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June 25, 2026

VIA ELECTRONIC MAIL

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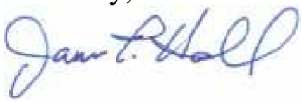
Re: Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

Dear Honorable Members of the PLUM Committee:

This Firm represents Girard Tract Community Preservation ("Appellant") in the above-referenced appeal of the South Valley Area Planning Commission's March 4, 2026, determination sustaining the Zoning Administrator's adoption of a Class 3 Categorical Exemption (CEQA Guidelines § 15303) for the proposed two-story single-family residence at 4230 N. Saltillo Street. Attached as Exhibit 1 in Appellant's May 5, 2026, Supplemental Justification for CEQA Appeal, the biological expert cited to a variety of reference materials in his report. As a courtesy, Appellant provides the cited reference documents to ensure they are made part of the Administrative Record. Please see these citations attached as **Exhibits A-V.**

I may be contacted at jamie.hall@channellawgroup.com if you have any questions, comments or concerns.

Sincerely,



Jamie T. Hall

Encls.
Exhibits A-V

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT A

Biological Expert Report originally submitted on May 5, 2026

May 4, 2026

Mr. Jamie T. Hall
Channel Law Group, LLP
8383 Wilshire Blvd., Suite 750
Beverly Hills, CA 90211

Subject: Environmental Impacts of the 4230 N. Saltillo Street Project;
Case Nos.: ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE

Dear Mr. Hall:

Per your request, I have completed an assessment of potential impacts to biological resources associated with the 4230 N. Saltillo Street Project ("Project") in the City of Los Angeles ("City"). The Project entails construction of a new two-story single-family home of 1,899 square feet with a 818 square foot four-car garage, 573 square foot basement, two retaining walls, a swimming pool, and a wood deck.

My assessment included a peer review of the two environmental documents prepared for the Project: (1) the Biological Resources Report prepared by South Environmental (dated March 2023), and (2) the Protected Tree Report prepared by Lisa Smith (dated September 2022). My assessment also included a review of site plans and other documents submitted by the Applicant, a review of scientific databases and literature, and examination of site conditions via Google Earth imagery.

My qualifications include 32 years of professional experience in the fields of wildlife biology, forestry, and natural resources management. I have served as a biological resources expert for over 250 projects, the majority of which have been development projects in California. My experience and scope of work in this regard has included assisting various clients with evaluations of biological resource issues; preparation and peer review of environmental compliance documents prepared pursuant to the California Environmental Quality Act ("CEQA") and the National Environmental Policy Act ("NEPA"); and preparation of written comments that address deficiencies with CEQA and NEPA documents. My work has included written and oral testimony for the California Energy Commission ("CEC"), California Public Utilities Commission, and Federal courts. My educational background includes a B.S. in Resource Management from the University of California at Berkeley, and a M.S. in Wildlife and Fisheries Science from the Pennsylvania State University. A copy of my current curriculum vitae is attached hereto.

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Construction Staging and Parking Areas

The City's Environmental Assessment Form requires the Applicant to provide a project description that describes the Project's construction staging areas.[1] The Applicant's project description fails to identify the construction staging areas, but according to the Biological Resources Report: "[s]taging, parking, and access to the site during construction will occur on Saltillo Street and Las Pilas Road."[2] Staging and parking on Saltillo Street and Las Pilas Road appears to be infeasible because parking (and by extension, staging) is prohibited on both roads (Attachment 1). In addition, both roads are extremely narrow (<20 feet) and incapable of serving as staging and parking areas without blocking traffic or creating a safety hazard. This suggests staging and parking would need to occur on the Project site, which in turn has implications on impacts to oak trees at the site. As discussed further below, oaks are very sensitive to soil compaction within the root zone, and there are few areas within the Project site where staging and parking could occur without impacting the root zone of oaks (which would contribute to their deaths). If staging or parking might occur at the Project site, the City must incorporate enforceable mitigation to minimize impacts on the root zones of the existing oaks.[3]

The Biologist That Conducted the Biological Resources Assessment Did Not Possess the Qualifications Mandated by the City

The City has adopted biological reporting standards, which include standards for biologists who prepare biological reports. Among other standards, the biologist must have "at least five years of professional experience that requires knowledge of natural history, habitat affinities, and identification of flora and fauna species, and relevant local, State, and federal laws and regulations governing the protection of biological resources."[4] The biologist that surveyed the Project site[5] and prepared the Biological Resources Report[6] had only two years of professional experience, and thus did not possess the qualifications mandated by the City.[7]

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1 City of Los Angeles. 2022 Dec 13. Environmental Assessment Form (CP-1204).

2 South Environmental. 2023 Mar. Biological Resources Report: 4230 Saltillo Street Project. p. 3.

3 Although the Protected Tree Report (p. 29) recommends protective fencing around the edge of the root zone, the recommended fencing has not been incorporated as mandatory mitigation. In addition, the fencing that has already been installed around the oaks only encompasses a portion of each tree's root zone. *See* South Environmental. 2023 Mar. Biological Resources Report: 4230 Saltillo Street Project. Appendix A (Photograph Exhibit).

4 City of Los Angeles. 2025 Sep 10. Biological Reporting Standards (CP-4074). p. 1. https://bit.ly/3QHgnoa

5 *See* South Environmental. 2023 Mar. Biological Resources Report: 4230 Saltillo Street Project. p. 13.

6 *Ibid*, p. 1. The report was prepared by AJ Samra and Matthew South. Mr. Samra, who conducted the field survey of the Project site, had only 2 years of professional experience.

7 South Environmental. 2023 Mar. Biological Resources Report: 4230 Saltillo Street Project. Appendix D (Resume for AJ Samra).

The City's Biological Reporting Standards state: "[s]urveys must be performed by biologists with demonstrable knowledge in field detection of the subject [special-status] species."[8] In addition, the City's standards require the biological resource report to include lists of all flora and fauna observed at the project site.[9] The biological resources report prepared for the Project fails to provide a list of the fauna observed at the Project site. This precludes the ability to validate the report's statement that no special-status animals were observed during the field visit.

Although the Biological Resources Report provides a list of flora observed at the Project site, the list strongly suggests that the biologist who surveyed the Project site lacked knowledge of local flora and did not possess the necessary qualifications for botanical field surveyors.[10] As an example, of the five native plants that were reportedly observed on the Project site,[11] two are not associated with oak woodlands and are not known to occur in Los Angeles County:[12]

- Desert Starvine (*Brandegea bigelovii*)[13] – Desert starvine is native to the Mojave and Sonoran Deserts where it is found in canyons, washes, flats, and sandy slopes.[14] The nearest known occurrence of desert starvine is approximately 107 miles east of the Project site.[15]

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8 City of Los Angeles. 2025 Sep 10. Biological Reporting Standards (CP-4074). p. 4. https://bit.ly/3QHgnoa

9 City of Los Angeles. 2023 Jan 11. Biological Resources Report Template (CP-4073). p. 8. https://bit.ly/4vZeNOE

10 *See* City of Los Angeles. 2025 Sep 10. Biological Reporting Standards (CP-4074). p. 1. https://bit.ly/3QHgnoa

11 South Environmental. 2023 Mar. Biological Resources Report: 4230 Saltillo Street Project. Table 1.

12 CCH2: Specimen data from the Consortium of California Herbaria [database]. 2026. [accessed 2026 Apr 30]. https://cch2.org/portal/collections/map/index.php. *See also* Calflora Database. 2026. Taxon Report for *Brandegea bigelovii*. [accessed 2026 Apr 30]. https://www.calflora.org/app/taxon?crn=1140. *See also* iNaturalist [database]. [accessed 2026 Apr 30]. https://www.inaturalist.org.

13 The report provides the scientific name *Echinocɛpon bigelovii,* which is a homotypic synonym of the currently accepted taxon *Brandegea bigelovii,*

14 Jepson Flora Project (eds.) 2026. Jepson eFlora. [accessed 2026 Apr 30]. https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=16061

15 CCH2: Specimen data from the Consortium of California Herbaria [database]. 2026. [accessed 2026 Apr 30]. https://cch2.org/portal/collections/map/index.php.

- Fingertips (*Dudleya edulis*) – Fingertips is associated with coastal sage scrub and chaparral, where it occurs on rocky hillsides, cliffs, and bare rock.[16] The nearest known occurrence of fingertips is approximately 63 miles southeast of the Project site.[17]

If either plant does indeed occur at the Project site, it would qualify as a special-status plant due its unique occurrence in Los Angeles County.[18] In addition, fingertips is a special-status plant due to its element rank of G3,[19] which means it is at moderate risk of global extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. Consequently, any impacts to either species at the Project site would be significant under CEQA.

Special-Status Plants

The City's Biological Reporting Standards state:

> "Analyze protected flora and vegetation communities per the CDFW Protocols for Surveying & Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities if the species is listed by CDFW. In lieu of using reference sites for areas containing native vegetation, the biologist may instead cite those species' blooming periods in CalFlora and conduct field visits during those times if the initial field visit was outside of the blooming periods."[20]

The CDFW protocols require surveys when special-status plants are both evident and identifiable,[21] which is generally when the plant is blooming. The biological survey of the Project site was conducted on February 16, 2023, which did not coincide with the blooming period of most special-status plant species known to occur in Los Angeles County. Indeed, the

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16 Calflora Database. 2026. Taxon Report for *Dudleya edulis*. [accessed 2026 Apr 30]. https://www.calflora.org/app/taxon?crn=2851.

17 CCH2: Specimen data from the Consortium of California Herbaria [database]. 2026. [accessed 2026 Apr 30]. https://cch2.org/portal/collections/map/index.php.

18 *See* California Department of Fish and Wildlife. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. Wildlife and Habitat Data Analysis Branch. pp. 2 and 3. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline.

19 NatureServe. 2026. NatureServe Explorer. Taxon report for *Dudleya edulis.* [accessed 2026 May 2]. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.148968/Dudleya_edulis

20 City of Los Angeles. 2025 Sep 10. Biological Reporting Standards (CP-4074). p. 5. https://bit.ly/3QHgnoa

21 California Department of Fish and Wildlife. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. Wildlife and Habitat Data Analysis Branch. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline.

survey coincided with the blooming period of only 8 of the 56 special-status plants analyzed in the Biological Resources Report.[22]

The failure to conduct surveys when all potentially special-status plant species would have been evident and identifiable is compounded by the report's flawed rationale for determining there is no potential for special-status plants at the Project site. According to the Biological Resources Report, none of the special-status plants analyzed have the potential to occur in the Project Study Area because either: (a) "[t]he project site lacks the habitat the species requires;" or (b) "[t]he project site has woodland with mostly lawn which would prevent colonization of this species; the site is also fragmented."[23] Seventeen of the special-status plants analyzed in the Biological Resources Report are associated with cismontane woodland habitat, which occurs at the Project site.[24] Therefore, absence of "habitat the species requires" cannot be used to justify the "no potential" determination. Similarly, the presence of "lawn" cannot be used to justify the "no potential" determination because the Project site does not contain "lawn."[25] Although non-native grasses are present at the site, the grasses do not provide 100% ground cover and they do not eliminate the potential for special-status plants.[26]

Impacts to Wildlife Habitat

The Biological Resources Report provides the following analysis of Project impacts to wildlife habitat:

> "The Coast Live Oak Forest and Woodland, due to the high level of disturbance and habitat fragmentation, would not be considered habitat for special-status species because the disturbance has removed the ground cover and allowed for non-native species to become prevalent."[27]

The determination that the woodland at the Project site does not provide habitat for special-status species conflicts with the report's determination that nine Birds of Conservation Concern have "high potential to occur" at the site.[28] Birds of Conservation Concern are special-status species:[29]

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22 *See* South Environmental. 2023 Mar. Biological Resources Report: 4230 Saltillo Street Project. Appendix B (Special-Status Species Analysis).

23 *Ibid.*

24 *Ibid,* p. 3 and Appendix B (Special-Status Species Analysis).

25 Lawn is defined as an area of short, mown grass in a yard, garden, or park.

26 *See* South Environmental. 2023 Mar. Biological Resources Report: 4230 Saltillo Street Project. Appendix A (Photograph Exhibit).

27 South Environmental. 2023 Mar. Biological Resources Report: 4230 Saltillo Street Project. p. 23.

28 *Ibid.*

29 *See* California Department of Fish and Wildlife. 2026 Apr. Special Animals List. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline

they consist of nongame birds that are likely to become candidates for listing under the Endangered Species Act unless additional conservation actions are implemented.[30]

Because the Biological Resources Report determined there is high potential for Birds of Conservation Concern to occur at the Project site, the significance of Project impacts to those species must be analyzed according to the standards established by the City.[31]

Impacts to Oak Trees

The Project site contains nine oak trees; two additional oak trees are located offsite near the Project boundary. Construction activities can kill trees by causing damage to the root system. Damage to the root system can occur due to grading, soil compaction, paving, trenching, changes in grade or drainage, or other environmental changes that accompany construction and landscaping activities.[32] The roots of mature oaks grow predominately in the upper three feet of soil, and most of the roots responsible for the uptake of water and minerals are concentrated within 18 inches of the surface.[33] Although the roots of oak trees typically radiate well beyond the periphery of foliage (the drip line), much of the active root system is within the drip line.[34] Due to these physiological traits, oaks are particularly sensitive to construction activities, especially if those activities damage roots or alter environmental conditions within the drip line. Rogers (1980) provided the following summary of oaks at construction sites:

> "The oak problem in many sites to be developed begins with the army of heavy equipment that is used during grading. This is damaging to the trees, as soil is removed and roots are either severed or filled over and compacted. Additionally, water tables are changed and trees are often neglected during the entire construction period. Compounding this is the dust that accumulates on the leaves.

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30 U.S. Fish and Wildlife Service. 2021. Birds of Conservation Concern 2021. Falls Church (VA): United States Department of the Interior, U.S. Fish and Wildlife Service, Migratory Birds. 47 p. https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf

31 City of Los Angeles. 2025 Sep 10. Biological Reporting Standards (CP-4074). https://bit.ly/3QHgnoa. *See also* City of Los Angeles. 2023 Jan 11. Biological Resources Report Template (CP-4073). https://bit.ly/4vZeNOE.

32 University of California Integrated Hardwood Range Management Program. 2010. Living Among the Oaks: A Management Guide for Landowners. Division of Agriculture and Natural Resources Publication #21538. *See also* Sacramento Tree Foundation. 2007. Guide to Sacramento Oaks. Sacramento Tree Foundation, Sacramento, CA. *See also* Rossi RS. 1980. History of cultural influences on the distribution and reproduction of oaks in California. In: Plumb TR, technical coordinator. Proceedings of the symposium on the ecology, management and utilization of California oaks; 1979 June 26-28; Claremont, CA. Gen. Tech. Rep. PSW-44. Berkeley, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Forest and Range Experiment Station: 7-18.

33 Hagen BW. 1990 June. Keeping Native California Oaks Healthy. Tree Notes No. 7. California Department of Forestry and Fire Protection.

34 *Ibid*.

> Compaction is often further increased as the trees offer shade to construction workers and their vehicles.
>
> Once grading is completed the construction of buildings also takes its toll on the trees. Utility trenching severs roots and often such trenches are left open for extended periods of time.
>
> Building construction often requires removal of some of a tree's upper structure. Disfiguration by limb breakage is a common occurrence. When pruning is performed, large limbs are often removed or the tree may become somewhat pollarded, which obviously destroys its beauty. Such severe pruning further creates problems with growth flushes and the subsequent witches broom or powdery mildew diseases.
>
> Once site development is completed the tree problems do not end. This is a critical time for them. Recognize that the trees have been removed from a natural environment, weakened by development and are now located in an artificial environment. Such an environment subjects them to overirrigation, planting at their bases, improper pruning, and perhaps further compaction. In time, it is inevitable that such trees will decline and eventually die."[35]

The Protected Tree Report prepared for the Project states that two (mature) oaks would be removed, and that the remaining seven oaks onsite would be either minimally impacted (3 trees) or not impacted whatsoever (4 trees).[36] This determination is unsupported, conflicts with scientific information, and is inconsistent with information provided in the Protected Tree Report itself.

The City's Biological Reporting Standards require the arborist to map the canopy area and sphere of influence[37] of each oak tree at a project site.[38] The Protected Tree Report prepared for the Project provides no such map. Furthermore, although it is well established that oaks are highly sensitive to construction activities within the drip line (canopy area), the Protected Tree Report provides no analysis of construction activities that would occur within the drip line. This issue is compounded by discrepancies between the tree setback distances stipulated in the report,[39] and those that are depicted on the Applicant's development plans. For example, the report states Oak #3 is setback seven feet and seven inches from the cantilevered raised wood deck, while Oak #5 is setback seven feet from the proposed driveway and three feet and four

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35 Rogers PA. 1980. Measures That Can Help Offset the Detrimental Effects That Urban Development Has on Oak Trees. In: Plumb TR, technical coordinator. Proceedings of the symposium on the ecology, management and utilization of California oaks; 1979 June 26-28; Claremont, CA. Gen. Tech. Rep. PSW-44. Berkeley, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Forest and Range Experiment Station: 167-170.

36 Smith L. 2022 Sep 5. Protected Tree Report. p. 6.

37 Defined as 10 times the tree area, or approximately 3.2 times the canopy radius.

38 City of Los Angeles. 2025 Sep 10. Biological Reporting Standards (CP-4074). pp. 5 and 6. https://bit.ly/3QHgnoa

39 Smith L. 2022 Sep 5. Protected Tree Report. p. 6.

inches from the required street widening.[40] However, the Grading and Drainage Plan depicts Oak #3 approximately four feet from the wood deck, and less than two feet from the paved walkway and landing.[41] Similarly, the Grading and Drainage Plan depicts Oak #5 approximately three feet from the proposed driveway and less than two feet from the retaining wall associated with street widening. The arborist's failure to incorporate accurate setback distances has implications on her determination that both trees would be "minimally impacted." Indeed, the Protected Tree Report specifically states that the wall for street widening cannot get any closer (than 3 feet four inches) to Oak #5 (i.e., without impacting the tree).[42]

The arborist's failure to map each oak's canopy area masks the Project's actual impacts on each tree that would be retained on-site. As a result, I used a compass, canopy data provided in the Protected Tree Report,[43] and the scale bar provided on the Project's grading plan to draw each oak's canopy area on the grading plan.[44] The results are provided in Figure 1 (below).[45] In summary:

- Oak Trees #1 and #2 would be removed for the Project.
- Oak Tree #3 is located immediately adjacent to the proposed concrete walkway, an impervious parapet, and a retaining wall.[46] Over 50% of the root zone would be impacted by grading activities associated with construction of these features, the house, and deck. In addition, the tree would be impacted by grade changes and significant pruning, both of which are known to be detrimental to the survival of oaks.[47] For these reasons, Oak Tree #3 is unlikely to survive.
- Oak Tree #4 is located in a grading area where soil would be "cut,"[48] resulting in significant damage to the oak's root system. Approximately half of the tree would be surrounded by the proposed deck.[49] Even with protection efforts, it is extremely unlikely the tree would survive.
- The root zones of Oak Trees #5 and #6 would be impacted by grading associated with the proposed driveway, road widening, and retaining wall. In addition, both trees could be

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40 *Ibid.*

41 File 0.4 ZA-2023-1206 Exhibit A, Sheets E.5-1 and E.5-3.

42 Smith L. 2022 Sep 5. Protected Tree Report. p. 6.

43 *Ibid*, Appendix C (Summary of Field Inspection).

44 File 0.4 ZA-2023-1206 Exhibit A, Sheet E-5.3.

45 Because the arborist did not provide a map depicting the canopy area of each tree, I was forced to assume each tree's canopy was circular and centered on the bole of the tree.

46 File 0.4 ZA-2023-1206 Exhibit A, Sheets E-7.3, E-9.5 (showing grade change), E-10.2 (showing retaining wall, walkway, and parapet/landing), and E-10.4 (showing proximity of tree to walkway and parapet/landing).

47 *See* Smith L. 2022 Sep 5. Protected Tree Report. pp. 33 and 35.

48 File 0.4 ZA-2023-1206 Exhibit A, Sheet E-5.3.

49 *Ibid*, Sheet E-6.1.

impacted by altered hydrology due to upslope grade changes associated with construction of the house. Both trees may not survive despite protection measures.

- Relatively small portions of the root zones of Oak Trees #7, #8, and #9 would be impacted by grading associated with road widening and the proposed retaining wall. These trees would likely survive, but survival cannot be guaranteed due to impacts to the root zone.
- A significant portion (approximately 30%) of the root zone associated with off-site Oak Tree #11 is located in a grading area where soil would be "cut," resulting in significant damage to the oak's root system. As a result, it is extremely unlikely the tree would survive.
- A significant portion (approximately 25%) of the root zone associated with off-site Oak Tree #12 is located in a grading area where soil would be "cut," resulting in significant damage to the oak's root system. As a result, it is extremely unlikely the tree would survive.
- The Project includes extensive landscaping with trees, shrubs, and ground cover plants that would be planted within the root zone of the oaks retained at the Project site.[50] The proposed landscape plants would receive substantial irrigation,[51] at least until they become established and have developed a healthy root system. Even if the retained oaks survive root damage caused by construction activities, they are likely to decline and die due to irrigation in the root zone (although it may take several years for the damage to become evident).[52] In addition, the thick root mats of the proposed ground cover plants would inhibit the exchange of air and moisture that oaks require.[53]

The Protected Tree Report itself provides evidence that the arborist's determination (regarding minimal or no impacts to retained oak trees) is unfounded:

- The Protected Tree Report states: "[t]rees remain healthier and vigorous with NO plantings within the protected zone"[54] (defined as the "area within the dripline of the tree plus additional feet depending on the species and size of the tree").[55] As discussed previously, the Project includes extensive landscaping (and associated irrigation) around the retained oak trees.[56]
- The Protected Tree Report states: "[i]rrigate trees for the duration of the project. If the tree is newly planted, deep watering should be weekly during its establishment period. If

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50 *Ibid*, Planting Plan (pdf pages 63 and 64).

51 *Ibid*, Irrigation Plan (pdf page 65).

52 Hagen BW. 1990 June. Keeping Native California Oaks Healthy. Tree Notes No. 7. California Department of Forestry and Fire Protection.

53 *Ibid.*

54 Smith L. 2022 Sep 5. Protected Tree Report. p. 30.

55 *Ibid*, p. 28.

56 File 0.4 ZA-2023-1206 Exhibit A, Planting Plan (pdf pages 63 and 64).

the tree is quite mature, deep water once per month during spring and summer months."[57] Whereas newly planted oaks require irrigation to develop a healthy root system, establised oaks are adapted to dry, summer conditions and become susceptible to disease if there are changes in soil moisture (e.g., from irrigation).[58] Indeed, according to the University of California Integrated Hardwood Range Management Program: "[s]ummer irrigation will doom the adult tree."[59] Given the proposed irrigation, the arborist's determination that retained oaks would be minimally impacted or not impacted whatsoever is unfounded.

- The Protected Tree Report acknowledges that grade changes (e.g., due to construction activities) can impact oaks.[60] Excavating soil can destroy roots and expose them to damage from surface activities, while adding soil reduces the oxygen supply to the root zone, which can suffocate the tree.[61] Given the substantial grade changes that would occur to many of the retained oaks, the arborist's determination that retained oaks would be minimally impacted or not impacted whatsoever is unfounded.

