrated at the end.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
		9		High	Somewhat Likely	Minor	Low
	Twisted, codominant branches with weak connections.	1	Possible	Low	Unlikely	Minor	Low
		2		High	Somewhat Likely	Minor	Low
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Significant	Low
		6		Low	Unlikely	Significant	Low
		9		High	Somewhat Likely	Significant	Moderate
Trunk	Wound from previous branch removal/failure with damage from 5' above grade to base of trunk on the tension side of trunk lean. Signs of decay in underlying wood.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
		9		High	Somewhat Likely	Significant	Moderate
Roots / Root Collar	Decay in visible structural roots.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
		9		High	Somewhat Likely	Significant	Moderate
	Limited soil volume with pavement within 4' of trunk over 100% of roots.	1	Possible	Low	Unlikely	Significant	Low
		2		High	Somewhat Likely	Significant	Moderate
		4		Low	Unlikely	Significant	Low
		5		Low	Unlikely	Severe	Low
		6		Low	Unlikely	Severe	Low
		9		High	Somewhat Likely	Significant	Moderate

Table 5: Risk Assessment Results

Risk Assessment

Risk Assessment Methodology

Data collection for this assignment was used to derive a level of **risk** based on the matrices found in the ISA Best Management Practices (BMPs) for tree risk assessment (see Appendix C Tree Risk Matrix Table). The level of risk determined (low, moderate, high, or extreme) is to be used by risk managers to help in tree management decisions.

There are three components used to calculate the risk rating for a tree part: (1) likelihood of failure; (2) likelihood of impact; and (3) consequences of failure.

Likelihood of Failure is the chance that a tree or tree part will fail within the time frame of the risk assessment, based on the observed defects and site conditions. There are four rating categories for likelihood of failure. An **imminent** rating is given to a tree or tree part that is in the process of failing or will most likely fail in the near future under normal weather conditions. A rating of **probable** is assigned to a tree or tree part that may be expected to fail under normal weather conditions within the specified time frame of the risk assessment. The **possible** rating indicates a tree or tree part that is not likely to fail under normal weather conditions but may be expected to fail in extreme weather conditions with the specified timeframe. Finally, an **unlikely** rating for likelihood of failure indicates that a tree or tree part is not likely to fail during normal weather conditions and may not fail in extreme weather conditions within the timeframe of the assessment.

Likelihood of Impact is the chance of a tree failure impacting a target during the specified timeframe of the assessment. This component requires the identification of targets within the target zone. The target zone is generally considered as the area within the **drip line** of the tree for branch failures; the area within a circle with a radius of one time the tree height for large branches or trunk failure with no dead branches; and a circle with a radius of one and a half times the height of the tree for whole tree failure with dead branches. The occupancy rate for targets identified within each target zone must also be considered when determining the likelihood of impact. Occupancy rate is considered **constant** if the target is present at nearly all times (buildings, structures, etc.); **frequent** if the target zone is occupied for a large portion of the day (shopping areas, arterial roads); **occasional** if the target zone is occupied infrequently or irregularly (country roads); and **rare** if the target zone is not commonly used by people or mobile/movable targets (back country trails). Once the appropriate targets and occupancy rate have been identified, a likelihood of impact rating can be assigned as high, medium, low, or very low. A high likelihood of impact is given if the failed tree or tree part is likely to impact the target; medium if the failed tree or tree part could impact that target, but is not expected to do so; low if there is a slight chance that the failed tree or tree part will strike the target; and very low if the chance of the failed tree or tree part impacting a specific target is remote.

The final component to the risk rate is consequences of failure. With this component the value of **targets** is taken into consideration to categorize the consequences if the tree or tree part were to fail and impact the specific target. The ratings for consequences of failure are **negligible**, **minor**, **significant**, or **severe**. The people who use and frequent the target zone are generally the most important targets.

The **time frame** for the assessment in this report is one (1) year.

Each tree was assessed for defects in three parts: (1) Crown and Branches; (2) Trunk; (3) Roots and Root Collar. The three components and the resulting risk rating were calculated for each tree part and each target identified within the target zone for that part. An overall risk rating for each tree was assigned based on the highest rating for any part of that tree.

Limitation of Tree Risk Assessment

Any change in site use, damage to the tree from biotic or abiotic causes, and construction work within the dripline of the tree alters the conditions which this risk assessment was performed, and thus would require that a new assessment be performed.

According to the *Tree Risk Assessment Manual, Second Edition,* published by ISA, it is impossible to maintain trees free of risk.

“There is no way to guarantee that a tree will not fail. Tree benefits increase as the age and size of trees increase; however, some level of risk must be accepted to experience the benefits provided. The goal in assessing and managing trees is to strike a balance between the risk that a tree poses and the benefits that individuals and communities derive from trees.

“A considerable level of uncertainty is typically associated with tree risk assessment due to our limited ability to predict natural processes (rate of decay, response growth, etc.), weather events, traffic and occupancy rates, and potential consequences of failure.

“Condition affecting trees change constantly; none of us will ever be able to predict every tree failure. Conducting a tree risk assessment neither ensures not requires perfection. Risk assessment should, however, ensure that all reasonable efforts have been made to identify the likelihood of failure, the likelihood of impact, and the consequences of failure present at the time of assessment.

“Abnormally extreme storms such as tornadoes, hurricanes, and freezing rain are not predictable and, in most cases, are not considered for categorizing likelihood of failure.”

Conclusion

As stated in the original assessment, most of the subject trees have outgrown the available parkway space, limiting the area available for structural root growth necessary to support the weight of a large mature tree and access to sufficient water and nutrients. The trees have responded by extending roots under the adjacent hardscape and into the irrigated landscapes of the adjacent residences. As these extended roots grow and expand, they can lift and damage the hardscape above, creating uneven surfaces that present a hazard to the residents. Historical records, not available at the time of the initial assessment, indicate that the trees included in this addendum damaged the surrounding hardscape to an extent that repairs were required for the safety of the residents.

The repair work included pruning of the roots that had caused the damage so that the original grade could be restored. The bases of the subject trees were within twelve to twenty-four inches (12" – 24") of adjacent hardscape. Cutting structural roots this close to the base of a tree, especially those three inches (3") in diameter or greater, can significantly reduce the stability of tree and would have an impact on the likelihood of failure at the root plate. Unfortunately, the records do not indicate the size or number of roots that were removed; therefore, it is not possible to determine the extent to which the likelihood of failure might change with any certainty. The potential change in likelihood of failure and risk rating for each of the addendum trees if roots greater than three inches (3") in diameter is discussed below.

211 N. Niagara Street – Front-1 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

The root cuts for sidewalk repair for this tree were conducted in 2004, so it is likely that the tree has already responded with new root growth to address any issues with stability, or no significant cuts to structural roots were required for the repair.

246 N. Niagara Street – Front-1 (*Pinus halepensis*)

Possible change in the Likelihood of Failure of observed defects and overall Risk Rating if roots greater than three inches (3") in diameter were cut.

Depending on the number, location and size of the root cuts in 2021, the Likelihood of Failure for "Dead and decaying visible structural roots" could potentially change from Possible to Probable. This change would result in a change in the Risk Rating from **Moderate** to **High** for two (2) observed targets (Niagara Street and Vehicles parked on Niagara Street), resulting in a change in overall Risk Rating from **Moderate** to **High**.

246 N. Niagara Street – Front-2 (*Pinus halepensis*)

Possible change in the Likelihood of Failure of observed defects and overall Risk Rating if roots greater than three inches (3”) in diameter were cut.

Depending on the number, location and size of the root cuts in 2021, the Likelihood of Failure for “Dead and decaying visible structural roots” and “Limited soil volume with pavement over 50% of roots” could potentially change from Possible to Probable. This change would result in a change in the Risk Rating for both defects from **Moderate** to **High** for three (3) observed targets (Home at 246 N. Niagara Street and adjacent homes, Niagara Street, and Vehicles parked on Niagara Street), resulting in a change in overall Risk Rating from **Moderate** to **High**.

734 N. Niagara Street – Front-1 (*Pinus halepensis*)

Possible change in the Likelihood of Failure of observed defects and overall Risk Rating if roots greater than three inches (3”) in diameter were cut.

There are two separate records for sidewalk repair with associated root pruning for this tree, one in October of 2012 and another in April of 2023. It is likely that the tree was able to respond to any loss of stability from the root cuts in 2012 with new root growth, or that no significant cuts to structural roots were required for the repair. Depending on the number, location and size of the root cuts in 2023, the Likelihood of Failure for “Dead and decaying visible structural roots” and “Limited soil volume with pavement over 75% of roots” could potentially change from Possible to Probable. This change would result in a change in the Risk Rating for both defects from **Moderate** to **High** for two (2) observed targets (Niagara Street and Vehicles parked on Niagara Street), resulting in a change in overall Risk Rating from **Moderate** to **High**.

814 N. Niagara Street – Front-1 (*Pinus halepensis*)

Possible change in the Likelihood of Failure of observed defects and overall Risk Rating if roots greater than three inches (3”) in diameter were cut.

There are two separate records for sidewalk repair with associated root pruning for this tree, one in June of 2013 and another in April of 2018. It is likely that the tree was able to respond to any loss of stability from the root cuts in 2013 with new root growth, or that no significant cuts to structural roots were required for the repair. Depending on the number, location and size of the root cuts in 2018, the Likelihood of Failure for “Uncorrected 20° lean with load concentrated at the top of canopy and in the direction of the lean”, “Decay in visible structural roots”, and “Limited soil volume with pavement over 75% of roots” could potentially change from Possible to Probable. This change would result in a change in the Risk Rating for each of these defects from **Moderate** to **High** for two (2) observed targets (Niagara Street and Vehicles parked on Niagara Street), resulting in a change in overall Risk Rating from **Moderate** to **High**.

1130 N. Niagara Street – Front-1 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

There are two separate records for sidewalk repair with associated root pruning for this tree, one in February of 2008 and another in May of 2016. It is likely that the tree was able to respond to any loss of stability from the root cuts on both occasions with new root growth, and that no significant cuts to structural roots were required for the repairs.

1433 N. Niagara Street – Front-1 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

The root cuts for sidewalk repair for this tree were conducted in 2013, so it is likely that the tree has already responded with new root growth to address any issues with stability, or no significant cuts to structural roots were required for the repair.

1600 N. Niagara Street – Front-2 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

The root cuts for sidewalk repair for this tree were conducted in 2013, so it is likely that the tree has already responded with new root growth to address any issues with stability, or no significant cuts to structural roots were required for the repair.

1604 N. Niagara Street – Front-1 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

The root cuts for sidewalk repair for this tree were conducted in 2013, so it is likely that the tree has already responded with new root growth to address any issues with stability, or no significant cuts to structural roots were required for the repair.

1613 N. Niagara Street – Front-1 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

The root cuts for sidewalk repair for this tree were conducted in 2006, so it is likely that the tree has already responded with new root growth to address any issues with stability, or no significant cuts to structural roots were required for the repair.

1633 N. Niagara Street – Front-1 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

There are three separate records for sidewalk repair with associated root pruning for this tree, one in February of 2006, another in March of 2009, and a third in January of 2013. It is likely that the tree was able to respond to any loss of stability from the root cuts on each occasion with new root growth, or that no significant cuts to structural roots were required for the repairs.

209 S. Orchard Drive – Front-1 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

The root cuts for sidewalk repair for this tree were conducted in 2007, so it is likely that the tree has already responded with new root growth to address any issues with stability, or no significant cuts to structural roots were required for the repair.

1707 N. Pass Avenue – Front-1 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

The root cuts for sidewalk repair for this tree were conducted in 2014, so it is likely that the tree has already responded with new root growth to address any issues with stability, or no significant cuts to structural roots were required for the repair.

519 E. Santa Anita Avenue – Front-1 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

The root cuts for sidewalk repair for this tree were conducted in 2004, so it is likely that the tree has already responded with new root growth to address any issues with stability, or no significant cuts to structural roots were required for the repair.

700 S. Sixth Street – Side-3 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

The root cuts for sidewalk repair for this tree were conducted in 2009, so it is likely that the tree has already responded with new root growth to address any issues with stability, or no significant cuts to structural roots were required for the repair.

2027 N. Fairview Street – Front-1 (*Pinus halepensis*)

No Expected change to the Likelihood of Failure of any observed defect or the overall Risk Rating.

The root cuts for sidewalk repair for this tree were conducted in 2015, so it is likely that the tree has already responded with new root growth to address any issues with stability, or no significant cuts to structural roots were required for the repair.

Recommendation

All trees included in this addendum were **Recommended for Removal** in the original assessment report. The historical records of sidewalk repairs and associated root pruning do not change this recommendation, although this information may be useful in prioritizing removals, should the City decide to follow this recommendation. The history of sidewalk repairs also supports the initial conclusion that most of the forty-eight (48) trees included in the original assessment have outgrown the available growing space in the parkways and should be considered for replacement. Four (4) of the trees included in this addendum had records for two or three separate repair events, indicating root damage to surrounding hardscape is an ongoing issue for these mature pines. It is highly likely that additional repairs will be required as parkway space becomes more limited and roots extended under the hardscape expand. The Likelihood of Failure of the root plate and associated risk will likely increase each time roots must be cut for sidewalk repair. The City of Burbank will make all final management decisions as the controlling authority.

Glossary

Codominant – stems or branches of nearly the same size and diameter that originate from a union.

Consequences of failure – Personal injury, property damage, or disruption of activities due to the failure of a tree or tree part.

Drip line – Imaginary line defined by the branch spread of a single plant or group of plants.

DBH-Trunk Diameter at Breast Height, 4.5 feet above ground level.

Frequent-The target zone is occupied for a large portion of the day or week.

Girdling Roots – Root that encircles all or part of the trunk of a tree or other roots and constricts the vascular tissue and inhibits secondary growth and the movement of water and photosynthates.

Improbable – The tree or tree part is not likely to fail during normal weather conditions and may not fail in extreme weather conditions within the specified time frame.

Level 2 Basic Risk Assessment – A detailed visual inspection of a tree and surrounding site that may include the use of simple tools. It requires that a tree risk assessor inspect completely around the tree trunk looking at the visible aboveground roots, trunk, branches, and site.

Likelihood of Failure – The chance of a tree or tree part failure occurring within the specified time frame.

Likelihood of Impact – The chance of a tree failure impacting a target during the specified time frame.

Low (Risk)-Defined by its placement in the risk rating matrix; consequences are negligible, and likelihood of failure is unlikely, or consequences are minor, and likelihood is somewhat likely.

Low Tree Vigor-Overall tree health is poor to fair. There are dead twigs and branches, and growth is reduced compared to other trees of the same species in a stand. The tree may be affected by pests or disease.

Minor (Consequence)-Minor personal injury, low to moderate-value property damage, or small disruption of activities.

Moderate (Risk)-Defined by its placement in the risk rating matrix; consequences are minor, and likelihood of failure is very likely or likely, or likelihood of failure is somewhat likely, and consequences are significant or severe.

Negligible (Consequence)-No personal injury, low value property damage, or disruptions that can be replaced or repaired.

Normal Tree Vigor-Overall tree health is good. Expected growth and foliage color for the time of year is observed.

Pathogen – causal agent of disease. Usually refers to microorganisms.

Possible – Failure may be expected in extreme weather conditions but is unlikely during normal weather conditions within the specified time frame.

Probable – Failure may be expected under normal weather conditions within the specified time frame.

Rare-The target zone is not commonly used by people or other mobile/movable targets.

Risk-The combination of the likelihood of an event and the severity of the potential consequences.

Risk Rating-The level of risk combining the likelihood of a tree failing and impacting a specified target, and severity of the associated consequences.

Root Plate – The structural roots and associated soil that make up the support area for a tree.

Scaffold Branches – Permanent or structural branches that form the scaffold architecture or structure of a tree.

Secondary Branches – Branches that emerge from the scaffold or other branches in a tree.

Severe (Consequences)-Serious personal injury or death, high-value property damage, or major disruption of important activities.

Significant (Consequences)-Substantial personal injury, moderate to high-value property damage, or considerable disruption of activities.

Structural Roots – Large roots emanating from the root collar that provide anchoring and support for a tree.

Targets-People, property, or activities that could be injured, damaged, or disrupted by a tree failure.

Time frame – Time period for which an assessment is defined.

Tree Parts – Divisions of the overall tree examined individually as part of the risk assessment.

Uncorrected Lean – Tree with a trunk lean lacking upright growth in the upper canopy.

Bibliography

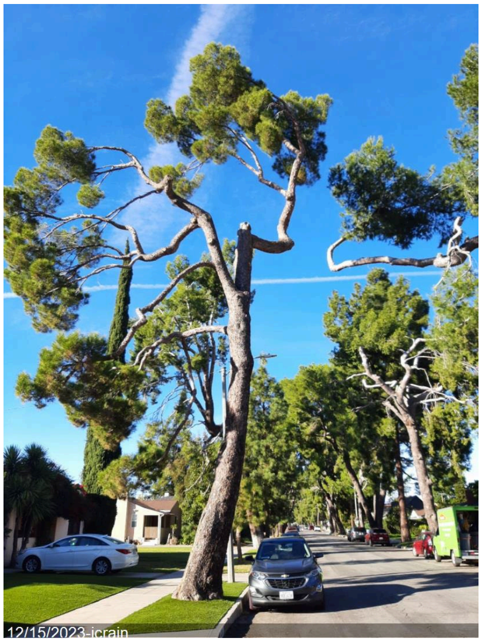
American National Standards Institute. 2017. *American National Standard*: *Tree, Shrub, and Other Woody Plant Management – Standard Practices* (*Pruning*) ANSI A300, (*Part 1*) – 2017 Pruning. Tree Care Industry Association, Londonberry, NH. 33 pp.

Dunster, Julian A., E. Thomas Smiley, Nelda Matheny, and Sharon J. Lilly. 2017. *Tree Risk Assessment Manual Second Edition.* International Society of Arboriculture, Champaign, IL.

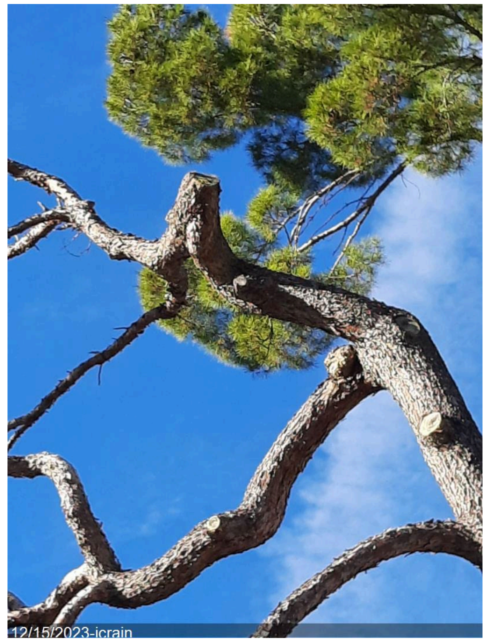
Lilly, Sharon J., Edward F. Gilman, & E. Thomas Smiley. 2019. *Best Management Practices*: *Pruning*. Third Edition. International Society of Arboriculture, Atlanta, GA.

Appendix A Images

211 N. Niagara Street – Front-1 (*Pinus halepensis*)



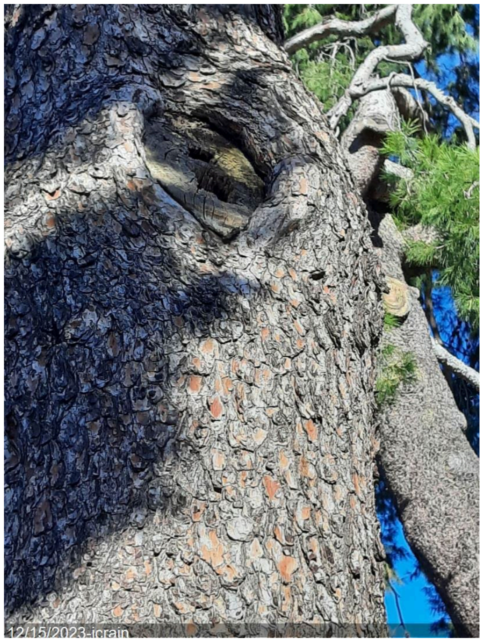
Overview



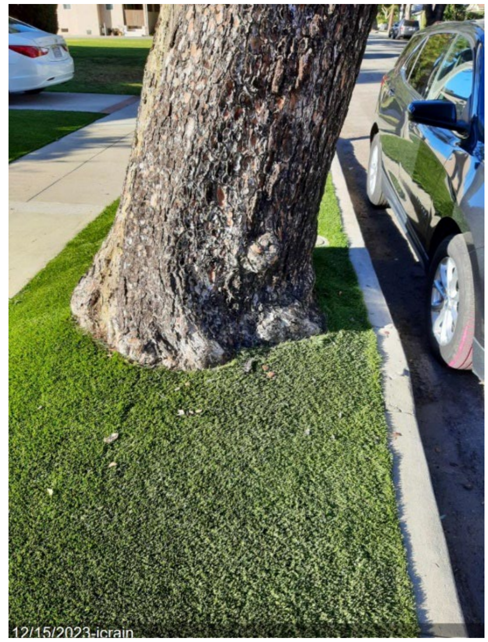
Twisted scaffold structure

Large cavity on trunk

Decay in the same cavity

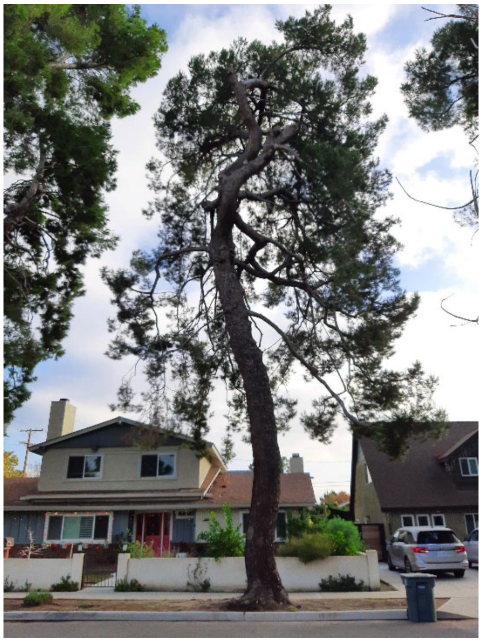


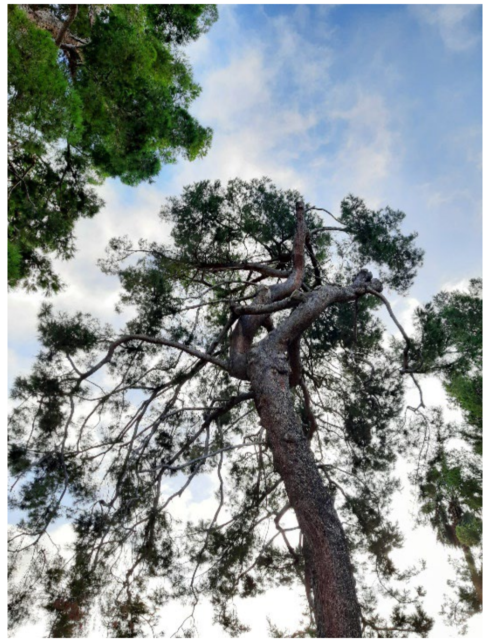
Second cavity with signs of decay

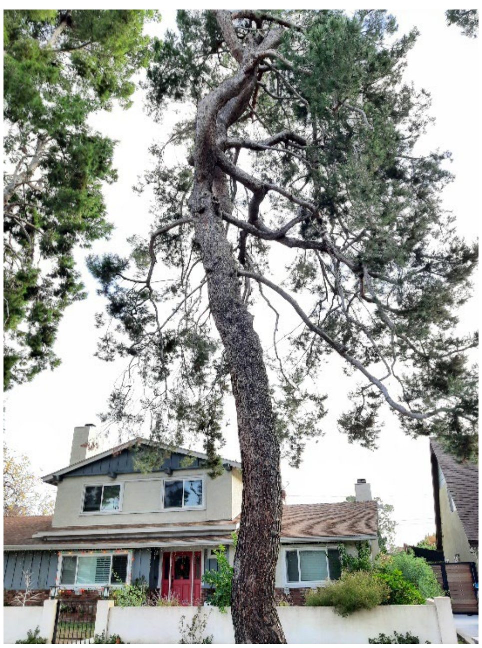


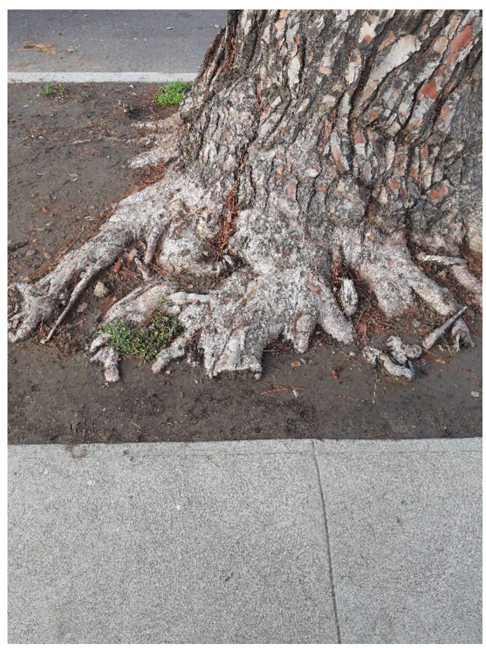
Limited soil volume.

246 N. Niagara Street – Front-1 (*Pinus halepensis*)


Overview

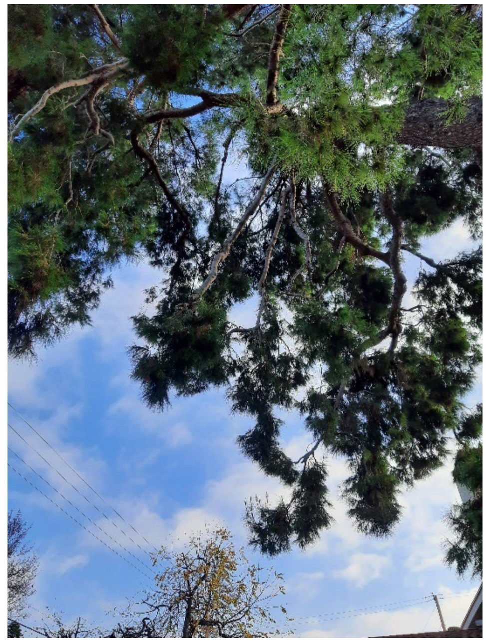

Twisted scaffold structure.


Twisted trunk with corrected leans.


Decay in roots.

246 N. Niagara Street – Front-2 (*Pinus halepensis*)


Overview

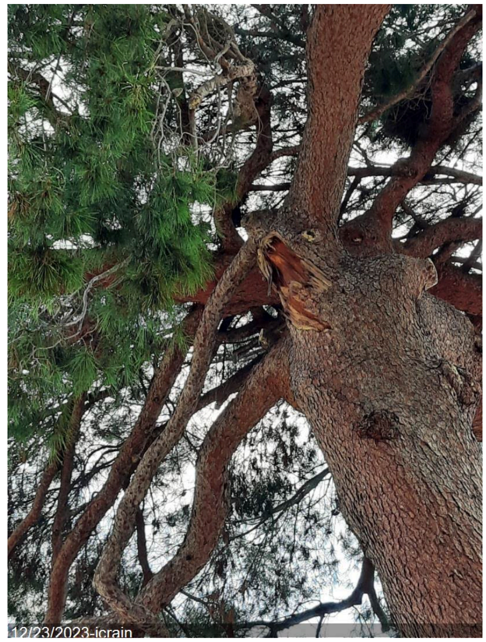

Overextended branches.


Included bark in scaffold attachment.

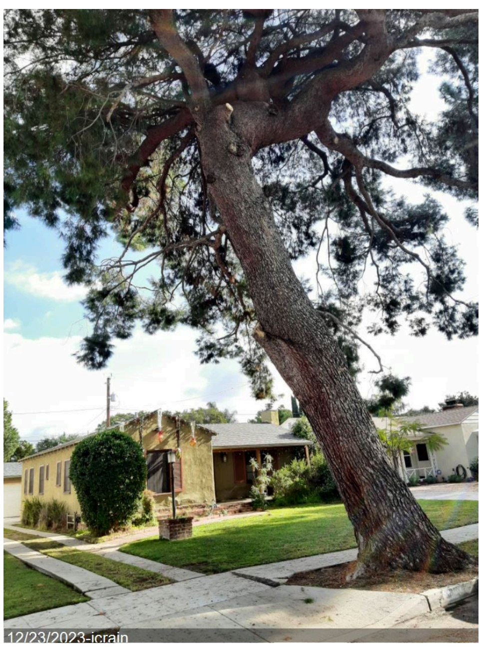

Decay in visible roots.

734 N. Niagara Street – Front-1 (*Pinus halepensis*)

Overview



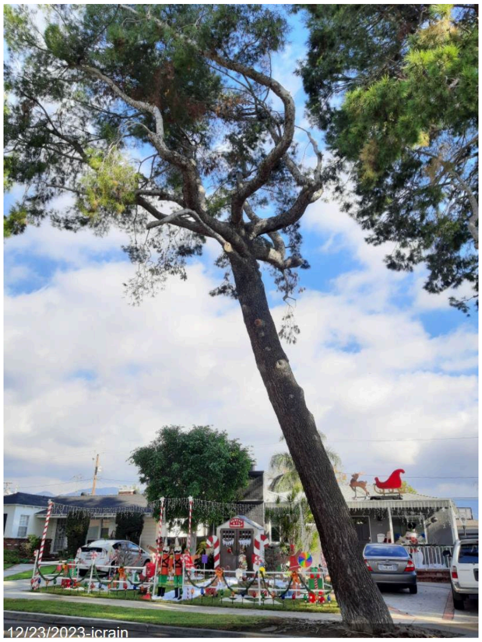
Signs of decay in previous branch failure.



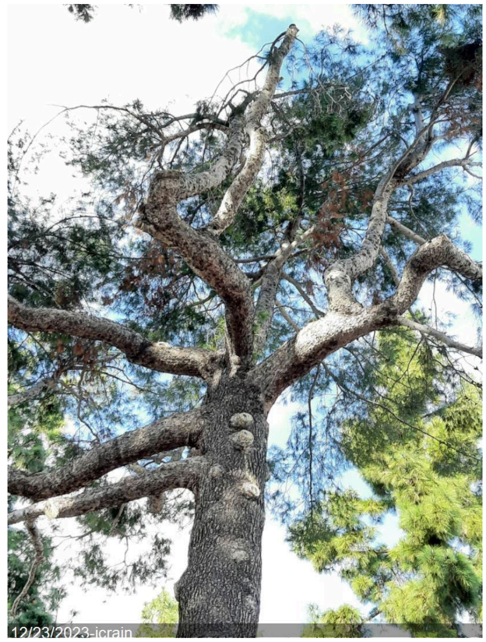
Uncorrected lean.

Signs of root decay.

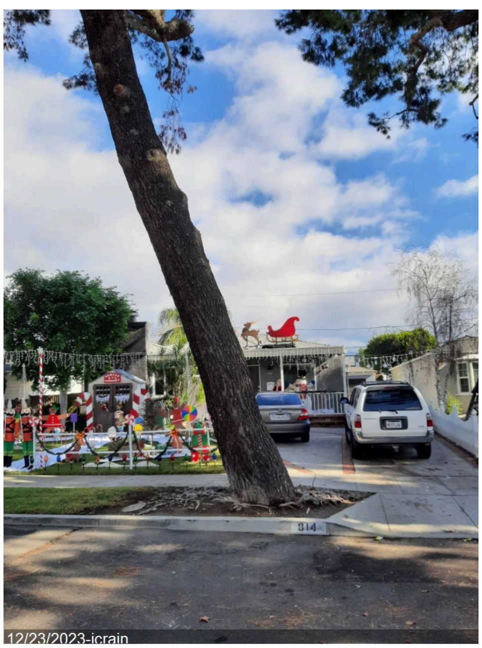
814 N. Niagara Street – Front-1 (*Pinus halepensis*)



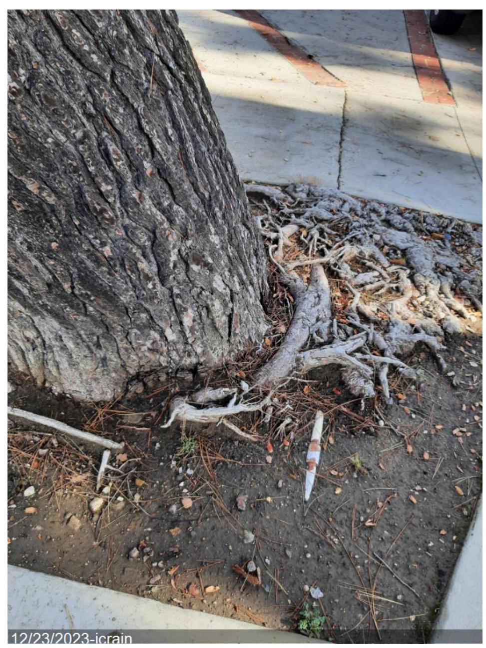
Overview



Twisted scaffold structure.



Uncorrected 20° lean.

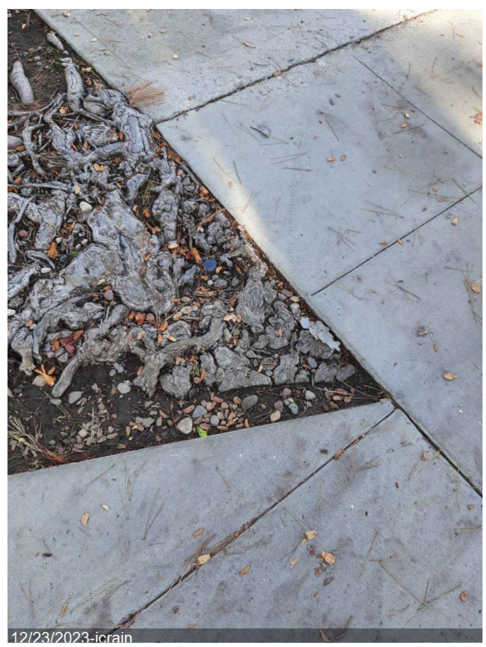


Visible circling roots.

Decay in visible roots.

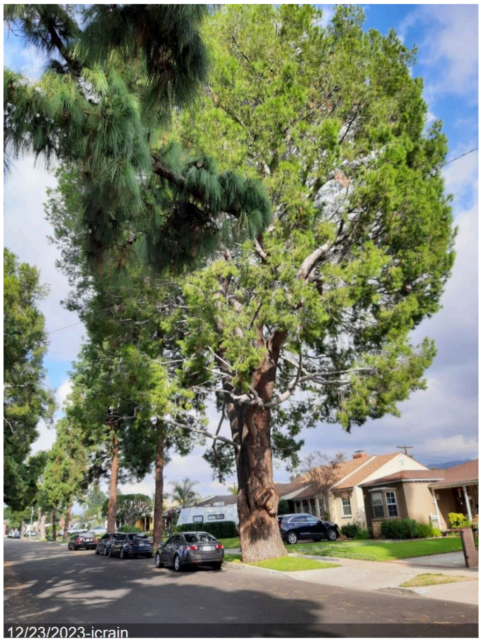
Limited soil volume.