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57 *Ibid.*

58 University of California Integrated Hardwood Range Management Program. 2010. Living Among the Oaks: A Management Guide for Landowners. Division of Agriculture and Natural Resources Publication #21538.

59 *Ibid* [emphasis added].

60 Smith L. 2022 Sep 5. Protected Tree Report. p. 35.

61 University of California Integrated Hardwood Range Management Program. 2010. Living Among the Oaks: A Management Guide for Landowners. Division of Agriculture and Natural Resources Publication #21538.

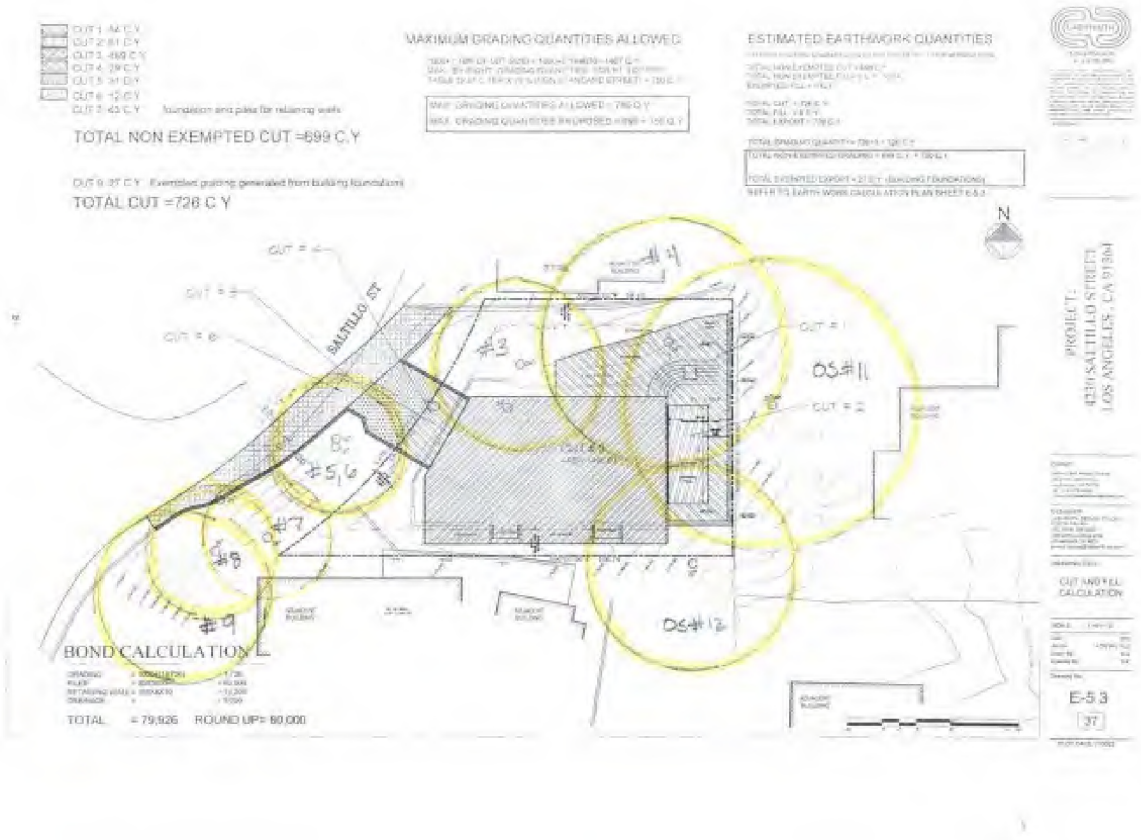


Figure 1. Tree canopies (yellow circles) of retained oaks in relation to the Project's grading plan.

Impacts to Coast Live Oak Woodland

The Project site contains 0.105 acres of a remnant Coast Live Oak Woodland community. According to the Biological Resources Report, the Project would impact 0.065 acres (62%) of the oak woodland.[62] This information is misleading and does not accurately reflect the Project's impacts.

The Plant Communities and Land Cover map provided in the Biological Resources Report depicts the proposed development footprint in relation to the site's oak woodland. The map fails to account for portions of the oak woodland that would be eliminated by landscaping.[63] For example, according to the map, oak woodland would remain along the southern border of the Project site. However, according to the Planting Plan, the southern border of the Project site

62 South Environmental. 2023 Mar. Biological Resources Report: 4230 Saltillo Street Project. Table 2 and p. 18.

63 *Ibid*, Figure 4.

would contain two light wells, two planters with giant chain fern, two sweet bay trees (in the southeast corner), a 3-inch deep strip of mulch, and no oaks.[64] This would not constitute an oak woodland. Furthermore, even if the retained and replacement oaks survive, they would not constitute an oak woodland, but rather, individual trees in a highly-modified, artificial environment comprised of anthropogenic structures and landscape plants.

Although woodland and forest remnants in urban environments often contain invasive plant species, they serve important ecological functions. For example, woodland remnants can provide important habitat for native birds by providing cover from predators, foraging and breeding opportunities, and migration stop-over habitat.[65] In addition, remnant habitat can act as a refuge from human disturbance for a variety of species.[66]

There are no performance standards for the oaks at the Project site after the Project is constructed. However, even if the trees survive, they would nor replace the oak woodland eliminated from the site. Individual trees interspersed around anthropogenic structures do not constitute a remnant oak woodland, nor do they provide the same ecological values as the contiguous patch of trees that currently exists at the site.

MITIGATION

The City has determined that implementation of Regulatory Compliance Measures #1 and #2 would enable the Project to avoid any potential impacts to sensitive biological resources.[67] The City's determination is not justified, as discussed below.

Regulatory Compliance Measure #1 requires "native replacement of trees or shrubs at a ratio of 4:1 for protected individuals and a ratio of 2:1 for significant individual that are removed or that will be destroyed by root zone encroachment." The Applicant proposes planting eight oak trees to replace the two oaks that would be removed. The eight proposed replacement trees would be planted immediately adjacent to the new house (6 trees) or Saltillo Street (2 trees).[68] At a minimum, the two trees planted adjacent to Saltillo Street would require significant pruning to avoid conflicts with the existing overhead powerlines. Individual trees adjacent to anthropogenic structures do not provide the same ecological values as trees comprising an oak woodland.

No trees are proposed for oaks that would be impacted by root zone encroachment. City of Los Angeles Ordinance 186873 states:

> "The term 'removed' or 'removal' shall include any act that will cause a protected tree or shrub to die, <u>including but not limited to acts that inflict damage upon the</u>

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64 File 0.4 ZA-2023-1206 Exhibit A, Planting Plan (pdf pages 63 and 64).

65 Dawson D, Hostetler M. 2020 (revised). Forest Remnants: Conserving and Observing Bird Diversity in Urban Settings. Wildlife Ecology and Conservation Department, UF/IFAS Extension. https://bit.ly/42bTnQM.

66 *Ibid.*

67 Zoning Administrator Determination, p. 18.

68 File 0.4 ZA-2023-1206 Exhibit A, Planting Plan (pdf pages 63 and 64).

> root system or other parts of the tree or shrub by fire, application of toxic substances, operation of equipment or machinery, or by changing the natural grade of land by excavation or filling the drip line area around the trunk."[69]

The Project involves operation of equipment or machinery, excavation, grade changes, landscaping, and irrigation within the drip line area of 9 "retained" oak trees (7 onsite and 2 offsite). Given the extent of damage to the root system, scientific evidence strongly suggests that at least some of these trees would die,[70] irrespective of the protection measures recommended in the Tree Protection Plan. The Project does not include mitigation for these "removed" trees. Furthermore, there are no performance standards for "retained" trees, nor is there a mechanism (e.g., monitoring) to verify persistence of retained trees that suffer root damage due to the Project. As a result, Regulatory Compliance Measure #1 does not mitigate the Project's impacts on oaks, and the Project does not comply with City of Los Angeles Ordinance 186873.

The Project includes glass railings around exterior balconies of the proposed house.[71] Glass railing adjacent to vegetation pose a significant collision hazard to birds.[72] Thus, not only would the proposed replacement trees fail to replace the habitat values impacted by the Project, but they would further degrade habitat for birds by creating an "ecological trap," whereby birds would be attracted to apparently suitable habitat (i.e., the replacement trees), then subject to mortality or reduced reproductive output due to collisions with the glass railings.

Regulatory Compliance Measure #2 requires a pre-construction survey for nesting birds and a no-work buffer around active nests until the nests are no longer active. Whereas this measure might minimize impacts to nesting birds during a single reproductive cycle, it does not mitigate the impact to all future reproductive cycles (population recruitment) due to the permanent loss of nesting habitat at the Project site.

Conclusion

Although the oak woodland that occurs at the Project site has been degraded, it continues to provide ecological values. The Project is likely to cause mortality of most of the "retained" oaks

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69 Los Angeles Municipal Code, Section 17.05. https://codelibrary.amlegal.com/codes/los_angeles/latest/lamc/0-0-0-122100. [emphasis added].

70 Edberg R, Berry A. 1999. Patterns of structural failures in urban trees: Coast live oak (*Quercus agrifolia*). Journal of Arboriculture 25:48-55. *See also* University of California Integrated Hardwood Range Management Program. 2010. Living Among the Oaks: A Management Guide for Landowners. Division of Agriculture and Natural Resources Publication #21538. *See also* Rogers PA. 1979. Measures That Can Help Offset the Detrimental Effects That Urban Development Has on Oak Trees. In: Plumb TR, technical coordinator. Proceedings of the symposium on the ecology, management and utilization of California oaks; 1979 June 26-28; Claremont, CA. Gen. Tech. Rep. PSW-44. Berkeley, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Forest and Range Experiment Station: 167-170.

71 File 0.4 ZA-2023-1206 Exhibit A, Sheets E-8.1 through E-8.4.

72 San Francisco Planning Department (*and references therein*). 2011. Standards for Bird-Safe Buildings. 42 pp.

(including the two offsite oaks), and if constructed according to the Project Plans, it would result in the elimination of the oak woodland community. The eight replacement trees required as mitigation for the Project would not offset these ecological impacts.

Sincerely,



Scott Cashen, M.S.
Senior Biologist

Environmental Impacts of the 4230 N. Saltillo Street Project;
Case Nos.: ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE

Attachment 1:
Parking prohibitions on Saltillo Street and Las Pilas Road



No Parking sign at 4222 Saltillo Street.



No Parking sign at 4170 Saltillo Street.



No Parking sign on Saltillo Street at intersection with Golondrina Street (south of Project site).



No Parking sign on Saltillo Street at intersection with Castillo Street (north of Project site).



No Parking sign on Las Pilas Road at intersection with Saltillo Street.

Scott Cashen, M.S.
Senior Wildlife Biologist

Scott Cashen has 32 years of professional experience in natural resources management. During that time he has worked as a field biologist, forester, environmental consultant, and instructor of Wildlife Management. Mr. Cashen focuses on CEQA/NEPA compliance issues, endangered species, scientific field studies, and other topics that require a high level of scientific expertise.

Mr. Cashen has knowledge and experience with numerous taxa, ecoregions, biological resource issues, and environmental regulations. As a biological resources expert, Mr. Cashen is knowledgeable of the various agency-promulgated guidelines for field surveys, impact assessments, and mitigation. Mr. Cashen has led field investigations on several special-status species, including ones focusing on the yellow-legged frog, red-legged frog, desert tortoise, steelhead, burrowing owl, California spotted owl, northern goshawk, willow flycatcher, Peninsular bighorn sheep, red panda, and various forest carnivores.

Mr. Cashen is a recognized expert on the environmental impacts of renewable energy development. He has been involved in the environmental review process of over 100 solar, wind, biomass, and geothermal energy projects. Mr. Cashen's role in this capacity has encompassed all stages of the environmental review process, from initial document review through litigation support. Mr. Cashen provided expert witness testimony on several of the Department of the Interior's "fast-tracked" renewable energy projects. His testimony on those projects helped lead agencies develop project alternatives and mitigation measures to reduce environmental impacts associated with the projects.

Mr. Cashen was a member of the independent scientific review panel for the Quincy Library Group project, the largest community forestry project in the United States. As a member of the panel, Mr. Cashen was responsible for advising the U.S. Forest Service on its scientific monitoring program, and for preparing a final report to Congress describing the effectiveness of the Herger-Feinstein Forest Recovery Act of 1998.

AREAS OF EXPERTISE

- CEQA, NEPA, and Endangered Species Act compliance issues
- Comprehensive biological resource assessments
- Endangered species management
- Renewable energy development
- Scientific field studies, grant writing and technical editing

EDUCATION

M.S. Wildlife and Fisheries Science - The Pennsylvania State University (1998)
Thesis: *Avian Use of Restored Wetlands in Pennsylvania*
B.S. Resource Management - The University of California, Berkeley (1992)

PROFESSIONAL EXPERIENCE

Litigation Support / Expert Witness

Mr. Cashen has served as a biological resources expert for over 125 projects subject to environmental review under the California Environmental Quality Act (CEQA) and/or the National Environmental Policy Act (NEPA). As a biological resources expert, Mr. Cashen reviews CEQA/NEPA documents and provides his clients with an assessment of biological resource issues. He then submits formal comments on the scientific and legal adequacy of the project's environmental documents (e.g., Environmental Impact Report). If needed, Mr. Cashen conducts field studies to generate evidence for legal testimony, or he can obtain supplemental testimony from his deep network of species-specific experts. Mr. Cashen has provided written and oral testimony to the California Energy Commission, California Public Utilities Commission, and U.S. district courts. His clients have included law firms, non-profit organizations, and citizen groups.

REPRESENTATIVE EXPERIENCE

Solar Energy

- Abengoa Mojave Solar Project
- Avenal Energy Power Plant
- Beacon Solar Energy Project
- Blythe Solar Power Project
- Calico Solar Project
- California Flats Solar Project
- Calipatria Solar Farm II
- Carrizo Energy Solar Farm
- Catalina Renewable Energy
- Fink Road Solar Farm
- Genesis Solar Energy Project
- Heber Solar Energy Facility
- Imperial Valley Solar Project
- Ivanpah Solar Electric Generating
- Maricopa Sun Solar Complex
- McCoy Solar Project
- Mt. Signal and Calexico Solar
- Panoche Valley Solar
- San Joaquin Solar I & II
- San Luis Solar Project
- Stateline Solar Project
- Solar Gen II Projects
- SR Solis Oro Loma
- Vestal Solar Facilities
- Victorville 2 Power Project
- Willow Springs Solar

Geothermal Energy

- Casa Diablo IV Geothermal
- East Brawley Geothermal
- Mammoth Pacific 1 Replacement
- Orni 21 Geothermal Project
- Western GeoPower Plant

Wind Energy

- Catalina Renewable Energy
- Ocotillo Wind Energy Project
- SD County Wind Energy
- Searchlight Wind Project
- Shu'luuk Wind Project
- Tres Vaqueros Repowering Project
- Tule Wind Project
- Vasco Winds Relicensing Project

Biomass Facilities

- CA Ethanol Project
- Colusa Biomass Project
- Tracy Green Energy Project

Other Development Projects

- Cal-Am Desalination Project
- Carnegie SVRA Expansion Project
- Lakeview Substation Project
- Monterey Bay Shores Ecoresort
- Phillips 66 Rail Spur
- Valero Benecia Crude By Rail
- Pacheco Dam Expansion Project

Project Management

Mr. Cashen has managed several large-scale wildlife, forestry, and natural resource management projects. Many of the projects have required hiring and training field crews, coordinating with other professionals, and communicating with project stakeholders. Mr. Cashen's experience in study design, data collection, and scientific writing make him an effective project manager, and his background in several different natural resource disciplines enable him to address the many facets of contemporary land management in a cost-effective manner.

REPRESENTATIVE EXPERIENCE

Wildlife Studies

- Peninsular Bighorn Sheep Resource Use and Behavior Study: (*CA State Parks*)
- "KV" Spotted Owl and Northern Goshawk Inventory: (*USFS, Plumas NF*)
- Amphibian Inventory Project: (*USFS, Plumas NF*)
- San Mateo Creek Steelhead Restoration Project: (*Trout Unlimited and CA Coastal Conservancy, Orange County*)
- Delta Meadows State Park Special-Status Species Inventory: (*CA State Parks, Locke*)

Natural Resources Management

- Mather Lake Resource Management Study and Plan – (*Sacramento County*)
- Placer County Vernal Pool Study – (*Placer County*)
- Weidemann Ranch Mitigation Project – (*Toll Brothers, Inc., San Ramon*)
- Ion Communities Biological Resource Assessments – (*Ion Communities, Riverside and San Bernardino Counties*)
- Del Rio Hills Biological Resource Assessment – (*The Wyro Company, Rio Vista*)

Forestry

- Forest Health Improvement Projects – (*CalFire, SD and Riverside Counties*)
- San Diego Bark Beetle Tree Removal Project – (*SDG&E, San Diego Co.*)
- San Diego Bark Beetle Tree Removal Project – (*San Diego County/NRCS*)
- Hillslope Monitoring Project – (*CalFire, throughout California*)

Biological Resources

Mr. Cashen has a diverse background with biological resources. He has conducted comprehensive biological resource assessments, habitat evaluations, species inventories, and scientific peer review. Mr. Cashen has led investigations on several special-status species, including ones focusing on the foothill yellow-legged frog, mountain yellow-legged frog, desert tortoise, steelhead, burrowing owl, California spotted owl, northern goshawk, willow flycatcher, Peninsular bighorn sheep, red panda, and forest carnivores.

REPRESENTATIVE EXPERIENCE

Biological Assessments/Biological Evaluations ("BA/BE")

- Aquatic Species BA/BE – Reliable Power Project (*SFPUC*)
- Terrestrial Species BA/BE – Reliable Power Project (*SFPUC*)
- Management Indicator Species Report – Reliable Power Project (*SFPUC*)
- Migratory Bird Report – Reliable Power Project (*SFPUC*)
- Terrestrial and Aquatic Species BA – Lower Cherry Aqueduct (*SFPUC*)
- Terrestrial and Aquatic Species BE – Lower Cherry Aqueduct (*SFPUC*)
- Terrestrial and Aquatic Species BA/BE – Public Lands Lease Application (*Society for the Conservation of Bighorn Sheep*)
- Terrestrial and Aquatic Species BA/BE – Simon Newman Ranch (*The Nature Conservancy*)
- Draft EIR (Vegetation and Special-Status Plants) - Wildland Fire Resiliency Program (*Midpeninsula Regional Open Space District*)

Avian

- Study design and Lead Investigator - Delta Meadows State Park Special-Status Species Inventory *(CA State Parks: Locke)*
- Study design and lead bird surveyor - Placer County Vernal Pool Study *(Placer County: throughout Placer County)*
- Surveyor - Willow flycatcher habitat mapping *(USFS: Plumas NF)*
- Surveyor - Tolay Creek, Cullinan Ranch, and Guadacanal Village restoration projects *(Ducks Unlimited/USGS: San Pablo Bay)*
- Study design and Lead Investigator - Bird use of restored wetlands research *(Pennsylvania Game Commission: throughout Pennsylvania)*
- Study design and surveyor - Baseline inventory of bird species at a 400-acre site in Napa County *(HCV Associates: Napa)*
- Surveyor - Baseline inventory of bird abundance following diesel spill *(LFR Levine-Fricke: Suisun Bay)*

- Study design and lead bird surveyor - Green Valley Creek Riparian Restoration Site *(City of Fairfield: Fairfield, CA)*
- Surveyor - Burrowing owl relocation and monitoring *(US Navy: Dixon, CA)*
- Surveyor - Pre-construction burrowing owl surveys *(various clients: Livermore, San Ramon, Rio Vista, Napa, Victorville, Imperial County, San Diego County)*
- Surveyor - Backcountry bird inventory *(National Park Service: Eagle, Alaska)*
- Lead surveyor - Tidal salt marsh bird surveys (*Point Reyes Bird Observatory: throughout Bay Area*)
- Surveyor – Pre-construction surveys for nesting birds (*various clients and locations)*

Amphibian

- Crew Leader - Red-legged frog, foothill yellow-legged frog, and mountain yellow-legged frog surveys *(USFS: Plumas NF)*
- Surveyor - Foothill yellow-legged frog surveys *(PG&E: North Fork Feather River)*
- Surveyor - Mountain yellow-legged frog surveys *(El Dorado Irrigation District: Desolation Wilderness)*
- Crew Leader - Bullfrog eradication *(Trout Unlimited: Cleveland NF)*

Fish and Aquatic Resources

- Surveyor - Hardhead minnow and other fish surveys *(USFS: Plumas NF)*
- Surveyor - Weber Creek aquatic habitat mapping (*El Dorado Irrigation District: Placerville, CA*)
- Surveyor - Green Valley Creek aquatic habitat mapping *(City of Fairfield: Fairfield, CA)*
- GPS Specialist - Salmonid spawning habitat mapping *(CDFG: Sacramento River)*
- Surveyor - Fish composition and abundance study (*PG&E: Upper North Fork Feather River and Lake Almanor*)
- Crew Leader - Surveys of steelhead abundance and habitat use *(CA Coastal Conservancy: Gualala River estuary)*
- Crew Leader - Exotic species identification and eradication *(Trout Unlimited: Cleveland NF)*

Mammals

- Principal Investigator – Peninsular bighorn sheep resource use and behavior study (*California State Parks: Freeman Properties*)

- Scientific Advisor –Study on red panda occupancy and abundance in eastern Nepal *(The Red Panda Network: CA and Nepal)*
- Surveyor - Forest carnivore surveys *(University of CA: Tahoe NF)*
- Surveyor - Relocation and monitoring of salt marsh harvest mice and other small mammals *(US Navy: Skagg's Island, CA)*
- Surveyor – Surveys for Monterey dusky-footed woodrat. Relocation of woodrat houses (*Touré Associates: Prunedale*)

Natural Resource Investigations / Multiple Species Studies

- Scientific Review Team Member – Member of the scientific review team assessing the effectiveness of the US Forest Service's implementation of the Herger-Feinstein Quincy Library Group Act.
- Lead Consultant - Baseline biological resource assessments and habitat mapping for CDF management units *(CDF: San Diego, San Bernardino, and Riverside Counties)*
- Biological Resources Expert – Peer review of CEQA/NEPA documents (*various law firms, non-profit organizations, and citizen groups)*
- Lead Consultant - Pre- and post-harvest biological resource assessments of tree removal sites *(SDG&E: San Diego County)*
- Crew Leader - T&E species habitat evaluations for Biological Assessment in support of a steelhead restoration plan *(Trout Unlimited: Cleveland NF)*
- Lead Investigator - Resource Management Study and Plan for Mather Lake Regional Park *(County of Sacramento: Sacramento, CA)*
- Lead Investigator - Biological Resources Assessment for 1,070-acre Alfaro Ranch property *(Yuba County, CA)*
- Lead Investigator - Wildlife Strike Hazard Management Plan *(HCV Associates: Napa)*
- Lead Investigator - Del Rio Hills Biological Resource Assessment *(The Wyro Company: Rio Vista, CA)*
- Lead Investigator – Ion Communities project sites (*Ion Communities: Riverside and San Bernardino Counties*)
- Surveyor – Tahoe Pilot Project: Validation of California's Wildlife Habitat Relationships (CWHR) Model *(University of California: Tahoe NF)*

Forestry

Mr. Cashen has five years of experience working as a consulting forester on projects throughout California. Mr. Cashen has consulted with landowners and timber operators on forest management practices; and he has worked on a variety of forestry tasks including selective tree marking, forest inventory, harvest layout, erosion control, and supervision of logging operations. Mr. Cashen's experience with many different natural resources enable him to provide a holistic approach to forest management, rather than just management of timber resources.

REPRESENTATIVE EXPERIENCE

- Lead Consultant - CalFire fuels treatment projects *(SD and Riverside Counties)*
- Lead Consultant and supervisor of harvest activities – San Diego Gas and Electric Bark Beetle Tree Removal Project *(San Diego)*
- Crew Leader - Hillslope Monitoring Program *(CalFire: throughout California)*
- Consulting Forester – Forest inventories and timber harvest projects *(various clients throughout California)*

PERMITS

U.S. Fish and Wildlife Service Section 10(a)(1)(A) Recovery Permit for the Peninsular bighorn sheep

TEACHING EXPERIENCE

Instructor: Wildlife Management - The Pennsylvania State University, 1998

Teaching Assistant: Ornithology - The Pennsylvania State University, 1996-1997

PUBLICATIONS

Gutiérrez RJ, AS Cheng, DR Becker, S Cashen, et al. 2015. Legislated collaboration in a conservation conflict: a case study of the Quincy Library group in California, USA. Chapter 19 *in*: Redpath SR, et al. (eds). Conflicts in Conservation: Navigating Towards Solutions. Cambridge Univ. Press, Cambridge, UK.

Cheng AS, Gutiérrez RJ, Cashen S, et al. 2016. Is There a Place for Legislating Place-Based Collaborative Forestry Proposals?: Examining the Herger-Feinstein Quincy Library Group Forest Recovery Act Pilot Project. Journal of Forestry 114(4):494-504

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT B

Environmental Assessment Form (CP-1204) – Footnote 1

APPLICATIONS

ENVIRONMENTAL ASSESSMENT FORM

THIS BOX FOR CITY PLANNING STAFF USE ONLY

Environmental Case No.: _____

Related Case Nos.: _____

Filed With: _____ **Date Filed:** _____

Accepted By: _____ **Date Accepted:** _____

All terms in this document are applicable to the singular as well as the plural forms of such terms.

Project Address[1]: _____

Assessor's Parcel Number: _____

Major Cross Streets: _____

Community Plan: _____

2026 Fee Schedule Notice: All discretionary City Planning applications must submit this form and pay the required EAF Intake Fee. After submission, City Planning staff will determine the appropriate CEQA clearance, which may require additional information and/or fees depending on the level of environmental review.

OVERVIEW

The California Environmental Quality Act, also known as CEQA, was enacted by the State of California in 1970 to establish statewide regulations for the environmental review of discretionary projects. The CEQA review process is intended to foster transparency and integrity in public decision-making while ensuring land use decisions take into account the full impacts of development on natural and human environments. Before a discretionary project may be approved by the City, the Department must determine the appropriate level of CEQA review and conduct the corresponding type of environmental analysis.

Under CEQA, a project's potential impacts on the environment will fall into one of the following categories: Statutory Exemption (including the Sustainable Communities Project Exemption [SCPE]), Categorical Exemption (CE), Negative Declaration (ND), Mitigated Negative Declaration (MND), Sustainable Communities Environmental Assessment (SCEA), Sustainable Communities Environmental Impact Report (SCEIR), or Environmental Impact Report (EIR).

The purpose of this form is to assist Planning staff in determining the appropriate environmental clearance for a project. Unless otherwise specified on the pages that follow, provide all applicable information in narrative form or in a separate attachment to the Environmental Assessment Form (EAF). At any time, Planning staff may require additional documentation, studies, reports, and/or analysis to be submitted with this form or City Planning Application. Any missing, incomplete, or inconsistent information will cause delays in the processing of your application.

[1] Project address must include all addresses on the subject site (as identified in ZIMAS; http://zimas.lacity.org).

PROJECT DESCRIPTION

Describe the entire project scope and any related entitlement requests. Attach a separate sheet if necessary. The description must include and/or describe:

- All phases and plans for future expansion
- Total square footage for:
  - Existing Development
  - Proposed Demolition
  - Proposed Construction
  - Summary of gross and net new square footage
- All uses, building heights (stories/feet), land use and zoning, floor area ratio (FAR), density, trees or protected tree removals, excavation/grading activities, construction staging areas, haul routes, street vacations or off-site improvements, sustainability features, hours of operation, retaining walls, etc.

Consider using tables to compare square footages or other aspects of the project.

Project Description:

Additional Information Attached ☐ **YES** ☐ **NO**

PROJECT & PROJECT SITE INFORMATION

ZONING/LAND USE

	Existing	Proposed
General Plan Land Use Designation		
Zoning		
Use (e.g., apartments, restaurant, retail)		

PROJECT SITE

	Square Feet	Acres
Gross Lot Area		
Net Lot Area		

SLOPE[2]

Identify how much of the property is:

< 10% slope: _____ 10-15% slope: _____ > 15% slope: _____

*If slopes over 10% exist, a **Topographic Map** is required.*

PROJECT SIZE

Total square footage of the existing development:	
Square footage to be demolished:	
Square footage to be built:	
Net new square footage:	
Total gross square footage:	

PROPOSED USES

Residential square footage:	
Commercial square footage:	
Industrial square footage:	
Other square footage (indicate use):	

DWELLING UNITS

Number of residential units and type:	
Number of hotel guestrooms:	
Net new units or hotel guestrooms:	

[2] As defined in LAMC Section 12.03 of Chapter 1 or LAMC Division 14.2 (Glossary) of Chapter 1A, as applicable based on a property's subject zoning.

BUILDING HEIGHT

Total number of stories at or above ground: _____

Maximum height: _____

LOT COVERAGE

Indicate the percent of the total lot area that is proposed for:

Building footprint:	%	Permeable hardscape:	%
Paving/hardscape:	%	Landscaping:	%

EXISTING AND PROPOSED DEVELOPMENT

Does the project only involve a remodel or change of use of an existing interior space? ☐ **YES** ☐ **NO**

If YES, indicate the total size of the interior space: _____

Does the property contain any vacant structures? ☐ **YES** ☐ **NO**

If YES, describe and state how long it has been vacant:

Does the project propose the removal or demolition of any structures? ☐ **YES** ☐ **NO**

If YES, provide the number, type, age, and total square footage of structures to be removed:

Does the project propose to remove any residential dwellings? ☐ **YES** ☐ **NO**

If YES, indicate the number of units: _____

Does the project include a pool and/or hot tub? ☐ **YES** ☐ **NO**

If YES, provide the total number of gallons of water: _____

SENSITIVE USES

Is the project site located within 500 feet of any of the following sensitive uses: residences (single-family, apartments, or condominiums), transient lodgings, and/or retirement homes, long-term health care facilities, rehabilitation centers, and convalescent centers; hospitals; schools and childcare centers; parks and playgrounds; churches; auditoriums, concert halls, amphitheaters, and/or recording studios? ☐ **YES** ☐ **NO**

If YES, describe use and proximity:

HOURS OF OPERATION

The hours of operation of the proposed project:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

SPECIAL EVENTS

Will there be special events not normally associated with day-to-day operations (e.g., fundraisers, parties, parent-teacher nights, athletic events, graduations)? ☐ **YES** ☐ **NO**

If YES, describe the number of events, type, duration, and frequency proposed:

TREES

Are there any protected and/or non-protected trees and shrubs[3] on the project site and/or within the adjacent public right-of-way, that may be removed or impacted[4] as a result of the project? ☐ **YES** ☐ **NO**

Existing number of trees onsite: _____

Existing number of protected trees/shrubs onsite: _____

Existing number of street trees adjacent to the project site: _____

*If a protected tree or shrub (as defined in LAMC Chapter 4, Article 6, Section 46.00 (Protected Trees and Shrub Regulations) occurs onsite, or any trees will be removed, replaced, relocated, or impacted, a **Tree Report** is required. Refer to the Tree Report Template (CP-4068) for additional instructions. If NO, a Tree Disclosure Statement (CP-4067) is required.*

Tree Report Attached ☐ **YES** ☐ **NO**

Tree Disclosure Statement Attached ☐ **YES** ☐ **NO**

GRADING AND RETAINING WALLS

Activities that may contribute to Grading (Check all that apply)

Demolition of Existing Structures ☐ **YES** ☐ **NO**

Remodels ☐ **YES** ☐ **NO**

Accessory Dwelling Unit ☐ **YES** ☐ **NO**

Swimming Pool/Spa ☐ **YES** ☐ **NO**

Decks ☐ **YES** ☐ **NO**

Garages ☐ **YES** ☐ **NO**

Basements ☐ **YES** ☐ **NO**

Pool House/Cabanas ☐ **YES** ☐ **NO**

Tennis Court/Motor Court/Basketball Court ☐ **YES** ☐ **NO**

Carports ☐ **YES** ☐ **NO**

Bridges ☐ **YES** ☐ **NO**

Slope Repair/Stabilization ☐ **YES** ☐ **NO**

Retaining Walls ☐ **YES** ☐ **NO**

Other: _____

[3] For a list of protected trees and shrubs, refer to the Tree Disclosure Statement (CP-4067).

[4] Impacted means that grading or construction activity will be conducted within five feet of, or underneath, the tree's canopy.

Grading

Specify the total amount of soil being moved:

Grading for Cut:	cubic yards
Grading for Fill:	cubic yards
Total Grading:	cubic yards (including BHO-exempt grading)
Overexcavation/Recompaction:	cubic yards

If subject to the Baseline Hillside Ordinance (BHO) per LAMC Section 12.21 C.10 of Chapter 1, identify the following exemptions, where applicable:

Remedial Grading as defined in LAMC Section 12.03: _____ cubic yards
(Must be recommended in Geotechnical Report and *approved by* the LADBS Grading Division)

Cut and/or Fill for driveway: _____ cubic yards
(Maximum exemption is 500 cubic yards)

Cut and/or Fill for deepened foundation systems: _____ cubic yards

Fill resulting from Cut underneath the main building footprint: _____ cubic yards
(Maximum exemption cannot exceed 50% of said Cut)

Retaining Walls

Does the project include retaining walls? ☐ **YES** ☐ **NO**

HAUL ROUTE[5]

Indicate the amount of soil to be exported and/or imported: ☐ **Less than 1,000 cubic yards**

☐ **1,000 cubic yards or more**

Provide the following details only if the project is exporting/importing soil amount of 1,000 cubic yards or greater:

Soil Export Amount: _____ cubic yards (including a 25% swell factor)

Location of Disposal Site: _____

Soil Import Amount: _____ cubic yards

Location of Borrow Site: _____

[5] Haul Route approval will be required if the project is located within a BOE Special Grading Area and is exporting / importing 1,000 cubic yards or greater. If the project includes a subdivision map, the Deputy Advisory Agency has the authority to act on the Haul Route; otherwise, a separate public hearing and approval will be required by the Board of Building and Safety Commissioners.

ENVIRONMENTAL CHECKLIST

Any technical study identified as required below shall be submitted at the time of case filing. Projects submitting an EIR may submit the technical studies at a later date.

AIR QUALITY

Does the proposed project include:

80 or more residential units?	☐ YES	☐ NO
75,000 sq. ft. or more of non-residential use?	☐ YES	☐ NO
20,000 or more cubic yards of soil export?	☐ YES	☐ NO

*If ANY of the three boxes are marked as YES, provide an **Air Quality Study**.*

BIOLOGICAL RESOURCES

Does the project propose any grading, new construction, or expansion of any building footprint? ☐ YES ☐ NO

*If NO, provide an **Owner's Declaration of Biological Resources (CP-3612)**.*
If YES, continue below.

Will the project remove any vegetation?	☐ YES	☐ NO
Will the project remove any protected trees or shrubs?	☐ YES	☐ NO
Would the project alter or encroach upon any water resources?	☐ YES	☐ NO

*If all three boxes are marked as NO, provide an **Owner's Declaration of Biological Resources (CP-3612)**.*

*If any of the three boxes are marked as YES and the project is within a hillside area and/or coastal zone, provide a **Biologist's Statement of Biological Resources (CP-3613)**.*

*If any of the three boxes are marked as YES and the project is not within a hillside area and/or coastal zone, provide an **Owner's Declaration of Biological Resources (CP-3612)**.*

HISTORICAL RESOURCES

Identification of Historical Resources Listed or Eligible for Listing

Are there any resources on or adjacent to the project site that are listed or eligible for listing under federal, state, or local landmark or historic district programs? Properties may include buildings, structures, sites, objects, and components of districts. ☐ YES ☐ NO

*If YES, indicate which of the following apply, and skip to **"Analysis of Project Impacts"**.*

☐ National Register of Historic Places: _____

☐ California Register of Historical Resources: _____

☐ City of Los Angeles Historic-Cultural Monument (HCM): _____

☐ Located within a City of Los Angeles Historic Preservation Overlay Zone (HPOZ): _____

Evaluation of Potential Historical Resources

Are there any properties on or adjacent to the project site that have been identified in a federal, State or local register? ☐ **YES** ☐ **NO**

If YES, indicate which: _____

Are there any properties on or adjacent to the project site that have been previously identified in a historic resources survey? ☐ **YES** ☐ **NO**

If YES, indicate which of the following apply and identify the name and/or address of the identified property and the geographic plan area in which the property is located: _____

☐ Identified in SurveyLA: _____

☐ Identified in CRA/LA Survey: _____

☐ Identified in Specific Plan: _____

☐ Identified in Other Geographic Overlay(s): _____

Does the Project Site contain any buildings over 45 years old that are not visible from the public right-of-way? ☐ **YES** ☐ **NO**

*If YES to any of the above, provide a **Historical Resource Assessment Report**.*

Analysis of Project Impacts

If there are any properties listed or evaluated eligible for listing in ***Historical Resource Assessment Report*** on or adjacent to the project site, provide the applicable document below:

☐ ***Historical Resource Technical Report (HRTR)*** is required for projects involving the demolition, construction, rehabilitation, relocation, or alteration of an identified historical resource. An HRTR should be prepared in support of an EIR, SCEA, MND/ND, SCPE, and/or Class 32 CE.

☐ ***Secretary of the Interior's Standards Compliance Memorandum*** is required for projects involving the rehabilitation, relocation, or alteration of an identified historical resource seeking a Class 31 CE.

HAZARDS AND HAZARDOUS MATERIALS

Is the project site listed in any of the databases that compose the Cortese List of hazardous wastes and substances, maintained by the California Environmental Protection Agency (CalEPA)? These database resources can be located online at the following address: https://calepa.ca.gov/SiteCleanup/CorteseList. **Check all that apply.**

- ☐ Department of Toxic Substances Control (DTSC): EnviroStor database
- ☐ State Water Board: GeoTracker database of leaking underground storage tank sites
- ☐ State Water Board: List of solid waste disposal sites with waste constituents above hazardous waste levels
- ☐ State Water Board: List of active Cease and Desist Orders and Cleanup and Abatement Orders
- ☐ DTSC: List of hazardous waste facilities subject to corrective action
- ☐ None of the Above

*If the project site is listed in ANY of the above databases, the project is ineligible for a CE, a **Phase I Environmental Site Assessment (ESA)** is required, and the project may incur other restrictions or requirements.*

Notwithstanding the checklist above, is the project proposed on land that is or was developed with a dry cleaning, automobile repair, gasoline station, or industrial / manufacturing use, or other similar type of use that may have resulted in site contamination? ☐ **YES** ☐ **NO**

If YES, describe:

*If YES, provide a **Phase I Environmental Site Assessment (ESA)**.*

TRANSPORTATION

Is the project required, or voluntarily proposing, to make modifications to the public right-of-way (i.e., dedications and/or improvements, reconfigurations of the curb line)? ☐ **YES** ☐ **NO**

If YES, complete Sections A, B, and C of Attachment D: Plan Consistency Worksheet of the Transportation Assessment Guidelines. Review by the Department of Transportation (LADOT) will be required to determine if the prcject's proposed changes to the public right of way conflicts with any plans, programs, ordinances, or policies.

Is the project proposing new driveways, or introducing new vehicle access to the property from the public right-of-way on a street designated as a Boulevard or Avenue, or on a collector or local street within 75 feet from the intersecting street? ☐ **YES** ☐ **NO**

*If YES, contact LADOT to initiate a **Transportation Engineering Design Review** by LADOT.*

A development project must also be screened to determine if a **Transportation Assessment** review by LADOT is required to analyze a potential increase in Vehicle Miles Traveled (VMT). Complete the **Transportation Study Assessment (CP13-2151.1)** to determine if the project needs to complete a VMT analysis.

If a Transportation Study Assessment (CP13-2151.1) has been completed, did the results indicate that a VMT analysis would be needed? ☐ **YES** ☐ **NO** ☐ **NOT COMPLETED**

MISCELLANEOUS

Does the property contain any easements, rights-of-ways, Covenant & Agreements, parking agreements, or other contracts which restrict full use of the property? ☐ **YES** ☐ **NO**

If YES, describe:

_____

_____

Will the project require certification, authorization, clearance or issuance of a permit by any federal, State, county, or environmental control agency, such as the Coastal Commission, California Department of Fish and Wildlife, State Water Resources Board, South Coast Air Quality Management District, etc.? ☐ **YES** ☐ **NO**

If YES, specify:

_____

_____

REQUESTED ENVIRONMENTAL CLEARANCE

CATEGORICAL EXEMPTION (CE)

Check all that apply below:

☐ **Check this box if you are requesting a CE and:**

You do not meet any of the exceptions listed in Section 15300.2 of the State CEQA Guidelines.

☐ **Check this box if you are requesting a Class 1–30 or 33 CE.**

Identify the Class of the CE which you are requesting: _____

☐ **Check this box if you are requesting a Class 31 CE and:**

A Secretary of the Interior's Standards Compliance Memorandum is attached.

☐ **Check this box if you are requesting a Class 32 CE and:**

- The Special Requirements for the Class 32 CE (CP-7828) have been reviewed;
- Written justifications identified in the Special Requirements (CP-7828) and any supporting documents and/or technical studies to support your position that the proposed project is eligible for the Class 32 CE and does not fall under any of the Exceptions pursuant to CEQA Section 15300.2 have been included; and
- This project would not result in any significant traffic, noise, air quality, or water quality impacts.

STATUTORY EXEMPTION

☐ **Check this box if you are requesting a Statutory Exemption.**

Identify the Code and Section under which a Statutory Exemption is being requested: _____

_____

NEGATIVE DECLARATION (ND) OR MITIGATED NEGATIVE DECLARATION (MND)

☐ **Check this box if you are requesting an ND or MND.**

Is a consultant-prepared Initial Study attached? ☐ **YES** ☐ **NO**

PROJECT WITHIN THE SCOPE OF THE HOUSING ELEMENT PROGRAM EIR

☐ **Check this box if you have reviewed the Housing Element Project Checklist (Form: CP-4089; Instructions: CP-4091) and believe that your project is within the scope of the Housing Element Program EIR.**

Is a completed Housing Element Project Checklist Form attached? ☐ **YES** ☐ **NO**

ENVIRONMENTAL IMPACT REPORT (EIR)

☐ **Check this box if you are requesting an EIR. Note that a consultation with the Major Projects Unit is required prior to filing.**

A consultation has been completed. ☐ **YES** ☐ **NO**

Date consultation completed: _____

SENATE BILL (SB) 375 CEQA STREAMLINING REQUEST

SB 375 introduced a series of streamlined CEQA environmental clearances for qualifying Transit Priority Projects (TPPs) pursuant to Public Resources Code (PRC) 21155, intended to encourage higher density infill development located near transit. The SB 375 clearances include Sustainable Communities Project Exemptions (SCPEs), Sustainable Communities Environmental Assessments (SCEAs), and Sustainable Communities Environmental Impact Reports (SCEIRs). Projects are eligible to seek one of these clearances if they meet the statutory requirements for TPPs **and** the qualifying requirements for the applicable environmental clearance.

☐ **Check this box if you are requesting a SB 375 environmental clearance, and indicate below which type you are requesting (choose only one):**

- ☐ **SCPE.** The Project is required to meet all criteria listed for a Transit Priority Project pursuant to PRC Section 21155 and for a SCPE pursuant to PRC Section 21155.1.
- ☐ **SCEA.** The Project is required to meet all criteria listed for a Transit Priority Project pursuant to PRC Section 21155 and for a SCEA pursuant to PRC Section 21155.2(a) and 21155.2(b).
- ☐ **SCEIR.** The Project is required to meet all criteria listed for a Transit Priority Project pursuant to PRC Section 21155 and for a SCEIR pursuant to PRC Sections 21155.2(a) and 21155.2(c).

Written justifications and any supporting documents and/or technical studies are required to support the position that the proposed Project is eligible for one of these three SB 375 CEQA streamlining clearances.

Note that requesting a SCPE, SCEA, or SCEIR, or other environmental clearance does not guarantee that the request will be accepted. The City may require additional studies and information, if necessary. The City reserves all rights to determine the appropriate CEQA clearance, including using multiple clearances and requiring an EIR if necessary.

PROPERTY OWNER

Name: _____

Company: _____

Address: _____ **Unit/Space Number:** _____

City: _____ **State:** _____ **Zip Code:** _____

Telephone: _____ **E-mail:** _____

APPLICANT (IF NOT PROPERTY OWNER)

Name: _____

Company: _____

Address: _____ **Unit/Space Number:** _____

City: _____ **State:** _____ **Zip Code:** _____

Telephone: _____ **E-mail:** _____

APPLICANT'S REPRESENTATIVE

Name: _____

Company: _____

Address: _____ **Unit/Space Number:** _____

City: _____ **State:** _____ **Zip Code:** _____

Telephone: _____ **E-mail:** _____

ENVIRONMENTAL CONSULTANT (IF APPLICABLE)

Name: _____

Company: _____

Address: _____ **Unit/Space Number:** _____

City: _____ **State:** _____ **Zip Code:** _____

Telephone: _____ **E-mail:** _____

APPLICANT/CONSULTANT'S AFFIDAVIT

Affidavit must be signed and notarized by the Property Owner and Consultant (if applicable). Notarized signatures shall also be required each time a revised EAF is submitted.

PROPERTY OWNER

I,

_____

(Print Name)

_____

Signature

CONSULTANT/AGENT

I,

_____

(Print Name)

_____

Signature

being duly sworn, state that the statements and information, including plans and other attachments, contained in this Environmental Assessment Form are in all respects true and correct to the best of my knowledge and belief. I hereby certify that I have fully informed the City of the nature of the Project for purposes of the California Environmental Quality Act (CEQA) and have not submitted this application with the intention of segmenting a larger Project in violation of CEQA. I understand that should the City determine that the Project is part of a larger project for purposes of CEQA; the City may revoke any approvals and/or stay any subsequent entitlements or permits (including certificates of occupancy) until a full and complete CEQA analysis is reviewed and appropriate CEQA clearance is adopted or certified.

SPACE BELOW FOR NOTARY'S USE

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT **CIVIL CODE 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document, to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of _____

On _____ before me, _____

(Insert Name of Notary Public and Title)

personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf on which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ (Seal)

Signature

REQUIRED SUBMITTAL MATERIALS

The following materials are required when submitting an EAF. All materials should reflect the entire Project, not just the area in need of the entitlement request. The required submittal materials are in addition to those required for any case/application with which the EAF is being filed. Materials shall be consistent with, or duplicates of, what is being submitted for the related application.