Limited soil volume.

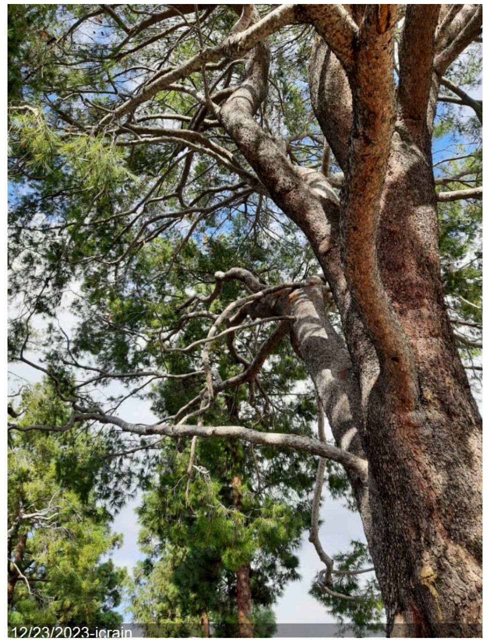


Limited soil volume.

1130 N. Niagara Street – Front-1 (*Pinus halepensis*)



Overview



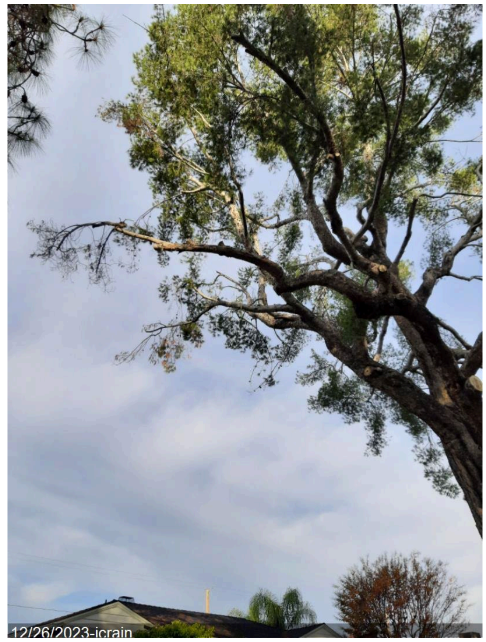
Overextended branches.

Visible circling roots.

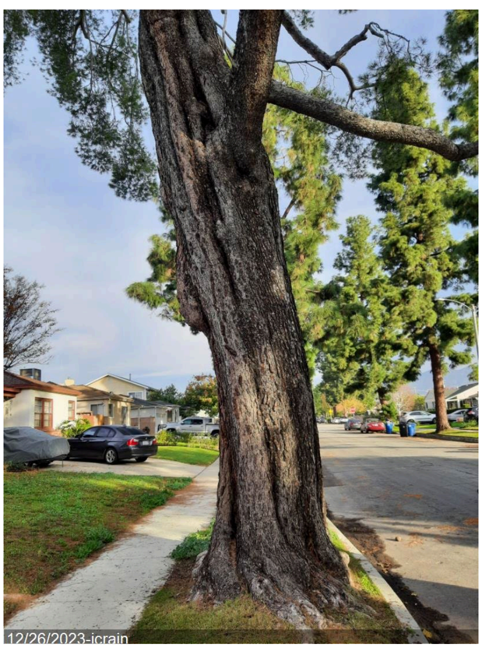
Limited soil volume.

1433 N. Niagara Street – Front-1 (*Pinus halepensis*)

Overview



Dead branch on south side.



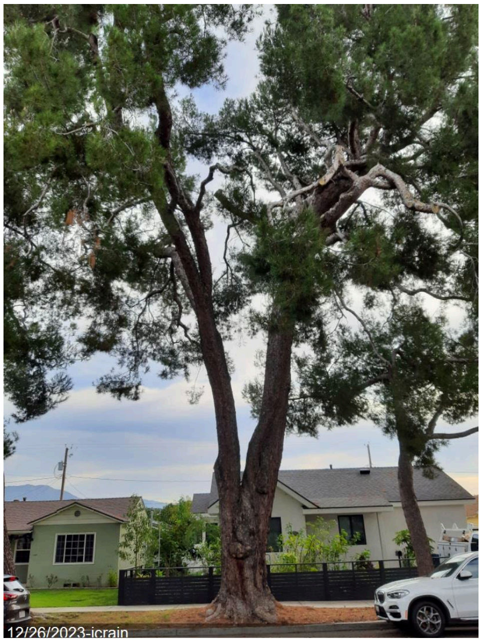
Twisted trunk with poor taper.

Signs of decay in trunk.

Decay in visible roots.

Decay in visible roots.

1600 N. Niagara Street – Front-2 (*Pinus halepensis*)



Overview

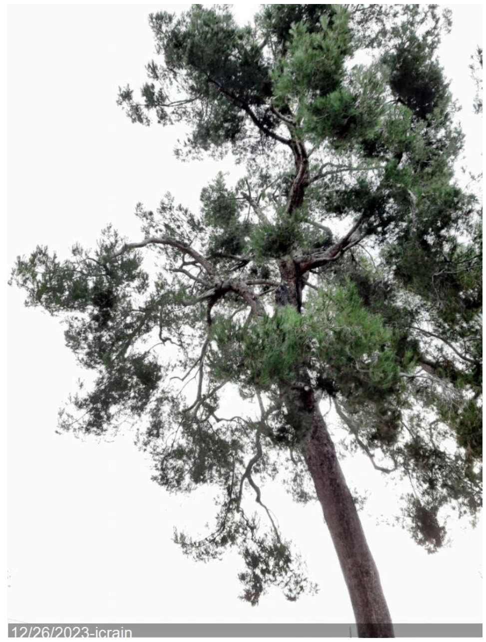
Uncorrected 10° lean.

Signs of decay in visible roots.

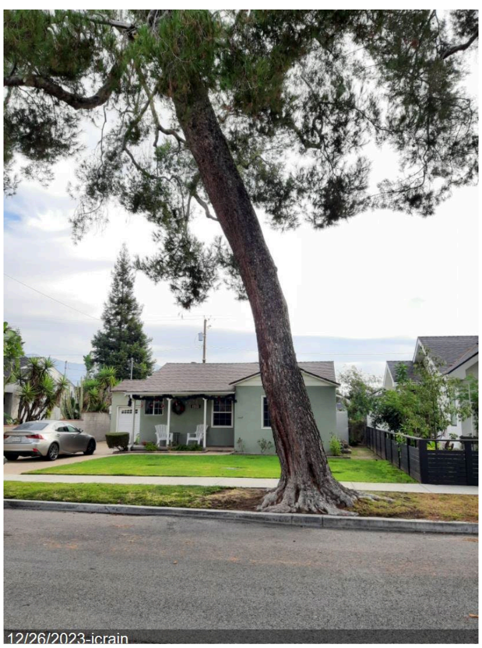
Limited soil volume.

1604 N. Niagara Street – Front-1

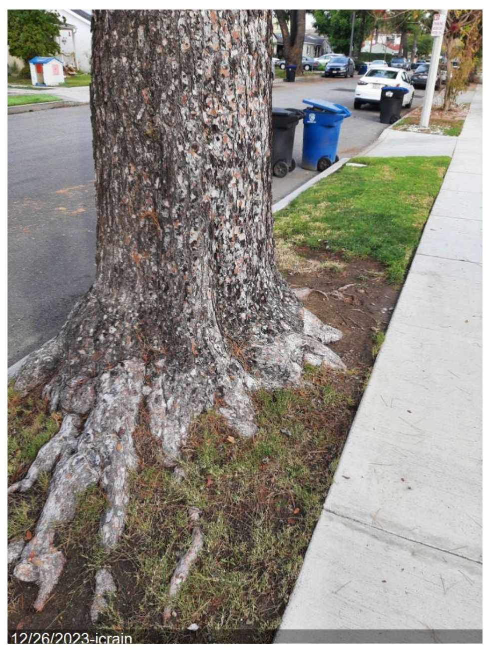
Overview



Twisted, overextended branches.



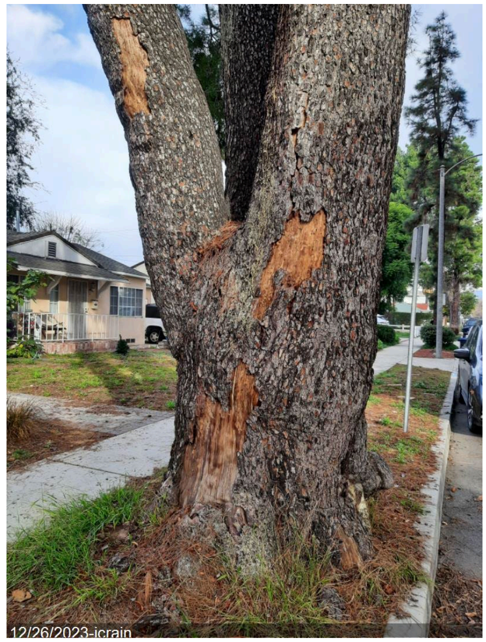
Overview



Limited soil volume.

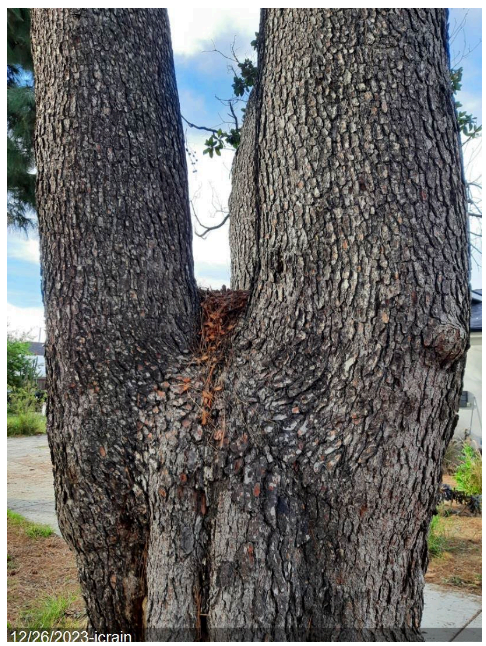
1613 N. Niagara Street – Front-1 (*Pinus halepensis*)

Overview

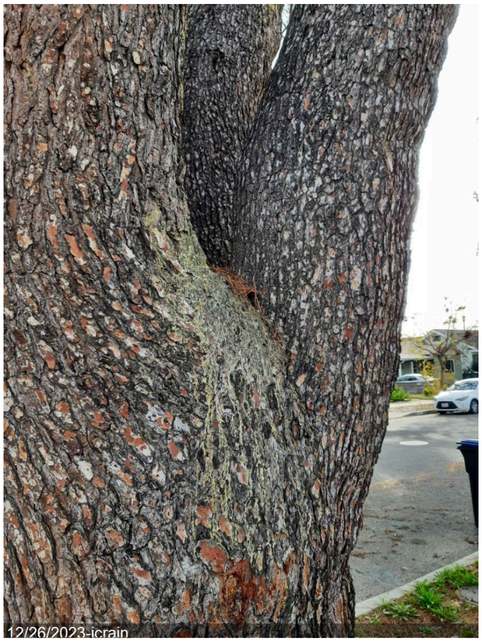


Dead/missing bark on trunk.

Signs of decay and borer activity on trunk.



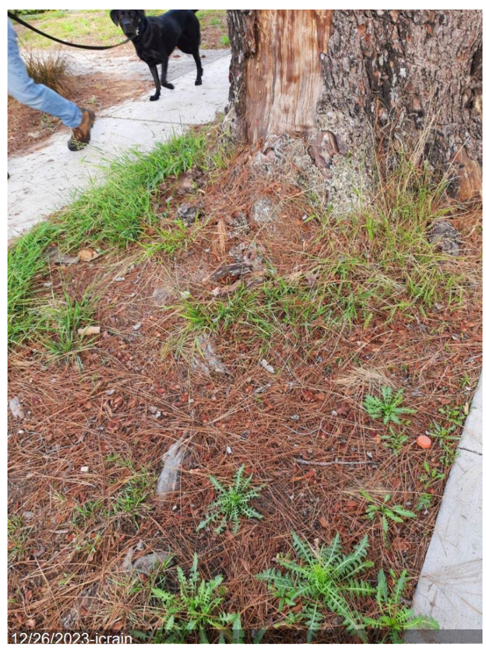
Codominant secondary trunks with included bark.



Codominant secondary trunks with included bark.

Decay in visible roots and lower trunk.

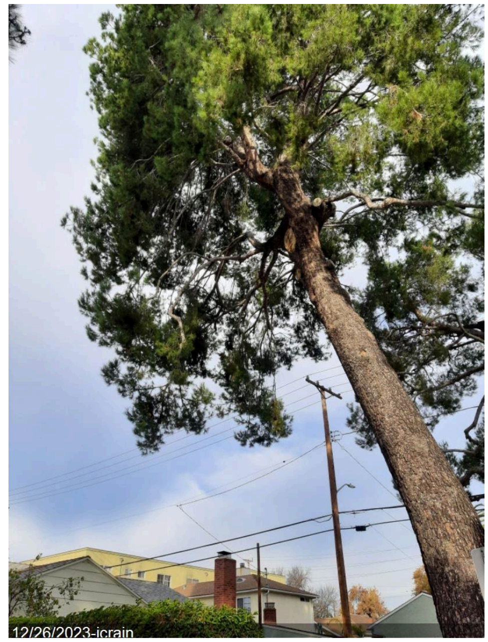
Decay in visible roots and lower trunk.



Decay in visible roots and lower trunk.

1633 N. Niagara Street – Front-1 (*Pinus halepensis*)

Overview

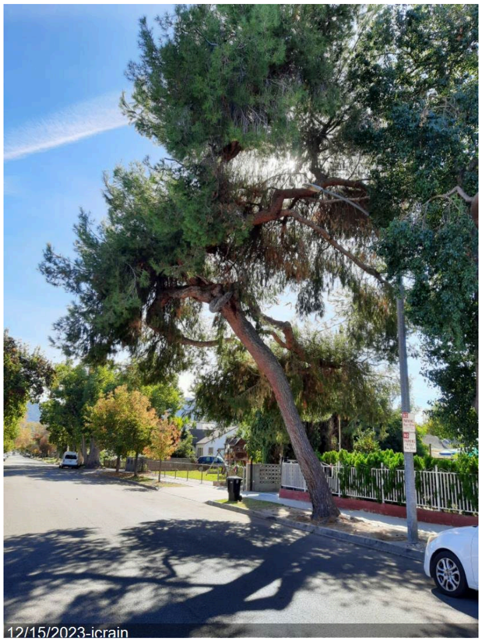


Partially corrected 19° lean.

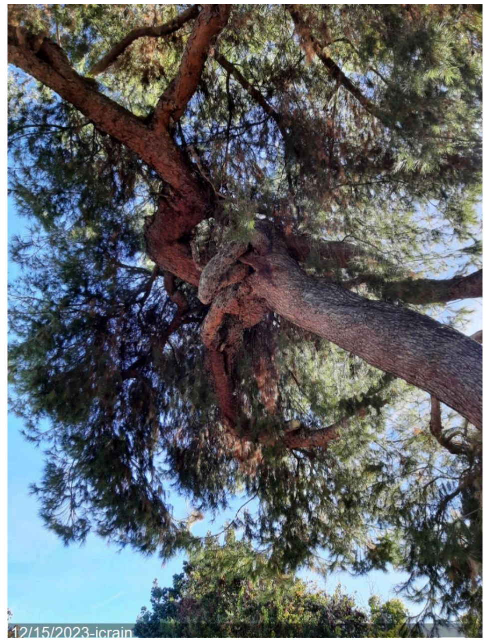
Decay in visible roots and lower trunk.

Decay in visible roots.

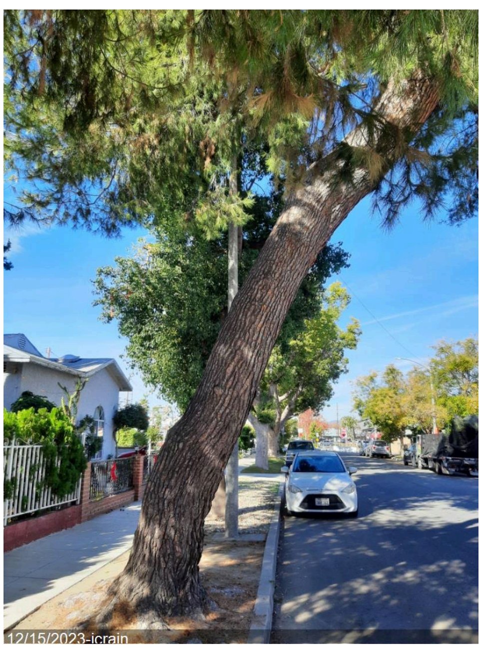
209 S. Orchard Drive – Front-1 (*Pinus halepensis*)



Overview



Twisted branch structure.

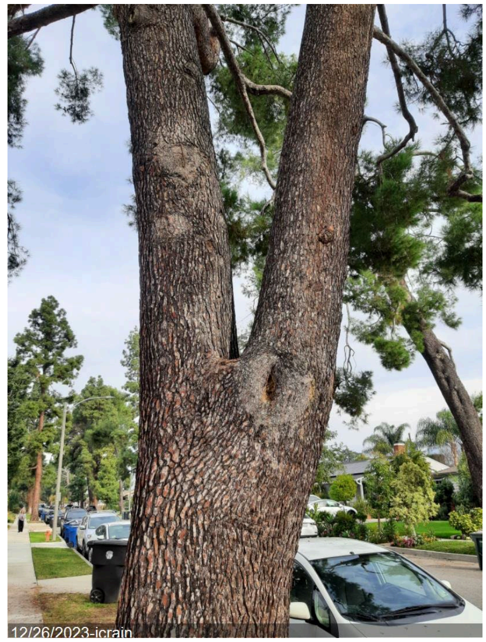


Uncorrected 24° lean.

Previous root cuts 18” from trunk.

1707 N. Pass Avenue – Front-1 (*Pinus halepensis*)

Overview



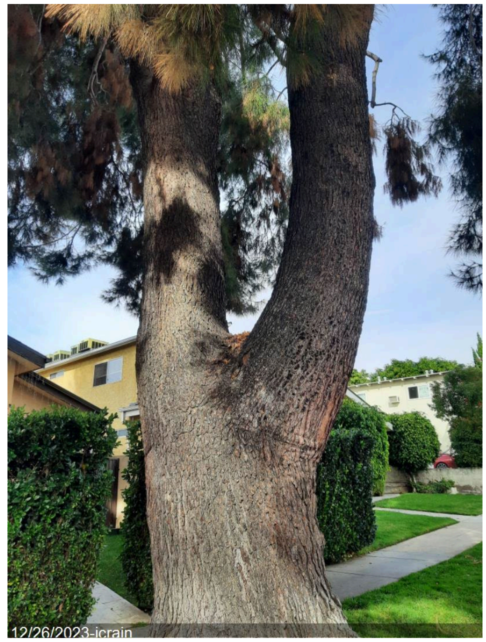
Codominant secondary trunks with included bark in the union.

Limited soil volume.

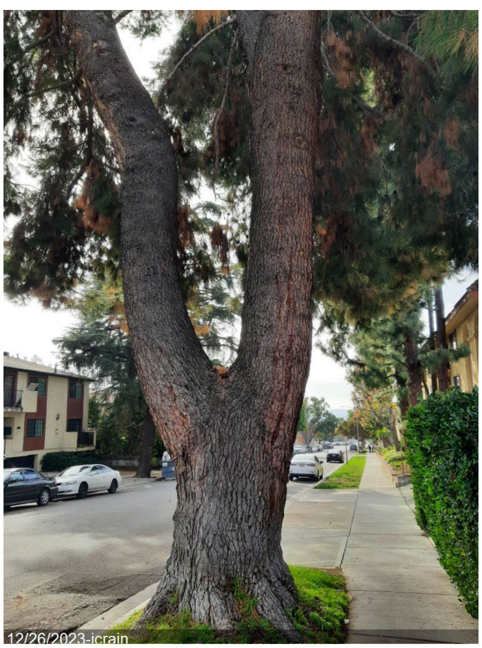
Limited soil volume.

519 E. Santa Anita Avenue – Front-1 (*Pinus halepensis*)

Overview



Codominant secondary trunks with included bark in the union.



Codominant secondary trunks with included bark in the union.

Limited soil volume.

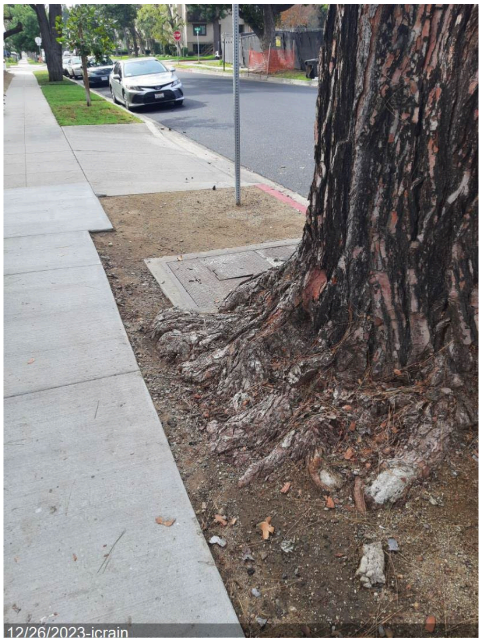
700 S. Sixth Street – Side-3 (*Pinus halepensis*)

Overview

Main scaffold attached at 90° angle.

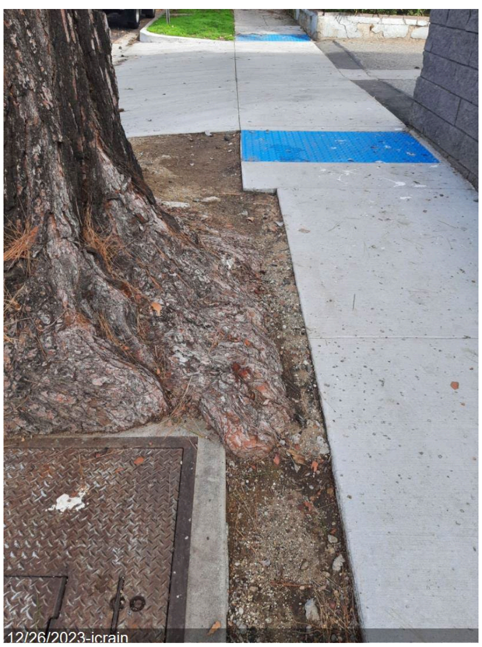
Cavity beneath the attachment of main scaffold.

Limited soil volume.



Limited soil volume.

Limited soil volume.



Limited soil volume.

Limited soil volume.

2027 N. Fairview Street – Front-1 (*Pinus halepensis*)

Overview

Signs of decay on tension side of trunk lean.

Decay in visible roots.

Limited soil volume.

Appendix B Assumptions and Limiting Conditions

1. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the Consultant can neither guarantee nor be responsible for the accuracy of information provided by others. Standard of Care has been met with regards to this project within reasonable and normal conditions.

2. The Consultant will not be required to give testimony or to attend court due to this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

3. Loss or alteration of any part of this report invalidates the entire report.

4. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior written consent of the Consultant.

5. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a stipulated result, a specified value, the occurrence of a subsequent event, nor upon any finding to be reported.

6. Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, or coring, unless otherwise stated. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the tree(s) or property in question may not arise in the future.

7. Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. It is highly recommended that you follow the arborist recommendations; however, you may choose to accept or disregard the recommendations and/or seek additional advice.

8. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specific period.

9. Any recommendations and/or performed treatments (including, but not limited to, pruning or removal) of trees may involve considerations beyond the scope of the arborist's services, such as property boundaries, property ownership, site lines, disputes between neighbors, and any other related issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist can then be expected to consider and reasonably rely on the completeness and accuracy of the information provided.

10. The author has no personal interest or bias with respect to the subject matter of this report or the parties involved. He/she has inspected the subject tree(s) and to the best of their knowledge and belief, all statements and information presented in the report are true and correct.

11. Unless otherwise stated, trees were examined using the tree risk assessment criteria detailed by *ANSI A300 (Part 9)-2017 Tree Risk Assessment, a. Tree Structure Assessment*.

Appendix C Tree Risk Matrix Example

TREE RISK MATRICES EXAMPLE

The red arrows are used to help guide you through the process of determining the overall risk associated with the subject tree.

Matrix 1 (11" branch failure)

This matrix synthesizes the likelihood of the specified failure and impact to a parked vehicle as being somewhat likely within the next three years if no mitigation actions are taken.

Likelihood of Failure	Likelihood of Impacting the Target			
	Very Low	Low	Medium	High
Imminent	Unlikely	Somewhat Likely	Likely	Very Likely
Probable	Unlikely	Unlikely	**Somewhat Likely**	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat Likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2 (11" branch failure)

This matrix synthesizes the likelihood of failure and impact and the consequences of this failure and impact scenario occurring. The assessed combination results in the subject tree presenting a moderate risk to parked vehicles at this time.

Likelihood of Failure and Impact	Concequences of Failure and Impact			
	Negligible	Minor	Significant	Severe
Very Likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat Likely	Low	Low	**Moderate**	Moderate
Unlikely	Low	Low	Low	Low

Appendix D Certificate of Performance

I, Jeff Crain certify that:

- I have personally inspected the trees referred to in this report and have stated my findings accurately. The extent of the assessment is stated in the attached report and the Limits of the Assignment.
- I have no current or prospective interest in the tree or the property that are the subject of this report and have no personal interest or bias with respect to the parties involved.
- The analysis, opinions, and conclusions stated herein are my own and are based on current scientific procedures and facts.
- My analysis opinions, and conclusions were developed, and this report has been prepared according to commonly accepted arboricultural practices.
- No one provided significant professional assistance to me, except as indicated within the report.
- My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member of good standing of the American Society of Consulting Arborists, and the International Society of Arboriculture. I have been involved in the field of municipal arboriculture in a full-time capacity for a period of more than nine years.

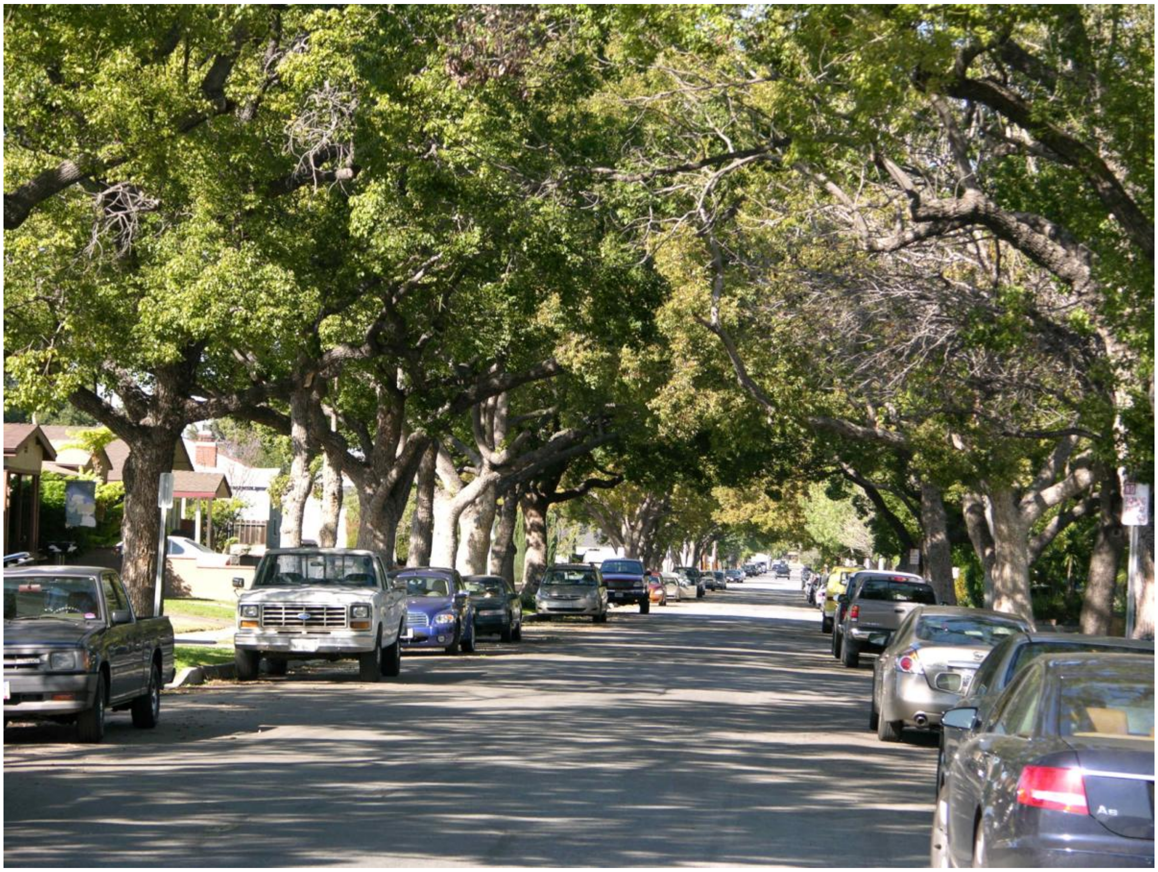
Respectfully,

Jeff Crain
Plant Health Care Arborist
West Coast Arborists Inc.

ISA Board Certified Master Arborist # WE-6658B
ISA Qualified Risk Assessor

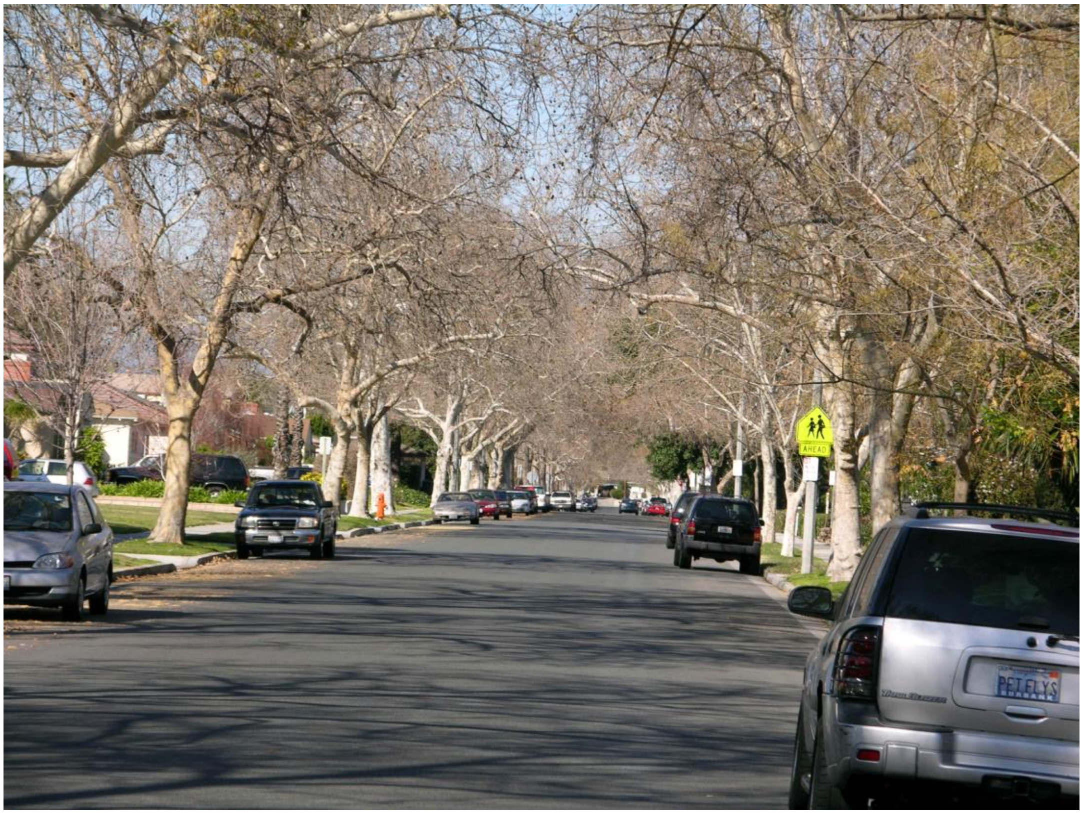
Appendix C

City of Burbank – Street Tree Master Plan



Camphor trees create a dreamy, green, cooling canopy over streets. Trees can dramatically cool temperatures in summer, but are valuable in other ways as well. Home values are increased, desirability of such neighborhoods is increased, public perception is raised adding benefit to the greater community.

These Camphor trees are growing in 5.5 feet wide parkways on 200 North Orchard Drive.



These London Plane trees are another example of the value of large shade trees. Even in winter dormancy, perceptions and quality of life are raised due to their presence on this residential street.

This is a standard 5.5 feet width parkway in the 500 block of South Mariposa Street.

Newly installed Date Palms, *Phoenix dactylifera*, will help to define this major intersection when fronds are untied and they begin to grow. These trees can eventually double their present height.

Large, spreading canopy trees, such as these Camphor trees, should be retained wherever possible.

The City is using alternative means to retain large canopy trees. This enlarged planting area borrows from the sidewalk, but allows for trunk and root expansion, increasing prospects for greater longevity.

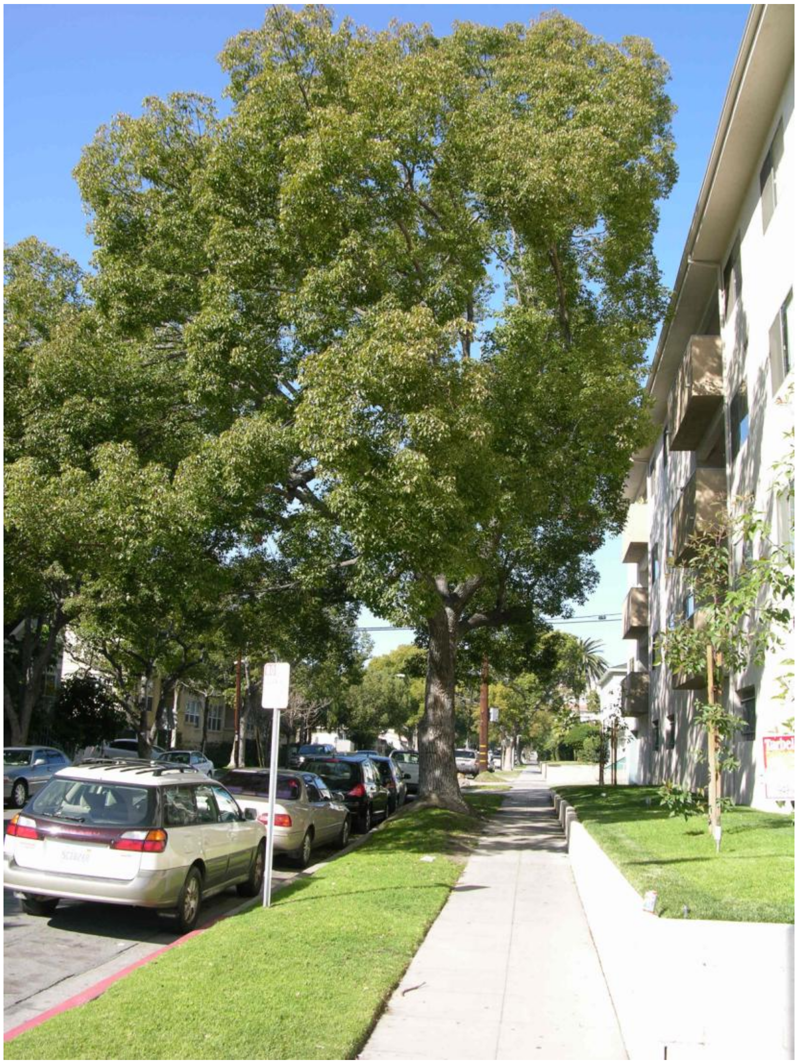
Wide parkway planting areas (12.5 feet) can accommodate larger, wide spreading species. Photo looks west along 400 block of East Olive Avenue at Coast Live Oaks and Holly Oaks.