The City of Los Angeles may determine at a later point in time, consistent with CEQA Section 15060, that additional technical studies or reports may be required, including but not limited to shade/shadow studies, air quality studies, biological and species-specific resource reports, cultural resources assessments, energy assessments, geology and soils reports, greenhouse gas studies, phase I and phase II environmental site assessments, soils management plans, noise studies, transportation reports, etc.

☐ **Duplicate Copy of Application Materials:** Provide one duplicate hard copy of the following materials required as part of the main application. Refer to the DCP Application Filing Instructions (CP13-7810), Parcel Map Filings Instructions (CP13-1801), or Tract Map Filing Instructions (CP-6110), as applicable.

- Application Form (e.g., DCP Application Form [CP13-7771.1] and/or Subdivider's Statement [CP-6111], as applicable)
- One set of 11" x 17" reduced size Project Plans (e.g., Plot/Site Plan, Elevations, Landscape Plan) and/or Subdivision Map, as applicable
- Vicinity Map
- Index Map and Color Photographs
- Referral Forms, as applicable

☐ **Topographic Map:** Provide one copy of a Topographic Map if slopes over 10% exist on the project site. If the site is over 50 acres, 1" = 200' scale is acceptable.

☐ **Geology & Soils Report:** Provide one copy of the full report, including all appendices, grading plans (including the location and amounts of cut and/or fill, and export/import amounts), site plan and elevations illustrating any proposed retaining walls; and receipt from LADBS showing payment for report review. If available, the Geology and Soils Report Approval Letter from the LADBS - Grading Division shall be required at the time of filing.

☐ **Electronic Copy of EAF Materials:** Provide an electronic copy of all EAF materials on a USB flash drive. Save each item as individual PDFs and label accordingly (e.g., "EAF.pdf", "Haul Route Application.pdf", "Tree Report.pdf", Project Plans.pdf", "Photos.pdf"). No individual file should exceed 70 MB in size.

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT C

Biological Reporting Standards (CP-4074) – Footnote 4

Preparer Criteria

Qualified Biologist

Biological report preparers must be Qualified Biologists who meet the following criteria:

- **Qualified Biologist.** A person with the appropriate education, training, and experience to conduct biological surveys, monitor Project activities that have the potential to affect biological resources, provide construction worker education programs related to the protection of biological resources, and supervise or perform other tasks related to biological resources; possesses a Bachelor of Science degree or Bachelor of Arts degree in biology, ecology, or a related environmental science; and has at least five years of professional experience that requires knowledge of natural history, habitat affinities, and identification of flora and fauna species, and relevant local, State, and federal laws and regulations governing the protection of biological resources.

- Biological report preparers must also meet the following California Department of Fish & Wildlife (CDFW) qualifications for botanical field surveyors who analyze sensitive natural communities, as described in their Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (dated March 20, 2018).

Biological Resources Report Requirements

All Biological Resources Reports must comply with the following standardized requirements:

Project Overview

The project overview should include relevant information:

- The subject property's Assessor Parcel Numbers (APNs); information on the parcel's zoning and land use patterns are located on the City of Los Angeles Zone Information and Map Access System (ZIMAS) platform
- Topographic maps, which can be found through, but are not limited to, clipped portions of the United States Geological Survey (USGS) 7.5-minute quadrangle maps (standard 1:24,000 map scale)

- Cite whether there are any the following are located on or proximate to the project site, as identified in CDFW's Biogeographic Information and Observation System (BIOS) platform (see layers under the Land Ownership tab):
    - CDFW Owned and Operated Lands and Conservation Easements
    - California Protected Areas Database (CPAD) Holdings
    - California Conservation Easement Database (CCED)

Literature Review

Flora / Fauna

The literature review should include relevant information from all of the following databases:

- Federally-listed species with ranges that fall within the project site boundaries, using the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) database, if they are identified as a(n):
    - Endangered, Threatened or Candidate Species (and their Critical Habitat, if any) under the federal Endangered Species Act
    - Birds of Conservation Concern listed by the USFWS
- State-listed species or natural communities that have:
    - Recorded occurrences and/or presumed extants within a nine-quad search of the project site, based on positive detection results available from one or more of the following:
        - CDFW's California Natural Diversity Database (CNDDB)
        - California Native Plant Society (CNPS) Rare Plant Inventory
        - Calflora Observation Search
    - Medium or high habitat suitability scores within the project site based on expert opinion models from CDFW's California Wildlife Habitat Relationships (CWHR) database.
        - Provide the "A List of Species for a Single Situation" which can be generated by using the project address on the CWHR platform using the "Single Situation" query type, set for "Los Angeles" County, select all Habitat Types observed on-site, set the Suitability Threshold to "Medium" for Reproduction, Cover and Feeding, set the Special Status to "All Special Status Species", and run the query. The crosswalk for CalVeg classification to CWHR Habitat Types can be found here.

  Species should only be included if they are identified as any of the following:
    - Endangered, Threatened or Candidate Species under the California Endangered Species Act
    - Rare Species under the California Endangered Species Act and the Native Plant Protection Act
    - California Rare Plant Ranked Species (Ranks 1-3) listed by the California Native Plant Society
    - Global & State Ranked Species (Ranks 1-3) listed by NatureServe
    - Fully Protected Animals listed by CDFW
    - Species of Special Concern listed by CDFW

    - Sensitive Natural Communities listed by CDFW
    - California Terrestrial and Vernal Pool Invertebrates of Conservation Priority listed by CDFW
- Migratory Birds listed in either the federal Migratory Bird Treaty Act (MBTA) and/or the state Migratory Bird Protection Act (MBPA), only if they are expected to nest on or adjacent to the project site
- Known Environmental Sensitive Habitat Areas (ESHA) occurring within a 500-foot radius of the project site, identified in any of the following:
    - Venice Coastal Zone Specific Plan
- ESHAs identified in Local Coastal Plans by other agencies (e.g., County of Los Angeles, City of Malibu) Documentation and testimonials on sightings from neighbors, agencies (e.g., National Park Service for mountain lions provides 2013 telemetry locations and 2016 home ranges), and community science platforms (e.g. iNaturalist and eBird)

Wildlife Movement

The literature review should describe the extent of habitat connectivity between on and off-site lands, including relevant information from any applicable references from the following:

- USFWS National Wetlands Mapper
- California Essential Habitat Connectivity Project
- South Coast Missing Linkages Program
    - Regional Report
    - Linkage Design for the Santa Monica - Sierra Madre Connection
- Eastern Santa Monica Mountains Natural Resource Protection Plan (ESMM NRPP) and the Santa Monica Mountains Habitat Linkages Planning Maps and other maps adopted by the Santa Monica Mountains Conservancy (SMMC). Discuss potential project effects on applicable habitat blocks and nearby habitat linkages.
- Protected Areas for Wildlife (PAWs) & Wildlife Movement Pathways (WMPs) Report dated February 2021. Discuss potential project effects on nearby PAWs and WMPs. If the project site is located within a PAW and/or WMP, then also discuss whether any of the selection criteria for PAWs (page 9) or potential opportunities for WMPs (page 107 and Appendix G) apply to the individual project site. If not, discuss any specific factors that disqualify the individual site from selection as a PAW and/or WMP
- Previous Biological Reports prepared for either the project site or nearby project sites, if available

Water Resources

The literature review should include relevant information from any applicable references from the following:

- U.S. Geological Survey (USGS) Water Resources
- USFWS National Wetlands Mapper

Field Analysis

All field analyses should adhere to the following requirements:

- The entire project site should be surveyed for flora, fauna, wildlife corridors, and water resources. Adjoining properties should also be surveyed where direct or indirect project effects could occur, such as those from fuel modification, herbicide application, invasive species, and altered hydrology. Descriptions of brush clearance practices should delineate existing fuel modification zones from new zones required for the proposed project. The entire project site must be walked to the extent physically possible. A binocular survey should also be conducted of the surrounding area. Note which portions of the field surveying were conducted through binoculars or other methods due to dangerous terrain or trespassing issues.
- Surveys should be conducted within 12 months of report submission. The date, time of day, duration of the site visit, and weather conditions should be recorded for all field visits conducted. City staff may request additional field analysis if they determine that the time spent in the field does not adequately record all resources, or if the results of the surveys and sampling were insufficient due to season, time of day, or weather conditions.
- Analysis of flora should be limited to naturally-occurring native vegetation and exclude intentionally-planted ornamental landscaping (applicant may need to provide proof of planting for intentionally-planted native plants). However, field observations should note if any non-native landscaping provides essential habitat for any sensitive/special status species (e.g., eucalyptus groves are essential overwintering sites for monarch butterflies).
    - Reconnaissance surveys and field sampling should comply with the CDFW Survey of California Vegetation (SCV) Classification and Mapping Standards and the deliverables listed in CDFW's Vegetation Classification and Mapping Project Deliverables document
    - If applicable to the project site location, applying the hierarchical vegetation classification, vegetation key and crosswalks in the Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties, California report
    - Publicly sharing all vegetation data on CDFW's BIOS

  Specific surveys should include information on the presence or absence of endangered, rare, or threatened species (including species of special concern, other listed sensitive species, and migratory birds) likely to be present. Surveys must be performed by biologists with demonstrable knowledge in-field detection of the subject species. If not present, include a statement explaining the theoretical physical/biological basis for the lack of expected species. All point locations and inferred territories of these species must be included on a map.

  When applicable, the biologist should follow protocols and report requirements specified by the specified State or federal agency (see Appendix A) and submit the species-specific report as a separate document in the appendices of the main Biological Report. If specific protocols are not mandated by a State or federal agency, then the species-specific analysis may be embedded with the main Biological Report (see Appendix B). All species-specific analyses must comply with all applicable protocols as follows:

For Flora:

- Analyze protected flora and vegetation communities per the CDFW Protocols for Surveying & Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities if the species is listed by CDFW. In lieu of using reference sites for areas containing native vegetation, the biologist may instead cite those species' blooming periods in CalFlora and conduct field visits during those times if the initial field visit was outside of the blooming periods.
- Analyze protected flora per the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants if the species is listed by USFWS.
- Analyze local populations based on the Element Occurrences (EO) data on the CDFW's CNDDB. EOs are defined by the CNDDB as a population or group of populations found within ¼ of a mile of each other. Also discuss potential impacts to the element's Occurrence Rank (A-D, X, U). See Appendix C for more information.
- Identify protected vegetation communities at both an alliance-level and association-level by following the Membership Rules listed for that alliance in the CNPS Manual of California Vegetation. The analysis must explicitly state whether the vegetation stand generally meets community requirements (e.g., characteristic species, vegetation layers, membership rules, etc.) of any CalVeg vegetation alliances, such as the Southern California black walnut groves (Juglans californica Forest & Woodland Alliance), and must include consideration of stand size and isolation from other stands. Note that some associations are considered sensitive even though the alliance in which they nest are not. Thus, an alliance-level regional map may not portray stands of association-level sensitive natural communities. Also note the following guidelines:
    - Stand species composition, especially in widespread alliances, differs regionally. The CalVeg classification system is based on growing VegCAMP survey data that does not yet account for regional variability and evolving understanding of each vegetation community. Additionally, cover estimates have some variation (~5-8%) from surveyor to surveyor. Therefore, any vegetation stands that do not cleanly meet certain community requirements, but are still found to "best fit" under a given vegetation alliance, should still be grouped under said vegetation alliance for the purposes of general classification.
    - Certain vegetation communities have co-dominance, such as Southern California black walnut trees sharing overstory dominance with coast live oak. For instance, if the total tree cover is 10%, *Juglans* may only have 5% absolute cover or only 3% absolute cover when with *Quercus agrifolia*, and the vegetation community will still be considered a *Juglans californica* Alliance.
    - Disturbances should be discussed in the context of its effects on the dominant plant(s) that characterize the alliance, focusing on how said disturbances affect adaptations of the alliance and its ability to continue its existence (supporting its own life processes of cover, feeding, and reproduction).
- If the project site contains any oaks or Southern California black walnuts, provide the following analysis:
    - Identify whether the tree(s) is/are part of a vegetation stand that generally meets the community requirements of a CalVeg vegetation alliance. Note that certain woodlands are identified by CDFW as a sensitive natural community on the

California Natural Community List. Determine whether the suspected woodland/grove currently or historically meets the membership rules for any sensitive natural communities identified in the CNPS Manual of California Vegetation, including but not limited to, California Walnut Groves, California sycamore - coast live oak riparian woodlands, Engelmann oak woodland and forest, and Valley oak woodland and forest. Note also that additional vegetation communities may be considered as sensitive natural communities at the association level, not the alliance level. Refer to dichotomous keys in CDFW's report titled Vegetation classification of the Santa Monica Mountains National Recreation Area and environs in Ventura and Los Angeles counties, when applicable.

- Delineate the boundaries and areas (in acres or square feet) of any woodlands/groves by illustrating overlapping spheres of influence. Map any woodland/grove stands comprising of two or more trees (greater than a 4-inch diameter at standard height) of the same species, whose sphere of influence (10 times the tree area, or approximately 3.2 times the canopy radius) have any overlap.

Illustration 1: How to depict an individual tree and its sphere of influence.

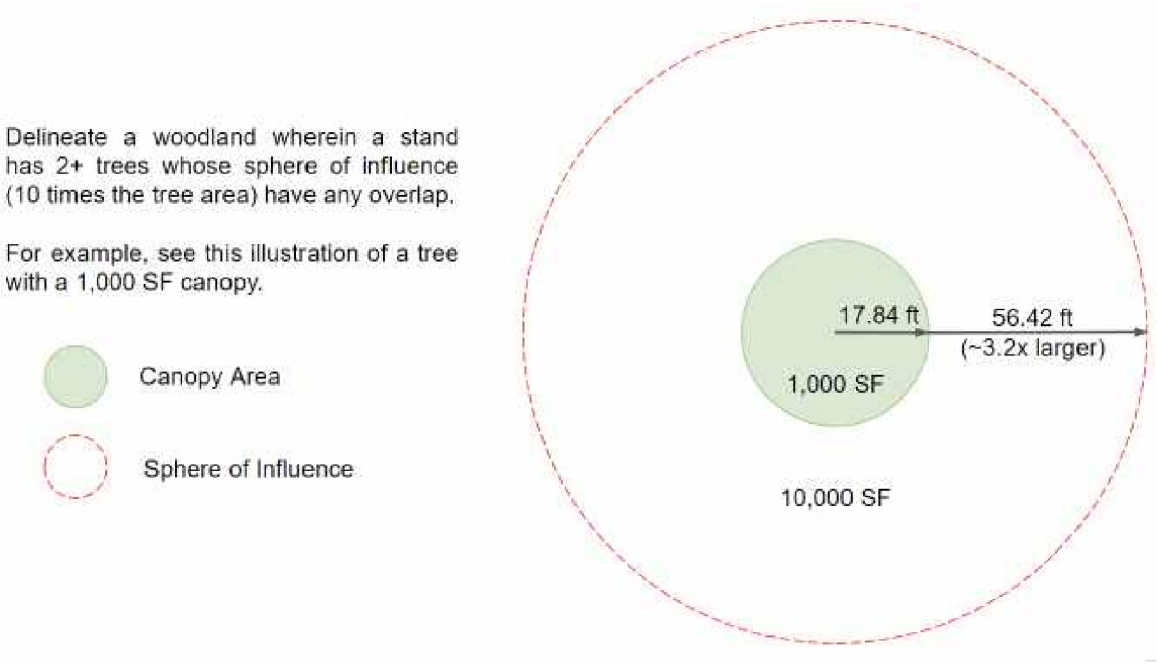
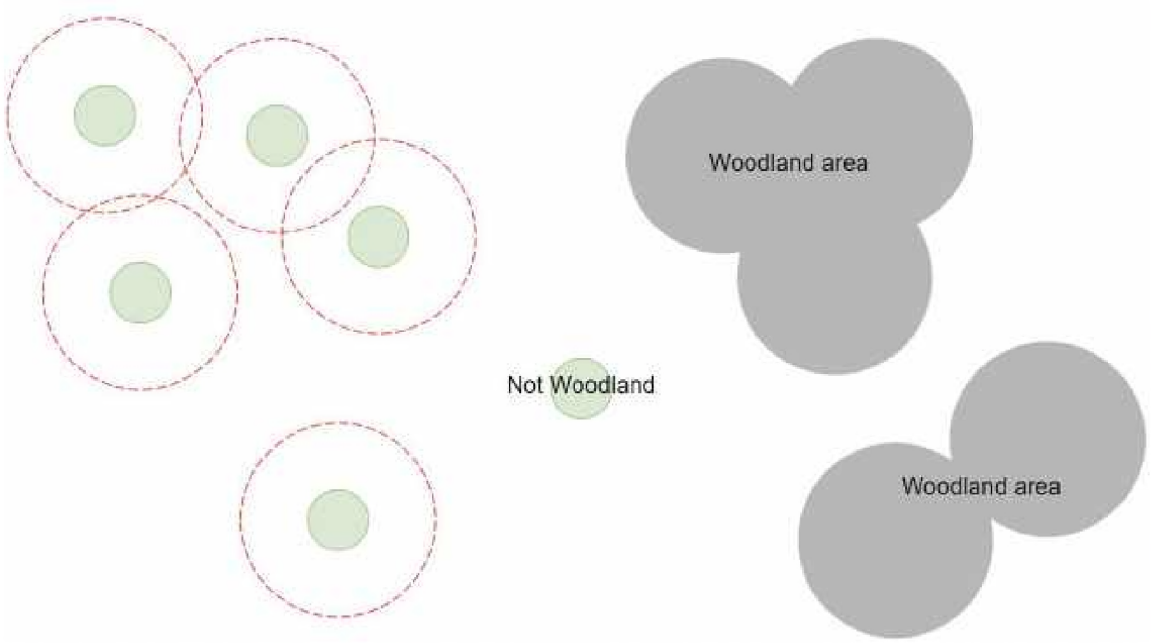


Illustration 2: How to depict qualified woodlands using their canopy areas and their respective spheres of influence.



- If the project site contains a woodland or grove with a Global or State rarity rank of 1 – 3 at a vegetation association level, determine whether the woodland/grove is self-sustaining and can naturally regenerate on the project site. If the woodland/grove is not capable of meeting its reproductive needs, discuss whether the stand supports other life processes such as sufficient cover and feeding.
- Provide the tree cover value of each tree, both absolute and relative to the vegetation community, along with supporting photographs.
- If the project site contains singular oaks or Southern California black walnuts, then identify its associated vegetation community.

For reference, Southern California black walnut groves are identified by CDFW as sensitive natural communities. If the project site contains a qualified walnut grove, then the project site likely has habitat containing resources and conditions necessary to functionally support one or more life processes of this sensitive natural community (the Southern California black walnut groves themselves). The walnut grove provides sufficient cover, feeding and reproduction - the grove contains the necessary cover from the walnut tree canopies; the canopy presumably obtains enough water and sun in its location; and the walnut grove's reproductive needs are meet if the stand is self-sustaining and will be able to regenerate.

- If the project site contains a vegetation stand that may possibly qualify as a sensitive natural community, provide a completed CDFW Rapid Assessment and Relevé Field Form as an attachment to the Biological Resources Report. Also reference the vegetation association details and field keys within the regional classification report, Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties, California, if applicable.
- For parts of the City that have not been classified according to state standards, it may be appropriate to use the vegetation types as described in "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1986 (Excel)). This is particularly

true for sensitive natural community types. In some unclassified areas, common types may already be described at the Alliance level. Refer to the Holland classification only when a vegetation type does not currently exist in Manual of California Vegetation.

For Fauna:

- Indicate the number of individual wildlife species should be approximated based on actual sightings and other available signs, such as scat (fecal deposits), tracks, and nests or burrows. The method by which the number of individuals and density of a species is determined must be described in the biological report.
- Note if any surveying was conducted through binoculars, or other methods, instead of walking the site due to terrain or trespassing issues.
- Note if any camera traps were used to record fauna movement or audible calls. Describe the protocols used for the remote camera trap installation and servicing, if applicable. A camera trap study is required if the project site is over 5 acres in size.
- Include a separate discussion for each federally-listed, State-listed, sensitive or special status species that occur or have a medium to high probability of occurring on the site or on land immediately adjacent to the site.
- Reconnaissance surveys and field sampling should comply with vegetation protocols when documenting habitat conditions, including publicly sharing all vegetation data on CDFW's BIOS.

For Both Flora & Fauna:

- Provide a Habitat Integrity Analysis (HIA) for each listed/sensitive/special status species, including descriptions of the habitat structure and current conditions. If the habitat is considered to be degraded, extensively elaborate on why the habitat should be considered degraded. If applicable, also extensively elaborate on why any given vegetation is degraded to the extent of no longer providing habitat for said listed/sensitive/special status species. Note the following guidelines:
    - Habitat is a species-specific construct. Habitat is the abiotic and biotic setting that currently or periodically contains (e.g., ephemeral pools) the resources and conditions necessary to support one or more life processes of a given flora or fauna species. The life processes of any fauna species include, but are not limited to, feeding (foraging), reproduction (breeding and nursery), and cover (sleeping and movement). The habitat area does not need the current presence of a protected species to qualify as habitat for said species. The HIA must determine whether the habitat currently or periodically contains the resources and conditions necessary to functionally support one or more life processes of the identified species. The analysis must be at an individual-species level and individually state whether the habitat has enough integrity for that specific flora/fauna species. A blanket statement on the lack of said habitat for all species without species-specific analysis does not provide sufficient environmental review.
    - Identify the associated CWHR Habitat Types (may use the CalVeg-CWHR crosswalk if needed) and discuss suitability levels (unsuitable, low, medium or high) for the following life processes:

For Flora / Vegetation Communities Habitat

- Cover: describe canopy cover and/or shade
- Feeding: describe water and sun needs
- Reproduction: describe soil fertility, presence of tree saplings, and/or pollinators

For Fauna Habitat

- Cover: describe potential shelter for resting/sleeping, hiding, and wildlife movement (daily connectivity needs, migratory needs)
- Feeding: describe potential sources for water, vegetation, prey animals
- Reproduction: describe nursery sites which include but are not limited to nests, natal dens, and soil deposits.

- If within the Coastal Zone, identify vegetation communities that potentially qualify as Environmentally Sensitive Habitat Areas (ESHA) as formally determined by the California Coastal Commission, using the following criteria:
  - Contains the presence of special status individual flora/fauna species that are rare or especially valuable. Note that many rare species or habitat types are globally rare but locally abundant. A species or habitat type may have suffered severe historical declines in overall abundance and currently are reduced to a small fraction of their original range, but where present may occur in relatively large numbers or cover large local areas. For individual rare species, it is not necessary to find that they are relatively pristine, and are neither isolated nor fragmented.
  - Is within the Santa Monica Mountains and contains one or more of the following CWHR Habitat Types (may use the CalVeg-CWHR crosswalk if needed):
    - Riparian Woodland: Montane Riparian (MRI), Valley Foothill Riparian (VRI)
    - Coastal Scrub (CSC)
    - Chaparral: Mixed Chaparral (MCP), Montane Chaparral (MCH), Chamise-Redshank Chaparral (CRC)
    - Oak Woodlands: Coastal Oak Woodland (COW), Valley Oak Woodland (VOW), Montane Hardwood (MHW)
    - Native Perennial Grasslands (PGS)
    - Monarch Butterflies Overwintering Sites: Eucalyptus

Note that areas may be valuable because of their “special nature,” such as being an unusually pristine example of a habitat type, containing an unusual mix of species, supporting species at the edge of their range, or containing species with extreme variation. For example, reproducing populations of valley oaks are not only increasingly rare, but their southernmost occurrence is in the Santa Monica Mountains.

Within the Santa Monica Mountains, as in most areas of Southern California affected by urbanization, all natural habitats are in grave danger of direct loss or significant degradation as a result of many factors related to anthropogenic changes (Is easily disturbed or degraded by human activities). Areas of undeveloped native habitat in the Santa Monica Mountains that are large and relatively unfragmented may meet the definition of ESHA by virtue of their valuable roles in that ecosystem, regardless of their relative rarity throughout the state.

- **WATER RESOURCES** (Applicable when surface water resources, including ephemeral streams, may be present):
    - The mapping of wetlands and/or waters of the U.S. can often be completed with site visits and review of aerial photographs and with topographical, vegetation, and soil maps. Under this method wetlands and/or waters of the U.S. are conservatively identified to extend to the outermost limit of riparian vegetation (canopy drip line or scrub line boundary), hydric soils, or the defined bed and bank of a drainage feature, whichever is greatest. Note the following guidelines:
        - Adjoining properties should also be surveyed where direct or indirect project effects could occur, such as those from altered hydrology, as access allows
        - A discussion of any significant limitations to each of the surveys performed, such as timing, season, or inability to access or observe portions of the property or observe adjacent properties. All reports should acknowledge the existence of time and seasonal variations recognizing that not all species on the site may be detected
        - Include all ephemeral streams and waterways, if any occur on the project site
        - Include a map of the property depicting the areas surveyed, if applicable(i.e. a map should be included when transects, quadrat sampling, or sample points are used)
        - A full wetland delineation survey following the US Army Corps of Engineers standards, including soil testing, may be required if the boundaries of the wetlands are not easily discernible through a basic wetland survey. When a formal wetland delineation is completed, a separate wetland delineation map is required in addition to showing the extent of wetlands on the map. Datasheets or other information that was used to complete the delineation should be provided in addition to the mapping
    - Reconnaissance surveys and field sampling should utilize one of the following standardized protocols when documenting water resources:
        - Hydrogeomorphic Model (HGM) - the traditional method for assessing wetlands, vernal pools and subtidal habitats, and intertidal areas with little vegetated cover
        - California Rapid Assessment Method (CRAM) - a rapid assessment method for monitoring the conditions of wetlands throughout California. May not be appropriate for assessing biophysical functions of water resources, vernal pools, ephemeral streams, and seasonal depressional wetlands
    - If vernal pool habitat is suspected, include a survey to determine the presence/absence of vernal pools, utilizing the USFWS's Vernal Pool Guidelines
- **APPENDICES.** Include a Comprehensive Observed Species List, separating flora from fauna, and must include all of the following components:
    - Scientific Name and Common Name
    - Sensitivity Ranking, as deemed by State or Federal agencies (e.g., CDFW, USFWS, California Coastal Commission, etc.) and Conservation Status, as listed in the following:
        - California Rare Plant Ranking (CRPR) per the California Native Plant Society (CNPS) - cite the CNPS Inventory of Rare and Endangered Plants
        - Global (G) and State (S) Ranking per NatureServe - cite the CNPS Inventory of Rare and Endangered Plants or the NatureServe Explorer

- Preferred habitat requirements (e.g., vegetation, soil, elevation range, etc.)
- Verified On-Site (Yes/No) - direct observation / indirect evidence
- Potential to Occur On-Site (Observed or Low/Medium/High/Unlikely)
- The factual basis for determination of occurrence potential - for example, "the site contains no habitat suitable for coastal dunes milk-vetch"

Any deviations from the above standards must be explicitly noted and justified in the Biological Resources Report.

Appendix A - State & Federal Protocols & Report Requirements

Surveys of threatened, endangered, rare, or other sensitive species must be performed by biologists with demonstrable knowledge in-field detection of the subject species. If the project site has the potential for any of the following species to occur on-site, then the biologist should comply with the following protocols and report requirements specified by the listed State or federal agency for said species. The species-specific report should be summarized in the Fauna Section of the Full Biological Report and attached as an appendix.

Invertebrates

Vernal Pool Branchiopods

- Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Vernal Pool Brachiopods (USFWS, 4/1996)

Amphibians

Arroyo Toad

- Survey Protocol for the Arroyo Toad (USFWS)

California Red-legged Frog

- Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frog (USFWS, August 2005)

Reptiles

Western Pond Turtle

- Draft USGS Western Pond Turtle Visual Survey Protocol for the Southcoast Ecoregion (USGS, 2006)

Birds

Burrowing Owl

- Staff Report on Burrowing Owl Mitigation (Dept. of Fish and Game, March 7, 2012)
- Staff Report on Burrowing Owl Mitigation (Dept. of Fish and Game, 10/1995)
- Burrowing Owl Survey Protocol and Mitigation Guidelines (The California Burrowing Owl

Consortium, 1993)

Coastal California Gnatcatcher

- Coastal California Gnatcatcher Presence/Absence Survey Guidelines (USFWS, 2/1997)

Least Bell's Vireo

- Least Bell's Vireo Survey Guidelines (USFWS, 1/2001)

Appendix B - Local Report Requirements for Select Species

Specific Survey Instructions for Mountain Lions *(Puma concolor)*

Describe the methodology used to assess the project site for suitable mountain lion habitat and connectivity potential. If no potential habitat is found, summarize the negative survey results. Surveys should identify:

- Habitat suitable for mountain lion dens, including caves, large natural cavities within rocky areas, or vegetation thickets deemed appropriate for use by mountain lions based on size and other characteristics (e.g., proximity to human development, surrounding habitat). Habitat use should be based on two behavior categories: reproductive behavior (communication and denning), or non-reproductive behavior (moving and feeding), and any natural communities on the project site that are suitable for either behavior (See more information in the Wilmers et al. 2013 academic paper titled *Scale dependent behavioral responses to human development by a large predator, the puma*, and more general information in the Burdett et al. 2010 academic paper titled *Interfacing models of wildlife habitat and human development to predict the future distribution of puma habitat*)
- Evidence of mountain lion presence (e.g., direct observation, tracks, scat, carcasses or bones of prey species) in the vicinity of identified suitable habitat
- Habitat suitable for mule deer, including the presence of grasses and forbs, woodland vegetation (especially acorn mast), chaparral vegetation (especially chamise shrubs), and riparian vegetation. Reference the Habitat Guidelines for Mule Deer by the Western Association of Fish and Wildlife Agencies for more information
- Evidence of mule deer presence (e.g., direct observation, tracks, scat, carcasses)
- The project's potential effects on mountain lions by including a discussion of the following:
    - The introduction of new/additional barriers to dispersal
    - The creation of wildlife corridor constraints and pinch points which may lead to severed migration
    - The contribution to habitat loss, fragmentation, and encroachment, including the following:
        - Number or acreage of landscape linkages/landscape blocks within the Project area and adjacent areas, referencing CDFW's Natural Landscape Blocks dataset (DS 621) and Essential Connectivity Areas dataset (DS 650)
        - Acreage of mountain lion habitat suitability (a proxy for mountain lion permeability and use) within the Project area and adjacent areas, referencing CDFW's Mountain Lion Predicted Habitat CWHR dataset (DS 2616) and the Mountain Lion Habitat Suitability dataset for probability of use (DS 2916)

        - Analysis of current landscape intactness (current level of development) around the Project area, and how the Project may impact habitat connectivity or impede mountain lion movement across the landscape to remaining adjacent habitats
    - The cumulative impacts from multiple spatial scales, including the following:
        - City of Los Angeles / Eastern Santa Monica Mountains
        - Entirety of the Santa Monica Mountains
        - Range of the Southern California/Central Coast Evolutionarily Significant Unit (ESU) of Mountain Lion
    - The increase of human presence, noise, and lighting, as well as introduction of pets and/or livestock/animal keeping
    - The use of herbicides, pesticides, and rodenticides

Specific Survey Instructions for Monarch Butterflies (*Danaus plexippus*)

If the project site is located less than one mile from the coastline, describe the methodology used to assess the project site for suitable monarch butterfly habitat, both for overwintering sites. If no potential habitat is found, summarize the negative survey results. Provide a Habitat Site Assessment for any potential overwintering sites (e.g., eucalyptus goves), as detailed in pages 13-18 of the publication called *Protecting California's Butterfly Groves: Management Guidelines for Monarch Butterfly Overwintering Habitat* by the Xerces Society, along with native trees and plants listed in Appendix A.

Specific Survey Instructions for Bats (*Chiroptera*)

Describe the methodology used to assess the project site for suitable bat habitat, both for day roosts and night roosts. If no potential habitat is found, summarize the negative survey results. Surveys should identify all of the following:

- Habitat suitable for bats, including trees (e.g., palm trees, large old trees with cavities, dead trees), cliff faces, rock outcroppings, structure overhangs (e.g., roof overhangs on houses and sheds), and bridges
- Evidence of bat presence (e.g., direct observation (alive or dead), guano deposits, urine stains, vocalizations) in the vicinity of identified suitable habitat
- The proximity of suitable bat habitat to prime foraging areas, such as water sources (e.g., artificial lakes, reservoirs, pools, rivers, drainages, or storm channels)

Specific Survey Instructions for Nesting Birds

Describe the methodology used to assess the project site for suitable nesting birds, with specific reference to long-term nesting species such as raptors (hawks, owls, falcons) and colonial waterbirds (e.g., herons and egrets). Ensure that the entire vicinity of the subject property (e.g., out to 500') is evaluated, both for these long-term nests, as well as for their foraging habitat. If no nesting birds are found, summarize the negative survey results. Surveys should identify all of the following:

- Habitat suitable for nesting birds, including trees, shrubs, and structure overhangs (e.g., roof overhangs on houses and sheds)
- Evidence of nesting birds (e.g., photos of nests with birds inside)

Appendix C - Occurrence Data from the CNDDB

(Sources: Glossary of the CNPS Rare Plant Inventory; The CNDDB Review Process for Creating the Special Animals List by CDFW dated May 2022)

The CNDDB uses the term "element" to define what is tracked in the database; they are elements of natural diversity. Elements of natural diversity are often species, but may also include subspecies or populations [e.g., evolutionarily significant units (ESU) or distinct population segments (DPS)].

Once a plant or animal is added to a CDFW list (e.g., the Special Animal List) as an element, CNDDB actively accepts and manages data for that element. CNDDB staff then evaluate the data and create occurrence assessments known as "element occurrences." EOs summarize the text and spatial information known to CNDDB about an element in an area at a specific location and time. The process of evaluating data and including it in the CNDDB as EOs is referred to as "mapping" the data. The CNDDB distributes mapped EOs through the web application called BIOS or by download. The text portion of the occurrences can be accessed through the web-based query application called RareFind.

Where available, a summary of EO data is included from the CDFW's CNDDB. These data are available for all CRPR 1 and 2 plants and only some CRPR 3 and 4 plants. Most CRPR 3 and 4 plants that have EO data in this section were previously assigned to CRPR 1 or 2; their EO data is a reflection of their prior rank and have generally not been updated since the date of their change to CRPR 3 or 4. (Note, if EO data are not available for a CRPR 1 or 2 plant in this Inventory, this usually indicates it is a recent addition and that the data are not yet included in the CNDDB.) EOs are defined by the CNDDB as a population or group of populations found within ¼ of a mile of each other.

For Flora

- **Total Occurrences.** The current total number of EOs in California for a particular plant.
- **Element Occurrence Ranks.** An element's Occurrence Rank is a ranking of the quality of the habitat and the condition of the population at that location. The possible values for Occurrence Rank along with their descriptions are as follows:

EO Rank	Description
A: Excellent viability	Occurrence exhibits optimal or at least exceptionally favorable characteristics with respect to population size and/or quality and quantity of occupied habitat; and, if current conditions prevail, the occurrence is very likely to persist for the foreseeable future (i.e., at least 20–30 years) in its current condition or better. These occurrences have characteristics (e.g., size, condition, landscape context) that make them relatively invulnerable to extirpation or sustained population declines, even if they have declined somewhat relative to historical levels. For species associated with habitat patches or ephemeral or particularly dynamic habitats,

	occurrences warranting an A rank generally consist of metapopulations rather than single demes (unless exceptionally large and robust). Occurrences of this rank typically include at least 1,000 mature individuals but may be smaller (100s) or might require larger populations (10,000s), depending on the species and its demographic characteristics. However, occurrences can be ranked A even if population size is not known. For example, for occurrences lacking information on population size, an A rank may be appropriate under the following circumstances: the population is clearly very large, but it is not known how large; the area of occupied habitat is exceptionally large; or the occurrence has excellent condition and landscape context and a long history of occurrence persistence. Occurrences with excellent estimated viability are ranked A even if one or more other occurrences have a much larger population size and/or much greater quantity of occupied habitat. In most cases, occurrences ranked A will occupy natural habitats. However, "natural" is an ambiguous concept, and occurrences in "unnatural" conditions (e.g., somewhat modified by human actions) may still be assigned a rank of A if they otherwise meet the criteria.
B: Good viability	Occurrence exhibits favorable characteristics with respect to population size and/or quality and quantity of occupied habitat; and, if current conditions prevail, the occurrence is likely to persist for the foreseeable future (i.e., at least 20–30 years) in its current condition or better. B-ranked occurrences have good, estimated viability and, if protected, contribute importantly to maintaining or improving the conservation status of threatened or declining species.
C: Fair viability	Occurrence characteristics (e.g., size, condition, and landscape context) are non-optimal such that occurrence persistence is uncertain under current conditions, or the occurrence does not meet A or B criteria but may persist for the foreseeable future with appropriate protection or management, or the occurrence is likely to persist but not necessarily maintain current or historical levels of population size or genetic variability. This rank may be applied to relatively low-quality occurrences with respect to size, condition, and/or landscape context if they still appear to have reasonable prospects for persistence for the foreseeable future (i.e., at least 20–30 years).
D: Poor viability	If current conditions prevail, occurrence has a high risk of extirpation (because of small population size or area of occupancy, deteriorated habitat, poor conditions for reproduction, ongoing inappropriate management that is unlikely to change, or other factors).
X: Extirpated	Adequate surveys by one or more experienced observers at times and under conditions appropriate for the species at the occurrence location, or other persuasive evidence, indicate that the species no longer exists there or that the habitat or environment of the occurrence has been destroyed to such an extent that it can no longer support the species.
U: Unknown	An occurrence rank cannot be assigned due to lack of sufficient information on the occurrence.

- **Occurrence Status.** Displays the number of element occurrences that have been seen within the past 20 years. Element occurrences last seen more than 20 years ago are considered historical.

  Historical > 20 Years
  The number of occurrences not seen within the past 20 years.

  Recent <= 20 Years:
  The number of occurrences seen within the past 20 years.

- **Presence.** Presence refers to the condition of the occurrence when it was last observed. The three possible values of Presence are totaled across all occurrences and are described as follows:

  Presumed Extant
  The total number of occurrences that are presumed to be extant (still in existence). An occurrence is presumed extant until evidence to the contrary is received by the CNDDB.

  Possibly Extirpated
  The total number of occurrences that are possibly extirpated (i.e., locally extinct, destroyed). Evidence of habitat destruction or population extirpation has been received by the CNDDB for this site, but questions remain as to whether the element still exists.

  Presumed Extirpated
  The total number of occurrences that are presumed extirpated (i.e., locally extinct, destroyed). Only used when the element has been searched for but not seen for many years or when the habitat is destroyed at this site.

For Fauna

- **State Ranks (S ranks).** State ranks reflect the status of a species, subspecies, or variety statewide. For the CNDDB, S ranks refer to the imperilment status only within California's State boundaries.

  Below are the main categories of state ranks:

EO Rank	Description
S5: Secure	At very low or no risk of extirpation in the state due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.

S4: Apparently Secure	At a fairly low risk of extirpation in the state due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S3: Vulnerable	At moderate risk of extirpation in the state due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S2: Imperiled	At high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S1: Critically Imperiled	At very high risk of extirpation in the state due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.
SH: Possibly Extirpated	Known from only historical records but still some hope of rediscovery. There is evidence that the species may no longer be present in the state, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction.
SX: Presumed Extirpated	Species is believed to be extirpated from the state. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
SNR: Unranked	State rank not yet assessed.

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT D

Biological Resources Report Template (CP-4073) – Footnote 9

INSTRUCTIONS

BIOLOGICAL RESOURCES REPORT TEMPLATE

This template is to be used by applicants and report preparer(s) as a reference for how to complete biological documentation being submitted. A copy of the report and all report updates shall be submitted to the project's administrative files with the City of Los Angeles.

Please include all required information in this report in narrative format, when possible. If any of the requirements listed below are not applicable to the project site, please include an explanation as to why that information is not applicable.

Cover Page

Provide a cover page for the full biological report with the required information listed below.

- Project Name and Address
- Preparer Information
- Date Report Prepared (must be dated within 12months of the initial approval of the environmental determination by a decisionmaker, otherwise a follow-up site visit and addendum is required)

Executive Summary

Provide a brief summary of the findings and recommendations of the report, including the methodology to determine such findings and recommendations, and an accompanying summary of the proposed project and any other relevant information.

- Project Summary
- Findings (existing physical and natural site conditions)
- Recommendations

Project Overview

Provide all requested information listed below in a narrative format, and include all applicable maps, tables, and figures.

Project Information

Provide all relevant and applicable project information, including but not limited to:

- Project Name
- Project's Assessor Parcel Numbers (APNs), List of Parcel Numbers, and Addresses

- Project Purpose (i.e., description of the level of biological analysis required by Los Angeles City Planning to determine compliance with environmental regulations)

Project Location

Provide a written description of the project location, including the size of the project site and the area proposed for development, areas on site that will be disturbed and developed, and the project location in both the regional and local context. Include the following information in the format indicated below:

- **TABLE.** List of all parcels and square footage and/or acreage (if more than one parcel)
- **FIGURE.** Project location map (containing a north arrow, map scale, and parcel boundaries)
- **FIGURE.** Topographic map with outline of project parcel(s) included as one of the numbered figures in the report
- **FIGURE.** Color high-resolution aerial with outline of project parcel(s) boundaries, including all surveyed parcels (use most recent available imagery)
- **FIGURE.** Color site photography with keys and legend for orientation

Site History

Briefly describe the following historical and existing actions:

- Development, if any, including structures, fencing and walls
- Fire incidents
- Vegetation clearing (e.g., goat grazing) and/or landform grading (both unpermitted and permitted)
- Other, if applicable

Existing Physical/Natural Site Features

Briefly describe the following:

- Landforms and geomorphology
- Soil type
- Description of unique features including any physical characteristic that might have unusual or exceptional biological value such as cliff faces, rock outcrops, bluffs, stream banks, etc.

Proposed Development

Briefly describe the following:

- Proposed structures (i.e., size, location, purpose, etc.)
    - **FIGURE.** Site Plan(s), Including the following components:
        - Existing and proposed structures (including fencing and walls)
        - Existing and proposed roads, utility extensions, wastewater, and stormwater facilities

        - Areas proposed for grading or other major disturbance
        - Existing and proposed landscaping and trees
        - Staging areas, including ingress and egress
- Existing and proposed easements, including those for open space, utilities, and roads
- Construction equipment staging areas (including fencing) and ingress and egress to the staging areas within the project site
- Vegetation clearing & landform grading, including proposed brush clearance for fuel modification
- Landscape modifications
    - **FIGURE.** Landscape Plan (illustrating existing and proposed landscaping, as well as fuel modification zones on-site and brush clearance areas off site extending out 200 feet from existing and proposed structures)
- Avoidance and minimization measures
- Project Schedule, if known. Describe the anticipated duration of vegetation removal and replanting, and any resulting temporal loss of biological resources.

Characteristics of the Surrounding Area

- Briefly describe existing land uses in a 500-foot radius, including zoning and land use patterns, such as housing types (e.g., single-family dwellings, multi-family complexes).
- Also describe any known easements such as those owned by the Santa Monica Mountains Conservancy.

Biological Site Conditions Assessment

- Describe the literature review conducted for the proposed project site and surrounding area.
- If any of the required databases or resources listed below are not applicable to the project site, please include an explanation as to why that information is not applicable.
- Please describe the site visit methodology, including the specific site visit date(s) and time(s).

Guidance on specific submission requirements is outlined below.

Note: Any field analysis surveys older than 12 months require another site visit to document any changes which should be noted in the report. Incomplete surveys or those conducted at particular times of year may also require additional visit(s).

Flora

Flora Literature Review

- Briefly describe literature review conducted relevant to flora.
- Summarize relevant information from the databases and policies/plans listed in the Biological Reporting Standards (CP-4074).

Flora Field Methodology

- Briefly describe the field survey methods and materials used to conduct the flora field analysis, including vegetation mapping.
- Describe the project-specific framework used to assess the habitat integrity of any present flora.
  Summarize the protocols used per the requirements listed in the Biological Reporting Standards (CP-4074).

Flora Data Analysis

Based on information gathered from the literature review and field analyses, provide a brief narrative description of the existing conditions occurring on the project site, including the following:

- Describe and map each sensitive flora species that occur or have a medium to high probability of occurring on the site or on land immediately adjacent to the site.
- Describe and map both naturally-occurring native vegetation alliances and ornamental landscaping present on site. Indicate the species prevalence by methods appropriate to the size of the site and the extent of the vegetation, which may include estimated total numbers, percent cover, density, etc. If sensitive/special status species are likely to occur (medium or high probability) on the project site but are not present, include a statement explaining the probable reason why the species was not detected during the survey.
- **Potential Project Impacts** - Provide a description of project features that may adversely affect flora species, such as potential effects from barriers, nearby projects, lighting, and noise. The impacts should be categorized as follows:
  - **Avoidance and minimization measures** - How the project has been designed to avoid and minimize impacts to flora, such as reconfiguring the building footprint to avoid impact/removal of trees and native vegetation
  - **Direct impacts** - Impacts may occur if a flora species is identified within areas that will be disturbed either by development or used as construction staging areas. Provide numbers of individuals and relative percentage of the population that will be impacted, based on the Element Occurrences (EO) data on California Department of Fish and Wildlife's Natural Diversity Database (CNDDB). Also discuss potential impacts to the element's Occurrence Rank (A-D, X, U). Other considerations used when ranking a species include the pattern of distribution of the element on the landscape, fragmentation of the population, and historical extent as compared to its modern range.
  - **Indirect impacts** - Impacts may occur from brush clearance for fuel modification requirements on adjacent properties, addition of invasive species, etc.
  - **Cumulative impacts** - Impacts may occur from cumulative losses in the local populations of a sensitive/special status species. Describe recent projects within a 500-foot radius and whether their impacts together with the project may create significant cumulative losses for any particular sensitive/special status species.