Wide planting areas with plenty of root space are a good opportunity to maximize crown coverage with large maturing species. Photo looks east on East Olive Avenue and shows a Holly Oak, not yet at mature size.

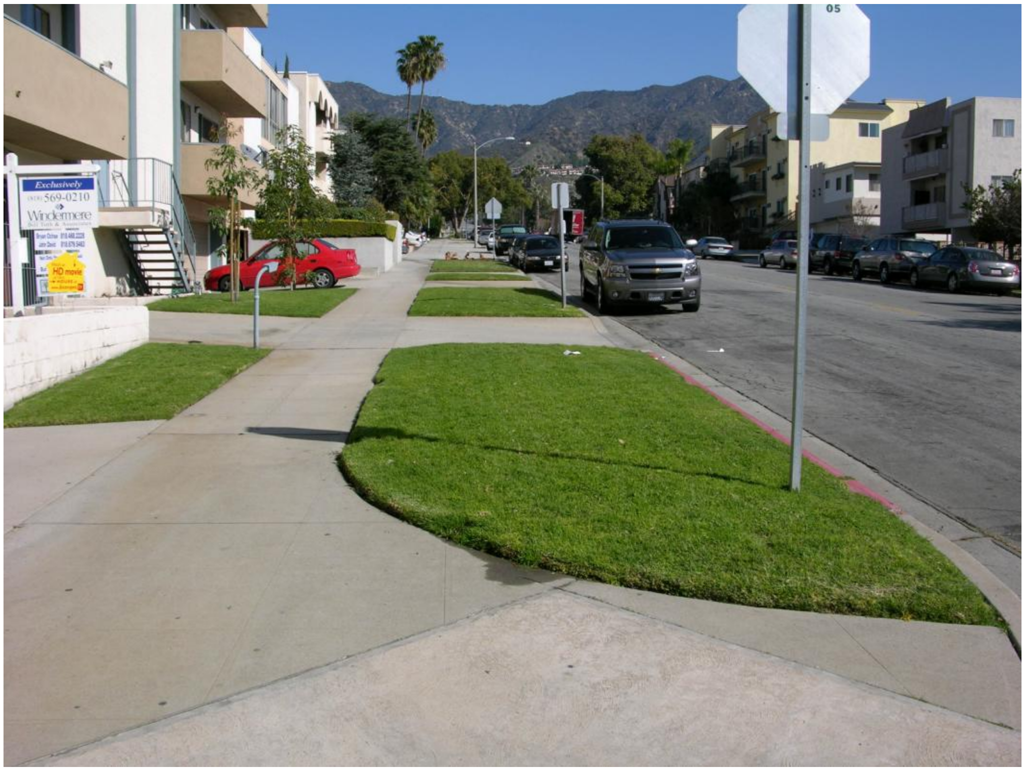
A Southern Magnolia (dwarf variety) is not the best fit for the smaller planting spaces in highly-urban settings such as this one in the 200 block of East Angeleno Avenue.

This is a four feet square (4 ft. by 4 ft.) tree well that cannot be enlarged significantly due to a lack of space and minimum requirements for public sidewalks.

The pavement has been replaced and the tree-well (cut-out) enlarged since this photo was taken.



A Camphor tree works well in this 6.5 ft. width parkway at 200 North Sixth Street. This tree may have had past root pruning to fit this space, but provides great benefits to the adjacent apartment building and the whole neighborhood.



There are many opportunities to add to the existing urban forest canopy cover throughout the city. This ten feet wide (10.5 ft.) empty parkway is in the 600 block of East Orange Grove Avenue.

Chinese Elm canopies the street in the 500 block of East Grinnell Drive.
The 8.5 ft. parkway provides plenty of space for roots.

Chinese Elms still work in a narrower (5.5 ft.) parkway in the 600 block of East Grinnell Drive.

An unusual and luxurious parkway (45 ft. width) in the 1000 block of North Sixth Street provides an opportunity for the largest species available. These Eucalyptus trees are approaching 90 feet in height with upwards of 60 feet crown spread.

A wide crown spread should be considered, wherever space allows, to increase canopy cover, reduce summer temperatures in the urban heat island, beautify neighborhoods, and help provide a sense of attachment to the community. This 12 feet wide median in the 300 block of East Bethany Road allows enough space for these huge wide-spreading Italian Stone Pines.

TREE SPECIES INDEX

Introduction to this Index:

First, trees are living organisms. Trees do not always grow as anticipated or as people may expect them to. The mature size ranges of height and crown spread are observed ranges that can be greatly influenced by soil type, soil volume, application of water, handling at delivery, and even differences among individuals within a species. For example, a tree growing in a small sidewalk tree-well in limited soil volume may only reach half the size of the same species planted in an open, irrigated landscape area. Prolonged drying of soil and roots during the spring and summer growing seasons, if the tree survives, will severely inhibit future growth. Water requirements can lessen as a tree matures and establishes a broader or deeper root system. Thus, the drought tolerance category may change as a tree matures. Damage to trees during transport can permanently stunt growth. For example, a tree may never recover fully from the shock if dropped off the delivery truck at the planting site.

A second point about this index: The trees on this index list are suitable for planting in city streets, but not all the tree types on the list are currently growing in City of Burbank streets. The list provides some alternative species that could be included if desired. If a particular tree does not appear in this index, there is likely a very good reason. Trees are screened for overly aggressive growth characteristics, unacceptable structural weaknesses, unmanageable health issues, climate incompatibility, and etcetera. Again, not all tree species are appropriate for planting in the streets of the city.

Otherwise, this index lists trees currently grown in the city streets, accepted as desirable species, and potential additions to the master plan palette. Each tree is listed by botanic and common name, described as evergreen or deciduous, with mature size ranges for height and crown spread. The recommended spacing (distance between each tree) and parkway width are also listed. Finally, a drought tolerance category is included.

	Tree Species Index **Botanical Name/Common Name**	Conifer, Deciduous, Evergreen, Palm	Height	Crown Spread	Spacing	Parkway Size	Drought Tolerant
1	*Agonis flexuosa* /Peppermint Tree	E.	20–40	20–40	35–40	4–6	Yes
2	*Angophora costata* /Gum Myrtle	E.	20–40	20–40	35–40	5–6	Yes
3	*Arbutus* 'Marina'/Marina Strawberry Tree	E.	25–30	25–30	25–30	3–4	Yes
4	*Bauhinia purpurea* /Purple Orchid Tree	D.	20–40	-20	25–30	3–4	Yes
5	*Betula nigra* /River Birch	D.	35	20–40	35–40	4–6	No
6	*Brachychiton populneus* /Bottle Tree	E.	20–40	25–30	35	3–4	Yes
7	*Brahea armata* /Mexican Blue Palm	P.	20–40	-20	25–30	4–6	Yes
8	*Brahea edulis* /Guadalupe Palm	P.	20	-20	25–30	4–6	Yes
9	*Butia capitata* /Pindo Palm	E.	-20	-20	25–30	3–4	Yes
10	*Calodendrum capense* /Cape Chestnut	D.	20–40	40+	35–40	4–6	Yes
11	*Cassia leptophylla* /Gold Medallion Tree	E.	20–35	20–40	30–35	4–6	No
12	*Casuarina cunninghamiana* /River She-Oak	E.	50+	30	40	4–6	Yes
13	*Catalpa speciosa* /Western Catalpa	D.	40+	40+	35–40	6–8	Yes
14	*Cedrus atlantica* /Atlas Cedar	C.	40+	40+	35–40	6–8	Yes
15	*Cedrus deodara* /Deodar Cedar	C.	40+	40+	35–40	6–8	Yes
16	*Celtis sinensis* /Chinese Hackberry	D.	40	40	40	4–6	Yes
17	*Cercis canadensis* /Eastern Redbud	D.	25	25	25–30	3–4	No
18	*Chionanthus retusus* /Chinese Fringe Tree	D.	-20	-20	25–30	4–6	No
19	*Chitalpa tashkentensis* /Chitalpa	D.	20–40	20–40	25–30	4–6	Yes
20	*Cinnamomum camphora* /Camphor Tree	E.	30–40	40+	35–40	5–6	Yes
21	*Cupaniopsis anacardioides* /Cupania	E.	30	30	35–40	3–4	Yes
22	*Eriobotrya deflexa* /Bronze Loquat	E.	-20	-20	25–30	3–4	Yes
23	*Erythrina crista-galli* /Cockspur Coral Tree	D.	20–30	20–40	30–35	4–6	Yes
24	*Eucalyptus citriodora* /Lemon Scented Gum	E.	40+	20–40	30–35	4–6	Yes
25	*Eucalyptus ficifolia* /Red-Flowering Gum	E.	20–40	20–40	30–35	4–6	Yes
26	*Eucalyptus leucoxylon* /White Ironbark	E.	60	30–45	35–40	6+	Yes
27	*Eucalyptus nicholii* /Nichol's Willow-Leaf Peppermint	E.	40	25–35	30–35	4–6	Yes
28	*Firmiana simplex* /Chinese Parasol Tree	D.	20–30	15–20	25	3–4	No
29	*Fraxinus angustifolia* /Raywood Ash	D.	25–30	25	25	3–4	No
30	*Geijera parviflora* /Australian Willow	E.	20–40	20–40	30–35	4–6	Yes
31	*Ginkgo biloba* /Maidenhair Tree (male)	D.	40+	20–40	30–35	4–6	Yes
32	*Gleditsia triacanthus inermis* /Honey Locust	D.	35	25–35	30–35	3–4	No
33	*Hymenosporum flavum* /Sweet Shade	E.	20–40	-20	25–30	3–4	No
34	*Jacaranda mimosifolia* /Jacaranda	D.	20–40	20–40	35–40	5–6	No
35	*Koelreuteria bipinnata* /Chinese Flame Tree	D.	20–40	20–40	30–35	4–6	No
36	*Koelreuteria paniculata* /Golden Rain	D.	20–40	20–40	30–35	4–6	Yes

37	*Lagerstroemia indica* /Crape Myrtle	D.	-20	-20	25–30	3–4	Yes
38	*Laurus nobilis* /Sweet Bay	E.	20–40	-20	25–30	3–4	Yes
39	*Ligustrum lucidum* /Glossy Leaf Privet	E.	25–30	25	25–30	3–4	No
40	*Liriodendron tulipifera* /Yellow Poplar	D.	40–50	20–40	35–40	5–6	No
41	*Magnolia grandiflora* /Southern Magnolia	E.	60	40	40	6–8	No
42	*Magnolia grandiflora* /Majestic Beauty Southern Magnolia	E.	20–40	25	25–30	4–6	No
43	*Magnolia grandiflora/* St. Mary Magnolia	E.	25	20	25	4–5	No
44	*Melaleuca quinquenervia* /Cajeput	E.	20–40	20–40	30–35	4–6	Yes
45	*Nyssa sylvatica* /Sour Gum	D.	35	25	30–35	4–6	No
46	*Phoenix canariensis* /Canary Island Date Palm	P.	40+	40+	35–40	5–6	Yes
47	*Phoenix dactylifera* /Date Palm	P.	40	35	35	4–6	Yes
48	*Photinia x fraseri* /Photinia	E.	-20	-20	25–30	3–4	Yes
49	*Pinus canariensis* /Canary Island Pine	C.	40+	20–40	35–40	5–6	Yes
50	*Pinus eldarica* /Mondell Pine	C.	40+	20–40	35–40	5–6	Yes
51	*Pinus pinea* /Italian Stone Pine	C.	40+	40+	35–40	6–8	Yes
52	*Pistacia chinensis* /Chinese Pistache	D.	40+	40+	35–40	4–6	Yes
53	*Pittosporum undulatum* /Victorian Box	E.	20–40	20–40	30–35	4–6	Yes
54	*Platanus x acerifolia* /London Plane	D.	40+	40+	35–40	5–6	No
55	*Platanus racemosa* /California Sycamore	D.	40+	40+	35–40	6–8	No
56	*Podocarpus gracilior/* African Fern Pine	E.	40+	20–40	30–35	5–6	Yes
57	*Prunus caroliniana* /Carolina Laurel Cherry	E.	20–40	20–40	30–35	4–6	Yes
58	*Prunus cerasifera* 'Atropurpurea'/Purple-leaf Plum	D.	20–40	20–40	25–30	3–4	No
59	*Pyrus calleryana* /Ornamental Pear	D.	20–40	-20	30–35	3–4	No
60	*Quercus agrifolia* /Coast Live Oak	E.	40+	40+	35–40	5–6	Yes
61	*Quercus ilex* /Holly Oak	E.	40+	35–40	35–40	5–6	Yes
62	*Quercus suber* /Cork Oak	E.	20–40	20–40	30–35	5–6	Yes
63	*Quercus virginiana* /Southern Live Oak	E.	40+	40+	35–40	6+	Yes
64	*Rhaphiolepis* /Raphiolepis Majestic Beauty	E.	-20	-20	25	3–4	Yes
65	*Robinia x ambigua* 'Idahoensis'/Idaho Locust	D.	20–40	20–40	30–35	3–4	Yes
66	*Sapium sebiferum* /Chinese Tallow Tree	D.	20–40	20–40	30–35	4–6	Yes
67	*Schinus molle* /California Pepper	E.	20–40	20–40	30–35	4–6	Yes
68	*Sophora japonica* /Japanese Pagoda	D.	35–40	35–40	40	4–6	No
69	*Spathodea campanulata* /African Tulip Tree	E.	35–40	35–40	40	4–6	No
70	*Stenocarpus sinuatus* /Firewheel	E.	25	15	25	3–4	No
71	*Syagrus romanzoffianum* /Queen Palm	P.	30-40	40+	25–30	3–4	Yes
72	*Tabebuia chrysotricha* /Golden Trumpet Tree	D.	20–40	20–40	30–35	3–4	No
73	*Tabebuia impetiginosa* /Lavender Trumpet Tree	D.	20–40	20–40	30–35	3–4	No
74	*Tipuana tipu* /Tipu Tree	D.	40+	40+	35–40	6–8	No

75	*Tristania conferta* /Brisbane Box	E.	20–40	20–40	30–35	4–6	Yes
76	*Tristaniopsis laurina* /Water Gum	E.	25	20	25	3–4	No
77	*Ulmus parvifolia* /Chinese Elm	E.	20–40	20–40	35–40	6–8	Yes
78	*Washingtonia robusta* /Mexican Fan Palm	P.	40+	20–40	30–35	4–6	Yes

STREET TREE MASTER PLAN – A

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
ADORNOS WAY	No Parkway	No Parkway		
ALAMEDA AVE				
100 E	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Magnolia grandiflora	St. Mary Magnolia	No	20/25
300	Raphiolepis	Rhaphiolepis	Yes	-20/-20
400	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
500	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
100 W	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
200	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
300	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
400				
900				
1000				
1200				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				
3400				
3500				

Key: Black – Existing tree species to remain in Master Plan
Red – Existing tree species to be removed from Master Plan
Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
3600	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
3700	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
3800	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
3900				
4000				
4100				
ALLAN AVE				
3500 W	Cassia leptophylla	Ornamental Pear, Callery Pear	No	-20/20–40
3600	Bauhinia variegata	Purple Orchid Tree	Yes	-20/20-40
3700	Liriodendron tulipifera	Tulip Tree, Yellow Poplar	No	20-40/40-50
3800				
3900				
4000				
4100				
4200				
4300				
ALTA PASEO	No Parkway	No Parkway		
AMBER LN				
1800 N	Liriodendron tulipifera	Tulip Tree, Yellow Poplar	No	20-40/40-50
1900	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
2000	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
AMHERST DR				
100 E	Magnolia grandiflora	St Mary Magnolia	No	20/25
200	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
300	Sophora japonica	Japanese Pagoda	No	35-40/35-40
400				
500				
600	Magnolia grandiflora	St Mary Magnolia	No	20/25
700	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
800	Sophora japonica	Japanese Pagoda	No	35-40/35-40
900				
1000				
AMIGO DR	No Parkway	No Parkway		

Key: Black – Existing tree species to remain in Master Plan
Red – Existing tree species to be removed from Master Plan
Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
ANDOVER DR				
100 E	Magnolia grandiflora	St Mary Magnolia	No	20/25
200	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
300	Jacaranda mimosifolia	Jacaranda	No	20-40/20-40
400				
500				
600				
700				
800				
900				
ANGELENO AVE				
100 E	Magnolia grandiflora	St Mary Magnolia	No	20/25
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	Raphiolepis	Rhaphiolepis	Yes	-20/-20
400	**Pistachia chinensis**	**Chinese Pistache**	Yes	40+/40+
500	*Quercus agrifolia*	*Coast Live Oak (increased canopy)*	Yes	40+/40+
600	*Angophora costata*	*Angophora (increased canopy)*	Yes	20-40/20-40
700	Calodendrum capense	Cape Chestnut	Yes	40+/20-40
800	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
900				
1000				
900 W	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1000	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20–40
1100	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
ANTIGUA DR	No Parkway	No Parkway		
ASH AVE				
100 EAST OF FWY	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
100 WEST OF FWY	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
200 EAST OF WASH	Magnolia grandiflora	Southern Magnolia	No	40/60
200 WEST OF WASH				
AVON ST				
100 N	Liriodendron tulipifera	Tulip Tree, Yellow Poplar	No	20-40/40-50
200	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
300	Stenocarpus sinuatus	Firewheel	No	15/25
400				

Key: Black – Existing tree species to remain in Master Plan
Red – Existing tree species to be removed from Master Plan
Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
AVON ST				
500 N	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
600	Stenocarpus sinuatus	Firewheel	No	15/25
700	Liriodendron tulipifera	Tulip Tree, Yellow Poplar	No	20-40/40-50
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800				
2400				
2500				
3000				
100 S	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
AYERS WAY	No Parkway	No Parkway		

Key: Black – Existing tree species to remain in Master Plan
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Green – New tree species to be added to Master Plan

STREET TREE MASTER PLAN – B

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
BEACHWOOD DR				
100 N	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
200	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
300	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
400				
500				
600				
700				
800				
1000				
1100				
1200				
1300				
100 S	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
200	**Pyrus calleryana**	**Ornamental Pear, Callery Pear**	No	-20/20-40
300	*Quercus agrifolia*	*Coast Live Oak (increased canopy)*	Yes	40+/40+
400	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
500				
600				
700				
800				
900				
BEL AIRE DR				
100 N	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
	Cassia leptophylla	*Gold Medallion Tree (aesthetics)*	No	20-40/20-35
	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
200	**Brachychiton populneus**	**Bottle Tree**	Yes	25-30/20-40
300	*Washingtonia robusta*	*Mexican Fan Palm (gateway identity)*	Yes	20-40/40+
400	*Phoenix canariensis*	*Canary Island Date Palm (gateway identity)*	Yes	40+/40+
500				
600	Washingtonia robusta	Mexican Fan Palm	Yes	20-40/40+
700	Syagrus romanzoffianum	Queen Palm, Coco Palm	Yes	12-15/50
800	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
900				

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Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
BEL AIRE DR				
1000	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
1100	Magnolia grandiflora	St Mary Magnolia	No	20/25
1200	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
1300	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
1400	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
1500	Magnolia grandiflora	St Mary Magnolia	No	20/25
1600	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
1700				
1800	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
1900	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
	Raphiolepis	Rhaphiolepis	Yes	-20/-20
100 S	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
200	*Tabebuia impetiginosa*	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
300	Magnolia grandiflora	St Mary Magnolia	No	20/25
400	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
500				
600				
700				
800				
900				
BETHANY RD				
Median	Pinus pinea	Italian Stone Pine	Yes	20-40/40+
200E				
300	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
400	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
500	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
600	***Cinnamomum camphora***	***Camphor Tree (increased canopy)***	Yes	40+/30-40
700				
800				
900				
1000				
BIRMINGHAM RD				
300 E	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
400	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
500	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
600				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
BIRMINGHAM RD				
700 E				
800				
900				
BOB HOPE DR				
200 S	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
300	Eucalyptus nicholii	Nichol's Willow-Leaf Peppermint	Yes	25-35/40
400	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
500				
BONITA AVE				
1700 W	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
1800	Hymenosporum flavum	Sweetshade	No	-20/20-40
1900	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
2000				
BONNYWOOD PL				
100 N	No Parkway	No Parkway		
300				
100 S				
500 S	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
	Stenocarpus sinuatus	Firewheel	No	15/25
BRACE CANYON RD				
3000	No Parkway	No Parkway		
3100				
3200				
3300				
3400				
BRIGHTON ST				
100 N	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
200	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
300	**Brachychiton populneus**	**Bottle Tree**	Yes	25-30/20-40
400	*Quercus virginiana*	*Southern Live Oak (increased canopy)*	Yes	40+/40+
500	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
600				
700				
800				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
BRIGHTON ST				
900	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1000	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
1100	**Brachychiton populneus**	**Bottle Tree**	Yes	25-30/20-40
1200	*Quercus virginiana*	*Southern Live Oak (increased canopy)*	Yes	40+/40+
1300	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
1400				
1600				
1700				
1800				
2000				
2100				
2200				
2300				
2400				
2500				
2600	Gingko biloba	Maidenhair Tree	Yes	20-40/30-35
2700	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
2800	Hymenosporum flavum	Sweetshade	No	-20/20-40
2900				
100 S	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
200	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
BROADWAY				
1100	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
1200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1300	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
1400				
1500				
BROOKSHIRE CT	PRIVATE	PRIVATE		
BROWN DR				
500 E	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
600	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
700	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
800	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
BRUCE LN				
1000	No Parkway	No Parkway		
BUENA VISTA				
100 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
	Stenocarpus sinuatus	Firewheel	No	15/25
	Sophora japonica	Japanese Pagoda Tree		
200	No Parkway	No Parkway		
300				
400	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
500	Stenocarpus sinuatus	Firewheel	No	15/25
	Sophora japonica	Japanese Pagoda Tree	No	35-40/35-40
600	No Parkway	No Parkway		
700				
800				
900				
1000				
1100				
1200				
1300	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1500	Sophora japonica	Japanese Pagoda Tree	No	35-40/35-40
1600	No Parkway	No Parkway		
1700				
1800				
1900	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
	Agonis flexuosa	Peppermint Tree, Australian Willow Myrtle	Yes	20-40/20-40
2000	No Parkway	No Parkway		
2100				
2200				
2300				
2400	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
2500	Hymenosporum flavum	Sweetshade	No	-20/20-40
2600	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
2700				
2800				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
BUENA VISTA				
2900	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
3000	*Cassia leptophylla*	*Gold Medallion Tree (aesthetics)*	No	20-40/20-35
	Hymenosporum flavum	Sweetshade	No	-20/20-40
	Magnolia grandiflora	St Mary Magnolia	No	20/25
100 S	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	No Parkway	No Parkway		
400				
500				
BURBANK BLVD				
200 E	Phoenix dactlifera	Date Palm		
900 W	*Geijera parviflora*	*Australian Willow, Wilga*	Yes	20-40/20-40
	Tabebuia impetiginosa	*Pink Trumpet (aesthetics)*	No	20-40/20-40
	Jacaranda mimosifolia	*Jacaranda (median, aesthetics)*	No	20-40/20-40
1000				
1100	*Phoenix dactylifera*	*Date Palm (at major intersection)*	Yes	20/40+
1200				
1300				
1400				
1500	*Cercis canadensis*	*Eastern Redbud (medians)*	No	25/25
1600				
1700				
1800				
1900				
2000				
2100	*Cercis canadensis*	*Eastern Redbud (medians)*	No	25/25
2200				
2400	*Phoenix dactylifera*	*Date Palm (at major intersection)*	Yes	20/40+
2500	*Phoenix dactylifera*	*Date Palm (at major intersection)*	Yes	20/40+
2600				
2700				
2800				
2900				
3000				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
BURBANK BLVD				
3100	*Geijera parviflora*	*Australian Willow, Wilga*	Yes	20-40/20-40
3200	*Tabebuia impetiginosa*	*Pink Trumpet (aesthetics)*	No	20-40/20-40
3300	*Jacaranda mimosifolia*	*Jacaranda (median, aesthetics)*	No	20-40/20-40
3400				
3500	*Phoenix dactylifera*	*Date Palm (at major intersection)*	Yes	20/40+
3600	*Phoenix dactylifera*	*Date Palm (at major intersection)*	Yes	20/40+
3700				
3800				
3900				
4000				
4100				
4200				
BURTON AVE				
2700	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
3200	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
3300	No Parkway	No Parkway		

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STREET TREE MASTER PLAN – C

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
CALIFORNIA ST				
100 N	**Pyrus calleryana**	**Ornamental Pear, Callery Pear**	No	-20/20-40
200	*Cinnamomum camphora*	*Camphor Tree (increased canopy)*	Yes	40+/30-40
300	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
400	Liriodendron tulipifera	Tulip Tree, Yellow Poplar	No	20-40/40-50
500				
600				
700				
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1700				
1800				
2700	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
3000	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
100 S	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300				
400				
CAMBRIDGE DR				
400 E	Magnolia grandiflora	St Mary Magnolia	No	20/25
500	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
600	Sophora japonica	Japanese Pagoda	No	35-40/35-40
700				
800				
CAMINO DE VILLAS				
1600 E	No Parkway	No Parkway		
1700	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
900				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
CASTLEMAN LN	PRIVATE	PRIVATE		
CATALINA ST				
100 N	**Pyrus Calleryna**	**Ornamental Pear, Callery Pear**	No	-20/20-40
200	*Cinnamomum camphora*	*Camphor Tree (increased canopy)*	Yes	40+/30-40
300	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
400	Koelreuteria bipinnata	Chinese Flame Tree	Yes	20-40/20-40
500				
600				
700				
800				
900				
1100				
1200				
1300				
1400				
1500				
1600	Sophora japonica	Japanese Pagoda	No	35-40/35-40
1700	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1800	**Pyrus calleryana**	**Ornamental Pear, Callery Pear**	No	-20/20-40
	Quercus agrifolia	*Coast Live Oak (increased canopy)*	Yes	40+/40+
	Quercus suber	*Cork Oak (increased canopy)*	Yes	20-40/20-40
CATALINA ST				
2200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
2300	Liriodendron tulipifera	Tulip Tree, Yellow Poplar	No	20-40/40-50
	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
CEDAR AVE				
100 E	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
	Cassia leptophylla	*Gold Medallion Tree (aesthetics)*	No	20-40/20-40
	Sophora japonica	Japanese Pagoda	No	35-40/35-40
200	No Parkway	No Parkway		
300				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
CEDAR AVE				
400 E	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
500	*Cinnamomum camphora*	*Camphor Tree (increased canopy)*	Yes	40+/30-40
600	Sophora japonica	Japanese Pagoda	No	35-40/35-40
700	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
800				
900				
200 W	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
300	Sophora japonica	Japanese Pagoda	No	35-40/35-40
	Magnolia grandiflora	St Mary Magnolia	No	20/25
CHANDLER BLVD				
900 W	No Parkway	No Parkway		
1000				
1100	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1200	**Prunus cerasifera**	**Purple-leaf Flowering Plum**	No	20-40/20-40
1300	*Cercis canadensis*	*Eastern Redbud (aesthetics/longevity)*	No	25/25
1400	Photinia fraseri	Photinia	Yes	-20/-20
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
CHANDLER BLVD				
3400	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
3500	**Prunus cerasifera**	**Purple-leaf Flowering Plum**	No	20-40/20-40
3600	*Cercis canadensis*	*Eastern Redbud (aesthetics/longevity)*	No	25/25
3700	Photinia fraseri	Photinia	Yes	-20/-20
3800				
3900				
4000				
4100				
4200				
4300				
4400				
CHAVEZ ST				
1000	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1100	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1200	Sophora japonica	Japanese Pagoda	No	35-40/35-40
1300				
CHERMAK ST	No Parkway	No Parkway		
CHESTNUT ST				
100 W	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
900	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1000	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1100				
1200				
2100	No Parkway	No Parkway		
2200				
CHURCH ST				
1800	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
1900	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
CHURCH'S CT				
	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
	Quercus ilex	Holly Oak, Holm Oak	Yes	35-40/40+
	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
1100 E	No Parkway	No Parkway		
1200				
CLARK AVE				
900 W	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1000	**Koelreuteria bipinnata**	**Chinese Flame Tree**	No	20-40/20-40
1100	*Quercus agrifolia*	*Coast Live Oak (increased canopy)*	Yes	40+/40+
1200	*Quercus suber*	*Cork Oak (increased canopy)*	Yes	20-40/20-40
1300	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				
3400				
3500				
3600				
3800				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
CLARK AVE				
3900				
4000				
4100				
4200				
4300				
4400				
4500				
CLIFDEN LN	PRIVATE	PRIVATE		
CLYBOURN AVE				
4200 S	Magnolia grandiflora	St Mary Magnolia	No	20/25
4300	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
4400	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
4500				
300 N	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
400	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
500	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
600	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
700	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
800	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
900	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
2000	Liriodendron tulipifera	Tulip Tree, Yellow Poplar	No	20-40/40-50
	Cupaniopsis anacardioides	**Cupania, Carrotwood**	Yes	30/30
	Cercis canadensis	*Eastern Redbud (aesthetics)*	No	25/25
2100	No Parkway	No Parkway		
2200				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
CLYBOURN AVE				
2800 (BEHIND AIRPORT)	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
2900	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
3000	Pyrus kawakamii	Evergreen Pear	No	20-30/20-30
3100				
COHASSET ST				
2900	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
3000	Stenocarpus sinuatus	Firewheel	No	15/25
3100	Photinia frareri	Photinia	Yes	-20/-20
3200				
3300				
3400				
3500				
3800	No Parkway			
COLGIN CT				
400 E	No Parkway	No Parkway		
500				
CORDOVA ST				
100 N	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
200	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
300	*Tabebuia impetiginosa*	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
400	Sophora japonica	Japanese Pagoda	No	35-40/35-40
500				
800	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
900	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
1000	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
1100	Sophora japonica	Japanese Pagoda	No	35-40/35-40
1200				
1300				
100 S	Sophora japonica	Japanese Pagoda	No	35-40/35-40
	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
	Gleditsia tricanthus inermis	Thornless Honey Locust	No	25-35/35

Key: Black – Existing tree species to remain in Master Plan
Red – Existing tree species to be removed from Master Plan
Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
CORNELL DR				
200 E	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
300	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
400	**Prunus Cerasifera**	**Purple-leaf Flowering Plum**	No	20-40/20-40
500	*Quercus agrifolia*	*Coast Live Oak (increased canopy)*	Yes	40+/40+
600	*Ginkgo biloba*	*Maidenhair (diversification)*	Yes	20-40/40+
800	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
900	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
1000	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
COUNTRY CLUB DR	No Parkway	No Parkway		
COUNTRY CLUB PL	No Parkway	No Parkway		
CREST RIDGE DR	No Parkway	No Parkway		
CYPRESS AVE				
100 E	No Parkway	No Parkway		
200				
CYPRESS AVE				
300	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
500	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
600				
700				
800				
900				
1000				
100 W	Magnolia grandiflora	St Mary Magnolia	No	20/25
	Sophora japonica	Japanese Pagoda	No	35-40/35-40

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STREET TREE MASTER PLAN – D

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
DAMON WAY	No Parkway	No Parkway		
DARTMOUTH RD				
	Cupaniopsis anacardioides	**Cupania, Carrotwood**	Yes	30/30
	Cercis canadensis	*Eastern Redbud (aesthetics)*	No	25/25
400 E	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
500	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
DE BELL DR	No Parkway	No Parkway		
DELAWARE RD				
200 E	No Parkway	No Parkway		
300	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
400	**Geijera parviflora**	**Australian Willow, Wilga**	Yes	20-40/20-40
	Quercus virginiana	*Southern Live Oak (increased canopy)*	Yes	40+/40+
500	Cercis canadensis	Eastern Redbud	No	25/25
600				
800				
900				
1000				
DINCARA RD				
1000	Platanus X acerifolia	Sycamore, London Plane Tree	No	40+/40+
1100	Quercus agrifolia	Live Oak	Yes	40+/40+
1200	*Quercus Suber*	*Cork Oak (diversification)*	Yes	20-40/20-40
DOAN DR				
700 N	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
800	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
DURHAM	PRIVATE	PRIVATE		
DYMOND ST				
2100	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
2200	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40

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STREET TREE MASTER PLAN –E

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
EAST AVE				
1000	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1300	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
EDISON BLVD				
1300 N	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
1400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1500	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
1600				
1700				
1800				
1900				
2000				
EDISON RD				
200 S	No Parkway	No Parkway		
ELLIOT DR				
1700	No Parkway	No Parkway		
ELM AVE				
200 W	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
	Ulmus parvifolia	Chinese Elm, Chinese Evergreen Elm	Yes	20-40/20-40
300	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
400	Ulmus parvifolia	Chinese Elm, Chinese Evergreen Elm	Yes	20-40/20-40
	Sophora japonica	Japanese Pagoda	No	35-40/35-40
ELM CT				
100 W	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
	Cupaniopsis anacardioides	**Cupania, Carrotwood**	Yes	30/30
	Tabebuia impetiginosa	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40

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Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
ELMWOOD AVE				
200 E	No Parkway	No Parkway		
300				
400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
500	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
700	*Tabebuia impetiginosa*	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
800	**Quercus ilex**	**Holly Oak, Holm Oak**	Yes	35-40/40+
900	*Quercus agrifolia*	*Coast Live Oak (native)*	Yes	40+/40+
1000	Cupaniopsis anacardioides	Cupania	Yes	30/30
1100	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
	Chitalpa tashkentensis	**Chitalpa**	Yes	20-40/20-40
	Cercis Canadensis	*Eastern Redbud (aesthetics)*	No	25/25
1200	No Parkway	No Parkway		
100 W	**Cupaniopsis anacardioides**	**Cupania**	Yes	30/30
	Cassia leptophylla	*Gold Medallion Tree (aesthetics)*	No	20-40/20-35
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	Sophora japonica	Japanese Pagoda	No	35-40/35-40
400				
EMPIRE AVE				
1800	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
1900	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
2000	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100	No Parkway	No Parkway		
3200				
3300				
3400	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
ETON DR				
400 E	**Cupaniopsis anacardiodes**	**Cupania, Carrotwood**	Yes	30/30
500	*Jacaranda Mimosifolia*	*Jacaranda (aesthetics)*	No	20-40/20-40
600	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
700	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
800				
900				
EVERGREEN ST				
100 N	**Liriodendron tulipfera**	**Tulip Tree, Yellow Poplar**	No	20-40/40-50
200	*Platanus X acerifolia*	*London Plane (increased canopy)*	No	40+/40+
600	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
700	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
800				
900				
1000				
1100				
1200				
1300				
1400	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
1500	Sophora japonica	Japanese Pagoda	No	35-40/35-40
1600	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1700				
1800				
1900				
2000				
2100				