General Flora Conclusions

- Summarize any noteworthy species/vegetation alliances found on the project site and any potential flora impacts

Fauna

Fauna Literature Review

- Briefly describe all literature reviews conducted prior to initiation of the field analyses.
- Describe the extent of habitat connectivity between on and off-site lands.
- Provide a general description of any connection that exists, including estimated acreage and habitat types.
- Summarize relevant information from the databases and policies/plans listed in the Biological Reporting Standards (CP-4074)

Fauna Field Methodology

- Briefly describe the field survey methods and materials used to conduct the fauna field analysis.
- Describe the project-specific framework used to assess the ecological integrity of any species habitat.
- Provide a detailed description of survey methods and materials used to conduct any species-specific field assessment(s).
- Summarize all applicable protocols used per the requirements listed in the Biological Reporting Standards (CP-4074)

Fauna Data Analysis

Based on information gathered from the literature review and field analyses, provide a description of the existing fauna conditions occurring on the project site, including the following:

- Describe and map each sensitive/special status fauna species that occur or have a medium to high probability of occurring on the site or on land immediately adjacent to the site. Provide additional details for any particular species listed in the Biological Reporting Standards (CP - 4074)
    - Suitable habitat for resident or migratory populations of the focal species, including information on:
        - Estimated acres of potential habitat
        - Physical property attributes (e.g., dunes, rock out-crops, streams, ponds, stands of trees) potentially used by the focal species
    - Direct species observation or likely explanation of absence
    - Indirect activity indicators of hunting/feeding (e.g., tracks, scat, carcasses of prey species) or breeding (e.g., dens)
    - Description of the existing extent of habitat connectivity on and between project site and surrounding area

        - Describe topography, vegetative cover, adjacent land uses and species that are likely to use the patches and corridor(s). Discuss presence and/or absence of any potential corridors (local pathways connecting short distances usually covering one or two main types of vegetation communities) or potential linkages (landscape level connections between very large core areas and generally span several thousand feet and cover multiple habitat types).
            - **FIGURE.** Existing wildlife patches and corridors - identify widths, lengths, acreages, and habitat types
            - **FIGURE.** linear features (such as watercourses, ridges or valleys)
            - **FIGURE.** On-site barriers (e.g., fencing, walls, structures, lighting) and corridor pinch points
        - Describe the overall biological value of the site in relation to the surrounding matrix and ecological functions
        - Describe all preserved lands and/or open spaces adjacent to or contiguous with the site in the project vicinity, including known conservation easements
            - **FIGURE.** Preserved lands and open spaces
- For each affected fauna species, analyze the presence and/or absence of any potential corridors (local pathways connecting short distances usually covering one or two main types of vegetation communities) or potential linkages (landscape level connections between very large core areas and generally span several thousand feet and cover multiple habitat types)
- **Potential Project Impacts -** Provide a description of project features that may adversely affect fauna species, such as potential effects from barriers, nearby projects, lighting and noise. The impacts should be categorized as follows:
    - **Avoidance and minimization measures** - How the project has been designed to avoid and minimize impacts to fauna, such as incorporating minimal landscape lighting and wildlife-friendly fencing
    - **Direct impacts** - Impacts may occur if a fauna species is identified as nesting, foraging or otherwise occurring in areas that will be disturbed either by development or used as construction staging areas. Provide numbers of individuals and relative percentage of the population that will be impacted, based on the Element Occurrences (EO) data on California Department of Fish and Wildlife's Natural Diversity Database (CNDDB). Also discuss potential impacts to the element's State Rank (S1-S5, SH, SX). Other considerations used when ranking a species include the pattern of distribution of the element on the landscape, fragmentation of the population, and historical extent as compared to its modern range. Impacts may also occur if the project may restrict or block the entrances/exits of a wildlife corridor
    - **Indirect impacts** - Impacts that may occur from adding wildlife barriers (e.g., fencing) or modifying human infrastructure commonly utilized by wildlife (e.g., culverts)
    - **Cumulative impacts** - Impacts that may occur from cumulative losses in the local populations of a sensitive/special status species or in a general wildlife corridor. Describe recent projects within a 500-foot radius and whether their impacts together with the project may create significant cumulative losses for any particular sensitive/special status species or general wildlife connectivity.

General Fauna Conclusions

Summarize any noteworthy species found on the project site and any potential fauna impacts

Water Resources (if applicable)

Water Resources Literature Review

- Discuss literature review conducted prior to the field analysis.
- Describe any water resources on site or nearby, including estimated acreage and habitat types.
- Summarize relevant information from the databases and policies/plans listed in the Biological Reporting Standards (CP-4074).

Water Resources Field Methodology

- Describe all field survey methods and materials.
- Summarize the protocols used per the requirements listed in the Biological Reporting Standards Affidavit (CP-4074).

Water Resources Data Analysis

- Discuss the wetland functions which refers to biophysical benefits, such as groundwater recharge and discharge, flood control, flow alteration, sediment stabilization, erosion control, toxicant retention, nutrient removal and cycling, and wildlife habitat for diversity and abundance.
- Describe existing and potential wetland and surface water resources (including ephemeral sources) found on the site, in terms of habitat function/ecological role of the wetland in the surrounding landscape, considering:
    - **FIGURE.** Provide a map of existing and potential wetlands, surface water bodies (including ephemeral sources), watersheds or stream beds, and existing and proposed wetland buffers
    - Wetland habitat quality including disturbance, canopy cover, and species diversity
    - Connectivity to other wetland or upland systems (including use as a stopover or stepping stone by mobile species), considering:
        - proximity of the wetland resource to larger natural open spaces
        - long-term viability of wetland resource
- Discuss wetland jurisdiction/definition for the U.S. Army Corps of Engineers (ACOE), California Department of Fish & Wildlife, including:
    - Estimated areas (in square feet or acres) classified as County, State, and/or Federal wetlands along with an explanation as to how the boundaries were delineated
    - Existing and proposed wetland buffers as accepted by the regulatory agencies

- **Potential Project Impacts.** Provide a description of proposed project features that might adversely affect existing surface water resources, such as potential effects from barriers, nearby projects, lighting, and noise. The impacts should be categorized as follows:

- **Avoidance and minimization measures** - how the project has been designed to avoid and minimize impacts to surface water resources, such as siting the building footprint more than 100 feet away from the water body
- **Direct impacts** - impacts that may occur if the project has surface water resources or other riparian habitat occurring in areas that will be disturbed either by development or used as construction staging areas. Provide acreage of water resources that will be impacted by the project.
- **Indirect impacts** - impacts that may occur from adding or modifying human infrastructure that leads to hydrologic interruptions
- **Cumulative impacts** - impacts that may occur from cumulative losses of surface water resources and/or riparian habitat. Describe recent projects within a 500-foot radius and whether their impacts together with the project may create significant cumulative losses of surface water resources or other riparian habitat

General Water Resources Conclusions

Summarize any noteworthy water resources found on the project site and any potential impacts.

Applicable Regulations and Permits

Summarize all known regulations and permits pertaining to biological resources.

Conclusion and Recommendations

Summarize the findings and recommendations of the report, including the methodology to determine such findings and recommendations, along with any other relevant information.

Appendices / Attachments

Provide all applicable attachments in the order listed below in the report.

- Biological Reporting Standards Acknowledgement of Compliance (CP-4075)
- List of biologists and other contributors, including resumes and relevant credentials; Preparer and other contributor qualifications
- List persons and organizations contacted, if applicable
- Correspondence with State and Federal trustee agencies, if applicable
- Proof of permits (e.g., Incidental Take Permits) or Memoranda of Understanding (e.g., Lake and Streambed Alteration Agreements), if applicable
- Species-Specific Reports, if applicable
- Observed Species List - Flora (if not included in body of report)
- Potential Sensitive & Special Status Species Table - Flora (if not included in body of report)
- Observed Species List - Fauna (if not included in body of report)
- Potential Sensitive & Special Status Species Table - Fauna (if not included in body of report)
- Additional protected tree report and/or replanting plans, if applicable
- Any other applicable reports or studies referenced in the report

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT E

Calflora Taxon Report for *Brandegea bigelovii* – Footnote 12

My Calflora
My Observations
Add Observations
Phone Applications

Donate

HOME
About Calflora
NEWS
Search for Plants
Observation Search
What Grows Here?
Planting Guide
NRCS eVegGuide
Weed Manager
Contact Calflora

Brandegea bigelovii (S. Watson) Cogn.

Brandegea, Desert star vine, Desert starvine

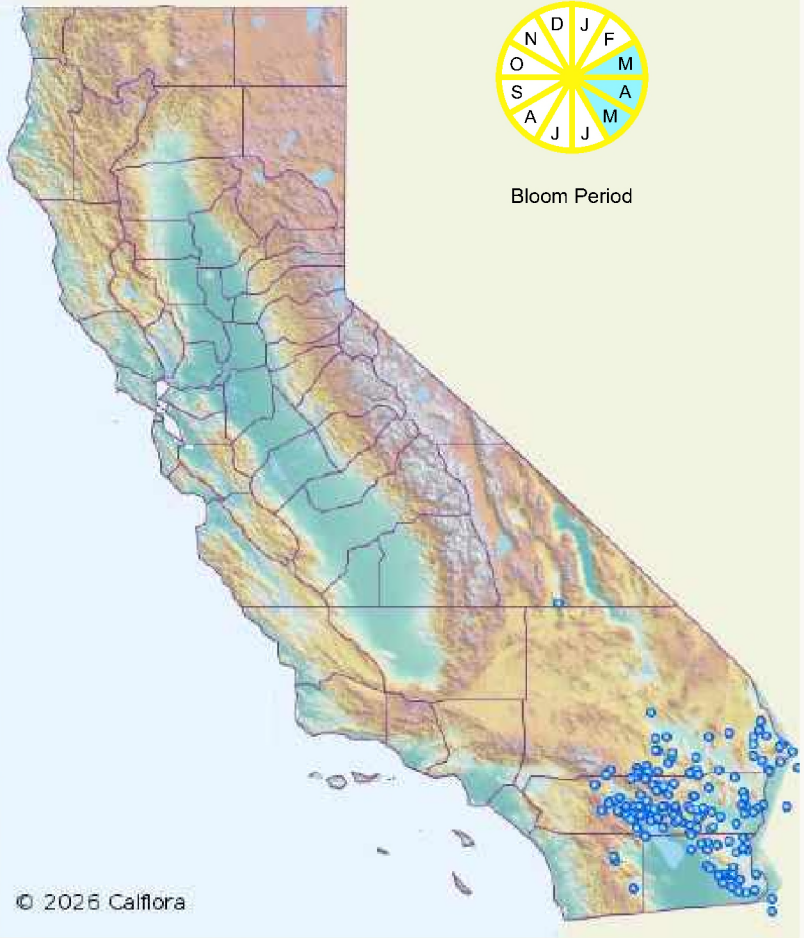
Brandegea bigelovii is a **perennial herb** that is **native** to California, and also found elsewhere in western North America.

Family: Cucurbitaceae

Genus: Brandegea

Alternate Names and Sources:

Elaterium bigelovii JEPS



Bloom Period

The blue points on the map indicate observations in Calflora.
Click on the map to view observations within a specific county.



Additional Photos on Calflora

External links:

Jepson eFlora Taxon Page

USDA Plant Profile

Potential Range

Plant Characteristics

Location Suitability

Observations: ~392 records

Add an Observation to Calflora

Search for Brandegea bigelovii

Name Status:	Accepted by: JEPS + PLANTS + POWO
Calflora Category:	angiosperm
Jepson eFlora section:	eudicot
USDA PLANTS group:	Dicot
Communities:	Creosote Bush Scrub

Consortium of California Herbaria (CCH2)

Integrated Taxonomic Info System (ITIS)

International Plants Names Index (IPNI)

CalPhotos (UC Berkeley)

iNaturalist

PlantID.net

Calscape (CNPS)

[Wikipedia] Range, Description: Brandegea is a monotypic genus containing the single species Brandegea bigelovii, the desert starvine. This sprawling perennial vine in the squash family is native to the deserts of California, Arizona, and northern Mexico. The distinctive small, dark-green leaves are variable in shape but are usually a deeply lobed long-fingered palmate shape. They are heavily speckled with white oil glands. The vine bears tendrils, tiny five-pointed white flowers only 2 or 3 millimeters wide, and small, dry, prickly fruits 5 or 6 millimeters in length and holding a single seed. The plant grows from a deep taproot. (*link added by* Mary Ann Machi)

Brandegea bigelovii Jepson video: Learn more about Brandegea bigelovii

Suggested Citation

"Calflora - Taxon Report." *The Calflora Database, a non-profit organization.* 2026.
https://www.calflora.org/app/taxon?crn=1140
Accessed: June 16, 2026

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT F

Jepson eFlora – Footnote 14

Jepson Herbarium

The University and Jepson Herbaria
University of California, Berkeley

Our website is under development - some pages may have problems

Thank you for your patience while we work on it!

Jepson eFlora

Taxon Page

Send us your feedback and/or questions! Community input helps improve the Jepson eFlora.

Vascular Plants of California
Key to families | **Table of families and genera**

Index to accepted names and synonyms:
| A | B | C | D | E | F | G | H | I | J | K | L | M |

Brandegea bigelovii

Higher Taxonomy

Family: Cucurbitaceae
View Description
Dichotomous Key

Genus: Brandegea
View Description

Brandegea bigelovii (S. Watson) Cogn.

NATIVE
Habit: Perennial herb, taprooted. **Stem:** +- glabrous; tendril unbranched. **Leaf:** generally round to cordate or +- square, generally deeply lobed, adaxially with white glands, terminal lobe generally longest. **Inflorescence:** staminate flowers few in axils, pistillate 1 per node, at same nodes as staminate. **Flower:** corolla 1.5--3 mm wide, rotate or shallowly cup-shaped, cream; stigma 1, hemispheric. **Fruit:** dry, indehiscent, asymmetric, +- prickly; body 5--6 mm, +- equal to beak. **Seed:** 1.
Ecology: Canyons, washes, flats, sandy slopes; **Elevation:** < 900 m. **Bioregional Distribution:** D (exc DMtns); **Distribution Outside California:** southwestern Arizona, northern Mexico. **Flowering Time:** Mar--May
Unabridged Synonyms: Elaterium bigelovii S. Watson
Jepson eFlora Author: John M. Miller & Robert L. Schlising
Index of California Plant Names (ICPN; linked via the Jepson Online Interchange)

List of species: click here

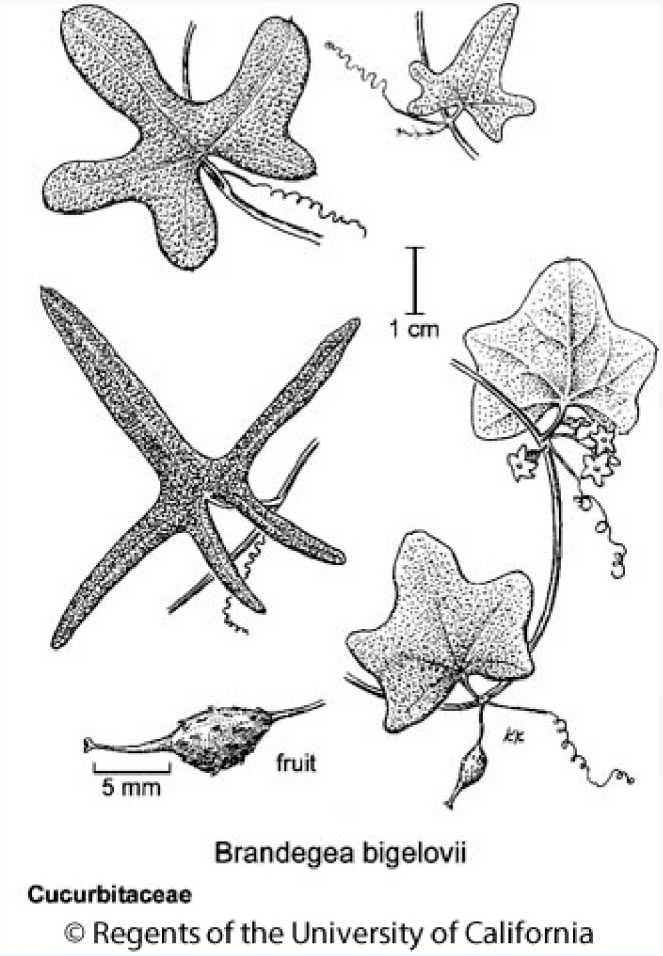
Previous taxon: Brandegea

Next taxon: Citrullus

Name Search: Submit Name

Jepson Video for *Brandegea bigelovii*Click to watch the video.





Botanical illustration including *Brandegea bigelovii*

Brandegea bigelovii



©2013 Neal Kramer

Brandegea bigelovii



©2009 Keir Morse

Brandegea bigelovii



©2013 Neal Kramer

Brandegea bigelovii



©2004 James M. Andre

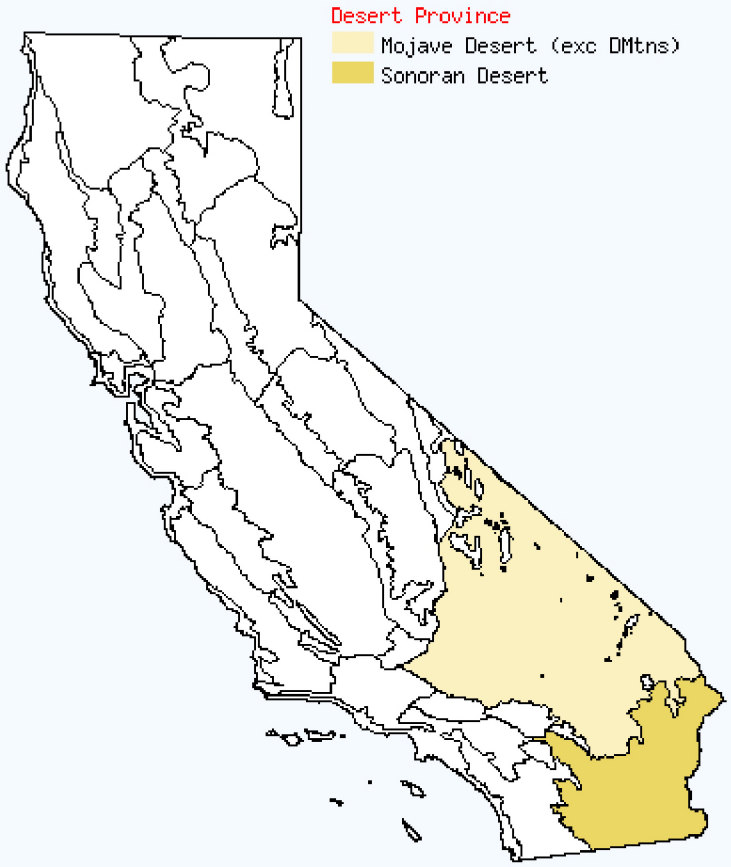
Brandegea bigelovii



©2012 Neal Kramer

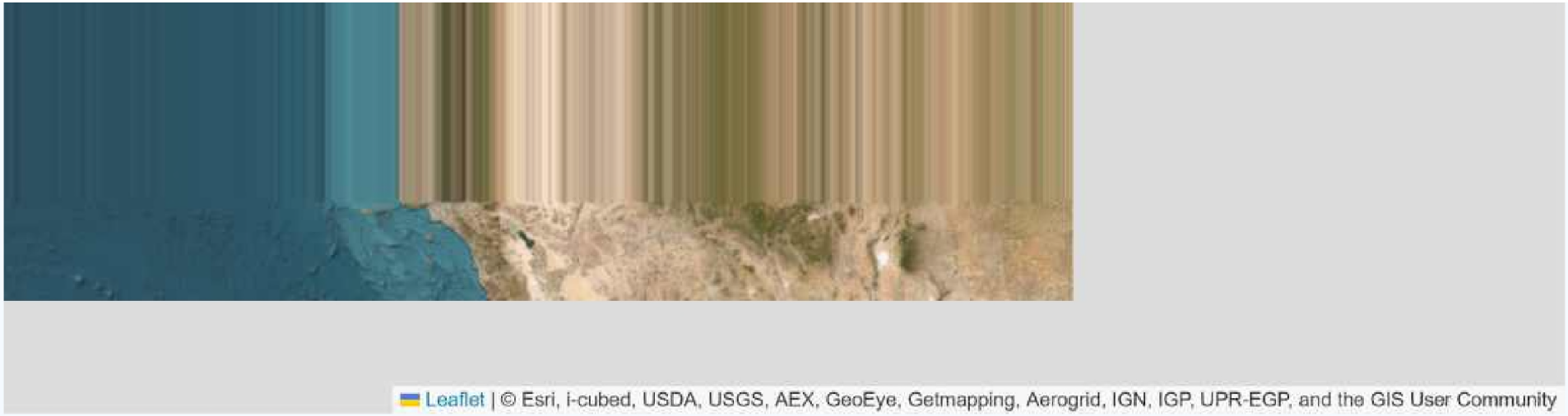
More photos of *Brandegea bigelovii* in CalPhotos

Geographic subdivisions for Brandegea bigelovii: D (exc DMtns)



MAP CONTROLS 1. You can change the display of the base map layer control box in the upper right-hand corner. 2. County and Jepson Region polygons can be turned off and on using the check boxes.





(Note: any qualifiers in the taxon distribution description, such as 'northern', 'southern', 'adjacent' etc., are not reflected in the map above, and in some cases indication of a taxon in a subdivision is based on a single collection or author-verified occurrence).

CCH collections by month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
18	22	88	68	17			2	9	20	8	11	n=263

Duplicates counted once; synonyms included. Species do not include records of infraspecific taxa, if there are more than 1 infraspecific taxon in CA. Blue line denotes eFlora flowering time (fruiting time in some monocot genera).

Data provided by the participants of the Consortium of California Herbaria.

MAP LEGEND

- All markers link to CCH specimen records. The original determination is shown in the popup window.
- Blue markers indicate specimens that map to one of the expected Jepson geographic subdivisions (see left map). Purple markers indicate specimens collected from a garden, greenhouse, or other non-wild location.
- Yellow markers indicate records that may provide evidence for eFlora range revision or may have georeferencing or identification issues.
- **READ ABOUT YELLOW FLAGS**

CCH1 Specimen Exports

- CCH1 data is currently limited to being displayed on the Jepson eFlora taxon maps.
- While a new CCH1 search interface is being developed, searching CCH1 is no longer publicly accessible.
- If you would like a custom query export of the data from this map, please e-mail Jason Alexander (jason_alexander@berkeley.edu).

Send us your feedback and/or questions! Community input helps improve the Jepson eFlora.

Citation for this treatment: John M. Miller & Robert L. Schlising 2012, *Brandegea bigelovii*, in Jepson Flora Project (eds.) *Jepson eFlora*, https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=16061, accessed on June 16, 2026.

Citation for the whole project: Jepson Flora Project (eds.) 2026, *Jepson eFlora*, https://ucjeps.berkeley.edu/eflora/, accessed on June 16, 2026.

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Page last updated June 10, 2026

Channel Law Group, LLP

June 25, 2026

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EXHIBIT G

Calflora Taxon Report for *Dudleya edulis* – Footnote 16

My Calflora
My Observations
Add Observations
Phone Applications

Donate

HOME
About Calflora
NEWS
Search for Plants
Observation Search
What Grows Here?
Planting Guide
NRCS eVegGuide
Weed Manager
Contact Calflora

Dudleya edulis (Nutt.) Moran

Fingertips

Dudleya edulis is a **perennial herb** that is **native** to California, and found only slightly beyond California borders.

Family: Crassulaceae

Genus: Dudleya

Alternate Names and Sources:

Stylophyllum edule PLANTS



Bloom Period

The blue points on the map indicate observations in Calflora.
Click on the map to view observations within a specific county.



Additional Photos on Calflora

External links:

Jepson eFlora Taxon Page

USDA Plant Profile

Potential Range

Plant Characteristics

Location Suitability

Observations: ~465 records

Add an Observation to Calflora

Search for Dudleya edulis

Name Status:	Accepted by: JEPS + PLANTS + POWO
Calflora Category:	angiosperm
Jepson eFlora section:	eudicot
USDA PLANTS group:	Dicot
Communities:	Coastal Sage Scrub, Chaparral

Consortium of California Herbaria (CCH2)

Integrated Taxonomic Info System (ITIS)

International Plants Names Index (IPNI)

CalPhotos (UC Berkeley)

iNaturalist

PlantID.net

Calscape (CNPS)

[Wikipedia] Habitat: Dudleya edulis is a species of perennial succulent plant known by the common names fingertips, lady fingers, mission lettuce and the San Diego dudleya. The common name denotes the finger-like shape of the leaves, while the specific epithet edulis refers to the use of the young scapes as food by the Kumeyaay. It is native to Southern California and northern Baja California, and grows on rocky hillsides, cliffs, and bare rock. (*link added by* Mary Ann Machi)

Suggested Citation

"Calflora - Taxon Report." *The Calflora Database, a non-profit organization.* 2026.
https://www.calflora.org/app/taxon?crn=2851
Accessed: June 16, 2026

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT H

Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities – Footnote 18

Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities

STATE OF CALIFORNIA
CALIFORNIA NATURAL RESOURCES AGENCY
DEPARTMENT OF FISH AND WILDLIFE

DATE: March 20, 2018*

TABLE OF CONTENTS

1. INTRODUCTION AND PURPOSE 1
2. BOTANICAL FIELD SURVEYS 4
3. REPORTING AND DATA COLLECTION 7
4. BOTANICAL FIELD SURVEYOR QUALIFICATIONS 11
5. SUGGESTED REFERENCES 11

1. INTRODUCTION AND PURPOSE

The conservation of special status native plants and their habitats, as well as sensitive natural communities, is integral to maintaining biological diversity. The purpose of these protocols is to facilitate a consistent and systematic approach to botanical field surveys and assessments of special status plants and sensitive natural communities so that reliable information is produced and the potential for locating special status plants and sensitive natural communities is maximized. These protocols may also help those who prepare and review environmental documents determine when botanical field surveys are needed, how botanical field surveys may be conducted, what information to include in a botanical survey report, and what qualifications to consider for botanical field surveyors. These protocols are meant to help people meet California Environmental Quality Act (CEQA)[1] requirements for adequate disclosure of potential impacts to plants and sensitive natural communities. These protocols may be used in conjunction with protocols formulated by other agencies, for example, those developed by the U.S. Army Corps of Engineers to delineate jurisdictional wetlands[2] or by the U.S. Fish and Wildlife Service to survey for the presence of special status plants.[3]

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* Minor editorial revisions were made to this document on February 3, 2021

1 Available at: https://files.resources.ca.gov/ceqa/

2 Available at: https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/techbio/

3 U.S. Fish and Wildlife Service Survey Guidelines: https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/

Department of Fish and Wildlife Trustee and Responsible Agency Mission

The mission of the California Department of Fish and Wildlife (CDFW) is to manage California's diverse wildlife and native plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. CDFW has jurisdiction over the conservation, protection, and management of wildlife, native plants, and habitat necessary to maintain biologically sustainable populations (Fish & G. Code, § 1802). CDFW, as trustee agency under CEQA Guidelines section 15386, provides expertise in reviewing and commenting on environmental documents and provides protocols regarding potential negative impacts to those resources held in trust for the people of California.

Certain species are in danger of extinction because their habitats have been severely reduced in acreage, are threatened with destruction or adverse modification, or because of a combination of these and other factors. The California Endangered Species Act (CESA) and Native Plant Protection Act (NPPA) provide additional protections for such species, including take prohibitions (Fish & G. Code, § 2050 *et seq.*; Fish & G. Code, § 1908). As a responsible agency, CDFW has the authority to issue permits for the take of species listed under CESA and NPPA if the take is incidental to an otherwise lawful activity; CDFW has determined that the impacts of the take have been minimized and fully mitigated; and the take would not jeopardize the continued existence of the species (Fish & G. Code, § 2081, subd. (b); Cal. Code Regs., tit. 14 § 786.9, subd. (b)). Botanical field surveys are one of the preliminary steps to detect special status plant species and sensitive natural communities that may be impacted by a project.

Definitions

Botanical field surveys provide information used to determine the potential environmental effects of proposed projects on special status plants and sensitive natural communities as required by law (e.g., CEQA, CESA, and federal Endangered Species Act (ESA)).

Special status plants, for the purposes of this document, include all plants that meet one or more of the following criteria:

- Listed or proposed for listing as threatened or endangered under the ESA or candidates for possible future listing as threatened or endangered under the ESA (50 C.F.R., § 17.12).
- Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish & G. Code, § 2050 et seq.).[4] In CESA, "endangered species" means a native species or subspecies of plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish & G. Code, § 2062). "Threatened species" means a native species or subspecies of plant that,

[4] Refer to current online published lists available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline

although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by CESA (Fish & G. Code, § 2067). "Candidate species" means a native species or subspecies of plant that the California Fish and Game Commission has formally noticed as being under review by CDFW for addition to either the list of endangered species or the list of threatened species, or a species for which the California Fish and Game Commission has published a notice of proposed regulation to add the species to either list (Fish & G. Code, § 2068).

- Listed as rare under the California Native Plant Protection Act (Fish & G. Code, § 1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish & G. Code, § 1901).
- Meet the definition of endangered, rare, or threatened species under CEQA Guidelines section 15380, subdivisions (b) and (d), which may include:
    - Plants tracked by the California Natural Diversity Database (CNDDB) as California Rare Plant Rank (CRPR) 1 or 2;[5] and
    - Plants that may warrant consideration on the basis of declining trends, recent taxonomic information, or other factors. This includes plants tracked by the CNDDB as CRPR 3 or 4.[6]
- Considered locally significant plants, that is, plants that are not rare from a statewide perspective but are rare or uncommon in a local context such as within a county or region (CEQA Guidelines, § 15125, subd. (c)), or as designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include plants that are at the outer limits of their known geographic range or plants occurring on an atypical soil type.

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status plants or their habitat. CDFW's *List of California Terrestrial Natural Communities*[7] is based on the best available information, and indicates which natural communities are considered sensitive at the current stage of the California vegetation classification effort. See the Vegetation

---

5 See CNDDB's Special Vascular Plants, Bryophytes, and Lichens List for plant taxa with a CRPR of 1 or 2: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline

6 CRPR 3 plants (plants about which more information is needed) and CRPR 4 plants (plants of limited distribution) may warrant consideration under CEQA Guidelines section 15380. Impacts to CRPR 3 plants may warrant consideration under CEQA if sufficient information is available to assess potential impacts to such plants. Impacts to CRPR 4 plants may warrant consideration under CEQA if cumulative impacts to such plants are significant enough to affect their overall rarity. Data on CRPR 3 and 4 plants should be submitted to CNDDB. Such data aids in determining and revising the CRPR of plants. See CNDDB's Special Vascular Plants, Bryophytes, and Lichens List for plant taxa with a CRPR of 3 or 4: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline

7 Available at: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#natural communities lists

Classification and Mapping Program (VegCAMP) website for additional information on natural communities and vegetation classification.[8]

2. BOTANICAL FIELD SURVEYS

Evaluate the need for botanical field surveys prior to the commencement of any activities that may modify vegetation, such as clearing, mowing, or ground-breaking activities. It is appropriate to conduct a botanical field survey when:

- Natural (or naturalized) vegetation occurs in an area that may be directly or indirectly affected by a project (project area), and it is unknown whether or not special status plants or sensitive natural communities occur in the project area;
- Special status plants or sensitive natural communities have historically been identified in a project area; or
- Special status plants or sensitive natural communities occur in areas with similar physical and biological properties as a project area.

Survey Objectives

Conduct botanical field surveys in a manner which maximizes the likelihood of locating special status plants and sensitive natural communities that may be present. Botanical field surveys should be floristic in nature, meaning that every plant taxon that occurs in the project area is identified to the taxonomic level necessary to determine rarity and listing status. "Focused surveys" that are limited to habitats known to support special status plants or that are restricted to lists of likely potential special status plants are not considered floristic in nature and are not adequate to identify all plants in a project area to the level necessary to determine if they are special status plants.

For each botanical field survey conducted, include a list of all plants and natural communities detected in the project area. More than one field visit is usually necessary to adequately capture the floristic diversity of a project area. An indication of the prevalence (estimated total numbers, percent cover, density, etc.) of the special status plants and sensitive natural communities in the project area is also useful to assess the significance of a particular plant population or natural community.

Survey Preparation

Before botanical field surveys are conducted, the botanical field surveyors should compile relevant botanical information in the general project area to provide a regional context. Consult the CNDDB[9] and BIOS[10] for known occurrences of special status plants and sensitive natural communities in the project area prior to botanical field surveys. Generally, identify vegetation and habitat types potentially occurring in the project area based on biological and physical properties (e.g., soils) of the project area

[8] Available at: https://www.wildlife.ca.gov/Data/VegCAMP
[9] Available at: https://www.wildlife.ca.gov/Data/CNDDB
[10] Available at: https://www.wildlife.ca.gov/Data/BIOS

and surrounding ecoregion.[11] Then, develop a list of special status plants and sensitive natural communities with the potential to occur within the vegetation and habitat types identified. The list of special status plants with the potential to occur in the project area can be created with the help of the CNDDB QuickView Tool[12] which allows the user to generate lists of CNDDB-tracked elements that occur within a particular U.S. Geological Survey 7.5' topographic quad, surrounding quads, and counties within California. Resulting lists should only be used as a tool to facilitate the use of reference sites, with the understanding that special status plants and sensitive natural communities in a project area may not be limited to those on the list. Botanical field surveys and subsequent reporting should be comprehensive and floristic in nature and not restricted to or focused only on a list. Include in the botanical survey report the list of potential special status plants and sensitive natural communities that was created, and the list of references used to compile the background botanical information for the project area.

Survey Extent

Botanical field surveys should be comprehensive over the entire project area, including areas that will be directly or indirectly impacted by the project. Adjoining properties should also be surveyed where direct or indirect project effects could occur, such as those from fuel modification, herbicide application, invasive species, and altered hydrology. Surveys restricted to known locations of special status plants may not identify all special status plants and sensitive natural communities present, and therefore do not provide a sufficient level of information to determine potential impacts.

Field Survey Method

Conduct botanical field surveys using systematic field techniques in all habitats of the project area to ensure thorough coverage. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified. Conduct botanical field surveys by traversing the entire project area to ensure thorough coverage, documenting all plant taxa observed. Parallel survey transects may be necessary to ensure thorough survey coverage in some habitats. The level of effort should be sufficient to provide comprehensive reporting. Additional time should be allocated for plant identification in the field.

Timing and Number of Visits

Conduct botanical field surveys in the field at the times of year when plants will be both evident and identifiable. Usually this is during flowering or fruiting. Space botanical field survey visits throughout the growing season to accurately determine what plants exist in the project area. This usually involves multiple visits to the project area (e.g., in early, mid, and late-season) to capture the floristic diversity at a level necessary to determine

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[11] Ecological Subregions of the United States, available at: http://www.fs.fed.us/land/pubs/ecoregions/toc.html

[12] Available at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. When creating a list of special status plants with the potential to occur in a project area, special care should be taken to search all quads with similar geology, habitats, and vegetation to those found in the project area.

if special status plants are present.[13] The timing and number of visits necessary to determine if special status plants are present is determined by geographic location, the natural communities present, and the weather patterns of the year(s) in which botanical field surveys are conducted.

Reference Sites

When special status plants are known to occur in the type(s) of habitat present in a project area, observe reference sites (nearby accessible occurrences of the plants) to determine whether those special status plants are identifiable at the times of year the botanical field surveys take place and to obtain a visual image of the special status plants, associated habitat, and associated natural communities.

Use of Existing Surveys

For some project areas, floristic inventories or botanical survey reports may already exist. Additional botanical field surveys may be necessary for one or more of the following reasons:

- Botanical field surveys are not current;[14]
- Botanical field surveys were conducted in natural systems that commonly experience year to year fluctuations such as periods of drought or flooding (e.g., vernal pool habitats or riverine systems);
- Botanical field surveys did not cover the entire project area;
- Botanical field surveys did not occur at the appropriate times of year;
- Botanical field surveys were not conducted for a sufficient number of years to detect plants that are not evident and identifiable every year (e.g., geophytes, annuals, and some short-lived plants);
- Botanical field surveys did not identify all plants in the project area to the taxonomic level necessary to determine rarity and listing status;
- Fire history, land use, or the physical or climatic conditions of the project area have changed since the last botanical field survey was conducted;
- Changes in vegetation or plant distribution have occurred since the last botanical field surveys were conducted, such as those related to habitat alteration, fluctuations in abundance, invasive species, seed bank dynamics, or other factors; or

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[13] U.S. Fish and Wildlife Service Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants available at: https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/

[14] Habitats, such as grasslands or desert plant communities that have annual and short-lived perennial plants as major floristic components, may require multiple annual surveys to fully capture baseline conditions. In habitats dominated by long-lived perennial plants, such as forests, surveys that were not conducted within the previous five years may not adequately represent the current baseline conditions and should be re-conducted.

- Recent taxonomic studies, status reviews or other scientific information has resulted in a revised understanding of the special status plants with potential to occur in the project area.

Negative Surveys

Adverse conditions from yearly weather patterns may prevent botanical field surveyors from determining the presence of, or accurately identifying, some special status plants in the project area. Disease, drought, predation, fire, herbivory, or other disturbance may also preclude the presence or identification of special status plants in any given year. Discuss all adverse conditions in the botanical survey report.[15]

The failure to locate a known special status plant occurrence during one field season does not constitute evidence that the plant occurrence no longer exists at a location, particularly if adverse conditions are present. For example, botanical field surveys over a number of years may be necessary if the special status plant is an annual or short-lived plant having a persistent, long-lived seed bank and populations of the plant are known to not germinate every year. Visiting the project area in more than one year increases the likelihood of detecting special status plants, particularly if conditions change. To further substantiate negative findings for a known occurrence, a visit to a nearby reference site may help ensure that the timing of botanical field surveys was appropriate.

3. REPORTING AND DATA COLLECTION

Adequate information about special status plants and sensitive natural communities present in a project area will enable reviewing agencies and the public to effectively assess potential impacts to special status plants and sensitive natural communities and will guide the development of avoidance, minimization, and mitigation measures. The information necessary to assess impacts to special status plants and sensitive natural communities is described below. For comprehensive, systematic botanical field surveys where no special status plants or sensitive natural communities were found, reporting and data collection responsibilities for botanical field surveyor remain as described below, excluding specific occurrence information.

Special Status Plant and Sensitive Natural Community Observations

Record the following information for locations of each special status plant and sensitive natural community detected during a botanical field survey of a project area.

- The specific geographic locations where the special status plants and sensitive natural communities were found. Preferably this will be done by use of global positioning system (GPS) and include the datum[16] in which the spatial data was

[15] U.S. Fish and Wildlife Service Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants available at: https://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/

[16] NAD83, NAD27 or WGS84

collected and any uncertainty or error associated with the data. If GPS is not available, a detailed map (1:24,000 or larger) showing locations and boundaries of each special status plant population and sensitive natural community in relation to the project area is acceptable. Mark occurrences and boundaries as accurately as possible;

- The site-specific characteristics of occurrences, such as associated species, habitat and microhabitat, structure of vegetation, topographic features, soil type, texture, and soil parent material. If a special status plant is associated with a wetland, provide a description of the direction of flow and integrity of surface or subsurface hydrology and adjacent off-site hydrological influences as appropriate;
- The number of individuals in each special status plant population as counted (if population is small) or estimated (if population is large);
- If applicable, information about the percentage of each special status plant in each life stage such as seedling, vegetative, flowering, and fruiting;
- The density of special status plants, identifying areas of relatively high, medium and low density of each special status plant in the project area; and
- Digital images of special status plants and sensitive natural communities in the project area, with diagnostic features.

Special Status Plant and Sensitive Natural Community Documentation

When a special status plant is located, data must be submitted to the CNDDB. Data may be submitted in a variety of formats depending on the amount and type of data that is collected.[17] The most common way to submit data is the Online CNDDB Field Survey Form,[18] or equivalent written report, accompanied by geographic locality information (GPS coordinates, GIS shapefiles, KML files, topographic map, etc.). Data submitted in digital form must include the datum[19] in which it was collected.

If a sensitive natural community is found in a project area, document it with a Combined Vegetation Rapid Assessment and Relevé Field Form[20] and submit the form to VegCAMP.[21]

Voucher Collection

Voucher specimens provide verifiable documentation of special status plant presence and identification and a scientific record. This information is vital to conservation efforts and valuable for scientific research. Collection of voucher specimens should be

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17 See https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data for information on acceptable data submission formats.

18 Available at: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data

19 NAD83, NAD27 or WGS84

20 Available at: https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Submit

21 Combined Vegetation Rapid Assessment and Releve Field Forms can be emailed to VegCAMP staff. Contact information available at: https://www.wildlife.ca.gov/Data/VegCAMP

conducted in a manner that is consistent with conservation ethics, and in accordance with applicable state and federal permit requirements (e.g., scientific, educational, or management permits pursuant to Fish & G. Code, § 2081, subd. (a)). Voucher collections of special status plants (or possible special status plants) should only be made when such actions would not jeopardize the continued existence of the population. A plant voucher collecting permit[22] is required from CDFW prior to the take or possession of a state-listed plant for voucher collection purposes, and the permittee must comply with all permit conditions.

Voucher specimens should be deposited in herbaria that are members of the Consortium of California Herbaria[23] no later than 120 days after the collections have been made. Digital imagery can be used to supplement plant identification and document habitat. Record all relevant collector names and permit numbers on specimen labels (if applicable).

Botanical Survey Reports

Botanical survey reports provide an important record of botanical field survey results and project area conditions. Botanical survey reports containing the following information should be prepared whenever botanical field surveys take place, and should also be submitted with project environmental documents:

Project and location description

- A description of the proposed project;
- A detailed map of the project area that identifies topographic and landscape features and includes a north arrow and bar scale;
- A vegetation map of the project area using Survey of California Vegetation Classification and Mapping Standards[24] at a thematic and spatial scale that allows the display of all sensitive natural communities;
- A soil map of the project area; and
- A written description of the biological setting, including all natural communities; geological and hydrological characteristics; and land use or management history.

Detailed description of survey methodology and results

- Names and qualifications of botanical field surveyor(s);
- Dates of botanical field surveys (indicating the botanical field surveyor(s) that surveyed each area on each survey date), and total person-hours spent;
- A discussion of the survey preparation methodology;
- A list of special status plants and sensitive natural communities with potential to

[22] Applications available at: https://www.wildlife.ca.gov/Conservation/Plants/Permits

[23] A list of Consortium of California Herbaria participants is available at: http://ucjeps.berkeley.edu/consortium/participants.html

[24] Available at: https://www.wildlife.ca.gov/data/vegcamp/publications-and-protocols

occur in the region;

- Description(s) of reference site(s), if visited, and the phenological development of special status plant(s) at those reference sites;
- A description and map of the area surveyed relative to the project area;
- A list of all plant taxa occurring in the project area, with all taxa identified to the taxonomic level necessary to determine whether or not they are a special status plant;
- Detailed data and maps for all special status plants and sensitive natural communities detected. Information specified above under the headings "Special Status Plant and Sensitive Natural Community Observations," and "Special Status Plant and Sensitive Natural Community Documentation," should be provided for the locations of each special status plant and sensitive natural community detected. Copies of all California Native Species Field Survey Forms and Combined Vegetation Rapid Assessment and Relevé Field Forms should be sent to the CNDDB and VegCAMP, respectively, and included in the project environmental document as an Appendix;[25]
- A discussion of the potential for a false negative botanical field survey;
- A discussion of how climatic conditions may have affected the botanical field survey results;
- A discussion of how the timing of botanical field surveys may affect the comprehensiveness of botanical field surveys;
- Any use of existing botanical field surveys and a discussion of their applicability to the project;
- The deposition locations of voucher specimens, if collected; and
- A list of references used, including persons contacted and herbaria visited.

Assessment of potential project impacts

- A discussion of the significance of special status plant populations in the project area considering nearby populations and total range and distribution;
- A discussion of the significance of sensitive natural communities in the project area considering nearby occurrences and natural community distribution;
- A discussion of project related direct, indirect, and cumulative impacts to special status plants and sensitive natural communities;
- A discussion of the degree and immediacy of all threats to special status plants and sensitive natural communities, including those from invasive species;
- A discussion of the degree of impact, if any, of the project on unoccupied,

[25] It is not necessary to submit entire environmental documents to the CNDDB.

potential habitat for special status plants; and

- Recommended measures to avoid, minimize, or mitigate impacts to special status plants and sensitive natural communities.

4. BOTANICAL FIELD SURVEYOR QUALIFICATIONS

Botanical field surveyors should possess the following qualifications:

- Knowledge of plant taxonomy and natural community ecology;
- Familiarity with plants of the region, including special status plants;
- Familiarity with natural communities of the region, including sensitive natural communities;
- Experience with the CNDDB, BIOS, and Survey of California Vegetation Classification and Mapping Standards;
- Experience conducting floristic botanical field surveys as described in this document, or experience conducting such botanical field surveys under the direction of an experienced botanical field surveyor;
- Familiarity with federal, state, and local statutes and regulations related to plants and plant collecting; and
- Experience analyzing the impacts of projects on native plant species and sensitive natural communities.