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STREET TREE MASTER PLAN – F

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
FAIRMOUNT ROAD				
400 E	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
500	*Tabebuia impetiginosa*	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
600	Sophora japonica	Japanese Pagoda	No	35-40/35-40
700	**Quercus ilex**	**Holly Oak, Holm Oak**	Yes	35-40/40+
800	*Quercus virginiana*	*Southern Live Oak (diversification)*	Yes	40+/40+
900				
1000				
FAIRVIEW ST				
100 N	**Quercus agrifolia**	**Live Oak**	Yes	40+/40+
200	*Jacaranda mimosifolia*	*Jacaranda (aesthetics)*	No	20-40/20-40
300	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
400	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
500				
600				
700				
800				
900				
1000	**Quercus agrifolia**	**Live Oak**	Yes	40+/40+
1100	*Jacaranda Mimosifolia*	*Jacaranda (aesthetics)*	No	20-40/20-40
1200	**Quercus agrifolia**	**Live Oak**	Yes	40+/40+
1300	*Jacaranda Mimosifolia*	*Jacaranda (aesthetics)*	No	20-40/20-40
1400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1500	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1600				
1700	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1800	Magnolia grandiflora	Magnolia	No	20/25
	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1900	**Quercus agrifolia**	**Live Oak**	Yes	40+/40+
2000	*Jacaranda Mimosifolia*	*Jacaranda (aesthetics)*	No	20-40/20-40
2200	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
2300	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
300 S	**Quercus agrifolia**	**Live Oak**	Yes	40+/40+
400	*Jacaranda Mimosifolia*	*Jacaranda (aesthetics)*	No	20-40/20-40
500	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
FARLEY CT	PRIVATE	PRIVATE		
FIFTH ST				
100 N	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
200	*Cassia leptophylla*	*Gold Medallion Tree (aesthetics)*	No	20-40/20-40
300	**Chitalpa tashkentensis**	**Chitalpa**	Yes	20-40/20-40
600	*Platanus x acerifolia*	*London Plane (diversification)*	No	40+/40+
700	Cercis canadensis	Eastern Redbud	No	25/25
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
1900	*Cassia leptophylla*	*Gold Medallion Tree (aesthetics)*	No	20-40/20-35
100 S	**Chitalpa tashkentensis**	**Chitalpa**	Yes	20-40/20-40
200	*Tristaniopsis laurina*	*Water Gum (diversification)*	No	20/25
300	Cercis canadensis	Eastern Redbud	No	25/25
700				
800				
FIRST ST				
100 N	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
200	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
300				
400				
500				
600				
700				
100 S				
200				
300				
400				
600	No Parkway	No Parkway		

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
FLORENCE ST				
100 N	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
200	Koelreuteria bipinnata	Chinese Flame Tree	Yes	20-40/20-40
	Gleditsia trianchus inermis	**Thornless Honey Locust**	No	25-35/35
	Quercus agrifolia	*Coast Live Oak (increased canopy)*	Yes	40+/40+
300	No Parkway 1 ft.	No Parkway		
400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
500	Koelreuteria bipinnata	Chinese Flame Tree	Yes	20-40/20-40
600	**Gleditsia trianchus inermis**	**Thornless Honey Locust**	No	25-35/35
700	*Quercus agrifolia*	*Coast Live Oak (increased canopy)*	Yes	40+/40+
800				
900				
1000				
1100				
FLOWER ST				
100 S	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
200	Stenocarpus sinuatus	Firewheel	No	15/25
300	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
400				
500				
600				
700				
800				
900				
1000				
1100				
1200				
1300				
FLOYD ST				
2100 N	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
2200	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
3000	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
FOLKSTONE CT	PRIVATE	PRIVATE		

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
FORD				
800	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
900	*Tabebuia impetiginosa*	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
	Quercus ilex	Holly Oak, Holm Oak	Yes	35-40/40+
FRANKLIN AVE				
4100	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
4200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
	Magnolia grandiflora	St Mary Magnolia	No	20/25
FREDERIC ST				
100 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	**Brachychiton populneus**	**Bottle Tree**	Yes	25-30/20-40
400	*Cassia leptophylla*	*Gold Medallion Tree (aesthetics)*	No	20-40/20-35
500				
600				
700				
800				
900				
1000				
1100	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1200	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1300	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1600	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1700	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
1800	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
2000				
2100				
2200				
2300	**Cassia leptophylla**	**Gold Medallion Tree**	No	20-40/20-35
2600	*Agonis Flexuosa*	*Peppermint (diversification)*	Yes	20-40/20-40
2700	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
2800	*Pistachia chinensis*	*Chinese Pistache (increased canopy)*	Yes	40+/40+
2900	Ulmus parvifolia	Chinese Elm, Chinese Evergreen Elm	Yes	20-40/20-40

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
FREDERIC ST				
3000	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
3100	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
	Cercis canadensis	Eastern Redbud	No	25/25
3200	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
	Tabebuia impetiginosa	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
100 S	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
FRONT ST				
100 N	No Parkway	No Parkway		
200				
300				
400				
500				
600				
700				
800				
900				
100 S				
200				
300				

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STREET TREE MASTER PLAN – G

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
GAYLORD DR				
500 S	No Parkway	No Parkway		
GIBSON CT	ALLEY	ALLEY		
GLENOAKS BLVD				
100 N	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
200	Hymenosporum flavum	Sweetshade	No	-20/20-40
300	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
400				
500	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
600	Gleditsia tricanthus inermis	Thornless Honey Locust	No	25-35/35
700	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
GLENOAKS BLVD				
3100	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
3200	Gleditsia tricanthus inermis	Thornless Honey Locust	No	25-35/35
3300	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
100 S	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
200	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
300	Sophora japonica	Japanese Pagoda	No	35-40/35-40
400				
500				
600				
700				
800				
900				
GLENWOOD PL				
300	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
400	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
500	*Tabebuia impetiginosa*	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
	Magnolia grandiflora	St Mary Magnolia	No	20/25
GLENDALE PL				
200 S	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
300	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
400	Cercis Canadensis	Eastern Redbud (aesthetics)	No	25/25
500	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
600				
GRAHAM PL	No Parkway	No Parkway		
GRIFFITH PARK DR				
100 N	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
200	*Cercis Canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
300	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
400	Magnolia grandiflora	St Mary Magnolia	No	20/25
500	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
600	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
700				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
GRIFFITH PARK DR				
1000	Magnolia grandiflora	St Mary Magnolia	No	20/25
1100	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
1200	Magnolia grandiflora	St Mary Magnolia	No	20/25
1300				
200 S	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
300	*Cercis Canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
400	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
500	**Quercus ilex**	**Holly Oak, Holm Oak**	Yes	35-40/40+
600	*Quercus agrifolia*	*Coast Live Oak (native)*	Yes	40+/40+
700				
800				
GRINNELL DR				
200 E	Ulmus parvifolia	Chinese Elm, Chinese Evergreen Elm	Yes	20-40/20-40
400	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
500	Celtis sinensis	Yunnan Hackberry, Chinese Hackberry	Yes	40/40
600				
700				
800				
900				
1000				
GRISMER AVE				
1500	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1600	Stenocarpus sinuatus	Firewheel	No	15/25
1700	Photinia fraseri	Photinia	Yes	-20/-20
1800				
1900				
2000				
GROTON DR				
400 E	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
500	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
600	**Brachychiton populneus**	**Bottle Tree**	Yes	25-30/20-40
700	*Cercis Canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
800				
900				

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STREET TREE MASTER PLAN – H

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
HAMLINE PL	No Parkway	No Parkway		
HAMPTON RD				
500 E	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
600	Sophora japonica	Japanese Pagoda	No	35-40/35-40
700	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
HAROLD CIR				
	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
HARVARD RD				
300 E	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
400	*Quercus suber*	*Cork Oak (increased canopy)*	Yes	20-40/20-40
500	Hymenosporum flavum	Sweetshade	No	-20/20-40
600	Quercus ilex	Holly Oak, Holm Oak	Yes	35-40/40+
700				
800				
900				
1000				
1100	Washingtonia robusta	Mexican Fan Palm	Yes	20-40/40+
1200				
HATTERAS ST				
3900 W	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
4000	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
4100	Sophora japonica	Japanese Pagoda	No	35-40/35-40
4200	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
4300				
HAVEN WAY				
2600	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
2700	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
	Firmiana Simplex	Chinese Parasol Tree	No	15-20/20-30
2800	No Parkway	No Parkway		
2900				
3000				

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Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
HAVEN WAY				
3100	No Parkway	No Parkway		
3200				
3300				
HEFFRON DR				
3700 W	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
3800	Sophora japonica	Japanese Pagoda	No	35-40/35-40
3900	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
4000				
HIGHLAND VIEW DR				
3100	No Parkway	No Parkway		
HILTON DR				
1800	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1900	Sophora japonica	Japanese Pagoda	No	35-40/35-40
2100	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
HOLLYWOOD WAY				
100	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
400				
500				
600				
700				
800	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
900	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
1000	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1100				
1200	Sophora japonica	Japanese Pagoda	No	35-40/35-40
1300	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1400	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
1500				
1600				
1700				
1800				
1900				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
HOLLYWOOD WAY				
2000	Tabebuia chrysotricha	Golden Trumpet Tree	No	20-40/20-40
2100	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
2200	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
2300	Tabebuia chrysotricha	Golden Trumpet Tree	No	20-40/20-40
2400	Cercis canadensis	Eastern Redbud	No	25/25
2500				
2600				
2700				
2800				
2900				
3000				
3100				
HOOD AVE				
4100	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
4200	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
HOWARD CT	No Parkway	No Parkway		

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STREET TREE MASTER PLAN – I

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
IRVING DR				
400 E	Hymenosporum flavum	Sweetshade	No	-20/20-40
	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
500	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
600	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
700	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
800	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
900	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
	Cercis canadensis	Eastern Redbud	No	25/25
ISABEL ST				
900 W	Magnolia grandiflora	St Mary Magnolia	No	20/25
1000	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
1100	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
1200				

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STREET TREE MASTER PLAN – J

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
JACARANDA AVE				
3300	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
4200	Jacaranda mimosifolia	Jacaranda	No	20-40/20-40
4300	Magnolia grandiflora	St Mary Magnolia	No	20/25
4400				
JACKSON ST				
1800	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
1900	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
JAMESTOWN RD				
500 E	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
600	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
700	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
JANNETTA AVE				
2100	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
JEFFRIES				
2300	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
2400	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
2500	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				
3400				
3500				
3600				
3700				
3800				
3900				
4000				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
JEFFRIES				
4100	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
4200	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
4300	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
4400				
JOAQUIN DR				
2600	No Parkway	No Parkway		
2700				
2800				
2900				
3000				
JOLLEY ST				
2000	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
2100	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
2200	**Brachychiton populneus**	**Bottle Tree**	Yes	25-30/25-40
2300	*Tristania conferta*	*Brisbane Box (diversification)*	Yes	20-40/20-40
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				

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STREET TREE MASTER PLAN – K

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
KAREN ST				
1800	Magnolia grandiflora	St Mary Magnolia	No	20/25
1900	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
2000	*Tabebuia impetiginosa*	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
KEELER ST				
1600	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
1700	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
1800	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
1900				
KEMP ST				
800	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
900	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
KENMERE AVE				
2100	No Parkway	No Parkway		
2200				
2300				
2400				
KENNETH RD				
100 N	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
200	*Tabebuia impetiginosa*	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
300	**Chitalpa tashkentensis**	**Chitalpa**	Yes	20-40/20-40
400	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
500	Magnolia grandiflora	St Mary Magnolia	No	20/25
600				
700				
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
KENNETH RD				
1600	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
1700	*Tabebuia impetiginosa*	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
1800	**Chitalpa tashkentensis**	**Chitalpa**	Yes	20-40/20-40
1900	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
2000	Magnolia grandiflora	St Mary Magnolia	No	20/25
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
100 S				
200				
300				
400				
500				
600				
700				
800				
900				
KENWOOD ST				
100 N	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
200	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
300	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
600				
700				
800				
900				
1000				
1100				
1200				
1300				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
KENWOOD ST				
1400	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
1500	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1800	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
1900				
2000	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
2100	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
KEYSTONE ST				
100 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	Platanus X acerifolia	London Plane Tree	No	40+/40+
400				
500	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
600	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
700	Platanus X acerifolia	London Plane Tree	No	40+/40+
800	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
900				
1000				
1100				
1200				
1300				
1400	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
1500	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
1800	No Parkway	No Parkway		
2200	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
2300	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
2400	Cercis canadensis	Eastern Redbud	No	25/25
2500				
2600				
2700	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
2800	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
2900	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
100 S	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300				
400	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
500				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
KILDARE CT	PRIVATE	PRIVATE		
KINGSWAY DR	No Parkway	No Parkway		
KITTRIDGE ST				
2300 W	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
2400	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
KLING				
4100	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
4200	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
4300	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
4400				

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STREET TREE MASTER PLAN – L

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
LAKESIDE DR				
4100	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
LAKE ST				
100 N	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
200				
300				
700	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
800	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
900	Tabebuia chrysptricha	Golden Trumpet Tree	No	20-40/20-40
1000				
100 S	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
200	Cercis canadensis	Eastern Redbud	No	25/25
300	Tabebuia chrysptricha	Golden Trumpet Tree	No	20-40/20-40
400				
500				
600				
700				
800				
900				
1000	Magnolia grandiflora	St Mary Magnolia	No	20/25
1100				
1200				
1300				
LAMER ST				
100 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
400	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
500	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
600				
700				
800				
900				
1000				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
LAMER ST				
1100	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1200	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
1300	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
2000	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
2100	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
2200	*Quercus virginiana*	*Southern Live Oak (increased canopy)*	Yes	40+/40+
2300	*Ginkgo biloba*	*Maidenhair (diversification)*	Yes	20-40/40+
2400	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
3400	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
	Cercis canadensis	*Eastern Redbud (aesthetics)*	No	25/25
	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
100 S	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
200	*Cassia leptophylla*	*Gold Medallion Tree (aesthetics)*	No	20-40/20-35
300	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
400	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
LANDIS ST				
1700	Jacaranda mimosifolia	Jacaranda	No	20-40/20-40
1800	Cercis canadensis	Eastern Redbud	No	25/25
1900	Tristania conferta	Brisbane Box	Yes	20-40/20-40
LA RAMBLA	No Parkway	No Parkway		
LEDGE AVE				
5000 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
5100	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
LELAND WAY				
1200	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
1300	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
1400	Magnolia grandiflora	St Mary Magnolia	No	20/25
1500				
1600				
LIMA ST				
100 N	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
200	Magnolia grandiflora	St Mary Magnolia	No	20/25
300	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
600				
700				
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800				
2800	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
3000	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
100 S	Magnolia grandiflora	St Mary Magnolia	No	20/25
200				
LINCOLN ST				
100 N	Gleditsia tricanthus inermis	Thornless Honey Locust	No	25-35/35
200	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
300	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
400				
500				
600				
700				
800				
900				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
LINCOLN ST				
1000	Gleditsia tricanthus inermis	Thornless Honey Locust	No	25-35/35
1100	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
1200	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
1300				
1500				
1600	No Parkway	No Parkway		
1700	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
1800	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
1900	Celtis sinensis	Yunnan Hackberry, Chinese Hackberry	Yes	40/40
2000				
2100				
2300	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
2400	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
2500	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
2600				
2700				
2800	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
2900	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
	Spathodea campanulata	African Tulip Tree, Flame of the Forest	No	35-40/35-40
100 S	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
200	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
300	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
LINDEN AVE				
100 W	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
200	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
300	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
100 E	No Parkway	No Parkway		
LINDEN CT	No Parkway	No Parkway		
LISMORE LN	PRIVATE	PRIVATE		
LOCKHEED VIEW DR	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
LOGAN CT	PRIVATE	PRIVATE		

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
LOMITA ST				
100 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
300	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
400	*Tabebuia impetiginosa*	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
500	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
200 S	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
300	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
	Cupaniopsis anacardioides	**Cupania, Carrotwood**	Yes	30/30
	Cassia leptophylla	*Gold Medallion Tree (aesthetics)*	No	20-40/20-35
LUTGE AVE				
	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
300 W	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
	Quercus agrifolia	Live Oak	Yes	40+/40+

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STREET TREE MASTER PLAN – M

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
MAGNOLIA BLVD				
100 E	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
200				
300				
400	Magnolia grandiflora	St Mary Magnolia	No	20/25
500	Quercus agrifolia	Live Oak	Yes	40+/40+
600	Spathodea campanulata	African Tulip Tree, Flame of the Forest	No	35-40/35-40
700				
800				
900				
1000				
100 W	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
MAGNOLIA BLVD				
3200 W	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
3300	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
3400	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
3500				
3600				
3700				
3800				
3900				
4000				
4100				
4200				
4300				
4400				
MAIN ST				
400	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
500	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
600	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
700				
800				
900				
1000				
1100				
MANNING ST				
1900 N	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
2000	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
2100	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
2200				
MANSFIELD DR				
2700	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
2800	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
MAPLE ST				
100N	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
200	Chitalpa tashkentensis	Chitalpa	Yes	20-40
300	Pistachia chinensis	Chinese Pistache	Yes	40+/40+

Key: Black – Existing tree species to remain in Master Plan
Red – Existing tree species to be removed from Master Plan
Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
MAPLE ST				
600 N	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
700	Chitalpa tashkentensis	Chitalpa	Yes	20-40
800	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
900				
1000				
1100				
1200				
1300				
1400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1500	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
1600	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
1700				
1800				
1900				
2000				
2100				
MARIA ST				
1600 N	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
	Tabebuia impetiginosa	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
MARIPOSA ST				
300 N	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
400	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
500	**Pyrus calleryana**	**Ornamental Pear, Callery Pear (remove fo**	No	-20/20-40
600	*Platanus X acerifolia*	*London Plane Tree (increased canopy)*	No	40+/40+
700				
800				
900				
1000				
1100				
200 S	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
300	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
400	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
500				
600				
700				
800				

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Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
MCFARLANE AVE				
4100	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
4200	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
MESA VERDE DR	No Parkway	No Parkway		
MONTEREY AVE				
1500	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1600	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
1700	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
1800				
1900				
2000				
2100				
2200				
2300	No Parkway	No Parkway		
2400				
2500	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
2600	**Tristania conferta**	**Brisbane, Pink or Australian Brush Box**	Yes	20-40/20-40
2700	*Brachychiton populneus*	*Bottle Tree (diversification)*	Yes	25-30/25-40
2800				
2900				
3000				
3900				
4000				
MONTEREY PL	No Parkway	No Parkway		
MORGAN AVE				
1800	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
1900	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
	Cercis canadensis	Eastern Redbud	No	25/25
MORNINGSIDE DR				
1300	Quercus agrifolia	Live Oak	Yes	40+/40+
1400	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
1500	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
MOSS ST				
400 N	No Parkway	No Parkway		
800 S	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1100				
1200				
MYERS ST				
100N	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
200	Quercus agrifolia	Live Oak	Yes	40+/40+
300	**Koelreuteria bipinnata**	**Chinese Flame Tree**	No	20-40/20-40
400	*Cinnamomum camphora*	*Camphor Tree (increased canopy)*	Yes	40+/30-40
500				
600				
700				
800				
1000				
1100				
1200				
1300				
1400				
1500				
2400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
2500	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
2600	Magnolia grandiflora	St Mary Magnolia	No	20/25
2700				
2800				
2900				
100 S	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
200	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
300				
MYSTIC VIEW PL	No Parkway	No Parkway		

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STREET TREE MASTER PLAN – N

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
NAOMI ST				
100 N	**Pyrus calleryana**	**Ornamental Pear, Callery Pear**	No	-20/20-40
200	*Cinnamomum camphora*	*Camphor Tree (increased canopy)*	Yes	40+/30-40
300	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
400	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
500				
600				
700				
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
1700	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
1800	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
2200				
2300				
2400	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
2500	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
2800	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
2900	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
3000	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
3100				
200 S				
NATIONAL AVE				
4100	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
4200	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
	Cercis canadensis	*Eastern Redbud (aesthetics)*	No	25/25
	Eucalyptus citriodora	Lemon-Scented Gum, Lemon Gum	Yes	20-40/40+

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Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
NIAGARA ST				
100 N	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	Sophora japonica	Japanese Pagoda	No	35-40/35-40
400				
500				
600				
700				
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
1800	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1900	Sophora japonica	Japanese Pagoda	No	35-40/35-40
2200	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
2300	Sophora japonica	Japanese Pagoda	No	35-40/35-40
100 S	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
400	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
500	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
NINTH ST				
100 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
300	Spathodea campanulata	African Tulip Tree, Flame of the Forest	No	35-40/35/40
100 S				
200				
300				

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STREET TREE MASTER PLAN – N

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
NAOMI ST				
100 N	**Pyrus calleryana**	**Ornamental Pear, Callery Pear**	No	-20/20-40
200	*Cinnamomum camphora*	*Camphor Tree (increased canopy)*	Yes	40+/30-40
300	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
400	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
500				
600				
700				
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
1700	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
1800	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
2200				
2300				
2400	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
2500	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
2800	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
2900	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
3000	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
3100				
200 S				
NATIONAL AVE				
4100	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
4200	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
	Cercis canadensis	*Eastern Redbud (aesthetics)*	No	25/25
	Eucalyptus citriodora	Lemon-Scented Gum, Lemon Gum	Yes	20-40/40+

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Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
NIAGARA ST				
100 N	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	Sophora japonica	Japanese Pagoda	No	35-40/35-40
400				
500				
600				
700				
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				
1700	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
1800	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1900	Sophora japonica	Japanese Pagoda	No	35-40/35-40
2200	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
2300	Sophora japonica	Japanese Pagoda	No	35-40/35-40
100 S	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
400	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
500	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
NINTH ST				
100 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
300	Spathodea campanulata	African Tulip Tree, Flame of the Forest	No	35-40/35/40
100 S				
200				
300				

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STREET TREE MASTER PLAN – O

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
Oak St				
	Prunus cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
(South Side of Street)	**Pyrus calleryana**	**Ornamental Pear, Callery Pear**	No	-20/20-40
	Cercis canadensis	*Eastern Redbud (aesthetics)*	No	25/25
(South Side Power Lines)	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
(North Side of Street)	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
900	**Quercus ilex**	**Holly Oak, Holm Oak**	Yes	35-40/40+
	Quercus suber	*Cork Oak (diversification)*	Yes	20-40/20-40
1000	**Pyrus calleryana**	**Ornamental Pear, Callery Pear**	No	-20/20-40
	Quercus agrifolia	*Coast Live Oak (native)*	Yes	40+/40+
1100				
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
NORTH SIDE OF ST	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
3000 W	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
3100	**Quercus ilex**	**Holly Oak, Holm Oak**	Yes	35-40/40+
3200	*Quercus suber*	*Cork Oak (diversification)*	Yes	20-40/20-40
3300	*Quercus agrifolia*	*Coast Live Oak (native)*	Yes	40+/40+
3400				
3500				
3600				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
Oak St				
NORTH SIDE OF ST	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
3700	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
3800	**Quercus ilex**	**Holly Oak, Holm Oak**	Yes	35-40/40+
3900	*Quercus suber*	*Cork Oak (diversification)*	Yes	20-40/20-40
4000	*Quercus agrifolia*	*Coast Live Oak (native)*	Yes	40+/40+
4100				
OLIVE AVE				
100 E	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
200	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
300	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
400	Quercus agrifolia	Live Oak	Yes	40+/40+
300	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
500	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
600				
700				
800				
900				
1000				
100 W	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
200	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
300	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
400	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
900				
1000				
1100				
1200				
1300				
1400				
1500 W				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
OLIVE AVE				
2500	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
2600	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
2700	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
2800	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
2900				
3000				
3100				
3200				
3300				
3400				
3500				
3600				
3700				
3800				
3900				
4000				
4100				
4200				
4300				
4400				
OLNEY PL	No Parkway	No Parkway		
OMER LN	No Parkway	No Parkway		
ONTARIO ST				
100N	**Pyrus calleryana**	**Ornamental Pear, Callery Pear**	No	-20/20-40
300	*Cinnamomum camphora*	*Camphor Tree (increased canopy)*	Yes	40+/30-40
400	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
700	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
800				
900				
1000				
1100				
1200				
1300				
1400				
1500				
1600				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
ONTARIO ST				
1700 N	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
1800	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
1900	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
2000				
2200	No Parkway	No Parkway		
2300				
2400				
2500				
2600				
2700				
2800	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
2900	Hymenosporum flavum	Sweetshade	No	-20/20-40
	Ligustrum confusum	Nepal Pivet		
ORANGE GROVE				
100 E	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
200	**Chitalpa tashkentensis**	**Chitalpa**		
300	*Tristaniopsis Laurina*	*Water Gum (diversification)*		
	Cercis canadensis	Eastern Redbud		
400				
500	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
600	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
700	**Podocarpus gracilior**	**Fern Pine, African Fern Pine**	Yes	20-40/40+
800	*Quercus virginiana*	*Southern Live Oak (increased canopy)*	Yes	40+/40+
900				
1000				
1100				
1200				
200 W				
900				
1000				
1100				
1200				
ORANGE GROVE TER	No Parkway	No Parkway		
ORCHARD DR				
200 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
300	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
400	Sophora japonica	Japanese Pagoda	No	35-40/35-40

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
ORCHARD DR				
500	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
600	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
700	Sophora japonica	Japanese Pagoda	No	35-40/35-40
800				
900				
1000				
1100				
1200				
1300				
2200	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
2300	Quercus agrifolia	Live Oak	Yes	40+/40+
	Podocarpus gracilior	Fern Pine	Yes	20-40/40+
2400	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
2500	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
	Calodendrum capense	Cape Chestnut Tree	Yes	40+/20-40
100 S	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Sophora japonica	Japanese Pagoda	No	35-40/35-40
300	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
400				
500				
ORCHID LN	No Parkway	No Parkway		
OXNARD ST	No Parkway	No Parkway		

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STREET TREE MASTER PLAN – P

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
PACIFIC AVE				
1800 N	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1900	Stenocarpus sinuatus	Firewheel	No	15/25
2000	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				
3400				
3500				
3600				
3700				
3800				
3900				
4000				
4100				
4200				
4300				
4400				
PALM AVE				
100 E	Arecastrum romanzoffianum	Queen Palm, Cocos Palm	Yes	40+/30-40
200				
300				
400	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
500	Melaleuca quinquenervia	Cajeput Tree, Paperbark	Yes	20-40/20-40
600	Calodendrum capense	Cape Chestnut	Yes	40+/20-40
700				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
PALM AVE				
800 E	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
900	Melaleuca quinquenervia	Cajeput Tree, Paperbark	Yes	20-40/20-40
1000	Calodendrum capense	Cape Chestnut	Yes	40+/20-40
200 W	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
900	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
1000	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
1100				
1200				
PARISH PL				
100 N	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
400				
500				
600				
700				
800				
900				
1000				
1100	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
1200	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
1300	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
1900	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
2000	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
2100	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
2200	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
2300	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
2400	*Quercus agrifolia*	*Coast Live Oak (increased canopy/native)*	Yes	40+/40+
2500	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
2600				
2700				
100 S	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
200	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
300	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
400				
500				
600				

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Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
PARKSIDE AVE				
1300	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
1400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1500	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
1600				
1700				
1800				
1900	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
2000	Quercus agrifolia	Coast Live Oak	Yes	40+/40+
2700	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
PASEO REDONDO	No Parkway	No Parkway		
PASS AVE				
100 N	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
200	Quercus ilex	Holly Oak, Holm Oak	Yes	35-40/40+
300	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
400				
500				
600	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
700	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
800	Magnolia grandiflora	St Mary Magnolia	No	20/25
900	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
1000				
1100				
1200				
1300				
1400	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
1500	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
1600	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
1700	Sophora japonica	Japanese Pagoda	No	35-40/35-40
1800	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
1900				
2000				
2100				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
PEPPER ST				
1400	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
1500	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1600	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
1700				
1800				
1900				
2000	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
2100	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
PEYTON AVE				
1700	No Parkway	No Parkway		
1800				
1900				
2000				
2100				
2200	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
2300				
PRICE DR				
600 E	Magnolia grandiflora	St Mary Magnolia	No	20/25
700	Sophora Japonica	Japanese Pagoda	No	35-40/35-40
	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
PRICILLIA LN				
600	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
700	**Brachychiton populneus**	**Bottle Tree**	Yes	25-30/25-40
	Koelreuteria bipinnata	**Chinese Flame Tree**	No	20-40/20-40
PROSPECT AVE				
100 E	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
	Tabebuia impetiginosa	*Pink Trumpet Tree*	No	20-40/20-40
PROVIDENCIA AVE				
100 E	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
300	Calodendrum capense	Cape Chestnut	Yes	40+/20-40
400	***Cinnamomum camphora***	***Camphor Tree (increase canopy)***	Yes	40+/30-40
500				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
PROVIDENCIA AVE				
600	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
700	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
800	Calodendrum capense	Cape Chestnut	Yes	40+/20-40
900	***Cinnamomum camphora***	***Camphor Tree (increase canopy)***	Yes	40+/30-40
1000				
1100				
100W	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
PURVIS DR				
2500	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
	Stenocarpus sinuatus	Firewheel	No	15/25
	Jacaranda Mimosifolia	Jacaranda	No	20-40/20-40

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STREET TREE MASTER PLAN – R

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
REESE PL				
100 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
300	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
400				
500				
600	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
700	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
800	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
900	**Chitalpa tashkentensis**	**Chitalpa**	Yes	20-40/20-40
	Platanus X acerifolia	*London Plane (increased canopy)*	No	40+/40+
1000	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
1100				
1200	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
1300	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
	Cupaniopsis anacardioides	**Cupania, Carrotwood**	Yes	30/30
	Cassia leptophylla	*Gold Medallion Tree (aesthetics)*	No	20-40/20-40
2200	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
2300	Quercus agrifolia	Coast Live Oak	Yes	40+/40+
	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
2400	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
2500	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
	Calodendrum capense	Cape Chestnut	Yes	40+/20-40
	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
100 S	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
200	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
300	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
400				
500	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
600	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
700	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
REMY PL	No Parkway	No Parkway		
REYNOLDS DR	No Parkway	No Parkway		

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
RICHARD ST				
1800	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1900	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
	Cercis canadensis	Eastern Redbud	No	25/25
RIVERSIDE DR				
400 W	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
900	**Platanus X acerifolia**	**London Plane Tree, Sycamore**	No	40+/40+
1000	*Platanus racemosa*	*California Sycamore (native)*	No	40+/40+
1100	Magnolia grandiflora	St Mary Magnolia	No	20/25
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500	No Parkway	No Parkway		
2600				
2700				
2800				
2900	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
3000	Magnolia grandiflora	St Mary Magnolia	No	20/25
3100	**Platanus X acerifolia**	**London Plane Tree, Sycamore**	No	40+/40+
3200	*Platanus racemosa*	*California Sycamore (native)*	No	40+/40+
3300				
3400				
3500				
3600				
3700	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
3800	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
3900	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
4000				
4100				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
RIVERSIDE DR				
4200	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
4300	Podocarpus gracilior	Fern Pine, African Fern Pine	Yes	20-40/40+
4400	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
ROGERS PL	No Parkway	No Parkway		
ROLLINGRIDGE DR	No Parkway	No Parkway		
ROSE ST				
100 N	Cupaniopsis anacardioides	Canary Island Pine	Yes	30/30
200	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
	Magnolia grandiflora	St Mary Magnolia	No	20/25
600	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
700	*Cinnamomum camphora*	*Camphor Tree (increased canopy)*	Yes	40+/30-40
800	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
900	Brachychiton populneus	Bottle Tree	Yes	25-30/25-40
1000				
1100				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
100 S	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
200	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
300	Magnolia grandiflora	St Mary Magnolia	No	20/25
400				
ROSELLI ST				
600 E	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
700	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
	Calodendrum capense	Cape Chestnut	Yes	40+/20-40

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
ROSEMARY LN				
500 N	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
600	*Cassia leptophylla*	*Gold Medallion Tree (aesthetics)*	No	20-40/20-35
	Ligustrum confusum	Nepal Pivet	No	25/25-30
	Photinia fraseri	Photinia	Yes	-20/-20
ROSITA AVE				
1800	Magnolia grandiflora	St Mary Magnolia	No	20/25
1900	**Liriodendron tulipfera**	**Tulip Tree, Yellow Poplar**	No	20-40/40-50
2000	*Tipuana tipu*	*Tipu Tree (increased canopy)*	No	40+/40+
	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
RUDELL RD	No Parkway	No Parkway		

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STREET TREE MASTER PLAN – S

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
SAN FERNANDO				
100 N	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
200				
300				
800	Tipuana tipu	Tipu Tree	No	40+/40+
900	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1000	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
1100	Cercis canadensis	Eastern Redbud	No	25/25
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				
3400				
3500				
100 S	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
200				
300				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
SAN FERNANDO				
400	Arbutus marina	Marina Strawberry Tree	Yes	25-30/25-30
500	Cercis canadensis	Eastern Redbud (median)	No	25/25
600	Magnolia x soulangiana	Saucer Magnolia (median)	No	15/15
700	Ginkgo biloba	Ginkgo (median)	Yes	20-40/40+
800	Geijera parviflora	Australian Willow, Wilga (median)	Yes	20-40/20-40
900				
1000				
SAN JOSE AVE				
300 E	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
400	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
500	Fraxinus angustifolia	Raywood Ash, Claret Ash	No	25/25-30
600				
700				
800				
900				
1000				
SANCOLA AVE				
	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
SANTA ANITA AVE				
100 E	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
200	**Prunus Cerasifera**	**Purple-leaf Flowering Plum**	No	20-40/20-40
300	*Cercis canadensis*	*Eastern Redbud (longevity/aesthetics)*	No	25/25
	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
400	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
500	Sophora japonica	Japanese Pagoda	No	35-40/35-40
600	Jacaranda mimosifolia	Jacaranda	No	20-40/20-40
700				
200 W	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
	Rhaphiolepis	**Rhaphiolepsis**	Yes	-20/-20
	Cercis canadensis	*Eastern Redbud (aesthetics)*	No	25/25

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
SARAH ST				
4100	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
4200	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
4300	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
4400				
SCOTT RD				
900 N	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
1000	Quercus agrifolia	Coast Live Oak	Yes	40+/40+
1100	Fraxinus angustifolia	Raywood Ash, Claret Ash	No	25/25-30
1200				
1300				
1400	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
1500	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1600	Cercis canadensis	Eastern Redbud	No	25/25
1700				
1800				
1900				
2000				
2100	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
2200	Fraxinus angustifolia	Raywood Ash, Claret Ash	No	25/25-30
2300	Quercus agrifolia	Coast Live Oak	Yes	40+/40+
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
	Tabebuia impetiginosa	*Pink Trumpet Tree (aesthetics)*	No	20-40/20-40
SCREENLAND DR				
100 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
200	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
300	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
600				
700				
800				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
SCREENLAND DR				
900	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1000	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
1100	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1200				
1300				
1400				
1500				
1800	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1900	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
2000	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
2100				
SEVENTH ST				
100 N	Eucalyptus ficifolia	Red Flowering Gum, Scarlet Gum	Yes	20-40/20-40
200	Eucalyptus leucoxylon	White Ironbark	Yes	30-45/60
300	Eucalyptus nicholii	Nichol's Willow-Leafed Peppermint	Yes	25-35/40
100 S	Eucalyptus nicholii	Nichol's Willow-Leafed Peppermint	Yes	25-35/40
200	*Eucalyptus ficifolia*	*Red Flowering Gum (add)*	Yes	20-40/20-40
300				
400				
500				
SEVENTH PL				
1100 N	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
SHELTON ST				
300 N	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
400	Chitalpa tashkentensis	Chitalpa	Yes	20-40/20-40
500	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
500 S				
600				
SHERLOCK DR				
900 S	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
1000	**Chitalpa tashkentensis**	**Chitalpa**	Yes	20-40/20-40
	Cercis canadensis	*Eastern Redbud (longevity/aesthetics)*	No	25/25
	Calodendrum capense	Cape Chestnut	Yes	40+/20-40

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
SIXTH ST				
100 N	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	Casuarina cunninghamiana	River She-Oak	Yes	30/50+
400	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
500	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
600	Casuarina cunninghamiana	River She-Oak	Yes	30/50+
700				
800				
900				
1000	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
1100	**Pistachia chinensis**	**Chinese Pistache**	Yes	40+/40+
1200	*Angophora costata*	*Gum Myrtle (increased canopy)*	Yes	20-40/20-40
1300	**Brachychiton populneus**	**Bottle Tree**	Yes	25-30/20-40
1400	*Quercus virginiana*	*Southern Live Oak (increased canopy)*	Yes	40+/40+
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
100 S	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
200	**Chitalpa tashkentensis**	**Chitalpa**	Yes	20-40/20-40
300	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
500				
600				
700				
800				
900				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
SKYLINE DR	No Parkway	No Parkway		
SPARKS ST				
100 N	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
200	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
300	Magnolia grandiflora	St Mary Magnolia	No	20/25
400				
500				
600				
700				
800				
1000				
1100				
1200				
1300				
2200	Magnolia grandiflora	St Mary Magnolia	No	20/25
2300	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
100 S	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
200	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
300	Magnolia grandiflora	St Mary Magnolia	No	20/25
400				
500				
600				
SPAZIER AVE				
100 W E of FWY	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
100 W W of FWY	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
200	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
300	Quercus ilex	Holly Oak		
400				
1000 E	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1100	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
STANFORD RD				
400 E	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
500	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
600	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
700 E	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
800	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
STARLIGHT CL	No Parkway	No Parkway		
STEPHAN RD				
	Cupaniopsis anacardioides	**Cupania, Carrotwood**	Yes	30/30
	Cassia leptophylla	*Gold Medallion Tree (aesthetics)*	No	20-40/20-40
	Sophora japonica	Japanese Pagoda	No	35-40/35-40
	Fraxinus angustifolia	Raywood Ash, Claret Ash	No	25/25-30
STOUGH CANYON RD	No Parkway	No Parkway		
SUNSET CANYON DR				
100 N	Jacaranda mimosifolia	Jacaranda		
200	Koelreuteria bipinnata	Chinese Flame Tree	No	20-40/20-40
300	Calodendrum capense	Cape Chestnut	Yes	40+/20-40
400				
500				
600				
700				
800				
900				
1000				
1100				
100S				
200				
300				
400				
500				
600				
700				
800				

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Green – New tree species to be added to Master Plan

STREET TREE MASTER PLAN – T

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
THIRD ST				
100 N	No Parkway	No Parkway		
200	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
300	No Parkway	No Parkway		
400	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
500				
600				
700				
800				
900	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
1000	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
1100	*Cercis canadensis*	*Eastern Redbud (aesthetics)*	No	25/25
1200	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
1300				
100 S	No Parkway	No Parkway		
200	Tabebuia impetiginosa	Pink Trumpet Tree	No	20-40/20-40
300				
400				
500				
THORNTON AVE				
2300 W	No Parkway	No Parkway		
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				
3400				
THURBER PL	No Parkway	No Parkway		

Key: Black – Existing tree species to remain in Master Plan
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Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
TOLUCA LAKE AVE				
4100	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
4200	Magnolia grandiflora	St Mary Magnolia	No	20/25
	Sophora japonica	Japanese Pagoda	No	35-40/35-40
TOLUCA LAKE LN	No Parkway	No Parkway		
TOLUCA PARK DR				
500	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
600	Quercus agrifolia	Coast Live Oak	Yes	40+/40+
	Ulmus parvifolia	Chinese Elm, Chinese Evergreen Elm	Yes	20-40/20-40
TRUDI LN	No Parkway	No Parkway		
TUFTS AVE				
400 E	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
500	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
600	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
700				
800				
900				
TUJUNGA AVE				
100 E	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
200				
300	Jacaranda mimosifolia	Jacaranda	No	20-40/20-40
400	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
500	**Ulmus parvifolia**	**Chinese Elm, Chinese Evergreen Elm**	Yes	20-40/20-40
600	*Quercus agrifolia*	*Coast Live Oak (native)*	Yes	40+/40+
700				
800				
900				
1000				
1200	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
1300	No Parkway			
1400	Hillside/View Conflict			
1500				
1600				
1700				

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Green – New tree species to be added to Master Plan

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
TUJUNGA AVE				
300	Tristania conferta	Brisbane, Pink or Australian Brush Box	Yes	20-40/20-40
	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
TULARE AVE				
1500	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
1600	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
1700	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1800	Ginkgo biloba	Maidenhair Tree	Yes	20-40/40+
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700	No Parkway	No Parkway		
2800	No Parkway	No Parkway		

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STREET TREE MASTER PLAN – U

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
UCLAN DR				
600 E	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
700	Fraxinus angustifolia	Raywood Ash, Claret Ash	No	25/25-30
800	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
900				
UNIVERSITY AVE				
100 E	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
400	Cercis canadensis	Eastern Redbud	No	25/25
500	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
600	*Jacaranda mimosifolia*	*Jacaranda (aesthetics)*	No	20-40/20-40
700				
800				
900				

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STREET TREE MASTER PLAN – V

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
VALENCIA AVE				
200 E	Magnolia grandiflora	St Mary Magnolia	No	20/25
300	Sophora japonica	Japanese Pagoda	No	35-40/35-40
400	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
500				
600				
700				
800				
900				
1000	No Parkway	No Parkway		
100 W of FWY	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
200 W of FWY	Hymenosporum flavum	Sweetshade	No	-20/20-40
300	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
400	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
VALERIO ST	No Parkway	No Parkway		
VALHALLA DR				
3500	Pinus canariensis	Canary Island Pine	Yes	20-40/40+
3600	Sophora japonica	Japanese Pagoda	No	35-40/35-40
3700	Casuarina cunninghamiana	River She-Oak	Yes	30/50+
3800				
VALLEY ST				
100 N	**Brachychiton populneus**	**Bottle Tree**	Yes	25-30/20-40
200	*Cinnamomum camphora*	*Camphor Tree (increased canopy)*	Yes	40+/30-40
600 N	*Quercus suber*	*Cork Oak (increased canopy)*	Yes	20-40/20-40
700	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
800	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
900				
1000				
1100				
1200				
1500				
1600				
1700				
1800				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
VALLEY ST				
1900	**Brachychiton populneus**	**Bottle Tree**	Yes	25-30/20-40
2000	*Cinnamomum camphora*	*Camphor Tree (increased canopy)*	Yes	40+/30-40
2100	*Quercus suber*	*Cork Oak (increased canopy)*	Yes	20-40/20-40
2200	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
2300	No Parkway	No Parkway		
100 S	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
VALLEYHEART DR				
1300	Quercus agrifolia	Live Oak	Yes	40+/40+
1400	Platanus X acerifolia	London Plane Tree, Sycamore	No	40+/40+
1500	Calodendrum capense	Cape Chestnut	Yes	40+/20-40
2900				
3000				
3100				
3200				
VALLEY VIEW CREST	No Parkway	No Parkway		
VALPREDA ST				
1800	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
VANOWEN PL				
4100	No Parkway	No Parkway		
4200				
VANOWEN ST				
2500	No Parkway	No Parkway		
2600	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
2700				
2800				
2900				
3000				
3100				
3200				
3300				
3400				
3500				
3600				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
VANOWEN ST				
3700	No Parkway	No Parkway		
3800				
3900				
4000				
4100				
4200				
4300				
4400				
VARNEY ST				
400 N	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
400 S	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
500	Rhaphiolepis	Rhaphiolepis	Yes	-20/-20
800				
1100	No Parkway	No Parkway		
1200				
VERDUGO AVE				
100 E	**Pyrus calleryana**	**Ornamental Pear, Callery Pear**	No	-20/20-40
200	*Angophora costata*	*Angophora (increased canopy)*	Yes	20-40/20-40
300	*Quercus virginiana*	*Southern Live Oak (increased canopy)*	Yes	40+/40+
400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
500	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
600				
700				
800				
900				
1000				
1100				
100 W	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
200	**Prunus Cerasifera**	**Purple-leaf Flowering Plum**	No	20-40/20-40
300	*Cercis canadensis*	*Eastern Redbud (longevity/aesthetics)*	No	25/25
900	Photinia fraseri	Photenia	Yes	-20/-20
1000				
1100				
1200				
1300				
1400				
1500				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
VERDUGO AVE				
1600	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1700	*Cercis canadensis*	*Eastern Redbud (longevity/aesthetics)*	No	25/25
1800	*Jacaranda Mimosifolia*	*Jacaranda (aesthetics)*	No	20-40/20-40
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				
3400				
3500				
3600				
3700				
3800				
3900				
4000				
4100	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
4200	Quercus agrifolia	Live Oak	Yes	40+/40+
4300	Photinia fraseri	Photenia	Yes	-20/-20
4400				
400 S	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
500	Prunus Cerasifera	Purple-leaf Flowering Plum	No	20-40/20-40
	Photinia fraseri	Photenia	Yes	-20/-20
VERDUGO SPRING LN	No Parkway	No Parkway		
VIA ALTA	No Parkway	No Parkway		
VIA CARMELITA	No Parkway	No Parkway		

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
VIA LA PAZ	No Parkway	No Parkway		
VIA MONTANA				
100 S	**Pinus canariensis**	**Canary Island Pine**	Yes	20-40/40+
200	*Angophora costata*	*Angophora (diversification)*	Yes	20-40/20-40
300				
VIA PROVIDENCIA	No Parkway	No Parkway		
VICTORIA PL				
800	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
	Rhaphiolepis	Rhaphiolepis	Yes	-20/-20
	Photinia fraseri	Photenia	Yes	-20/-20
VICTORY BLVD				
100 N	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
200	Cercis canadensis	Eastern Redbud (add-longevity/aesthetics)	No	25/25
300				
400				
500				
600				
700				
800				
900				
1000 W	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
1100	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
1200	Fraxinus angustifolia	Raywood Ash, Claret Ash	No	25/25-30
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
VICTORY BLVD				
2600 W	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
2700	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
2800	Fraxinus angustifolia	Raywood Ash, Claret Ash	No	25/25-30
2900				
3000				
3100				
3200				
3300				
3400				
3500				
3600				
3700				
3800				
3900				
4000				
4100				
4200				
4300				
4400				
100 S	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
200				
300				
1000 W	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
500	Fraxinus angustifolia	Raywood Ash, Claret Ash	No	25/25-30
600				
700				
800				
900				
1000				
1100				
1200				
1300				
VICTORY CT	No Parkway	No Parkway		
300 W				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
VICTORY PL				
1000	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1100	Pyrus kawakamii	Evergreen Pear	No	-20/20-40
1200				
1300				
1400				
1500				
1600				
1700				
1800				
1900				
2000				
2100				
2200				
2300				
VIEW DR	No Parkway	No Parkway		
VIEWCREST DR	No Parkway	No Parkway		
VIRGINIA AVE				
100 S	Geijera parviflora	Australian Willow, Wilga	Yes	20-40/20-40
200	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
300	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
VISTA GRANDE	PRIVATE	PRIVATE		
VISTA RIDGE	No Parkway	No Parkway		

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STREET TREE MASTER PLAN – W

Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
WALNUT AVE				
100 E	Magnolia grandiflora	St Mary Magnolia	No	20/25
400	Sophora japonica	Japanese Pagoda	No	35-40/35-40
500	Cinnamomum camphora	Camphor Tree	Yes	40+/30-40
600	Magnolia grandiflora	St Mary Magnolia	No	20/25
700	Sophora japonica	Japanese Pagoda	No	35-40/35-40
800	Melaleuca styphelioides	Prickly Paper-bark, Ridge Leaf Melaleuca	Yes	20-40/20-40
900				
1000				
1100	No Parkway	No Parkway		
1200				
1300				
1400				
1500				
WARNER BLVD				
3300	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
3400	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
3500	Sophora japonica	Japanese Pagoda	No	35-40/35-40
4000				
4100				
4200				
WASHINGTON CIRCLE				
2300	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
WEDGEWOOD LN	PRIVATE	PRIVATE		
WHITNALL HIGHWAY				
100 N	Magnolia grandiflora	St Mary Magnolia	No	20/25
200	Sophora japonica	Japanese Pagoda	No	35-40/35-40
400	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
600				
700				
1200				
1300				
1400				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
WHITNEY LN				
3200	No Parkway	No Parkway		
WILDWOOD CANYON RD				
2600 (PARK)	No Parkway	No Parkway		
WILLOW ST				
2700	No Parkway	No Parkway		
WILSON AVE				
1600	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
WILSON CT				
700 S	No Parkway	No Parkway		
WINONA AVE				
	Lagerstroemia indica	Crape Myrtle	Yes	-20/-20
1600 – north side–power lines	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
1700	Firmiana simplex	Chinese Parasol Tree	No	15-20/20-30
1800				
1900	*Ginkgo biloba*	*Maidenhair (diversification)*	Yes	20-40/40+
2000 – south side–no power lines	*Pistachia chinensis*	*Chinese Pistache (increased canopy)*	Yes	40+/40+
2100				
2200				
2300				
2400	No Parkway	No Parkway		
2500				
WINONA AVE				
2700	**Lagerstroemia indica**	**Crape Myrtle**	Yes	-20/-20
2800	*Cercis canadensis*	*Eastern Redbud (diversification/add)*	No	25/25
2900				
3000				
3100				
3200				
3300				
3400				

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Street & Block No.	Botanical Name	Common Name	Drought Tolerant	Canopy Size/Height
WOODLAND AVE				
4100	Liriodendron tulipfera	Tulip Tree, Yellow Poplar	No	20-40/40-50
4200				
4300				
4400				
WOODSTOCK LN				
2600	**Cupaniopsis anacardioides**	**Cupania, Carrotwood**	Yes	30/30
	Cercis canadensis	*Eastern Redbud (aesthetics)*	No	25/25
	Cassia leptophylla	Gold Medallion Tree	No	20-40/20-35
	Hymenosporum flavum	Sweetshade	No	-20/20-40
WYOMING AVE				
2600 W	Pyrus calleryana	Ornamental Pear, Callery Pear	No	-20/20-40
2700	Pistachia chinensis	Chinese Pistache	Yes	40+/40+
2800	Brachychiton populneus	Bottle Tree	Yes	25-30/20-40
2900				
3000				
3100				
3200				
3300				
3400				

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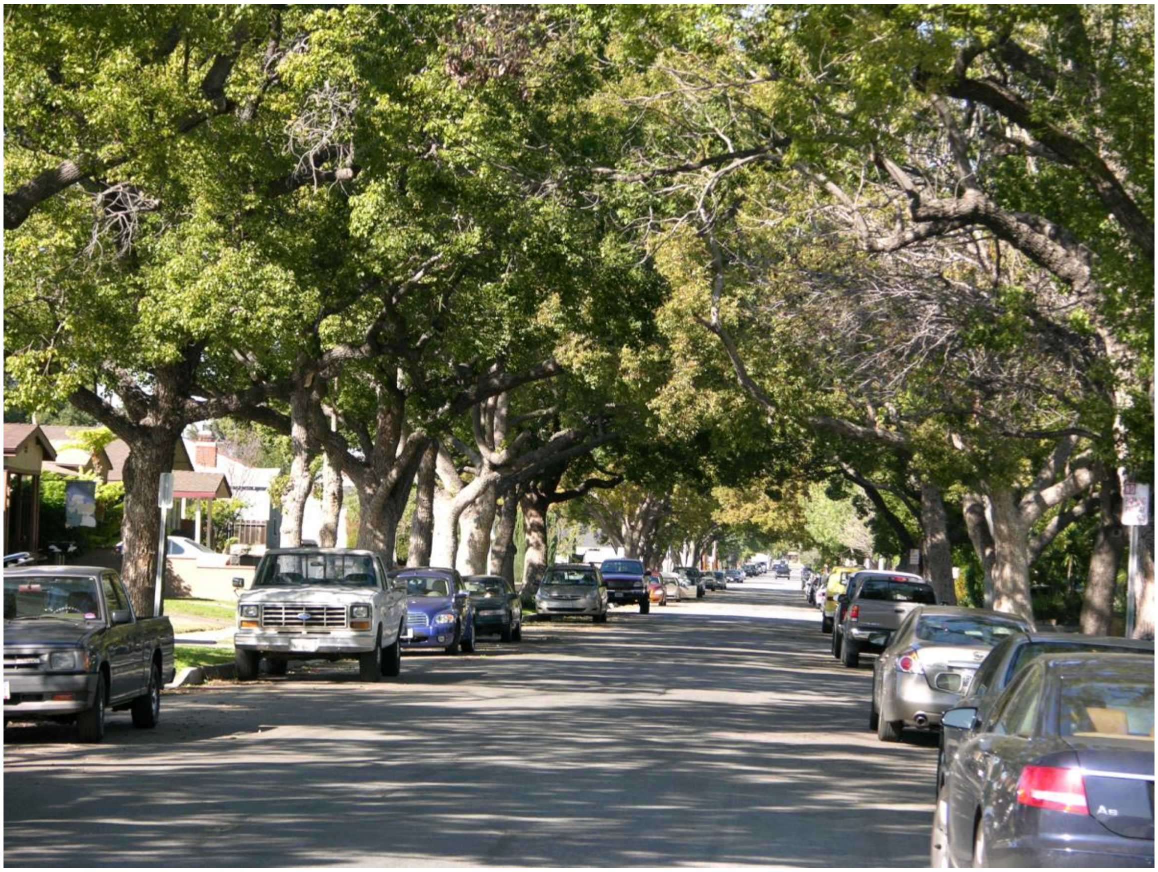
City of Burbank
Street Tree Master Plan Review



City of Burbank
Park, Recreation and Community Services Department
275 East Olive Avenue
Burbank, CA 91510-6459

April 25, 2008

City of Burbank
Street Tree Master Plan Review

TABLE OF CONTENTS

Introduction

A review of tree species selected for public streets in the City of Burbank was conducted at the request of the City. The trees were reviewed with the goal of increasing City-wide street-tree canopy coverage in a sustainable manner while maintaining iconic groupings and gateway plantings associated with the aesthetic beauty of the neighborhoods. Examples of groups to be retained due to excellent canopy coverage are some of the many Camphor covered streets in Burbank neighborhoods.

This review relates to an existing, working document known as the Street Tree Master Plan. There are at least two tree species, usually three, approved for each street that were reviewed in this survey. Generally, the larger maturing trees should be the first choice as they provide greater canopy coverage and greater benefits. Existing stands of large crown trees such as Camphors, Oaks, and Sycamores should be retained wherever possible.

Standards for changing a tree selection: Larger canopy tree; increased species diversification; better adaptation to site conditions, performance and longevity; and aesthetics

The most common reason for changing a recommended tree selection for a particular street is in the case where a larger spreading canopy tree will fit the available parkway space. The space at the ground plane is a crucial consideration since root expansion will cause substantial problems if the space is too small.

Other criteria for changing the tree selections include: where species diversification could be increased; where a particular species might be better adapted to environmental conditions; and where a species may be better suited aesthetically after first considering the above factors.

This Street Tree Master Plan review should be viewed as a fluid document where tree selections are not necessarily final or unchangeable.

Tree selections are chosen for adaptability to the confines of the urban setting and for lower maintenance requirements. Choosing a particular tree should consider basic growth characteristics, such as whether this species will reasonably fit the intended planting space, desirability of an evergreen or deciduous tree, ultimate crown size and height, rooting characteristics, potential for tree structural problems, and shedding propensities of flowers, fruit, seedpods, and leaves.

After these considerations are met, the process of changing a tree selection may involve a significant degree of subjectivity, especially where aesthetics are the consideration.

Subjective arguments could ensue endlessly with regard to tree aesthetics. One person's favorite tree may cause great annoyance to the next person. One famous case in point is the Jacaranda tree. This tree is widely revered for its beauty and at the same time despised for its droppings. It has a fantastic display of blue flowers in late spring. It is a wonderful experience to drive or walk a city street lined on both sides with Jacarandas in full bloom. Their fern-like foliage is soft and wispy. Yet, many of the residents on that same street have a vehement disdain for the slippery and staining flowers once they have fallen. A note in the Street Tree Seminar, Inc. publication for trees in Southern California states, "Consider public opinion before reforestation with Jacarandas: few trees are regarded more highly- as long as they are on someone else's property." I believe there is a place for this tree in street plantings, but people should be informed about all of its characteristics before mass planting.

Another example is the Liquidambar tree. This species was a widely planted street tree 40 or 50 years ago. People loved its spectacular fall foliage colors and stately height. But now we have learned some hard lessons about the Liquidambar. The species has a tendency to drop branches in hot weather, roots are very aggressive and wreak havoc with sewer lines and pavement, and the hard-spiked, spherical seedpods can become a nuisance to people walking down the sidewalk. This tree is no longer recommended for planting in City of Burbank streets.

Another example is illustrated by the Ficus trees on Magnolia Boulevard. These trees are now targeted for replacement and are no longer a recommended street tree in the City. Indian Laurel Fig was valued for a clean looking, dense evergreen crown, on a medium to large scale frame. But with age, the roots of this tree become very assertive and can easily displace sidewalks, curbs and gutters. Further, it can block signage and drop 'berries', actually small figs that cause inconvenience and extra clean-up for businesses located below.

Yet another case is illustrated by the Carrotwood tree. This was once considered the new ‘perfect tree’. Attractive young glossy leaves on an evergreen tree of mid-sized frame made this a desirable choice. It was widely planted in city streets throughout southern California. Only later was it realized the incredible mess these trees could create with their sticky fruit drop and is now no longer recommended for planting in the streets of Burbank.

Finally, two additional trees no longer recommended for planting in the streets of Burbank come to mind. These are Carob and Aleppo Pine. Both of these species become very large in advanced age. Further, they are subject to structural maladies as they reach senescence and are no longer recommended as street trees.

Thus after the basics of size to space and growth characteristics are considered, tree selection is somewhat subjective, influenced by personal tolerances and aesthetic preferences. Again, one person’s dream tree may be another’s worst nightmare.

City of Burbank's Commitment to Forestry Services

The City of Burbank's Forestry Services Section has stated its commitment to Forestry Services in its mission statement: *"Burbank Forestry Services employees take pride in effectively providing the highest levels of service to enrich the quality of life for the community by building on our tradition of more than 50 years of public service, by our present commitment, and by our dedication to meet the challenges of the future."*

City of Burbank has attained Tree City USA designation for 31 consecutive years

In fact, the City of Burbank has not only stated but also demonstrated an exceptional commitment to urban forestry, earning the Tree City USA designation from the National Arbor Day Foundation for 31 consecutive years - one of only two cities with that distinction. The City's maintenance and planting of street trees has contributed significantly to its success in consistently earning this award.

City Forestry maintains an urban forest of approximately 35,000 trees overall. Burbank's Street Tree portion of the urban forest, excluding parks, currently consists of approximately 29,000 trees (Hansen 2007, 2). Funds are budgeted for staff and equipment for maintenance of the City's trees, however staff positions have been reduced while numbers of trees under maintenance has increased. There is a goal of planting 100 new trees annually. Installing a tree is done at the request of the adjacent resident.

The list of services provided by the Forestry Section is extensive and includes tree pruning (including clearing of broken branches), parkway tree removal, parkway tree planting, and some preventive root pruning.

City Forestry has been involved in planning of the Magnolia Street Reforestation Program, addressing sidewalk upheaval due to problem species (Ficus and Podocarpus) and making recommendations for replacement species.

A crucial component for the City's tree maintenance program is the staff and equipment required to water new trees, especially in the first few formative years. Sufficient quantities and frequency of irrigation water is the single most important requirement for survival and growth, after proper planting and quality nursery stock.

Taking irrigation into consideration, new trees are planted only at the request of residents, unless an entire streetscape is being renovated such as Burbank Boulevard. Adoption and watering by the adjacent resident is the best way to insure success. Conversely, if a tree is planted in front of a house against the wishes of the homeowner, chances of tree survival decline dramatically.

Sufficient water is also important for the health of more mature trees, especially during periods of drought. However, regarding water conservation, trees require far less quantities of water than other common landscape features such as turf-grass lawns. The majority of new commercial and industrial streetscapes are now required to have automatic irrigation.

Street Tree Master Plan as Living Document

Street Tree Master Plan has been continually updated by staff over the past 20 years

The Street Tree Master Plan has been a key document for the Park, Recreation and Community Services Department for approximately twenty years, as it lists the street tree species recommended for each city block. It is not meant to be a static document, but a living document intended to be updated by educated professionals within the City of Burbank's Forestry Services Section as they deem appropriate. City staff professionals have updated the species list over the years primarily to reflect maintenance experience with the selections – for example, Liquidambar and Ficus were removed from the list when they proved to be problematic species (Hansen 2007, 1).

Species changes made over the years to the Street Tree Master Plan reflect the City's long-standing interest in providing aesthetically pleasing choices that are reasonable to maintain and fit the available space. The City's decision to undertake a comprehensive, independent review of the document further affirms its commitment to best practices in urban forestry.

Considerations for Modifications to Species Selection

Any changes to the species selections should be undertaken only with good reason. In order to establish recommendations for such changes, a number of considerations are appropriate:

1. Net Economic Benefits of Larger Trees

Some evidence for the economic benefits of planting the largest-maturing tree in the appropriate planting space is provided by a study which quantified net economic benefits of urban trees in Inland Empire Communities, including the Burbank region. The study aimed to quantify both benefits (including energy savings, air quality improvement and aesthetic benefits of trees) and costs (including purchasing, planting, maintaining trees and infrastructure damage/repair).

Economic analysis shows the value of planting the largest maturing tree in the appropriate planting space

The study determined that the *average annual net benefits per tree increase with mature tree size* as follows (McPherson et al, 2001, 37):

* –$2 to $14 for a small tree (crown size 25 feet approx.)
* $33 to $57 for a medium tree (crown of 25-40 feet) and
* $66 to $85 for a large tree (crown of 40 feet and larger).

In order to promote sustainability at the least cost (and greatest net benefit), the City should maximize the impact of planting efforts while minimizing potential infrastructure encroachment. This can be accomplished through attention to available planting space as well as careful selection of planting stock for initial health and expected longevity.

2. Environmental and Social Benefits

Environmental benefits to an increased urban canopy include improved air quality and particulate reduction, reduced exposure to potentially cancer-causing ultraviolet radiation, ambient temperature reductions especially in periods of extreme heat, and energy savings (McPherson et al. 2001, 2-4).

There are also social benefits, such as increased property values, well-documented positive effects on human behavior, and restorative effects of trees on mental fatigue experienced in modern urban life. A further social benefit is the increased sense of attachment and belonging to a community associated with greater urban canopy (McPherson et al. 2001, 3-4).

3. Appropriate Species Selection and Diversification

Monocultures can be problematic when attacked by a species specific disease or insect. Burbank generally has good species diversification, but over reliance on any one particular species going forward could set the stage for catastrophic loss, such as the Dutch Elm Disease epidemic on American Elm of the last several decades.

Species should be diverse and well-suited to our Mediterranean climate

Species selected must be adapted to our Mediterranean climate, characterized by cool, wet winters and hot, dry summers. There may be opportunities to increase the representation of some native species such as Coast Live Oak, where space and environmental conditions allow. However, 'introduced species' of Mediterranean climate-zone trees make up the majority of recommended trees due to better adaptability to rigorous conditions found in the urban environment.

4. Aesthetic Considerations

Maintenance of iconic groups of trees and gateway plantings associated with the aesthetic beauty of the neighborhoods should be an important consideration of any Street Tree Master Plan. Retention of such emblematic groups of trees like the many Camphor covered streets (Photo A) or London Plane and California Sycamore lined neighborhoods (Photo B) should be a high priority.

Recommendations

"The right tree in the right place"

A longstanding arboricultural mantra is "The right tree should be planted in the right place". Many future problems can be lessened or avoided altogether by adherence to this guideline. *The general recommendation is to plant the largest-maturing tree in the appropriate planting space in order to maximize the total urban canopy and associated benefits.* Other recommendations included are complementary to this basic approach. The recommendations are thus:

1. Tree Species Guidelines by Size of Planting Space

Tree Species Index gives species choices and recommended available planting space

The goal is to plant tree species that mature at a larger size given available root and air space. Species selection is matched to available planting space. In the case of street trees this involves species selection lists by parkway size (see 'Tree Species Index' in Supplemental Information). Such a list would help to ensure the most efficient use of the planting space while still allowing discretion of Department staff in choosing an appropriate species for a given space.

City Forestry currently installs fifteen-gallon (15 gal.) size container trees. These trees are typically about six feet (6 ft.) in height with a trunk diameter of about one inch (1 in.). Depending on species, the trees grow at different rates to their ultimate size. Variation in species can be quite divergent. For instance a Crape Myrtle grows somewhat slowly (15 years) to a design height and spread of about twenty feet (20 ft.), while a Tipu Tree grows rapidly (20 feet in 4-5 years) to an ultimate size of fifty feet (50 ft.) in height and crown spread. Each tree's rate of growth and ultimate size can be quite different and is linked to its genetic program.

Further, trees often vary by individual within a species. Analagous to this is the case of variability within humankind. We are all members of the same genus and species, *Homo sapiens*, but individuals can vary greatly in physical attributes influenced by their genetic code and/or environmental conditions.

Thus, we have three general crown sizes into which the City street trees have been categorized: small, medium and large. Small trees can be expected to mature at about twenty five feet (25 ft.) in ten to fifteen years (10-15 yrs.). Medium sized trees fall into the twenty five feet to forty feet (25-40 ft.) crown height and spread range in twenty years (20 yrs.). While, large trees are in the forty to sixty feet (40-60 ft.) range for crown height and spread, taking twenty to thirty years (20-30 yrs.) to reach this size.

2. Street Tree Master Plan Changes

Changes in species selections on individual streets have been made with the above considerations of the prior section in mind – net economic benefits of larger trees, environmental and social benefits, species diversification and aesthetic considerations. Again, the primary goal is to maximize crown cover for available planting space.

The intent on each street is to provide appropriate species selections both for new street tree planting, and for replacement or reforestation after life expectancy of existing trees has been reached.

This concept is called ‘urban reforestation’. Trees have a lifespan, going through the stages of maturation to eventually reach over-maturity and death. Therefore, when a City parkway tree dies it will be replaced with one of the three species selections for that street.

Changes in the choices for each street were considered after examining the Street Tree Master Plan document and by viewing most of the City streets. Examples of some of the tree changes were previously discussed, including Jacaranda, Liquidambar, Ficus, Carrotwood, Carob and Aleppo Pine. Species changes were also influenced by aesthetic considerations.

Further opportunities to create gateways to neighborhoods should also be considered. Palms, while not great shade canopy trees, can be a valuable asset in this regard. Groups of palms formalize entries and define major crossings, such as the newly installed Date Palms at Burbank Boulevard and Buena Vista (Photo C).

This Street Tree Master Plan review does not presume wholesale additions of palm trees, but palms could be considered by Department staff for future delineation of the neighborhoods as was done on the Burbank Boulevard revitalization.

3. Public Education

The survival of a newly planted tree is particularly dependent on the property owner's appropriate watering of that tree. Residents' sense of pride and ownership of newly planted trees is an important aid in their maintenance. At present, the City only installs trees at the request of the adjacent resident, excepting whole street refurbishing in commercial areas such as Burbank Boulevard or South San Fernando Road where irrigation is installed with the new trees. Planting trees at the request of the resident helps to insure the new tree will get watered appropriately.

If larger scale residential reforestation is undertaken, the best chance for survival of young trees would include a public education outreach program to involve property owners in their responsibility to help maintain street trees, combined with additional support from maintenance staff to insure trees receive adequate water.

Coordinating public education programs and community involvement could help sustain new trees. A public education campaign could include components such as Channel 6 programs, an information web page, and pamphlets (door hangers) regarding the care of young trees.

4. Creating Space for Trees

The urban canopy can be increased through the means described above, without adjustment to existing planting space. A complementary approach is to consider where larger planting spaces may be created to allow room for more growth of existing trees, especially at the ground plane (Photos D and E).

The City has implemented strategies to minimize root damage to infrastructure

Some of the most difficult and costly maintenance hardships presented by street trees are root encroachment on sidewalks (pushing up pavement, creating a tripping hazard for pedestrians), curbs and gutters (stopping the flow of water), as well as interference with overhead electrical conduction lines. The City has used expanded tree wells, tree grates, root pruning, meandering sidewalks, ramp building and patching, among others to minimize infrastructure damage and encroachment on sidewalks.

In some cases, it may be worth the trade-off to install a wide spreading canopy tree with the intent of widening the sidewalk at a later date, especially to retain more Oak, Sycamore and Camphor trees in the street tree inventory.

5. Budgetary Funding

Substantial increases in the urban canopy cannot be expected without additional maintenance funding and staffing. As mentioned earlier, root encroachment on hardscape (sidewalks, curbs and gutters) is one of the most common problems encountered in maintaining mature street trees.

Costs can be minimized at the outset with judicious species selection for available planting spaces (the right tree in the right place), and careful scrutiny of root abatement procedures for existing trees. However, increased numbers of trees also raise watering, pruning and monitoring costs.

Conclusion

The City of Burbank has a strong record of success in maintaining and increasing its urban canopy and has reaped environmental and social benefits as a result. The existing Street Tree Master Plan has been a useful document for two decades, and has been modified by experience during that time. Further modifications to species selections should incorporate guidelines that maximize and increase the urban canopy appropriately for the available planting space. There should be a good reason to change the original species.

The criteria for changing a species of trees includes the following:

The benefits of an urban canopy can be maximized with species selection based on careful consideration of relevant factors

- where a larger tree will fit the available space;
- where species diversification could be increased;
- where a particular species might be better adapted to environmental conditions, increasing performance and longevity; and
- where a species may be better suited aesthetically after first considering the above factors.

Increased urban canopy requires continued commitment to budgetary funding for urban forest development and maintenance. However, the net economic benefit of urban forests has been demonstrated. The attached review of the Street Tree Master Plan is intended to provide updated guidelines for future urban canopy development that can be maintained at the lowest possible cost with careful management of available resources.

Supplemental Information

- References
- Photos A through N
- Species Selection Index
- Street Tree Master Plan

References

City of Burbank Forestry Services. Brochure. 1994.

City of Los Angeles Urban Forestry Division. Urban Forestry Division: Street Tree Selection Guide. http://www.lacity.org/boss/UrbanForestryDivision/StreetTreeSelectionGuide.htm

City of Santa Monica. Community Forest Management Plan 2000. http://smgov.net/osm/Trees/Mgmt_Plan/Complete.pdf

Clark, James R. and Rober Kjelgren. 2006. Water as a limiting factor in the development of urban trees. *Western Arborist* Volume 32 Number 3: 20-25.

Costello, L. R., K. S. Jones. 2003. *Reducing Infrastructure Damage By Tree Roots: A Compendium of Strategies*. Cohasset: Western Chapter of the International Society of Arboriculture (WCISA).

Hagen, Bruce W. 2007. Root pruning. *Western Arborist* Volume 33 Number 2: 18-22.

Hansen, Eric. 2007. Street Tree Report. Memorandum to City Manager, July 10, Burbank, CA.

Harris, Richard W., James R. Clark, Nelda P. Matheny. 2004. *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines*. Upper Saddle River: Pearson Education, Inc.

McPherson, E. Gregory, James R. Simpson, Paula J. Peper, Qingfu Xiao, Dennis R. Pittenger, Donald R. Hodel. 2001. *Tree Guidelines for Inland Empire Communities*. Sacramento: Local Government Commission.

Appendix D

Air Quality, Greenhouse Gas Emissions, and Energy Memorandum

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MEMORANDUM

To:	Marisa Garcia, City of Burbank Parks & Recreation Director
From:	Shane Russett, Dudek
Subject:	Aleppo Pine Tree Removal Project – Air Quality, Greenhouse Gas Emissions, and Energy Memorandum
Date:	1/9/2024
cc:	Carey Fernandes, Dudek
Attachment(s):	Attachment A: CalEEMod Emissions Output

Dudek is pleased to present the following air quality, greenhouse gas (GHG) emissions, and energy assessment for the proposed Aleppo Pine Tree Removal Project (project) located in the City of Burbank, California (City). This memorandum estimates and assesses air quality, GHG emissions, and energy impacts from the project in accordance with the California Environmental Quality Act (CEQA) Guidelines and City of Burbank standards.

1 Project Description

The project consists of the removal of approximately 119 Aleppo trees (Figure 2, Tree Removal Locations) that have been found to be at risk based on an extensive urban forestry analysis of the tree health and risk of falling trees or tree parts. There has been a history of tree failures in the past year with two (2) complete tree failures occurring during rainy weather conditions. There were no reported injuries but there was a significant amount of property damage. The trees in question were planted roughly 100+ years ago when the properties were first developed. The trees are located in residential neighborhoods with active pedestrian and vehicle traffic, and are planted in park strips, adjacent to the local streets.

2 Air Quality Assessment

2.1 Background

2.1.1 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants that are evaluated include volatile organic compounds (VOCs; also referred to as reactive organic gases [ROG]);oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), particulate matter with an aerodynamic diameter less than or equal to 10 microns in size (coarse particulate matter, or PM_{10}), and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns in size (fine particulate matter, or $PM_{2.5}$). VOCs and NO_x are important because they are precursors to ozone (O_3).

Regarding National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) attainment status,[1] the SCAB is designated as a nonattainment area for federal and state O_3 standards and federal and state $PM_{2.5}$ standards. The SCAB is also designated as a nonattainment area for state PM_{10} standards; however, it is designated as an attainment area for federal PM_{10} standards. The SCAB is designated as an attainment area for federal and state CO standards, federal and state NO_2 standards, and federal and state sulfur dioxide (SO_2) standards. The Los Angeles County portion of the SCAB is the only area that has been designated as nonattainment for the federal rolling 3-month average lead standard; however, it is designated attainment for the state lead standard (EPA 2022; CARB 2022a). The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

2.1.2 Non-Criteria Air Pollutants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). TACs are identified by federal and state agencies based on a review of available scientific evidence. In California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples of TACs include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills.

In August 1998, CARB classified "particulate emissions from diesel-fueled engines" (i.e., diesel particulate matter, or DPM) (17 CCR 93000) as a TAC. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70 the diameter of a human hair), and thus is a subset of $PM_{2.5}$. DPM is typically composed of carbon particles (soot, also called black carbon) and numerous organic compounds, including over 40 known carcinogenic organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-

1 An area is designated as in attainment when it is in compliance with the NAAQS and/or the CAAQS. These standards are set by the Environmental Protection Agency (EPA) and California Air Resources Board (CARB), respectively, for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. Attainment = meets the standards; attainment/maintenance = achieve the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified = expected to be meet the standard despite a lack of monitoring data.

butadiene. DPM contributes to premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Those most vulnerable to noncancer health effects are children, whose lungs are still developing, and the elderly, who often have chronic health problems.

2.1.3 Odorous Compounds

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

2.2 Thresholds of Significance

The significance criteria used to evaluate project impacts to air quality are based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), as follows:

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

B. 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

C. Expose sensitive receptors to substantial pollutant concentrations

D. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people

Appendix G of the CEQA Guidelines indicates that, where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon to determine whether the project would have a significant impact on air quality. SCAQMD has adopted thresholds to address the significance of air quality impacts resulting from a project. A project would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for O_3, which is a nonattainment pollutant, if the project's construction emissions would exceed SCAQMD's VOC or NO_x significance thresholds shown in Table 1. These emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly, and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be reliably or meaningfully determined through air quality models or other quantitative methods.

Table 1. SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	**Construction (Pounds per Day)**	**Operation (Pounds per Day)**
VOCs	75	55
NO_x	100	55
CO	550	550
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Lead[a]	3	3
TACs and Odor Thresholds		
TACs[b]	Maximum incremental cancer risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic and acute hazard index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards for Criteria Pollutants[c]		
NO_2 1-hour average NO_2 annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.030 ppm (state) and 0.0534 ppm (federal)	
CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state /federal)	
PM_{10} 24-hour average PM_{10} annual average	10.4 μg/m³ (construction)[d] 2.5 μg/m³ (operation) 1.0 μg/m³	
$PM_{2.5}$ 24-hour average	10.4 μg/m³ (construction)[d] 2.5 μg/m³ (operation)	

Source: SCAQMD 2023.
Notes: SCAQMD = South Coast Air Quality Management District; VOCs = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; TAC = toxic air contaminant; NO_2 = nitrogen dioxide; ppm = parts per million; μg/m³ = micrograms per cubic meter.

a The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.
b TACs include carcinogens and non-carcinogens.
c Ambient air quality standards for criteria pollutants are based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.
d Ambient air quality threshold are based on SCAQMD Rule 403.

The phasing out of leaded gasoline started in 1976. As gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.

In addition to the emission-based thresholds listed in Table 1, SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the project as a result of construction activities. Such an evaluation is referred to as a localized significance threshold (LST) analysis. To account for truck activity, it was assumed that each truck would travel 1,000 feet on-site. For project sites of 5 acres or less, the SCAQMD LST Methodology includes lookup tables that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for NO_2, CO, PM_{10}, and $PM_{2.5}$) without performing project-specific dispersion modeling (SCAQMD 2009). The project would disturb less than 5 acres per day, so it is appropriate to use the lookup tables for the LST evaluation.

The LST significance thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust). The LST significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. The allowable emission rates depend on the following parameters:

- Source-receptor area (SRA) in which the project is located
- Size of the project site
- Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals)

The project site is located in SRA 7 (East San Fernando Valley). LST pollutant screening level concentration data is currently published for 1-, 2-, and 5-acre sites for varying distances. The nearest sensitive-receptor land uses are residences on the boundaries of which tree removal will occur. As such, the LST receptor distance was assumed to be 25 meters, the most conservative distance option. The LST values from the SCAQMD lookup tables for SRA 7 (East San Fernando Valley) for a 1-acre project site and a receptor distance of 25 meters are shown in Table 2.

Table 2. Localized Significance Thresholds for Source-Receptor Area 33 (Southwest San Bernardino Valley)

Pollutant	Threshold (pounds/day)
Construction	
NO_2	80
CO	498
PM_{10}	4
$PM_{2.5}$	3

Source: SCAQMD 2009.
Notes: NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter
Localized significance thresholds were determined based on the values for a 1-acre site at a distance of 25 meters from the nearest sensitive receptor.

2.3 Approach and Methodology

The California Emissions Estimator Model (CalEEMod) Version 2022.1.1.21 was used to estimate emissions from the construction phase of the project. CalEEMod is a statewide computer model developed in cooperation with air districts throughout the state to quantify criteria air pollutant and GHG emissions associated with construction activities (CAPCOA 2022).

2.3.1 Construction

Criteria air pollutant emissions associated with construction of the project were estimated using CalEEMod for the following emission sources: operation of off-road construction equipment, fugitive dust, on-road hauling, vendor (material delivery) trucks, and worker vehicles. CalEEMod input parameters were based on information provided by the applicant, or on default assumptions if project-specific data was not available. Construction was assumed to commence in January 2025 and last approximately 6 months.[2] The analysis contained herein is based on the assumption that the project's single phase, Tree Removal, would commence for 121 days, from 1/1/2025 to 6/18/2025.

The project is anticipated to result in 8 one-way haul truck trips per day as a result of tree debris. The mix of construction equipment, estimated hours of equipment operation per day, and on-road vehicles used for the air emissions modeling of the project are shown in Table 3. Additional details regarding construction assumptions are provided in the modeling output, Attachment A.

Table 3. Construction Scenario Assumptions

Construction Phase	Average Daily One-Way Vehicle Trips			Equipment		
	Workers	Vendor Trucks	Haul Trucks	Equipment Type	Quantity	Daily Usage Hours
Phase 1						
Tree Removal	18	0	8	Crane	1	8
				Rubber Tired Loader	1	4
				Chainsaws	3	8
				Woodchipper	1	6
				Stump Grinder	1	4

Notes: See Attachment A for details.

2 The analysis assumes a construction start date of January 2025, which represents the earliest date construction would initiate. Assuming the earliest start year for construction represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

2.3.2 Operations

The project would not alter the City's operations. No additional staff would be necessary for operation of the project.

2.4 Impact Analysis

2.4.1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

SCAQMD administers SCAB's Air Quality Management Plan (AQMP), which is a comprehensive document outlining an air pollution control program for attaining all CAAQS and NAAQS. The AQMP is the regional path towards improving air quality and meeting federal standards for air pollutants, and each AQMP incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The most recent approved SCAQMD AQMP is the 2022 AQMP (SCAQMD 2022), which was adopted by the SCAQMD Governing Board in December 2022. The SCAQMD 2022 AQMP was developed to address the attainment of the 2015 national 8-hour O_3 ambient air quality standard (70 parts per billion) for the SCAB and Coachella Valley. The 2022 AQMP provides actions, strategies, and steps needed to reduce air pollutant emissions and meet the O_3 standard by 2037.

The purpose of a consistency finding with regard to the AQMP is to determine if a project is consistent with the assumptions and objectives of the regional air quality plans, and if it would interfere with the region's ability to comply with federal and state air quality standards. SCAQMD has established criteria for determining consistency with the currently applicable AQMP in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD CEQA Air Quality Handbook. These criteria are (SCAQMD 1993):

- Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP.
- Whether the project would exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

To address the first criterion, project-generated criteria air pollutant emissions have been estimated and analyzed for significance and are addressed under Section 3.4.2. Detailed results of this analysis are included in Attachment A, CalEEMod Emissions Outputs. As presented in Section 3.4.2, construction and operation of the project would not generate criteria air pollutant emissions that exceed SCAQMD's thresholds.

The second criterion regarding the project's potential to exceed the assumptions in the AQMP or increments based on the year of project buildout and phase is primarily assessed by determining consistency between the project's land use designations and its potential to generate population growth. In general, projects are considered consistent with, and not in conflict with or obstructing implementation of, the AQMP if the growth in socioeconomic factors is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook). SCAQMD primarily uses demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for its Regional Transportation Plan/Sustainable Communities Strategy

(RTP/SCS) (SCAG 2020). The most recent RTP/SCS is SCAG's 2020–2045 RTP/SCS (Connect SoCal), which was adopted on September 3, 2020. This document, which is based on general plans for cities and counties in the SCAB, is used by SCAQMD to develop the AQMP emissions inventory (SCAQMD 2022).[3] The SCAG 2020–2045 RTP/SCS and the associated Regional Growth Forecast are generally consistent with the local plans; therefore, the 2022 AQMP is generally consistent with local government plans.

The project involves the removal and replacement of Aleppo Pine trees, and would be non-operational in nature. As the project would be consistent with the General Plan designation and zoning for the site, implementation of the project would not generate an increase in growth demographics that would conflict with existing projections within the region. Accordingly, the project is consistent with the SCAG RTP/SCS forecasts used in the SCAQMD AQMP development.

In summary, based on the considerations presented for the two criteria, impacts relating to the project's potential to conflict with or obstruct implementation of the applicable AQMP would be less than significant.

2.4.2 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

Construction Emissions

Proposed construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment) and off-site sources (i.e., haul trucks and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity; the specific type of activity; and, for particulate matter, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated.

Internal combustion engines used by construction equipment, trucks, and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions would also be generated by entrained dust, which results from the exposure of earth surfaces to wind from the direct disturbance and movement of

[3] Information necessary to produce the emissions inventory for the SCAB is obtained from SCAQMD and other governmental agencies, including the California Air Resources Board (CARB), California Department of Transportation (Caltrans), and SCAG. Each of these agencies is responsible for collecting data (e.g., industry growth factors, socioeconomic projections, travel activity levels, emission factors, emission speciation profile, and emissions) and developing methodologies (e.g., model and demographic forecast improvements) required to generate a comprehensive emissions inventory. SCAG incorporates these data into its Travel Demand Model for estimating/projecting vehicle miles traveled and driving speeds. SCAG's socioeconomic and transportation activities projections in the Connect SoCal are integrated in the 2022 AQMP (SCAQMD 2022).

soil. Table 4 presents the estimated maximum daily construction emissions generated during tree removal. Details of the emission calculations are provided in Attachment A.

Table 4. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
	pounds per day					
Summer						
2025	62.84	13.13	76.35	0.02	1.92	1.38
Winter						
2025	62.84	13.16	76.16	0.02	1.92	1.38
Maximum	**62.84**	**13.16**	**76.35**	**0.02**	**1.92**	**1.38**
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District.
The values shown are the maximum summer or winter daily emissions results from CalEEMod. Emissions include compliance with SCAQMD Rule 403 and Rule 1113.
See Attachment A for complete results.

As shown in Table 4, project construction would not exceed SCAQMD's daily thresholds. Therefore, construction impacts associated with criteria air pollutant emissions would be less than significant.

Operational Emissions

The proposed project would not alter the City's operations. No additional staff would be necessary for operation of the project. Because the project would not result in substantial changes to routine operational activities, air quality impacts associated with operational air pollutant emissions would be less than significant.

2.4.3 Would the project expose sensitive receptors to substantial pollutant concentrations?

Localized Significance Thresholds

Sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). The nearest sensitive-receptor land uses are residences on the boundaries of which tree removal will occur.

Construction activities associated with the project would result in temporary sources of on-site fugitive dust, construction equipment emissions, and on-site mobile source emissions. The maximum allowable daily emissions that would satisfy the SCAQMD localized significance criteria for SRA 7 are presented in Table 5 and compared to the maximum daily on-site construction emissions.

Table 5. Localized Significance Thresholds Analysis for Project Construction - Unmitigated

Maximum On-Site Emissions	NO_2	CO	PM_{10}	$PM_{2.5}$
	Pounds per Day			
2025	13.16	76.35	1.92	1.38
SCAQMD LST	*80*	*498*	*4*	*3*
LST Exceeded?	**No**	**No**	**No**	**No**

Source: SCAQMD 2009.
Notes: NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District; LST = localized significance threshold.
Localized significance thresholds are shown for a 1.5-acre project site corresponding to a distance to a sensitive receptor of 25 meters.
Emissions include quantification of PDF-AQ-1 and PDF-AQ-2.

As shown in Table 5, the project LST would not exceed the established significance thresholds, and thus would result in a less than significant impact to sensitive receptors during construction.

CO Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed CO "hotspots." CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels affecting sensitive receptors. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (LOS) (LOS E or worse is unacceptable). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

Title 40 of the Code of Federal Regulations, Section 93.123(c)(5), Procedures for Determining Localized CO, PM_{10}, and $PM_{2.5}$ Concentrations (Hot-Spot Analysis), states that "CO, PM_{10}, and $PM_{2.5}$ hot-spot analyses are not required to consider construction-related activities, which cause temporary increases in emissions. Each site which is affected by construction-related activities shall be considered separately, using established 'Guideline' methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site" (40 CFR 93.123). While project construction would involve on-road vehicle trips from trucks and workers during construction, construction activities would last approximately 6 months and would not require a project-level construction hotspot analysis.

In addition, at the time that the SCAQMD Handbook (SCAQMD 1993) was published, the SCAB was designated nonattainment under the CAAQS and NAAQS for CO. In 2007, the SCAQMD was designated in attainment for CO under both the CAAQS and NAAQS as a result of the steady decline in CO concentrations in the SCAB due to turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities. The SCAQMD conducted CO modeling for the 2003 AQMP (SCAQMD 2003) for the four worst-case intersections in the SCAB: 1) Wilshire Boulevard and Veteran Avenue; 2) Sunset Boulevard and Highland Avenue; 3) La Cienega Boulevard and Century Boulevard; 4) Long Beach Boulevard and Imperial Highway.

The 2003 AQMP projected 8-hour CO concentrations at these four intersections for 1997 and from 2002 through 2005. From years 2002 through 2005, the maximum 8-hour CO concentration was 3.8 parts per million at the Sunset

Boulevard and Highland Avenue intersection in 2002 and the maximum 8-hour CO concentration was 3.4 parts per million at the Wilshire Boulevard and Veteran Avenue in 2002. At the time the 2003 AQMP was prepared, the intersection of Wilshire Boulevard and Veteran Avenue was the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day.

Accordingly, CO concentrations at congested intersections would not exceed the 1-hour or 8-hour CO CAAQS unless projected daily traffic would be at least over 100,000 vehicles per day. Because the project would not increase daily traffic volumes at any study intersection to more than 100,000 vehicles per day, a CO hotspot is not anticipated to occur.

Based on these considerations, the project would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. In addition, due to continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB is steadily decreasing. Based on these considerations, the project would result in a less-than-significant impact to air quality with regard to potential CO hotspots.

Toxic Air Contaminants

Toxic air contaminants (TACs) are defined as substances that may cause or contribute to an increase in deaths or in serious illness, or that may pose a present or potential hazard to human health. The closest sensitive receptors to the project site are residential land uses proximate to the project site.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SCAQMD recommends an incremental cancer risk threshold of 10 in 1 million. “Incremental cancer risk” is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. The SCAQMD recommends a Hazard Index of 1 or more for acute (short-term) and chronic (long-term) non-carcinogenic effects. The greatest potential for TAC emissions during construction would be diesel particulate matter (DPM) emissions from heavy equipment operations and use of heavy-duty trucks.

DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts; however, no short-term, acute relative exposure level has been established for DPM. Total project construction would last approximately 6 months, after which project-related TAC emissions would cease. According to the Office of Environmental Health Hazard Assessment, health risk assessments (which determine the exposure of sensitive receptors to toxic emissions) should be based on a 30-year exposure period for the maximally exposed individual receptor; however, such assessments should also be limited to the period/duration of activities associated with the project. An 8-month construction schedule represents a short duration of exposure (2% of a 30-year exposure period), while cancer and chronic risk from DPM are typically associated with long-term exposure. Thus, the project would not result in a long-term source of TAC emissions.

Exhaust PM_{10} is typically used as a surrogate for DPM, and as shown in Table 4, which presents total PM_{10} from fugitive dust and exhaust, project-generated construction PM_{10} emissions are anticipated to be below the SCAQMD threshold. Due to the relatively short period of exposure and minimal DPM emissions on site, TACs generated during construction would not be expected to result in concentrations causing significant health risks.

Health Effects of Criteria Air Pollutants

Construction and operation of the project would generate criteria air pollutant emissions; however, the project would not exceed the SCAQMD mass-emission thresholds.

The SCAB is designated as nonattainment for O_3 for the NAAQS and CAAQS. Thus, existing O_3 levels in the SCAB are at unhealthy levels during certain periods. Health effects associated with O_3 include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue (CARB 2019a). Because the project would not involve construction or operational activities that would result in O_3 precursor emissions (VOC or NO_x) that would exceed the SCAQMD thresholds, the project is not anticipated to substantially contribute to regional O_3 concentrations and associated health impacts.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for NO_2 (since NO_2 is a constituent of NO_x). Health effects associated with NO_x and NO_2 include lung irritation and enhanced allergic responses (CARB 2019b). As depicted in Table 4, project construction emissions would not exceed the SCAQMD thresholds for NO_x. Thus, the project is not expected to exceed the NO_2 standards or contribute to associated health effects.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (CARB 2019c). CO tends to be a localized impact associated with congested intersections. CO hotspots were discussed previously as a less than significant impact. Thus, the project's CO emissions would not contribute to the health effects associated with this pollutant.

The SCAB is designated as nonattainment for PM_{10} under the CAAQS and nonattainment for $PM_{2.5}$ under the NAAQS and CAAQS. Particulate matter contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing (EPA 2016). As with O_3 and NO_x, the project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed SCAQMD's mass daily or LST thresholds.

In summary, the project would not result in any potentially significant contribution to local or regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be less than significant.

2.4.4 Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Based on available information, the project is not anticipated to result in other emissions that have not been addressed under Section 3.4.1 through 3.4.3, above. As such, this analysis focuses on the potential for the project to generate odors.

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors would be potentially generated from vehicles and equipment exhaust emissions during tree removal. Potential odors produced during this phase would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment. Such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities (SCAQMD 1993). The project is non-operational in nature and would not create any new sources of substantial odor during operation. Therefore, project operations would result in an odor impact that is less than significant.

3 Greenhouse Gas Emissions Assessment

3.1 Background

3.1.1 Climate Change Overview

Climate change refers to any significant change in measures of climate—such as temperature, precipitation, or wind patterns—lasting for an extended period (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching the Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and buildup of heat in the atmosphere near the Earth's surface (troposphere). The greenhouse effect traps heat in the troposphere through a threefold process, as follows: short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. However, recent climate changes, in particular the warming observed over the past century, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of warming since the mid-twentieth century and are the most significant driver of observed climate change (IPCC 2013; EPA 2017). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system.

3.1.2 Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (see also 14 CCR 15364.5).[4] Some GHGs, such as CO_2, CH_4, and N_2O, are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes.

3.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2017). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons of CO_2 equivalent (MT CO_2e). The current version of CalEEMod assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC's Fourth Assessment Report (IPCC 2007).

3.2 Thresholds of Significance

The significance criteria used to evaluate the project impacts to GHGs are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to GHG emissions would occur if the project would:

A. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the proposed project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts

[4] Climate forcing substances include GHGs and other substances such as black carbon and aerosols.

should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated at a project level under CEQA.

The State CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the State CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009). The State of California has not adopted emission-based thresholds for GHG emissions under CEQA. The Governor's Office of Planning and Research's Technical Advisory, titled "Discussion Draft CEQA and Climate Change Advisory," states that:

> "[N]either the CEQA statute nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for performing an impact analysis. This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable.... Even in the absence of clearly defined thresholds for GHG emissions, such emissions must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact. (OPR 2018)

Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice." Section 15064.7(c) of the CEQA Guidelines specifies that "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

In October 2008, the SCAQMD proposed recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects as presented in its *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (SCAQMD 2008a). This guidance document, which builds on the previous guidance prepared by the CAPCOA, explored various approaches for establishing a significance threshold for GHG emissions. The draft interim CEQA thresholds guidance document was not adopted or approved by the Governing Board. However, in December 2008, the SCAQMD adopted an interim 10,000 metric tons carbon dioxide-equivalent (MT CO_2e) per-year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency (SCAQMD 2008b). The 10,000 MT CO_2e per-year threshold, which was derived from GHG reduction targets established in Executive Order (EO) S-03-05, was based on the conclusion that the threshold was consistent with achieving an emissions capture rate of 90% of all new or modified stationary source projects.

SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. From December 2008 to September 2010, SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1 Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2 Consider whether or not the project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3 Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2e per year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e per year), commercial projects (1,400 MT CO_2e per year), and mixed-use projects (3,000 MT CO_2e per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2e per year would be used for all non-stationary source projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4 Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2e per service population for project level analyses and 6.6 MT CO_2e per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5 Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

The City of Burbank Greenhouse Gas Reduction Plan Update (GGRP) proposes GHG thresholds based on service population, but since the project is non-operational in nature and will not result in a change in housing or employment, the thresholds provided in the GGRP are not applicable to the project.

Per the SCAQMD guidance, project emissions will be compared to the SCAQMD's draft threshold of 3,000 MT CO_2e per year. Construction emissions will be amortized over the operational life of the project, which is assumed to be 30 years (SCAQMD 2008a). This impact analysis, therefore, adds amortized construction emissions to the estimated annual operational emissions and then compares operational emissions to the proposed SCAQMD threshold of 3,000 MT CO_2e per year.

3.3 Approach and Methodology

3.3.1 Construction

CalEEMod was used to estimate potential project-generated GHG emissions during construction. Construction of the project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road haul trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 3.3.1 are also applicable for the estimation of construction-related GHG emissions. See Section 3.3.1 for a discussion of construction emissions calculation methodology and assumptions used in the GHG emissions analysis.

3.3.2 Operations

The proposed project would not alter the City's operations. No additional staff would be necessary for operation of the project.

3.3.3 Carbon Loss

the United States Department of Agriculture's (USDA) iTree Planting Calculator was used to evaluate the potential carbon loss due to increase in building energy use and loss of carbon sequestration associated with the Project (USDA 2023). Carbon loss was estimated using tree diameter at breast height (DBH) and tree condition provided by the City, along with default parameters within iTree.

3.4 Impact Analysis

3.4.1 Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

Construction Activity

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. GHG emissions generated by project construction are presented below in Table 6.

Table 6. Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	R	CO_2e
	Metric Tons				
2025	116.23	0.01	0.01	0.05	118.15
Total	**116.23**	**0.01**	**0.01**	**0.05**	**118.15**
Amortized Construction Emissions (Over 30-Years)					*3.94*

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R = refrigerants; CO_2e = carbon dioxide equivalent.
Totals may not sum due to rounding.
See Attachment A for complete results.

As shown in Table 6, the estimated total GHG emissions during construction would be approximately 118 MT CO_2e. Estimated project-generated construction emissions amortized over 30 years would be approximately 4 MT CO_2e per year.

Carbon Loss

The project will result in the removal of 131 mature Aleppo pine trees, which contribute to the sequestration of atmospheric carbon. These mature trees will be replaced by trees belonging to one of the following species: Pink Trumpet Tree, Coast Live Oak, Ginkgo Biloba, Chinese Pistache, and Canary Island Pine. A simulation using the USDA's iTree software was conducted to estimate the carbon benefit provided by the Aleppo pines slated for removal. This benefit will be added to the project's amortized construction emissions and will be evaluated against the SCAQMD's 3,000 MT CO_2e GHG emissions threshold. Although the Aleppo pines will be replaced, no credit for the carbon sequestration provided by the replacement trees will be taken, in order to provide a worst-case estimate of carbon loss. The results of the iTree simulation are provided below in Table 7.

Table 7. Aleppo Pine Removal iTree Simulation Results

Approximate DBH (inches)	Condition	Number of Trees	CO_2 Avoided (MT)	CO_2 Sequestered (MT)
6	Good	1	3.61	7.71
12	Good	3	11.57	24.62
18	Good	7	26.99	58.67
18	Fair	2	7.20	15.60
24	Good	10	38.56	81.37
24	Fair	8	28.79	61.37
30	Good	11	42.41	81.96
30	Fair	7	25.19	49.60
36	Good	27	104.11	168.76
36	Fair	14	50.38	83.44
42	Good	26	100.25	116.90
42	Fair	15	53.98	64.60
Total		**131**	**493.05**	**814.60**

Notes: CO_2 Avoided and CO_2 Sequestered are evaluated over a 99- year period, the maximum amount of time able to be analyzed in iTree. iTree assumes an electricity emissions factor of 252.4 kg CO_2 equivalent/MWh.

Note that CO_2 avoided refers to the decrease in CO_2 emitted due to a reduction in building energy use provided by the trees. CO_2 sequestered refers to the amount of CO_2 stored in the biomass of the trees themselves. Over a 99-year period, the Aleppo pine trees to be removed as a part of the project will avoid the emission of approximately 493 MT CO_2 and will sequester approximately 815 MT CO_2, which are equivalent to annual rates of 4.98 MT CO_2 avoided and 8.23 MT CO_2 sequestered.

For numeric comparison and significance determination, the 30-year amortization period for one-time construction emissions was conservatively applied as opposed to a 99-year period, as recommended by the SCAQMD. The project results in annual rates of 16.44 MT CO_2 avoided and 27.15 MT CO_2 sequestered when amortized over a 30-year period. Accounting for the amortized construction emissions of 3.94 MT CO_2e per year, the project will result in the annual emission of approximately 47.53 MT CO_2e per year, less than the SCAQMD threshold of 3,000 MT CO_2e per year.

Operational Emissions

The proposed project would not alter the City's operations. No additional staff would be necessary for operation of the project. Because the project would not result in substantial changes to routine operational activities, GHG emissions impacts associated with operational emissions would be less than significant.

3.4.2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potential to Conflict with the City of Burbank GHG Reduction Plan Update

This project is unique, as it is non-operational in nature and therefore will not result in any operational vehicle trips or emissions. The City of Burbank GHG Reduction Plan Update (GGRP) utilizes efficiency thresholds, which require a per resident, per employee, or per service person metric; as the project will not result in an operational service population, it cannot use the GGRP for CEQA streamlining (City of Burbank 2022). Instead, the environmental analysis will include a discussion of the overall consistency with each of the 11 strategies of the CAP, as provided below. The project would not conflict with Strategy C-1, Cornerstone, Strategy BE-1, Building Energy, or Strategy EG-1, Electricity Generation Strategy, as the project would not impact the City's ability to meet their electrification targets. The project would not conflict with Strategy T-1, Reduce Passenger Car Vehicle Miles Traveled, Strategy T-2, Transportation Demand Management, Strategy T-3, Zero-Emission Vehicles, or Strategy T-4, Parking, as the project will not result in any operational trips. The project would not conflict with Strategy W-1, Water-Energy Nexus, or Strategy SW-1, Organic Waste Diversion, as it will not impact per capita water consumption or organics and recycling requirements. The project would be consistent with Strategy CS-1, Carbon Sequestration Strategy, as the project would involve the planting of at least 131 new trees. The project would also not conflict with Strategy CG-1, City Government Actions, as it would not involve City facilities. As such, the project would not conflict with the GGRP.

Potential to Conflict with State Reduction Targets and CARB's Scoping Plan

The California State Legislature passed the Global Warming Solutions Act of 2006 (AB 32) to provide initial direction to limit California's GHG emissions to 1990 levels by 2020 and initiate the state's long-range climate objectives. Since the passage of AB 32, the State has adopted GHG emissions reduction targets for future years beyond the initial 2020 horizon year. For the project, the relevant GHG emissions reduction targets include those established by Senate Bill 32 (SB 32) and AB 1279, which require GHG emissions be reduced to 40% below 1990 levels by 2030, and 85% below 1990 levels by 2045, respectively. In addition, AB 1279 requires the state achieve net zero GHG emissions by no later than 2045 and achieve and maintain net negative GHG emissions thereafter.

As defined by AB 32, CARB is required to develop The Scoping Plan, which provides the framework for actions to achieve the State's GHG emission targets. The Scoping Plan is required to be updated every five years and requires CARB and other state agencies to adopt regulations and initiatives that will reduce GHG emissions statewide. The first Scoping Plan was adopted in 2008, and was updated in 2014, 2017, and most recently in 2022. While the Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations,[5] it is the official framework for the measures and regulations that will be implemented to reduce California's GHG emissions in alignment with the adopted targets. Therefore, a project would be found to not conflict with the statutes if it would meet the Scoping Plan policies and would not impede attainment of the goals therein.

CARB's 2017 Climate Change Scoping Plan update was the first to address the state's strategy for achieving the 2030 GHG reduction target set forth in SB 32 (CARB 2017), and the most recent CARB 2022 Scoping Plan for Achieving Carbon Neutrality update outlines the state's plan to reduce emissions and achieve carbon neutrality by 2045 in alignment with AB 1279 and assesses progress is making toward the 2030 SB 32 target (CARB 2022b). As such, given that SB 32 and AB 1279 are the relevant GHG emission targets, the 2017 and 2022 Scoping Plan updates that outline the strategy to achieve those targets, are the most applicable to the project.

The 2017 Scoping Plan included measures to promote renewable energy and energy efficiency (including the mandates of SB 350), increase stringency of the Low Carbon Fuel Standard (LCFS), measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increase stringency of SB 375 targets. The 2022 Scoping Plan builds upon and accelerates programs currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; and displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines) (CARB 2022b). Many of the measures and programs included in the Scoping Plan would result in the reduction of project-related GHG emissions with no action required at the project-level. The project would benefit from the gradual increase in energy efficiency and reduction in GHG emissions due to the shift from fossil fuels that will be achieved through the statewide programs and measures.

The 2045 carbon neutrality goal required CARB to expand proposed actions in the 2022 Scoping Plan to include those that capture and store carbon in addition to those that reduce only anthropogenic sources of GHG emissions. However, the 2022 Scoping Plan emphasizes that reliance on carbon sequestration in the state's natural and working lands will not be sufficient to address residual GHG emissions, and achieving carbon neutrality will require research, development, and deployment of additional methods to capture atmospheric GHG emissions (e.g., mechanical direct air capture). Given that the specific path to neutrality will require development of technologies and programs that are not currently known or available, the project's role in supporting the statewide goal would be speculative and cannot be wholly identified at this time.

Overall, the project would comply will all regulations adopted in furtherance of the Scoping Plan to the extent applicable and required by law. As mentioned above, several Scoping Plan measures would result in reductions of project-related GHG emissions with no action required at the project-level, including those related to energy efficiency, reduced fossil fuel use, and renewable energy production by the utility. As demonstrated above, the project

5 The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009).

would not conflict with CARB's 2017 or 2022 Scoping Plan updates and with the state's ability to achieve the 2030 and 2045 GHG reduction and carbon neutrality goals.

Potential to Conflict with the Southern California Association of Governments 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

The SCAG 2020–2045 RTP/SCS is a regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light trucks in the Southern California Region pursuant to SB 375 (SCAG 2020). In addition to demonstrating the region's ability to attain the GHG emission-reduction targets set forth by CARB, the 2020-2045 RTP/SCS outlines a series of actions and strategies for integrating the transportation network with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. Thus, successful implementation of the 2020-2045 RTP/SCS would result in more complete communities with various transportation and housing choices while reducing automobile use.

The following strategies are intended to be supportive of implementing the 2020-2045 RTP/SCS and reducing GHGs: focus growth near destinations and mobility options; promote diverse housing choices; leverage technology innovations; support implementation of sustainability policies; and promote a green region (SCAG 2020). The strategies within the SCAG would not apply to the project, as it is non-operational in nature and would not result in any trips or employees once tree removal and replacement is complete.

Based on the analysis above, the project would be consistent with the SCAG 2020-2045 RTP/SCS.

In summary, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and no mitigation is required. Therefore, the project's impact associated with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs would be less than significant.

4 Energy Assessment

4.1 Background

4.1.1 Electricity

The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into electrical energy. The delivery of electricity involves a number of system components, including power generation facilities, transmission and distribution lines, substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Production of electricity and its conveyance through the power grid occur in response to market demand.

Energy capacity, or electrical power, is generally measured in watts while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 watts, the energy required to keep the bulb on for 1 hour would be 100 Wh. If 10 100-watt bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh).

On a utility scale, a generator's capacity is typically rated in megawatts, which is 1 million watts, while energy usage is measured in megawatt-hours (1 million watt-hours) or gigawatt-hours (1 billion watt-hours). Burbank Water and Power (BWP) provides electricity to the project site.

4.1.2 Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network, and therefore, resource availability is typically not an issue. Natural gas provides almost one-third of the state's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet.

The Southern California Gas Company (SoCalGas) provides the City with natural gas service. SoCalGas' service territory encompasses approximately 20,000 square miles and more than 500 communities. In 2021, SoCalGas reported an annual natural gas demand of 5,101 million therms (CEC 2023).

4.1.3 Petroleum

According to the U.S. Energy Information Administration, California used approximately 605 million barrels of petroleum in 2021, with the majority (511 million barrels) used for the transportation sector (EIA 2022). This total annual consumption equates to a daily use of approximately 1.7 million barrels of petroleum. There are 42 U.S. gallons in a barrel, so California consumes approximately 69.6 million gallons of petroleum per day, adding up to an annual consumption of approximately 25 billion gallons of petroleum. In California, petroleum fuels refined from crude oil are the dominant source of energy for transportation sources. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel.

4.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would have a significant effect on the environment with respect to energy if the project would:

A. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.

B. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The above listed Appendix G energy thresholds are applied herein.

4.3 Approach and Methodology

4.3.1 Construction

Electricity

Electricity used on a limited basis to power lighting, electronic equipment, and construction activities necessitating electrical power, as well as electricity usage associated with the supply and conveyance of water used for dust control during construction, is assumed to be minimal and is not estimated herein.

Natural Gas

Construction activities typically do not involve the consumption of natural gas, and any use is anticipated to be negligible and is not estimated herein.

Petroleum

Construction of the project would consume energy resources as a result of the use of heavy-duty construction equipment, on-road delivery and haul trucks, and workers commuting to and from the project site. Petroleum emissions associated with the use of construction equipment and vehicles, which were used to calculate gallons of petroleum consumed, were calculated using CalEEMod and are provided in Attachment A. Fuel consumption from construction equipment was estimated by converting the total CO_2 emissions from each construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per MT CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per MT CO_2 per gallon (The Climate Registry 2021).

4.3.2 Operations

The proposed Project would not alter the City's operations. No additional staff would be necessary for operation of the project. Therefore, the project would not result in increased operational energy use.

4.4 Impact Analysis

4.4.1 Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Construction

Electricity

Temporary electric power for as-necessary lighting and electronic equipment would be provided by BWP. The amount of electricity used during project construction would be minimal because typical demand stems from the use of electronic equipment, in addition to electrically powered hand tools. As the electricity used for construction activities would be temporary and minimal, impacts related to electricity consumption during project construction are determined to be less than significant.

Natural Gas

Natural gas is not anticipated to be required during construction of the proposed project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection “Petroleum". Any minor amounts of natural gas that may be consumed as a result of construction would be temporary and negligible and would not have an adverse effect on the environment; therefore, impacts are determined to be less than significant.

Petroleum

Offroad equipment used during construction of the project would primarily rely on diesel fuel, as would vendor and haul trucks. In addition, construction workers would travel to and from the project site throughout the duration of construction.

The estimated diesel fuel usage from construction equipment, haul trucks, and vendor trucks, as well as estimated gasoline fuel usage from worker vehicles, is shown in Table 8.

Table 8. Total Proposed Project Construction Petroleum Demand

Scenario	Off-Road Equipment (diesel)	Haul Trucks (diesel)	Vendor Trucks (diesel)	Worker Vehicles (gasoline)
	Gallons			
Project Construction	7,114.96	0.00	2,982.59	1,495.90

Source: Attachment A.

In summary, construction associated with the development of the project is estimated to consume a total of approximately 11,593 gallons of petroleum. Notably, the project would be subject to CARB’s In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation (1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; (2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; (3) restricts the adding of older vehicles into fleets starting on January 1, 2014; and (4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The fleet must either show that its fleet average index was less than or equal to the calculated fleet average target rate, or that the fleet has met the Best Achievable Control Technology requirements.

Overall, while construction activities would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. Further, the petroleum consumed related to construction would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what are typically consumed in California. Therefore, because petroleum use during project construction would be temporary and minimal and would not be wasteful or inefficient, impacts are determined to be less than significant.

Operation

The proposed Project would not alter the City's operations. No additional staff would be necessary for operation of the project. Therefore, the project would not result in increased operational energy use.

Summary

As explained above, the project would use renewable energy onsite as determined to be feasible and would not result in wasteful, inefficient, or unnecessary consumption of energy resources, including electricity, natural gas, or petroleum during project construction or operation. Impacts would be less than significant.

4.4.2 Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The project would be subject to and would comply with, at a minimum, the California Building Energy Efficiency Standards (24 CCR Part 6). Part 11 of Title 24 sets forth voluntary and mandatory energy measures that are applicable to the project under CALGreen. CALGreen institutes mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, high-rise residential, state-owned buildings, schools, and hospitals, as well as certain residential and non-residential additions and alterations. As the project concerns the removal and planting of trees, these standards would not be applicable. On this basis, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This impact would be less than significant.

5 Conclusions

Criteria air pollutant emissions generated during construction and operation of the project would not exceed the SCAQMD's significance thresholds or result in a cumulatively considerable net increase in emissions. Similarly, the project would not create a CO hotspot or result in substantial health risk impacts at sensitive receptors within the vicinity. Therefore, the project would result in a less than significant impact to air quality.

Estimated total GHG emissions, including amortized construction emissions and the reduction of sequestered carbon associated with the removed Aleppo pines, would be below the SCAQMD's draft threshold of 3,000 MT CO_2e per year. The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Accordingly, potential cumulative GHG impacts would be less than significant.

Regarding energy, the construction demand for electricity and petroleum under the proposed project would not be unusual or wasteful as compared to overall local and regional demand for energy resources. The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the project would result in a less than significant impacts to energy.

6 References Cited

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

CAPCOA (California Air Pollution Control Officers Association). 2008. *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008.

CAPCOA. 2022. *California Emissions Estimator Model (CalEEMod) User's Guide, Version 2022.1*. Prepared by ICF, in collaboration with Sacramento Metopolitan Air Quality Management District, Fehr & Peers, STI, and Ramboll. April. Accessed December 2022. https://caleemod.com/documents/user-guide/CalEEMod_User_Guide_v2022.1.pdf.

CARB (California Air Resources Board). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October 2000. Accessed March 13, 2017. http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf.

CARB. 2017. *The 2017 Climate Change Scoping Plan Update*. January 20. Accessed January 2019. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

CARB. 2019a. "Ozone & Health." https://ww2.arb.ca.gov/resources/ozone-and-health.

CARB. 2019b. "Nitrogen Dioxide & Health." https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health.

CARB. 2019c. "Carbon Monoxide & Health." https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health.

CARB. 2022a. "State Area Designations". November 2022. Accessed February 2023. http://www.arb.ca.gov/desig/adm/adm.htm.

CARB. 2022b. *2022 Scoping Plan for Achieving Carbon Neutrality.* November 2022. Accessed January 2023. https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents.

CEC (California Energy Commission). 2023. Gas Consumption by Entity. http://ecdms.energy.ca.gov/gasbycounty.aspx.

City of Burbank. 2023. *City of Burbank Greenhouse Gas Reduction Plan Update.* https://www.burbankca.gov/documents/173607/0/GGRP+Update+Final_w.App.pdf/5c876fb6-fed4-49e5-d7b6-dbcf058491a1?t=1666594217752

CNRA (California Natural Resources Agency). 2009. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97*. December 2009.

EIA (U.S. Energy Information Administration). 2022. “Total Petroleum Consumption Estimates, 2021.” https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US&sid=CA.

EPA (U.S. Environmental Protection Agency). 2016. “Health and Environmental Effects of Particulate Matter (PM).” https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm.

EPA. 2017. “Climate Change.” Last updated January 19, 2017. Accessed May 2019. https://19january2017snapshot.epa.gov/climatechange_.html.

EPA. 2022. “EPA Region 9 Air Quality Maps and Geographic Information.” December 13, 2022. Accessed February 2023. https://www3.epa.gov/region9/air/maps/index.html.

IPCC (Intergovernmental Panel on Climate Change). 2007. *IPCC Fourth Assessment Synthesis of Scientific-Technical Information Relevant to Interpreting Article 2 of the U.N. Framework Convention on Climate Change*. November. Accessed January 2019. https://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf.

IPCC. 2013. *Climate Change 2013: The Physical Science Basis*. Contribution of Working Group I to the *Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Edited by T.F. Stocker, D. Qin, G.K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P.M. Midgley. Cambridge, United Kingdom, and New York, New York: Cambridge University Press. Accessed May 2019. http://www.ipcc.ch/report/ar5/wg1.

OEHHA (Office of Environmental Health Hazard Assessment). 2015. *Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments*. February 2015. Accessed January 2019. http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

OPR (Governor’s Office of Planning and Research). 2018. *Discussion Draft: CEQA and Climate Change Advisory*. December 2018.

SCAG (Southern California Association of Governments). 2020. *The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments, Connect SoCal*. Adopted September 3, 2020.

SCAQMD (South Coast Air Quality Management District). 1993. *CEQA Air Quality Handbook*. Accessed January 2019. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993).

SCAQMD. 2003. *Final 2003 AQMP Appendix V Modeling and Attainment Demonstrations*. August 2003. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2003-air-quality-management-plan/2003-aqmp-appendix-v.pdf?sfvrsn=2.

SCAQMD. 2008a. *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*. October 2008. Accessed January 2019. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf.

SCAQMD. 2008b. "Resolution No. 08-35: A Resolution of the Governing Board of the South Coast Air Quality Management District (AQMD) approving the Interim Greenhouse Gas (GHG) Significance Threshold to Be Used by the AQMD for Industrial Source Projects, Rules and Plans When It Is the Lead Agency for Projects Subject to the California Environmental Quality Act (CEQA)." *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*, Attachment C. December 5, 2008.

SCAQMD. 2009. *Final Localized Significance Threshold Methodology*. July. Accessed November 2022. http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2.

SCAQMD. 2010. "Greenhouse Gases CEQA Significance Thresholds Working Group Meeting No. 15." September 28, 2010. Accessed January 2019. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2.

SCAQMD. 2022. *2022 Air Quality Management Plan*. Adopted December 2, 2022. Accessed March 2023. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/final-2022-aqmp.pdf?sfvrsn=16

SCAQMD. 2023. "South Coast AQMD Air Quality Significance Thresholds." https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.

The Climate Registry. 2021. *2021 Default Emission Factors*. Accessed October 2021. https://www.theclimateregistry.org/wp-content/uploads/2021/05/2021-Default-Emission-Factor-Document.pdf.

USDA (United States Department of Agriculture) Forestry Service. 2023. iTree Planting Calculator. https://planting.itreetools.org/.

Attachment A

CalEEMod Emissions Output

Aleppo Pine Removal Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Aleppo Pine Removal
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	23.8
Location	34.17472691848653, -118.3301849956595
County	Los Angeles-South Coast
City	Burbank
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3936
EDFZ	18
Electric Utility	Burbank Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.20

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
City Park	1.00	Acre	1.00	0.00	100	100	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	63.4	62.8	13.1	76.3	0.02	1.53	0.38	1.92	1.28	0.10	1.38	—	2,127	2,127	0.09	0.11	2.20	2,163
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	63.4	62.8	13.2	76.2	0.02	1.53	0.38	1.92	1.28	0.10	1.38	—	2,114	2,114	0.09	0.11	0.06	2,149
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	21.0	20.8	4.37	25.3	0.01	0.51	0.13	0.63	0.42	0.03	0.46	—	702	702	0.03	0.04	0.31	714
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.84	3.80	0.80	4.61	< 0.005	0.09	0.02	0.12	0.08	0.01	0.08	—	116	116	0.01	0.01	0.05	118

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	63.4	62.8	13.1	76.3	0.02	1.53	0.38	1.92	1.28	0.10	1.38	—	2,127	2,127	0.09	0.11	2.20	2,163
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	63.4	62.8	13.2	76.2	0.02	1.53	0.38	1.92	1.28	0.10	1.38	—	2,114	2,114	0.09	0.11	0.06	2,149
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	21.0	20.8	4.37	25.3	0.01	0.51	0.13	0.63	0.42	0.03	0.46	—	702	702	0.03	0.04	0.31	714
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.84	3.80	0.80	4.61	< 0.005	0.09	0.02	0.12	0.08	0.01	0.08	—	116	116	0.01	0.01	0.05	118

3. Construction Emissions Details

3.1. Tree Removal (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	63.3	62.8	12.4	74.8	0.01	1.53	—	1.53	1.27	—	1.27	—	1,324	1,324	0.05	0.01	—	1,329
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	63.3	62.8	12.4	74.8	0.01	1.53	—	1.53	1.27	—	1.27	—	1,324	1,324	0.05	0.01	—	1,329
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	21.0	20.8	4.10	24.8	< 0.005	0.51	—	0.51	0.42	—	0.42	—	439	439	0.02	< 0.005	—	440
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.83	3.80	0.75	4.53	< 0.005	0.09	—	0.09	0.08	—	0.08	—	72.7	72.7	< 0.005	< 0.005	—	72.9
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.25	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	249	249	0.01	0.01	0.91	253
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.68	0.26	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	554	554	0.03	0.09	1.29	582

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.06	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	236	236	0.01	0.01	0.02	239
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.71	0.27	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	554	554	0.03	0.09	0.03	581
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.37	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	79.4	79.4	< 0.005	< 0.005	0.13	80.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.24	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	184	184	0.01	0.03	0.18	193
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.1	13.1	< 0.005	< 0.005	0.02	13.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.4	30.4	< 0.005	< 0.005	0.03	31.9

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Tree Removal	Site Preparation	1/1/2025	6/18/2025	5.00	121	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Tree Removal	Cranes	Diesel	Average	1.00	8.00	148	0.41
Tree Removal	Rubber Tired Loaders	Diesel	Average	1.00	4.00	73.0	0.37
Tree Removal	Concrete/Industrial Saws	Gasoline	Average	3.00	8.00	10.0	0.48
Tree Removal	Other Construction Equipment	Diesel	Average	1.00	6.00	130	0.42
Tree Removal	Other Construction Equipment	Diesel	Average	1.00	4.00	74.0	0.42

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Tree Removal	—	—	—	—
Tree Removal	Worker	18.0	18.5	LDA,LDT1,LDT2
Tree Removal	Vendor	0.00	10.2	HHDT,MHDT
Tree Removal	Hauling	8.00	20.0	HHDT

Tree Removal	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Tree Removal	—	—	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	1,130	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2

Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	80.0
AQ-PM	66.5
AQ-DPM	49.4
Drinking Water	87.9
Lead Risk Housing	86.7
Pesticides	0.00
Toxic Releases	70.3
Traffic	71.7
Effect Indicators	—
CleanUp Sites	98.4

Groundwater	83.2
Haz Waste Facilities/Generators	91.4
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	29.4
Cardio-vascular	29.9
Low Birth Weights	39.9
Socioeconomic Factor Indicators	—
Education	42.3
Housing	73.0
Linguistic	30.0
Poverty	21.3
Unemployment	48.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	79.49441807
Employed	85.29449506
Median HI	62.88977287
Education	—
Bachelor's or higher	61.02912871
High school enrollment	100
Preschool enrollment	88.87463108
Transportation	—

Auto Access	56.16578981
Active commuting	46.34928782
Social	—
2-parent households	32.59335301
Voting	54.29231361
Neighborhood	—
Alcohol availability	26.79327602
Park access	81.35506224
Retail density	72.26998588
Supermarket access	62.82561273
Tree canopy	73.27088413
Housing	—
Homeownership	61.67073014
Housing habitability	48.73604517
Low-inc homeowner severe housing cost burden	50.23739253
Low-inc renter severe housing cost burden	8.37931477
Uncrowded housing	83.16437829
Health Outcomes	—
Insured adults	63.64686257
Arthritis	47.0
Asthma ER Admissions	51.6
High Blood Pressure	56.0
Cancer (excluding skin)	24.3
Asthma	83.3
Coronary Heart Disease	51.0
Chronic Obstructive Pulmonary Disease	68.2
Diagnosed Diabetes	62.8

Life Expectancy at Birth	44.7
Cognitively Disabled	54.2
Physically Disabled	41.1
Heart Attack ER Admissions	68.1
Mental Health Not Good	72.2
Chronic Kidney Disease	55.3
Obesity	63.1
Pedestrian Injuries	19.6
Physical Health Not Good	66.1
Stroke	64.5
Health Risk Behaviors	—
Binge Drinking	29.5
Current Smoker	72.6
No Leisure Time for Physical Activity	75.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	41.8
Elderly	33.4
English Speaking	71.5
Foreign-born	48.3
Outdoor Workers	57.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	36.1
Traffic Density	70.2
Traffic Access	68.0
Other Indices	—

Hardship	16.3
Other Decision Support	—
2016 Voting	47.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	61.0
Healthy Places Index Score for Project Location (b)	70.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Assuming a single phase of tree removal
Construction: Off-Road Equipment	Based on data request. Other construction equipment (130 hp) represents woodchipper. Concrete/industrial saws (10 hp) represents chainsaws. Other construction equipment (74 hp) represents stump grinder.

Construction: Trips and VMT	Based on data request

Aleppo Pine Removal LST Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Aleppo Pine Removal LST
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	23.8
Location	34.17472691848653, -118.3301849956595
County	Los Angeles-South Coast
City	Burbank
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3936
EDFZ	18
Electric Utility	Burbank Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
City Park	1.00	Acre	1.00	0.00	100	100	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	63.4	62.8	13.1	76.3	0.02	1.53	0.38	1.92	1.28	0.10	1.38	—	2,127	2,127	0.09	0.11	2.20	2,163
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	63.4	62.8	13.2	76.2	0.02	1.53	0.38	1.92	1.28	0.10	1.38	—	2,114	2,114	0.09	0.11	0.06	2,149
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	21.0	20.8	4.37	25.3	0.01	0.51	0.13	0.63	0.42	0.03	0.46	—	702	702	0.03	0.04	0.31	714
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.84	3.80	0.80	4.61	< 0.005	0.09	0.02	0.12	0.08	0.01	0.08	—	116	116	0.01	0.01	0.05	118

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	63.4	62.8	13.1	76.3	0.02	1.53	0.38	1.92	1.28	0.10	1.38	—	2,127	2,127	0.09	0.11	2.20	2,163
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	63.4	62.8	13.2	76.2	0.02	1.53	0.38	1.92	1.28	0.10	1.38	—	2,114	2,114	0.09	0.11	0.06	2,149
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	21.0	20.8	4.37	25.3	0.01	0.51	0.13	0.63	0.42	0.03	0.46	—	702	702	0.03	0.04	0.31	714
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.84	3.80	0.80	4.61	< 0.005	0.09	0.02	0.12	0.08	0.01	0.08	—	116	116	0.01	0.01	0.05	118

3. Construction Emissions Details

3.1. Tree Removal (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	63.3	62.8	12.4	74.8	0.01	1.53	—	1.53	1.27	—	1.27	—	1,324	1,324	0.05	0.01	—	1,329
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	63.3	62.8	12.4	74.8	0.01	1.53	—	1.53	1.27	—	1.27	—	1,324	1,324	0.05	0.01	—	1,329
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	21.0	20.8	4.10	24.8	< 0.005	0.51	—	0.51	0.42	—	0.42	—	439	439	0.02	< 0.005	—	440
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.83	3.80	0.75	4.53	< 0.005	0.09	—	0.09	0.08	—	0.08	—	72.7	72.7	< 0.005	< 0.005	—	72.9
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.25	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	249	249	0.01	0.01	0.91	253
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.68	0.26	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	554	554	0.03	0.09	1.29	582

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.06	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	236	236	0.01	0.01	0.02	239
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.71	0.27	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	554	554	0.03	0.09	0.03	581
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.37	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	79.4	79.4	< 0.005	< 0.005	0.13	80.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.24	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	184	184	0.01	0.03	0.18	193
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.1	13.1	< 0.005	< 0.005	0.02	13.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.4	30.4	< 0.005	< 0.005	0.03	31.9

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Tree Removal	Site Preparation	1/1/2025	6/18/2025	5.00	121	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Tree Removal	Cranes	Diesel	Average	1.00	8.00	148	0.41
Tree Removal	Rubber Tired Loaders	Diesel	Average	1.00	4.00	73.0	0.37
Tree Removal	Concrete/Industrial Saws	Gasoline	Average	3.00	8.00	10.0	0.48
Tree Removal	Other Construction Equipment	Diesel	Average	1.00	6.00	130	0.42
Tree Removal	Other Construction Equipment	Diesel	Average	1.00	4.00	74.0	0.42

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Tree Removal	—	—	—	—
Tree Removal	Worker	18.0	18.5	LDA,LDT1,LDT2
Tree Removal	Vendor	0.00	10.2	HHDT,MHDT
Tree Removal	Hauling	8.00	20.0	HHDT

Tree Removal	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Tree Removal	—	—	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	1,130	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	11.7	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2

Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	80.0
AQ-PM	66.5
AQ-DPM	49.4
Drinking Water	87.9
Lead Risk Housing	86.7
Pesticides	0.00
Toxic Releases	70.3
Traffic	71.7
Effect Indicators	—
CleanUp Sites	98.4

Groundwater	83.2
Haz Waste Facilities/Generators	91.4
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	29.4
Cardio-vascular	29.9
Low Birth Weights	39.9
Socioeconomic Factor Indicators	—
Education	42.3
Housing	73.0
Linguistic	30.0
Poverty	21.3
Unemployment	48.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	79.49441807
Employed	85.29449506
Median HI	62.88977287
Education	—
Bachelor's or higher	61.02912871
High school enrollment	100
Preschool enrollment	88.87463108
Transportation	—

Auto Access	56.16578981
Active commuting	46.34928782
Social	—
2-parent households	32.59335301
Voting	54.29231361
Neighborhood	—
Alcohol availability	26.79327602
Park access	81.35506224
Retail density	72.26998588
Supermarket access	62.82561273
Tree canopy	73.27088413
Housing	—
Homeownership	61.67073014
Housing habitability	48.73604517
Low-inc homeowner severe housing cost burden	50.23739253
Low-inc renter severe housing cost burden	8.37931477
Uncrowded housing	83.16437829
Health Outcomes	—
Insured adults	63.64686257
Arthritis	47.0
Asthma ER Admissions	51.6
High Blood Pressure	56.0
Cancer (excluding skin)	24.3
Asthma	83.3
Coronary Heart Disease	51.0
Chronic Obstructive Pulmonary Disease	68.2
Diagnosed Diabetes	62.8

Life Expectancy at Birth	44.7
Cognitively Disabled	54.2
Physically Disabled	41.1
Heart Attack ER Admissions	68.1
Mental Health Not Good	72.2
Chronic Kidney Disease	55.3
Obesity	63.1
Pedestrian Injuries	19.6
Physical Health Not Good	66.1
Stroke	64.5
Health Risk Behaviors	—
Binge Drinking	29.5
Current Smoker	72.6
No Leisure Time for Physical Activity	75.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	41.8
Elderly	33.4
English Speaking	71.5
Foreign-born	48.3
Outdoor Workers	57.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	36.1
Traffic Density	70.2
Traffic Access	68.0
Other Indices	—

Hardship	16.3
Other Decision Support	—
2016 Voting	47.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	61.0
Healthy Places Index Score for Project Location (b)	70.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Assuming a single phase of tree removal
Construction: Off-Road Equipment	Based on data request. Other construction equipment (130 hp) represents woodchipper. Concrete/industrial saws (10 hp) represents chainsaws. Other construction equipment (74 hp) represents stump grinder.

Construction: Trips and VMT	Based on data request. LST trip distances.

This data was produced from the i-Tree Planting Calculator version 2.6.0 for Burbank; CA.
Location: Burbank; CA 91506
Electricity Emissions Factor: 252.4
Fuel Emissions Factor: 52
Lifetime: 99
Project Lifetime Tree Mortality: 70
Run Date: 1-9-2024

Group Ide	Tree Grou	Species	DBH (inche	Distance t	Direction	Building Vi	TreeCondi	CrownLigh	CO2 Avoided (pou	CO2 Avoidec	CO2 Sequestered	CO2 Sequest
10	(7.0) Alepp	Aleppo pir	30	0-19	north (0Â°	post-1980	fair	full sun	55,538.40	$1,291.65	109,346.00	$2,543.05
11	(27.0) Alep	Aleppo pir	36	0-19	north (0Â°	post-1980	good	full sun	229,520.90	$5,337.95	372,058.00	$8,652.92
12	(14.0) Alep	Aleppo pir	36	0-19	north (0Â°	post-1980	fair	full sun	111,076.80	$2,583.30	183,959.80	$4,278.34
13	(26.0) Alep	Aleppo pir	42	0-19	north (0Â°	post-1980	good	full sun	221,020.10	$5,140.25	257,724.90	$5,993.89
14	(15.0) Alep	Aleppo pir	42	0-19	north (0Â°	post-1980	fair	full sun	119,010.80	$2,767.83	142,408.00	$3,311.97
3	(1.0) Alepp	Aleppo pir	6	0-19	north (0Â°	post-1980	good	full sun	7,968.50	$185.32	17,002.60	$395.43
4	(3.0) Alepp	Aleppo pir	12	0-19	north (0Â°	post-1980	good	full sun	25,502.30	$593.11	54,287.10	$1,262.55
5	(7.0) Alepp	Aleppo pir	18	0-19	north (0Â°	post-1980	good	full sun	59,505.40	$1,383.91	129,340.20	$3,008.06
6	(2.0) Alepp	Aleppo pir	18	0-19	north (0Â°	post-1980	fair	full sun	15,868.10	$369.04	34,384.90	$799.69
7	(10.0) Alep	Aleppo pir	24	0-19	north (0Â°	post-1980	good	full sun	85,007.70	$1,977.02	179,391.70	$4,172.10
8	(8.0) Alepp	Aleppo pir	24	0-19	north (0Â°	post-1980	fair	full sun	63,472.40	$1,476.17	135,286.80	$3,146.35
9	(11.0) Alep	Aleppo pir	30	0-19	north (0Â°	post-1980	good	full sun	93,508.50	$2,174.72	180,689.10	$4,202.27
Total									1,087,000.00	$25,280.27	1,795,879.20	$41,766.61
			30						25.19		49.60	
			36						104.11		168.76	
			36						50.38		83.44	
			42						100.25		116.90	
			42						53.98		64.60	
			6						3.61		7.71	
			12						11.57		24.62	
			18						26.99		58.67	
			18						7.20		15.60	
			24						38.56		81.37	
			24						28.79		61.37	
			30						42.41		81.96	
									493.05		814.60	
									4.98		8.23	17.15

Group Ide	Electricity S	Electricity Sav	Fuel Saved	Fuel Saved (!	Tree Biom	Rainfall Interce	Avoided Runc	Avoided Rur
10	45,937.90	$9,403.48	239.8	$3,102.66	17.4	612,367.40	177,995.80	$1,590.57
11	189,845.30	$38,861.33	990.9	$12,822.20	68.8	2,961,397.80	860,784.60	$7,691.97
12	91,875.70	$18,806.96	479.6	$6,205.31	35.2	1,302,217.60	378,513.40	$3,382.40
13	182,814.00	$37,422.02	954.2	$12,347.31	66.7	2,988,389.20	868,630.10	$7,762.08
14	98,438.30	$20,150.32	513.8	$6,648.55	38.1	1,470,243.80	427,353.30	$3,818.83
3	6,635.60	$1,358.31	34.2	$442.09	2.4	46,278.50	13,451.70	$120.20
4	21,093.90	$4,317.93	110.1	$1,424.69	7.3	243,508.80	70,780.30	$632.49
5	49,219.10	$10,075.16	256.9	$3,324.27	17.3	625,410.40	181,787.00	$1,624.45
6	13,125.10	$2,686.71	68.5	$886.47	4.8	147,715.40	42,936.20	$383.68
7	70,313.10	$14,393.08	367	$4,748.96	25	969,778.40	281,883.90	$2,518.91
8	52,500.40	$10,746.84	274	$3,545.89	19.6	648,062.20	188,371.20	$1,683.28
9	77,344.40	$15,832.39	403.7	$5,223.86	27.8	1,142,246.50	332,014.90	$2,966.89
Total	899,142.80	$184,054.52	4,692.70	$60,722.27	330.4	13,157,615.70	3,824,502.30	$34,175.76

Group Ide	O3 Remov	NO2 Avoid	NO2 Remc	SO2 Avoid	SO2 Remo	VOC Avoid	PM2.5 Avc	PM2.5 Ren	Avoided Va	Removal Value ($)
10	668.5	3.99	151.76	14.06	12.18	24.3	15.16	3.8	$84.84	$3,697.87
11	2,768.72	16.51	626.8	58.09	50.49	100.44	62.66	15.33	$350.62	$15,241.88
12	1,365.63	7.99	306.54	28.11	24.98	48.61	30.32	7.11	$169.68	$7,436.35
13	2,696.20	15.9	604.3	55.94	49.35	96.72	60.34	13.79	$337.64	$14,639.78
14	1,481.91	8.56	328.99	30.12	27.22	52.08	32.49	7.07	$181.80	$7,956.01
3	62.6	0.57	15.6	2.02	1.1	3.51	2.19	0.69	$12.24	$405.87
4	261.37	1.83	61.46	6.45	4.7	11.16	6.96	1.94	$38.96	$1,526.01
5	651.39	4.28	151.99	15.06	11.75	26.04	16.24	4.57	$90.90	$3,757.32
6	174.72	1.14	40.54	4.02	3.16	6.94	4.33	1.17	$24.24	$998.25
7	975.66	6.11	225.51	21.51	17.66	37.2	23.21	6.37	$129.86	$5,544.11
8	737.54	4.56	169.37	16.06	13.38	27.78	17.33	4.59	$96.96	$4,149.55
9	1,107.10	6.72	253.21	23.67	20.11	40.92	25.53	6.66	$142.85	$6,188.40
Total	12,951.35	78.17	2,936.08	275.11	236.08	475.71	296.77	73.09	$1,660.59	$71,541.39

Appendix E

Noise Memorandum

DUDEK
38 NORTH MARENGO AVENUE
PASADENA, CALIFORNIA 91101
T 626.204.9800 F 626.204.9834

MEMORANDUM

To:	Marisa Garcia, City of Burbank Parks & Recreation Director
From:	Mike Greene, Dudek
Subject:	Aleppo Pine Tree Removal Project - Noise Memorandum
Date:	12/20/2023
cc:	Carey Fernandes, Dudek
Attachments:	A – Noise Measurement Data
	B – Construction Noise Input/Output

Dudek is pleased to present the following noise and vibration assessment for the proposed Aleppo Pine Tree Removal Project (Project) located in the City of Burbank, California (City), as shown in Figure 1, Project Location. This memorandum estimates and assesses noise and vibration levels from the proposed Project in accordance with the California Environmental Quality Act (CEQA) Guidelines and City of Burbank standards.

1 Project Description

The Project consists of the removal of approximately 119 Aleppo trees (Figure 2, Tree Removal Locations) that have been found to be at risk based on an extensive urban forestry analysis of the tree health and risk of falling trees or tree parts. There has been a history of tree failures in the past year with two (2) complete tree failures occurring during rainy weather conditions. There were no reported injuries but there was a significant amount of property damage. The trees in question were planted roughly 100+ years ago when the properties were first developed. The trees are located in residential neighborhoods with active pedestrian and vehicle traffic, and are planted in park strips, adjacent to the local streets.

2 Environmental Setting

2.1 Noise and Vibration Characteristics

2.1.1 Noise

Sound may be described in terms of level or amplitude (measured in decibels (dB)), frequency or pitch (measured in hertz (Hz) or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the amplitude of sound is the decibel. Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against low and very high frequencies in a manner approximating the sensitivity of the human ear. Several descriptors of noise (noise metrics) exist to help predict average community reactions to the adverse effects of environmental noise, including traffic-generated noise, on a community. These descriptors include the equivalent noise level over a given period (L_{eq}), the statistical sound level (L_n), the day–night average noise level (L_{dn}), and the community noise equivalent level (CNEL). Each of these descriptors uses units of dBA. Table 1 provides examples of A-weighted noise levels from common sounds. In general, human sound perception is such that a change in sound level of 3 dB is barely noticeable; a change of 5 dB is clearly noticeable; and a change of 10 dB is perceived as doubling or halving of the sound level.

Table 1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
—	110	Rock band
Jet flyover at 300 meters (1,000 feet)	100	—
Gas lawn mower at 1 meter (3 feet)	90	—
Diesel truck at 15 meters (50 feet), at 80 kph (50 mph)	80	Food blender at 1 meter (3 feet) Garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime gas lawn mower at 30 meters (100 feet)	70	Vacuum cleaner at 3 meters (10 feet)
Commercial area Heavy traffic at 90 meters (300 feet)	60	Normal speech at 1 meter (3 feet)
Quiet urban daytime	50	Large business office Dishwasher, next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural night time	20	Bedroom at night, concert hall (background)
—	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Notes: dBA = A-weighted decibels; kph = kilometers per hour; mph = miles per hour
Source: Caltrans 2013.

L_{eq} is a sound energy level averaged over a specified period (typically no less than 15 minutes for environmental studies). L_{eq} is a single numerical value that represents the amount of variable sound energy received by a receptor during a time interval. For example, a 1-hour L_{eq} measurement would represent the average amount of energy contained in all the noise that occurred in that hour. L_{eq} is an effective noise descriptor because of its ability to assess the total time-varying effects of noise on sensitive receptors (see Section 2.2). L_{max} is the greatest sound level measured during a designated time interval or event.

2.1.2 Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities, such as blasting, pile driving, and heavy earthmoving equipment.

Several different methods are used to quantify vibration. Peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body and is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration.

High levels of vibration may cause physical personal injury or damage to buildings. However, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that can affect concentration or disturb sleep. In addition, high levels of vibration can damage fragile buildings or interfere with equipment that is highly sensitive to vibration (e.g., electron microscopes). Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

2.2 Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would be considered noise and vibration sensitive and may warrant unique measures for protection from intruding noise.

Sensitive receptors near the Project site consist of residences located adjacent to the park strips where the subject trees were planted.

2.3 Existing Noise Conditions

Noise measurements were conducted near the Project site on November 17, 2023, to characterize the existing noise levels (Figure 3, Noise Measurement Locations). Table 2 provides the location, date, and time the noise measurements were taken. The noise measurements were taken using a Rion NL-52 sound level meter equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The sound level meter meets the current American National Standards Institute standard for a Type 1 (Precision) sound level meter. The accuracy of the sound level meter was verified using a field calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately 5 feet above the ground.

Table 2. Measured Noise Levels

Receptors	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST1	Adjacent to residence at 1613 North Niagara Street	11/17/23	2:16 p.m.– 2:31 p.m.	56.1	76.2
ST2	Adjacent to residence at 739 North Niagara Street	11/17/23	3:23 p.m.– 3:38 p.m.	51.6	70.2

Table 2. Measured Noise Levels

Receptors	Location	Date	Time	L_{eq} (dBA)	L_{max} (dBA)
ST3	Adjacent to residence at 226 North Niagara Street	11/17/23	3:46 p.m.– 4:01 p.m.	55.7	78.5
ST4	Adjacent to residence at 2114 North Pass Avenue	11/17/23	2:42 p.m.– 2:57 p.m.	62.4	85.5
ST5	Adjacent to residence at 1131 North Sparks Street	11/17/23	1:48 p.m. – 2:03 p.m.	51.2	69.4
ST6	514 South Keystone Street	11/17/23	4:10 p.m. – 4:25 p.m.	55	76.9

Source: Attachment A
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibels; L_{max} = maximum sound level during the measurement interval.

Six short-term noise measurement locations (ST1–ST6) were conducted adjacent to nearby noise-sensitive land uses. The measured L_{eq} and maximum noise levels are provided in Table 2. The field noise measurement data sheets are provided in Attachment A. The primary noise sources consisted of traffic on the local roadways; secondary noise sources included distant landscaping noise, distant aircraft, distant conversations, and birds. As shown in Table 2, the measured sound levels ranged from approximately 51 to 62 dBA L_{eq}.

3 Regulatory Setting

3.1 Federal

There are no federal noise standards that would directly regulate environmental noise during construction and operation of the Project.

3.2 State

In its Transportation and Construction Vibration Guidance Manual, Caltrans recommends a vibration velocity threshold of 0.2 ips PPV (Caltrans 2020) for assessing annoying vibration impacts to occupants of residential structures. Although this Caltrans guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the local jurisdictional level. Similarly, thresholds to assess building damage risk due to construction vibration vary with the type of structure and its fragility but tend to range between 0.2 ips and 0.3 ips PPV for typical residential structures (Caltrans 2020).

3.3 Local

3.3.1 City of Burbank Municipal Code

The City's noise standards found in Chapter 9-3-208 and Chapter 9-1-1-105.8 of the City of Burbank Municipal Code (BMC), set forth sound measurement criteria, minimum ambient noise levels for different land use zoning classifications, sound emission levels for specific uses, hours of operation for certain uses, standards for determining when noise is deemed to be a disturbance, and legal remedies for violations.

The City Noise Regulation establishes acceptable ambient sound levels to regulate intrusive noises (e.g., stationary mechanical equipment) within specific land use zones. In accordance with the Noise Regulation, a noise level from any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device in such a manner would exceed 5 dBA over the ambient noise level at an adjacent property line is considered a noise violation. The City's noise standards establish the ambient noise base levels in the zones and during the times as shown in Table 3.

Table 3. Ambient Noise Base Levels

Base Levels, (dBA) L_{eq}	Time	Zone
45	Nighttime[a]	Residential
55	Daytime[b]	Residential
65	Anytime	Commercial
70	Anytime	All other zones

Source: Burbank Municipal Code, Section 9-3-208, 2008
[a] 10:00 P.M. to 7:00 A.M.
[b] 7:00 A.M. to 10:00 P.M.

According to Section 9-3-208, when the ambient noise base level for the property on which the machinery, equipment, pump, fan, air conditioning apparatus or similar mechanical device is located is higher than the ambient noise base level for adjacent property, the ambient noise base levels for the adjacent property shall apply. Properties separated by a street shall be deemed to be adjacent to one another.

Section 9-3-204 provides an exemption to the noise standards shown in Table 3 for "emergency work necessary to restore property to a safe condition following a public calamity, or *work required to protect persons or property from an imminent exposure to danger* (emphasis added), or work by a private or public utility when restoring utility service."

Additionally, Chapter 9-1-1-105.8 of the BMC prohibits construction activity which would create disturbing, excessive, or offensive noise between 7:00 p.m. and 7:00 a.m. Monday through Friday, between 5:00 p.m. and 8:00 a.m. on Saturdays, and at any time on Sundays or national holidays. The Community Development Director, Planning Board, or City Council may grant exceptions pursuant to land use entitlements or wherever there are practical difficulties involved in carrying out the provisions of the above-mentioned chapter or other specific onsite activity that warrants unique consideration.

4 Noise and Vibration Impacts Assessment

4.1 Thresholds of Significance

The following significance criteria, included in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.), will determine the significance of a noise impact. Impacts related to noise would be significant if the proposed Project would 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.

- Generation of excessive groundborne vibration or groundborne noise levels.
- For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the exposure of people residing or working in the Project area to excessive noise levels.

4.2 Impact Analysis

4.2.1 Would the project result in the 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?

Noise generated by the Project would be limited to short-term, on-site noise from the proposed removal of identified Aleppo Pine trees; no long-term or operational noise would occur as a result of the proposed Project.

Short-Term Impacts

Tree work inherently generates high intensity, short duration, temporary noise events. Based upon information from City of Burbank Landscape and Urban Forestry staff, the removal of each tree would require approximately one workday (i.e., 8 hours per tree). Work would take place during daytime hours only (from 7 AM to 5 PM) Monday through Friday. Project noise and vibration levels would vary from hour to hour and day to day, depending on the equipment in use, the operations being performed, and the distance between the source and receptor. As part of the site preparation process, affected residents and other sensitive receptors will be notified regarding the purpose of the project and the expected schedule a minimum of 48 hours advance of the commencement of work.

Equipment that would be in use during tree removals would include one or more chain saws, a wood chipper, a crane, a skip loader, a flatbed truck, a man lift, and a stump grinder. The noise levels of the tree removal equipment would be similar to that of typical construction equipment. The typical maximum noise levels for various pieces of construction and tree removal equipment at a distance of 50 feet are presented in Table 4. Note that the equipment noise levels presented in Table 4 are maximum noise levels. Typically, the equipment operates in alternating cycles of full power and low power, producing average noise levels less than the maximum noise level. The average sound level of tree removal and construction activity also depends on the amount of time that the equipment operates and the intensity of activities during that time.

Table 4. Tree Removal and Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (dBA at 50 Feet)
Air compressor	81
Backhoe	85
Chain saw	84
Dozer	87
Flatbed truck	74
Generator	78

Table 4. Tree Removal and Construction Equipment Maximum Noise Levels

Equipment Type	Typical Equipment (dBA at 50 Feet)
Loader	84
Man lift	75
Paver	88
Pneumatic tools	85
Skip loader	80[1]
Stump grinder	61.8[2]
Water pump	76
Wood chipper	95.5[3]

Source: FTA 2018, except where noted.
Notes: dBA = A-weighted decibels.
1 Ref: CPUC 2015.
2 Ref: Ventrac 2018.
3 Ref: Vermeer 2023.

The maximum noise levels at 50 feet for the identified tree removal equipment would be approximately 95.5 dBA for the equipment typically used for construction projects, although the hourly noise levels can vary substantially. For this Project in which the size of the site as well as the scope of the work is limited, the number and types of equipment would be relatively small, and the hours of operation are estimated to be relatively short, at approximately 8 hours per tree removal site. Tree removal noise would attenuate at approximately 6 dB per doubling of distance. Most activities associated with the Project would occur at distances of approximately 40 feet or more from the nearest residences.

A spreadsheet-based version of the Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2008) was used to estimate tree removal noise levels at the typical distance to the nearest residences. (Although the model was funded and promulgated by the Federal Highway Administration, the RCNM is often used for non-roadway projects, because the same types of equipment used for roadway projects are often used for other types of construction work.) Input variables for the RCNM consist of the receiver/land use types, the equipment type and number of each (e.g., a trencher, a loader), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis.

Details as to the type and number of pieces of (shown in Table 5) were provided by City of Burbank Landscape and Urban Forestry staff.

Table 5. Tree Removal Scenario Assumptions

Construction Phase	Anticipated Duration	Equipment		
		Equipment Type	Quantity	Daily Usage Hours
Tree Removal	8 hours per tree	Chain saw	3	8
		Wood chipper	1	6
		Crane	1	8
		Skip loader	1	4
		Flat bed truck	2	4
		Man lift	1	8
		Stump grinder	1	4

Source: City of Burbank Landscape and Urban Forestry Department.

Using the Federal Highway Administration's RCNM and the provided construction equipment information, the estimated noise levels from the removal activities were calculated, as presented in Table 6. The RCNM inputs and outputs are provided in Attachment B.

Table 6. Tree Removal Activity Noise Model Results Summary

Land Use	Off-site Receptor Location	Distance from Construction Activity to Noise Receptor (feet)	Estimated Construction Noise Levels (dBA $L_{eq\ 8\text{-}hr}$)
			Tree removal activities
Residential (Single Family)	Adjacent to the Project site (nearest residences)	Typical Construction Activity Receiver Distance (40' - 75')	88.4
Residential (Single Family)	In the vicinity of the Project site (several houses away)	Typical Construction Activity Receiver Distance (200' - 250')	75.6

Source: Attachment B
Notes: $L_{eq\ 8\text{-}hr}$ = 8-hour equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibel.

As shown in Table 6, short-term noise levels at the nearest noise-sensitive land uses (the residences adjacent to the tree removal site) are estimated to be approximately 88 dBA $L_{eq\ 8\text{-}hr}$ during the typical 8-hour period of tree removal activities. For residences not immediately adjacent to the Project site but several hundred feet away, the noise from tree removal activities would be less but would still be relatively high, at approximately 76 dBA L_{eq}. Based upon the results in Table 6, noise from the tree removal activity would be more than 5 decibels above City of Burbank presumed ambient noise levels (55 dBA L_{eq} daytime, 45 dBA L_{eq} nighttime), as shown in Table 3. The tree removal activity noise would also be more than 5 decibels above measured neighborhood ambient noise levels, which ranged from 51 to 62 dBA L_{eq}), as shown in Table 2. Thus, the short-term noise from the Project would exceed the noise regulation for stationary source noise in BMC Section 9-3-208. However, based upon BMC Section 9-3-204, the Project is exempt because the purpose of the activity is to protect persons or property from an imminent exposure to danger (specifically, the removal of trees determined to be a potential hazard).

Furthermore, the tree removal activity would comply with Chapter 9-1-1-105.8 of the BMC, which prohibits construction activity which would create disturbing, excessive, or offensive noise between 7:00 p.m. and 7:00 a.m. Monday through Friday, between 5:00 p.m. and 8:00 a.m. on Saturdays, and at any time on Sundays or national holidays. The proposed Project would not conduct noisy construction activities between the specified hours or days. All noise-generating construction would take place between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday and would not occur on Sundays and holidays. In addition, affected residents would be notified a minimum of 48 hours in advance of the commencement of work. Therefore, noise from Project construction would be **less than significant**. No mitigation is required.

4.2.2 Would the Project result in the generation of excessive groundborne vibration or groundborne noise levels?

Tree removal activities that might expose persons to excessive ground-borne vibration or ground-borne noise could cause a potentially significant impact. Groundborne vibration from construction activities is typically attenuated over short distances. The heavier pieces of construction equipment used for this Project would include loaded trucks, a crane, and a large wood chipper.

Based on published vibration data, the anticipated heavy construction equipment would generate a vibration level of approximately 0.089 inches per second peak particle velocity (PPV) at a distance of 25 feet from the source; lighter construction equipment, such as a skip loader (i.e., small bulldozer), would generate a substantially lower vibration level of approximately 0.003 inches per second PPV at a distance of 25 feet from the source (FTA 2018). It is anticipated that heavy equipment would operate as close as approximately 40 feet from existing residences. At the distance from the nearby residences to where construction activity would be occurring on the Project site, the peak particle velocity vibration level would be approximately 0.044 inches per second. As such, vibration levels would be less than the Caltrans threshold of 0.20 inches per second for human annoyance or the standard used by Caltrans for the prevention of structural damage to typical residential buildings of 0.3 ips PPV (Caltrans 2020). Because groundborne vibration from Project construction would not exceed recognized standards, and due to the temporary occurrence of vibration levels, vibration impacts would be **less than significant**. No mitigation measures are required.

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

No private airstrips exist in the Project vicinity. The nearest airport is Hollywood Burbank Airport, located generally to the north of the Project site, within 2 miles. Based upon the airport's current noise contour map, the identified tree removal locations are outside the 65 dBA airport noise contours (Coffman Associates 2016). Furthermore, the workers would be equipped with and wearing personal protective equipment (PPE) including hearing protection (i.e., ear plugs and/or muffs) as needed. Therefore, the proposed Project would not expose or result in excessive noise for people residing or working in the project area, and **no impact** would occur. No mitigation measures are required.

5 Conclusions

In summary, with implementation of standard construction and design techniques and practices, the Project's short- and long-term noise and vibration impacts would be less than significant. No mitigation measures are required.

6 References Cited

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act.

Caltrans (California Department of Transportation). 2013. *Technical Noise Supplement to the Caltrans Traffic Noise Analysis Protocol*. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. September 2013.

Caltrans. 2020. Transportation and Construction Vibration Guidance Manual. Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. April 2020.

Coffman Associates, Inc. 2016. Bob Hope Airport, 14 CFR Part 150 Noise Compatibility Study. Final Noise Compatibility Program Revision #2. March 2016.

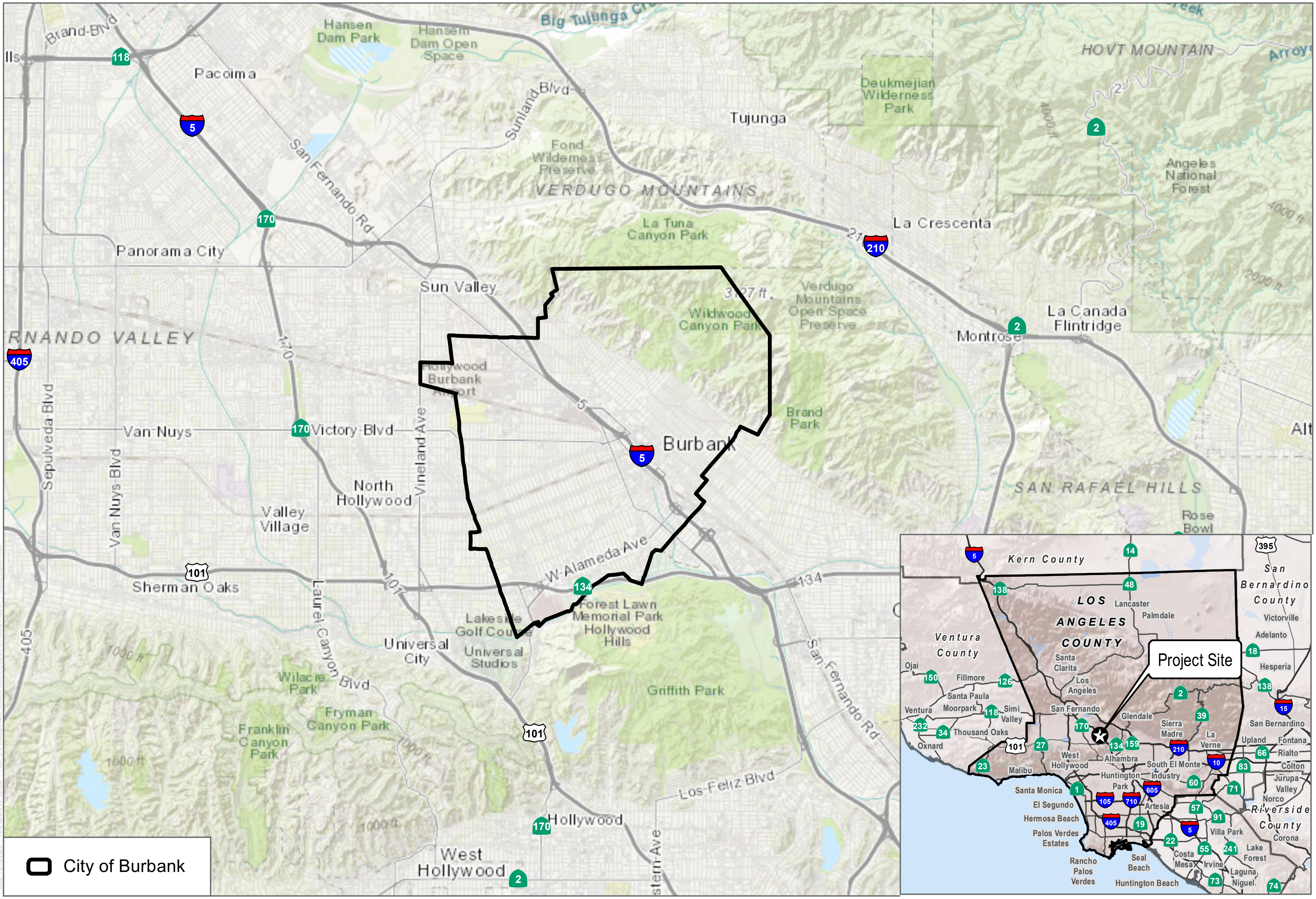
CPUC 2015. Proponent's Environmental Assessment April 2015 Mesa 500 kV Substation Project. April 2015.

FHWA (Federal Highway Administration). 2008. *Roadway Construction Noise Model (RCNM), Software Version 1.1.* Washington, DC: U.S. Department of Transportation, Research and Innovative Technology Administration, John A. Volpe National Transportation Systems Center, Environmental Measurement and Modeling Division.

FTA (U.S. Department of Transportation, Federal Transit Administration). 2018. Transit Noise and Vibration Impact Assessment Manual. September 2018.

Ventrac. 2018. LC150 Stump Grinder. Operator's Manual & Parts Drawings, December 2018.

Vermeer. 2023. BC1800XL Wood Chipper. Accessed December 7, 2023. https://www.vermeeraustralia.com.au/bc1800xl-wood-chipper/



SOURCE: Bing Maps 2022

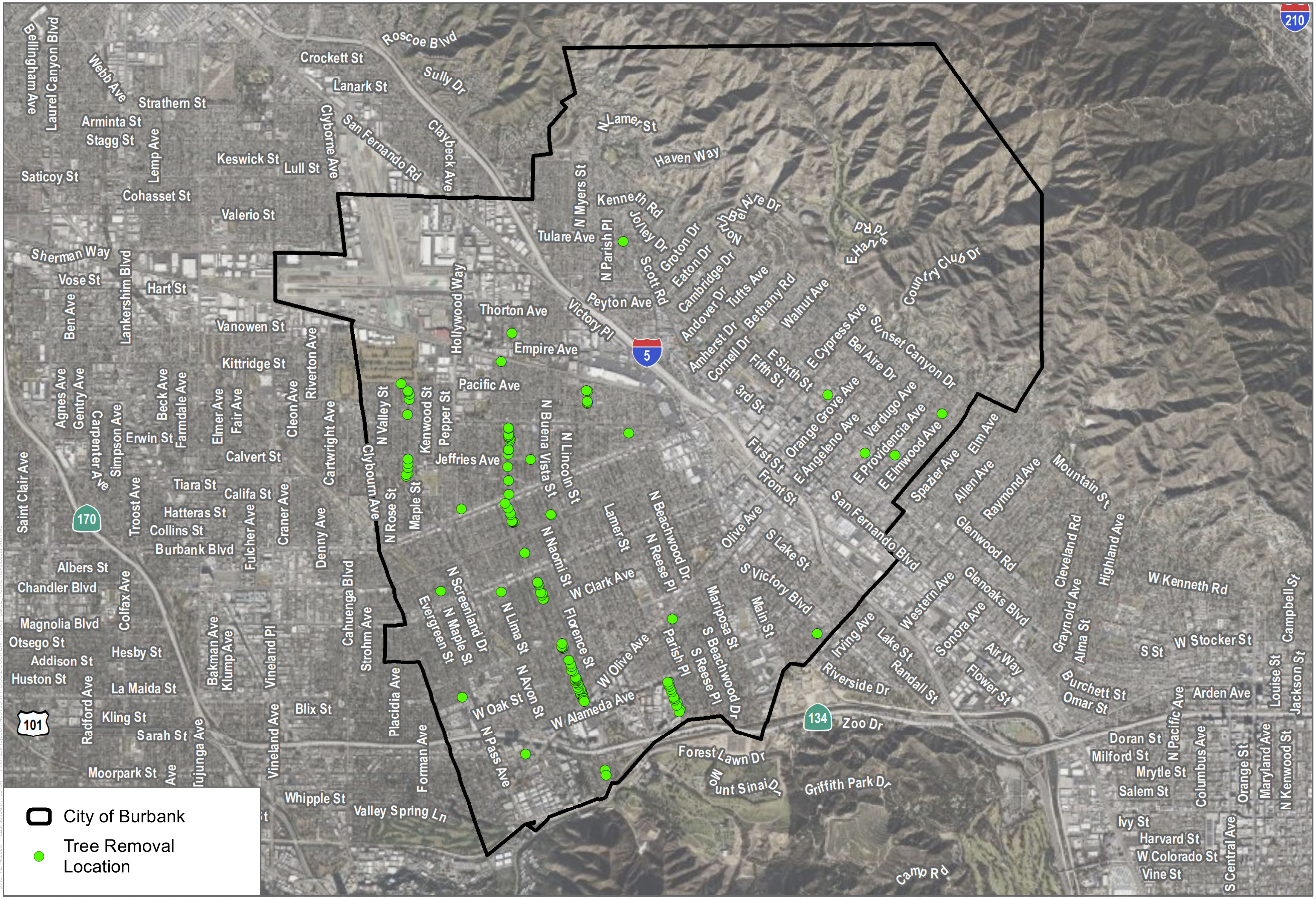
DUDEK

0 5,000 10,000 Feet

FIGURE 1

Project Location

Aleppo Pine Tree Removal Project



SOURCE: Bing Maps 2022

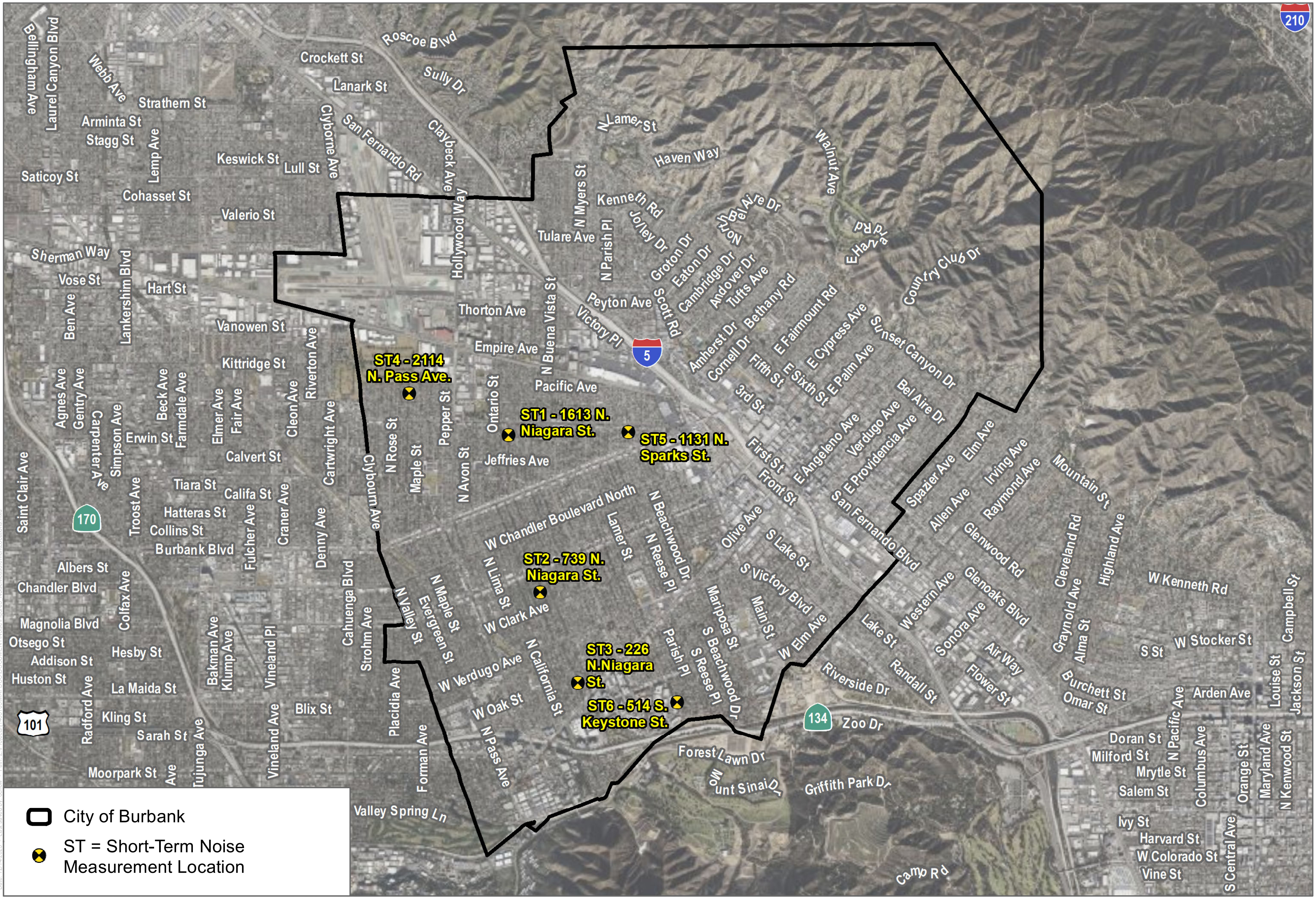
DUDEK

0 2,300 4,600 Feet

FIGURE 2

Tree Removal Locations

Aleppo Pine Tree Removal Project



SOURCE: Bing Maps 2022

DUDEK

FIGURE 3

Noise Measurement Locations

Aleppo Pine Tree Removal Project

Attachment A

Noise Measurement Data

FORMS DUDEK FIELD DATA REPORT

Field Noise Measurement Data

Record: 1767	
Project Name	*Burbank tree removal*
Observer(s)	
Date	*2023-11-17*

Meteorological Conditions	
Temp (F)	*69*
Humidity % (R.H.)	*63*
Wind	*Light*
Wind Speed (MPH)	*9*
Wind Direction	*North*
Sky	*Partly Cloudy*

Instrument and Calibrator Information	
Instrument Name List	*(ENC) Rion NL-52*
Instrument Name	*(ENC) Rion NL-52*
Instrument Name Lookup Key	*(ENC) Rion NL-52*
Manufacturer	*Rion*
Model	*NL-52*
Serial Number	*553896*
Calibrator Name	*(ENC) LD CAL150*

Calibrator Name	*(ENC) LD CAL150*
Calibrator Name Lookup Key	*(ENC) LD CAL150*
Calibrator Manufacturer	*Larson Davis*
Calibrator Model	*LD CAL150*
Calibrator Serial #	*5152*
Pre-Test (dBA SPL)	*93.9*
Weighting?	*A-WTD*
Slow/Fast?	*Slow*

Monitoring	
Record #	*1*
Site ID	*ST 5*
Site Location Lat/Long	*34.183560, -118.328791*
Begin (Time)	*13:48:00*
End (Time)	*14:03:00*
Leq	*51.2*
Lmax	*69.4*
Lmin	*42.9*
Other Lx?	*L90, L50, L10*
L90	*46.2*
L50	*49.1*
L10	*52.8*
Other Lx (Specify Metric)	*L*

FORMS FIELD DATA REPORT

Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Distant Aircraft, Distant Gardener / Landscape Noise, Distant Traffic*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Site Photos	
Photo	

Comments / Description	*Facing south*

Site Photos

Photo

Comments / Description	*Facing north*

Site Photos	
Photo	
Comments / Description	*Facing west*

Monitoring	
Record #	*2*
Site ID	*ST1*
Site Location Lat/Long	*34.183428, -118.342715*

FIELD DATA REPORT

Begin (Time)	*14:16:00*
End (Time)	*14:31:00*
Leq	*56.1*
Lmax	*76.2*
Lmin	*50.9*
Other Lx?	*L90, L50, L10*
L90	*44.4*
L50	*47.6*
L10	*56.5*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Distant Aircraft, Distant Traffic*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Site Photos

Photo	
Comments / Description	*Facing south*

Site Photos	

Photo	
Comments / Description	*Facing north*

Site Photos	

Photo	
Comments / Description	*Facing west*

Monitoring	
Record #	*3*
Site ID	*ST4*
Site Location Lat/Long	*34.187288, -118.354434*

FORMS DUDEK FIELD DATA REPORT

Begin (Time)	*14:42:00*
End (Time)	*14:57:00*
Leq	*62.4*
Lmax	*85.5*
Lmin	*40.7*
Other Lx?	*L90, L50, L10*
L90	*43.4*
L50	*46.9*
L10	*56.9*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Distant Aircraft, Distant Gardener / Landscape Noise*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Site Photos

FORMS DUDEK FIELD DATA REPORT

Photo	
Comments / Description	*Facing north*

Site Photos	

Photo	
Comments / Description	*Facing south*

Site Photos

FORMS FIELD DATA REPORT

Photo	
Comments / Description	*Facing east*

Monitoring	
Record #	*4*
Site ID	*ST2*
Site Location Lat/Long	*34.168109, -118.338907*

FORMS DUDEK FIELD DATA REPORT

Begin (Time)	*15:23:00*
End (Time)	*15:38:00*
Leq	*51.6*
Lmax	*70.2*
Lmin	*40.5*
Other Lx?	*L90, L50, L10*
L90	*42.3*
L50	*44.6*
L10	*54.8*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Distant Aircraft, Distant Conversations / Yelling, Distant Traffic*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Site Photos

Photo	
Comments / Description	*Facing south*

Site Photos	

Photo	
Comments / Description	*Facing north*

Monitoring	
Record #	*5*
Site ID	*ST3*
Site Location Lat/Long	*34.159176, -118.334476*

FORMS DUDEK FIELD DATA REPORT

Begin (Time)	*15:46:00*
End (Time)	*16:01:00*
Leq	*55.7*
Lmax	*78.5*
Lmin	*45.5*
Other Lx?	*L90, L50, L10*
L90	*47.6*
L50	*49*
L10	*54.4*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Birds, Distant Traffic*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Site Photos

FORMS DUDEK FIELD DATA REPORT

Photo	
Comments / Description	*Facing east*

Site Photos	

Photo	
Comments / Description	*Facing west*

Monitoring	
Record #	*6*
Site ID	*ST6*
Site Location Lat/Long	*34.170495, -118.329339*

FORMS DUDEK FIELD DATA REPORT

Begin (Time)	*16:10:00*
End (Time)	*16:25:00*
Leq	*55*
Lmax	*76.9*
Lmin	*41.7*
Other Lx?	*L90, L50, L10*
L90	*45.2*
L50	*49.3*
L10	*49.3*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Birds, Distant Aircraft, Distant Conversations / Yelling, Distant Traffic*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Site Photos

Photo	
Comments / Description	*Facing southwest*

Site Photos	

FORMS DUDEK FIELD DATA REPORT

Photo	
Comments / Description	*Facing northwest*

Site Photos	

FORMS FIELD DATA REPORT

Photo	
Comments / Description	*Facing southeast*

ST1

Address	Start Time	Measurem	Leq	LE	Lmax	Lmin	Ly	LN1	LN2	LN3	LN4	LN5	Over	Under
1	11/17/2023 14:16	00d 00:15:	56.1	85.7	76.2	40.9	-.-	56.5	44.4	51.8	47.6	43.6	----	-----

ST2

Address	Start Time	Measurem	Leq	LE	Lmax	Lmin	Ly	LN1	LN2	LN3	LN4	LN5	Over	Under
1	11/17/2023 15:23	00d 00:15:(	51.6	81.2	70.2	40.5	-.-	54.8	42.3	48.3	44.6	42.1	----	-----

ST3

Address	Start Time	Measurem	Leq	LE	Lmax	Lmin	Ly	LN1	LN2	LN3	LN4	LN5	Over	Under
1	11/17/2023 15:46	00d 00:15:	55.7	85.3	78.5	45.5	-.-	54.4	47.6	50.4	49	47.3	----	-----

ST4

Address	Start Time	Measurem	Leq	LE	Lmax	Lmin	Ly	LN1	LN2	LN3	LN4	LN5	Over	Under
1	11/17/2023 14:42	00d 00:15:	62.4	92	85.5	40.7	-.-	56.9	43.4	50.3	46.9	43	----	-----

ST5

Address	Start Time	Measurem	Leq	LE	Lmax	Lmin	Ly	LN1	LN2	LN3	LN4	LN5	Over	Under
1	11/17/2023 13:48	00d 00:15:(	51.2	80.8	69.4	42.9	-.-	52.8	46.2	50.6	49.1	45.5	----	-----

ST5

Address	Start Time	Measurem	Leq	LE	Lmax	Lmin	Ly	LN1	LN2	LN3	LN4	LN5	Over	Under
1	11/17/2023 18:10	00d 00:15:(	55	84.6	76.9	41.7	-.-	59.3	45.2	53.3	49.3	44.3	----	-----

Attachment B

Construction Noise Input/Output

To User: bordered cells are inputs, unbordered cells have formulae

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Barrier / Topo Insertion Loss (dB)*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Tree Removal	Chain Saw	1	20	84		40		85.9	8	480	79
	Chain Saw	1	20	84		45		84.9	8	480	78
	Chain Saw	1	20	84		50		84.0	8	480	77
	Wood Chipper	1	20	95.5		55		94.7	6	360	86
	Crane	1	16	81		50		81.0	8	480	73
	Skip Loader	1	40	80		45		80.9	4	240	74
	Flat Bed Truck	1	40	74		65		71.7	4	240	65
	Flat Bed Truck	1	40	74		75		70.5	4	240	63
	Man Lift	1	20	75		45		75.9	8	480	69
	Stump Grinder	1	20	61.8		45		62.7	4	240	53
							Highest $L_{max:}$	**94.7**	Total for Tree Removal Phase:		88.4

To User: bordered cells are inputs, unbordered cells have formulae

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	*Barrier / Topo Insertion Loss (dB)*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Tree Removal	Chain Saw	1	20	84		200		72.0	8	480	65
	Chain Saw	1	20	84		225		70.9	8	480	64
	Chain Saw	1	20	84		250		70.0	8	480	63
	Wood Chipper	1	20	95.5		225		82.4	6	360	74
	Crane	1	16	81		250		67.0	8	480	59
	Skip Loader	1	40	80		200		68.0	4	240	61
	Flat Bed Truck	1	40	74		250		60.0	4	240	53
	Flat Bed Truck	1	40	74		300		58.4	4	240	51
	Man Lift	1	20	75		250		61.0	8	480	54
	Stump Grinder	1	20	61.8		225		48.7	4	240	39
							Highest $L_{max:}$	**82.4**	Total for Tree Removal Phase:		**75.6**