5. SUGGESTED REFERENCES

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This document is available online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

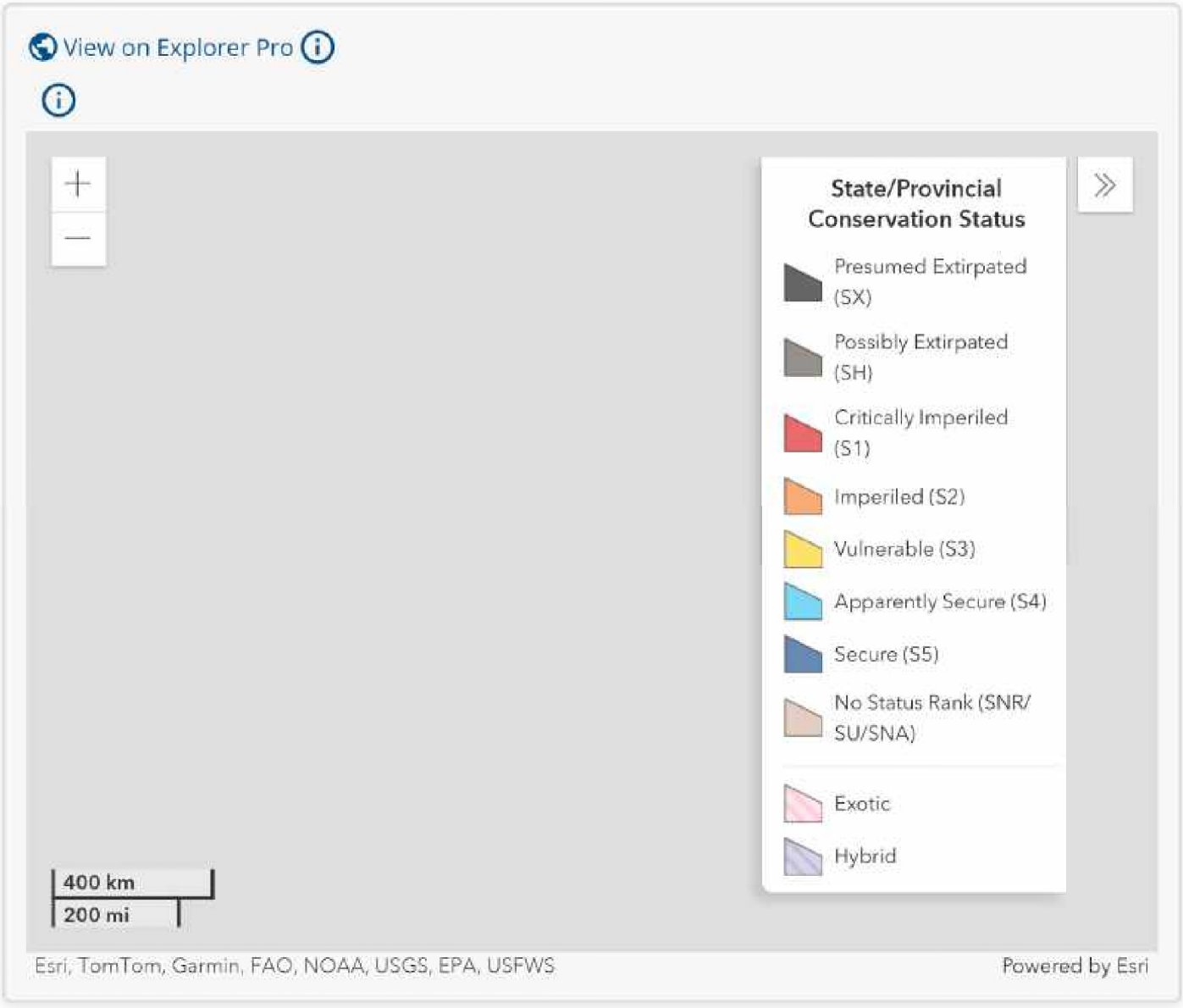
EXHIBIT I

NatureServe Explorer Taxon report for *Dudleya edulis* – Footnote 19

Dudleya edulis

Nuttall's Live-forever

G3
Vulnerable



Classification

Scientific Name: *Dudleya edulis* (Nutt.) Moran

Kingdom: Plantae
Phylum: Anthophyta
Class: Dicotyledoneae
Order: Rosales
Family: Crassulaceae
Genus: Dudleya

Scientific Name Reference: Flora of North America Editorial Committee (FNA). 2009. Flora of North America north of Mexico. Vol. 8. Magnoliophyta: Paeoniaceae to Ericaceae. Oxford University Press, New York. xxiv + 585 pp.
Concept Reference: Kartesz, J.T. 1994. A synonymized checklist of the vascular flora of the United States, Canada, and Greenland. 2nd edition. 2 vols. Timber Press, Portland, OR.
Name Used in Concept Reference: *Dudleya edulis*
NatureServe Unique Identifier: ELEMENT_GLOBAL.2.148968
NatureServe Element Code: PDCRA040C0
Related ITIS Names: *Dudleya edulis* (Nutt.) Moran (TSN 502172)

Conservation Status

NatureServe Status

Global Status: G3?
Global Status (Rounded): G3
Global Status Last Reviewed: 7/7/1997
Global status needs review.

National & State/Provincial Statuses

United States: NNR
California: SNR

Other Statuses

U.S. Endangered Species Act: None
Committee on the Status of Endangered Wildlife in Canada (COSEWIC): None

Distribution

National and State/Provincial Distribution:

United States: CA

Ecology and Life History

Habitat

Economic Attributes

Economically Important Genus: No

Population / Occurrence Delineation

The default minimum separation distance is 1 km; see the Habitat-based Plant Element Occurrence Delimitation Guidance for details.

Population / Occurrence Viability

See the Generic Guidelines for the Application of Occurrence Ranks (2008).

References

1. Flora of North America Editorial Committee (FNA). 2009. Flora of North America north of Mexico. Vol. 8. Magnoliophyta: Paeoniaceae to Ericaceae. Oxford University Press, New York. xxiv + 585 pp.

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EXHIBIT J

California Department of Fish and Wildlife Special Animals List – Footnote 29

SPECIAL ANIMALS LIST

April 2026

State of California

Natural Resources Agency

Department of Fish and Wildlife

Biogeographic Data Branch

California Natural Diversity Database (CNDDB)

Recommended Citation:

California Natural Diversity Database (CNDDB). April 2026. Special Animals List. California Department of Fish and Wildlife. Sacramento, CA.

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Special Animals

"Special Animals" is a broad term used to refer to all the animal taxa tracked by the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB), regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." The Special Animals List includes species, subspecies, Distinct Population Segments (DPS), or Evolutionarily Significant Units (ESU) where at least one of the following conditions applies:

- Officially listed or proposed for listing under state and/or federal endangered species acts
- Taxa considered by the Department of Fish and Wildlife to be a Species of Special Concern (SSC)
- Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the California Environmental Quality Act Guidelines
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range, but not currently threatened with extirpation
- Population(s) in California that may be peripheral to the major portion of a taxon's range but are threatened with extirpation in California
- Taxa closely associated with a habitat that is declining in California at a significant rate (e.g., wetlands, riparian, vernal pools, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats, etc.)
- Taxa designated as a special status, sensitive, or declining species by other state or federal agencies, or a non-governmental organization (NGO), and determined by the CNDDB to be rare, restricted, declining, or threatened across their range in California

The Special Animals List contains taxa that are actively inventoried, tracked, and mapped by the CNDDB, as well as taxa for which mapped data may not yet be incorporated into CNDDB user products. For the latter taxa, information at the county

and 7.5-minute USGS quadrangle level can be accessed via the CNDDB QuickView Tool.

Taxa with a "Yes" in the "End Notes?" column have additional information in the End Notes section at the back of the list.

Additional information about the California Natural Diversity Database is available on the CNDDB website.

Information on other CDFW resource management programs is available on the Department's Conservation and Management of Wildlife and Habitat website.

The CDFW Wildlife Diversity Program provides additional information on wildlife habitat, threats, and survey guidelines.

NatureServe Element Ranking

The California Natural Diversity Database program is a member of the NatureServe Network of natural heritage programs and uses the same conservation status methodology as other network programs. The ranking system was originally developed by The Nature Conservancy and is now maintained and recently revised by NatureServe. It includes a **Global rank** (G-rank), describing the status for a given taxon over its entire distribution, and a **State rank** (S-rank), describing the status for the taxon over its state distribution. For subspecies and varieties, there is also a "T" rank describing the global rank for the infraspecific taxon. The next page of this document details the criteria used to assign element ranks, from G1 to G5 for the Global rank and from S1 to S5 for the State rank. Procedurally, state programs such as the CNDDB develop the State ranks. The Global ranks are determined collaboratively among the Heritage Programs for the states/provinces containing the species. NatureServe then checks for consistency and logical errors at the national level. Because the units of conservation may include non-taxonomic biological entities such as populations or ecological communities, NatureServe refers to the targets of biological conservation as "elements" rather than taxa.

An element rank is assigned using standard criteria and rank definitions. This standardization makes the ranks comparable between organisms and across political boundaries. NatureServe has developed a "rank calculator" to help increase repeatability and transparency of the ranking process. The three main categories that are taken into consideration when assigning an element rank are rarity, threats, and trends. Within these three categories, various factors are considered, including:

- Range extent, area of occupancy, population size, total number of occurrences, and number of good occurrences (ranked A or B). Environmental specificity can also be used if other information is lacking.
- Overall threat impact as well as intrinsic vulnerability (if threats are unknown).
- Long-term and short-term trends.

Detailed information on this element ranking methodology can be found on the NatureServe Conservation Status Assessment website.

Listed below are definitions for interpreting global and state conservation status ranks. An element's ranking status may be adjusted up or down depending upon the considerations above.

Global Ranking

The global rank (G-rank) is a reflection of the overall status of an element throughout its global range.

- **GX: Presumed Extinct** – Not located despite intensive searches and virtually no likelihood of rediscovery.
- **GH: Possibly Extinct** – Known from only historical occurrences but still some hope of rediscovery. Examples of evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is extinct throughout its range.
- **G1: Critically Imperiled** – At very high risk of extinction due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
- **G2: Imperiled** – At high risk of extinction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
- **G3: Vulnerable** – At moderate risk of extinction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
- **G4: Apparently Secure** – At fairly low risk of extinction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

- **G5: Secure** – At very low risk of extinction due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
- **GNR: Unranked** – Global rank not yet assessed.

State Ranking

The state rank (S-rank) is assigned in much the same way as the global rank, but state ranks refer to the imperilment status only within California's state boundaries.

- **SX: Presumed Extirpated** – Species is believed to be extirpated from the state Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered
- **SH: Possibly Extirpated** – Known from only historical records but still some hope of rediscovery. There is evidence that the species may no longer be present in the state, but not enough to state this with certainty. Examples of such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction.
- **S1: Critically Imperiled** – At very high risk of extirpation in the state due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.
- **S2: Imperiled** – At high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
- **S3: Vulnerable** – At moderate risk of extirpation in the state due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
- **S4: Apparently Secure** – At a fairly low risk of extirpation in the state due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

- **S5: Secure** – At very low or no risk of extirpation in the state due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
- **SNR: Unranked** – State rank not yet assessed.

Additional Notes on NatureServe Ranks

- Rank Qualifiers
    1. Taxa which are subspecies receive a taxon rank (**T-rank**) in addition to the G-rank. Whereas the G-rank reflects the condition of the entire species, the T-rank reflects the global status of just the subspecies. For example, the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea*, is ranked G5T2. The G-rank refers to the whole species, i.e., *Aplodontia rufa*; the T-rank refers only to the global condition of ssp. *phaea*.
    2. **C = Captive or Cultivated Only** — taxon at present is presumed or possibly extinct or eliminated in the wild across their entire native range but is extant in cultivation, in captivity, as a naturalized population (or populations) outside their native range, or as a reintroduced population not yet established. The “C” modifier is only used at a global level and not at a state level. Possible ranks are GXC or GHC.
    3. **Q = Questionable taxonomy** that may reduce conservation priority — Distinctiveness of this entity as a taxon at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority (numerically higher) conservation status rank. The “Q” modifier is only used at the global level, not at the state level.
- Uncertainty about the status of an element is expressed in two major ways:
    1. By expressing the ranks as a **range** of values: e.g., S2S3 indicates the rank is somewhere between S2 and S3.
    2. By adding a “**?**” to the rank: e.g., S2?; this represents more certainty than S2S3, but less certainty than S2.

- Other considerations used when ranking a species include the pattern of distribution of the element on the landscape, fragmentation of the population, and historical extent as compared to its modern range. It is important to take an overall view when ranking sensitive elements rather than simply counting element occurrences.

Animal Element Occurrences and Mapping

What is an Element Occurrence?

An Element Occurrence (EO) is a location where a given element has been documented to occur. It is a concept developed and applied within the NatureServe natural heritage network. An EO is not a population, but may indicate that a population is present in that area; likewise, a single population may be represented by more than one EO. An EO is based upon the source documents available at the time of mapping. Both the mapped feature and the text portion of EOs are updated as new information becomes available.

Element Occurrence Definitions Vary by Taxa

The EO definition refers to the types of information mapped. For most animal taxa, the CNDDB is interested in information that indicates the presence of a resident population. However, for many migratory birds, the CNDDB only tracks detections of nest sites or behaviors indicating reproduction is occurring at the site. Details about avian detections are available in the Submitting Avian Detections document. For other taxa where CNDDB tracks only a certain part of the range or life history, the area or life stage is indicated on the list under the "Comment" column.

Mapping Conventions

Information in CNDDB is mapped to balance precision and uncertainty, based upon the source materials used to determine the location of the Element Occurrence. Data with precise location information are mapped with 80m-radius circles or specific polygons. Data with vague location information are mapped with non-specific circular features or non-specific polygons. Non-specific features indicate that the species was found somewhere within the mapped area, but the exact location was unknown. Generally, observations/collections within ¼ mile and/or within continuous habitat are combined into a single EO.

Taxonomic Standards

Taxonomic References and Sources of Additional Information

The CNDDB follows current published taxonomy for animals as recognized by the scientific organizations listed below. The CNDDB reviews publications that propose new taxonomy and nomenclature for CNDDB-tracked species and evaluates whether these proposals are recognized by the larger scientific community. The CNDDB makes every effort to use the best available science in the taxonomy used, but different experts may recognize different names for some time after a taxonomic change is proposed. In these cases, the CNDDB will generally use the preexisting nomenclature until a change is formally recognized beyond the initial publication. In addition, the CNDDB recognizes some taxa identified by experts on the California fauna where these taxa may not be recognized by national biological societies. Generally, the taxonomy used by NatureServe is followed, with additional evaluation of taxonomy from the following sources:

- Reptiles and amphibians:
    - The Center for North American Herpetology
    - The Society for the Study of Amphibians and Reptiles
- Fishes:
    - Fricke, R., Eschmeyer, W. N. & R. van der Laan (eds) 2022. Eschmeyer's catalog of fishes: genera, species, references. Electronic version.
    - Jelks, H.L., S.J. Walsh, N.M. Burkhead, S. Contreras-Balderas, E. Díaz-Pardo, D.A. Hendrickson, J. Lyons, N.E. Mandrak, F. McCormick, J.S. Nelson, S.P. Platania, B.A. Porter, C.B. Renaud, J.J. Schmitter-Soto, E.B. Taylor, and M.L. Warren, Jr. 2008. Conservation status of imperiled North American freshwater and diadromous fishes. Fisheries 33(8):372-407.
    - Lawrence M. Page, Héctor Espinosa-Pérez, Lloyd T. Findley, Carter R. Gilbert, Robert N. Lea, Nicholas E. Mandrak, Richard L. Mayden, and Joseph S. Nelson. 2013. Common and scientific names of fishes from the

United States, Canada, and Mexico, 7th edition. American Fisheries Society, Special Publication 34. 243 pp.

    - Moyle, P. B. 2002. Inland fishes of California. University of California Press.

- Birds:
    - The American Ornithological Society checklist of North American Birds
- Mammals:
    - The American Society of Mammalogists
    - Bradley, R.D., L.K. Ammerman, R.J. Baker, L.C. Bradley, J.A. Cook, R.C. Dowler, C. Jones, D.J. Schimdly, F.B. Stangl Jr., R.A. Van Den Bussche, and B. Wursig. 2014. Revised checklist of North American mammals north of Mexico, 2014. Museum of Texas Tech University Occasional Papers 327:1-28.

Listing and Special Status Information

CALIFORNIA ENDANGERED SPECIES ACT (CESA) LISTING CODES: The listing status of each species is current as of the date of this list. The most current changes in listing status will be found in the "Endangered and Threatened Animals List," which the CNDDB updates and issues quarterly. Additional information can be found on the California Fish and Game Commission CESA web page.

- SE State listed as endangered
- ST State listed as threatened
- SC State candidate for listing as endangered or threatened

FEDERAL ENDANGERED SPECIES ACT (ESA) LISTING CODES: The listing status is current as of the date of this list. The most current changes in listing status will be found in the "Endangered and Threatened Animals List," which the CNDDB updates and issues quarterly. Federal listing actions are published in the Federal Register.

- FE Federally listed as endangered
- FT Federally listed as threatened
- FPE Federally proposed for listing as endangered
- FPT Federally proposed for listing as threatened
- FC Federal candidate species (former Category 1 candidates)

Section 4(c)(2)(A) of the Act requires the U.S. Fish and Wildlife Service and the National Marine Fisheries Service to conduct a review of listed species at least once every five years. Five year reviews are made available by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service.

OTHER STATUS CODES: The status of species on the Special Animals List according to other conservation organizations is provided below. Taxa on these lists are reviewed for inclusion in the CNDDB Special Animals List, but are not automatically included. For example, taxa that are regionally rare within a portion of California may not be included, because they may be of lesser conservation concern across their full range in California.

- **American Fisheries Society (AFS):**
    1. Designations for freshwater and diadromous species were taken from the paper:
        - Jelks, H.L., S.J. Walsh, N.M. Burkhead, S. Contreras-Balderas, E. Díaz-Pardo, D.A. Hendrickson, J. Lyons, N.E. Mandrak, F. McCormick, J.S. Nelson, S.P. Platania, B.A. Porter, C.B. Renaud, J.J. Schmitter-Soto, E.B. Taylor, and M.L. Warren, Jr. 2008. Conservation status of imperiled North American freshwater and diadromous fishes. Fisheries 33(8):372-407.
    2. Designations for marine and estuarine species were taken from the paper:
        - Musick, J.A. et al. 2000. Marine, Estuarine, and Diadromous Fish Stocks at Risk of Extinction in North America (Exclusive of Pacific Salmonids). Fisheries 25(11):6-30.
- **Bureau of Land Management (BLM) Sensitive:** Bureau of Land Management Manual §6840 states that "BLM sensitive species are: (1) species listed or proposed for listing under the Endangered Species Act (ESA), and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA, which are designated as Bureau sensitive by the State Director(s). All Federal candidate species, proposed species, and delisted species in the 5 years following delisting will be conserved as Bureau sensitive species." Downloadable copies of the California-BLM Special Status Animals and Sensitive Species Lists are available.
- **California Department of Forestry and Fire Protection (CDF) Sensitive:** California Department of Forestry and Fire Protection classifies "sensitive species" as those species that warrant special protection during timber operations. The list of "sensitive species" is given in §895.1 (Definitions) of the California Forest Practice Rules.
- **CDFW Fully Protected:** The classification of Fully Protected was the State's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have

subsequently been listed under the California and/or federal endangered species acts; the exceptions are white-tailed kite, golden eagle, trumpeter swan, northern elephant seal, and ringtail cat. The white-tailed kite, golden eagle, and ringtail cat are tracked in the CNDDB. The trumpeter swan and northern elephant seal are not tracked by the CNDDB. The Fish and Game Code sections dealing with Fully Protected species state that these species "...may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected" species, although take may be authorized for necessary scientific research. This language arguably makes the "Fully Protected" designation the strongest and most restrictive regarding the "take" of these species. In 2003, code sections dealing with Fully Protected species were amended to allow the Department to authorize take resulting from recovery activities for state-listed species. More information on Fully Protected species and the take provisions can be found in the Fish and Game Code: birds at §3511, mammals at §4700, reptiles and amphibians at §5050, and fish at §5515). Additional information on Fully Protected fish can be found in the California Code of Regulations, Title 14, Division 1, Subdivision 1, Chapter 2, Article 4, §5.93. The category of Protected Amphibians and Reptiles in Title 14 has been repealed. Senate Bill no. 147 (July 2023) removed American peregrine falcon, brown pelican, and thicktail chub as fully protected species under the Fish & Game Code because they have been delisted-recovered under CESA or are considered extinct.

- **CDFW Species of Special Concern (SSC):** It is the goal and responsibility of the Department of Fish and Wildlife to maintain viable populations of all native species. To this end, the Department has designated certain vertebrate species as “Species of Special Concern” because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating SSCs is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long-term viability. Not all SSCs have declined equally; some species may be just starting to decline, while others may have already reached the point where they

meet the criteria for listing as a threatened or endangered under state and/or federal endangered species acts.

- **CDFW Watch List Species:** Watch list species are taxa that were previously SSCs but do not currently meet SSC criteria, and for which there is concern and a need for additional information to clarify status.
- **International Union for Conservation of Nature (IUCN) Red List of Threatened Species:** The IUCN assesses, on a global scale, the conservation status of species, subspecies, varieties, and even selected subpopulations in order to highlight taxa threatened with extinction, and therefore promote their conservation. Detailed information is available from the IUCN Red List Online. When the CNDDB tracks a subunit (such as subspecies, DPS, or ESU) that does not have an IUCN status, the CNDDB either:
    1. Applies the IUCN status of the parent entity to the CNDDB element if the IUCN status is Critical (CR), Endangered, (EN), or Vulnerable (VU)
    2. Does not apply the IUCN status of the parent entity to the CNDDB element if the IUCN status is Near Threatened (NT), Least Concern (LC), or Data Deficient (DD).
- **Marine Mammal Commission (MMC) Marine Mammal Species of Special Concern:** Section 202 of the Marine Mammal Protection Act (MMPA) directs the MMC, in consultation with its Committee of Scientific Advisors, to make recommendations to the Department of Commerce, the Department of the Interior, and other federal agencies on research and management actions needed to conserve species of marine mammals. To meet this charge, the Commission devotes special attention to particular species and populations that are vulnerable to various types of human-related activities, impacts, and contaminants. Such species may include marine mammals listed as endangered or threatened under the federal ESA or as depleted under the MMPA. In addition, the Commission often directs special attention to other species or populations of marine mammals not so listed whenever special conservation challenges arise that may affect them. More information on the MMPA and the list of species is

available from the MMC Marine Mammal Species and Populations of Concern website.

- **United States Forest Service (USFS) Sensitive:** The USDA Forest Service defines sensitive species as plant and animal species identified by a regional forester that are not listed or proposed for listing under the federal Endangered Species Act for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. Regional Foresters shall identify sensitive species occurring within the region. More information on California species can be found on the Pacific Southwest Region (Region 5) Animals and Plants site.
- **U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern:** The goal of the Birds of Conservation Concern 2021 report is to accurately identify the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent highest conservation priorities and draw attention to species in need of conservation action.

Table of Special Status Code Abbreviations

Organization	Abbreviation
American Fisheries Society - Endangered	AFS_EN
American Fisheries Society - Threatened	AFS_TH
American Fisheries Society - Vulnerable	AFS_VU
Bureau of Land Management - Sensitive	BLM_S
Calif Dept of Forestry & Fire Protection - Sensitive	CDF_S
Calif Dept of Fish & Wildlife - Fully Protected	CDFW_FP
Calif Dept of Fish & Wildlife - Species of Special Concern	CDFW_SSC
Calif Dept of Fish & Wildlife - Watch List	CDFW_WL
IUCN - Critically Endangered	IUCN_CR
IUCN - Endangered	IUCN_EN
IUCN - Vulnerable	IUCN_VU
IUCN - Near Threatened	IUCN_NT
IUCN - Least Concern	IUCN_LC
IUCN - Data Deficient	IUCN_DD
Marine Mammal Commission - Species of Special Concern	MMC_SSC
U.S. Forest Service - Sensitive	USFS_S
U.S. Fish & Wildlife Service Birds of Conservation Concern	USFWS_BCC

Special Animals List

(930 taxa)

Last updated April 2, 2026

The remainder of this document contains the CNDDB's Special Animals List, current as of the date on the title page of this document.

Invertebrates

PELECYPODA (clams and mussels)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Anodonta californiensis	California floater		G3	S2?	None	None	USFS:S	Yes	
Anodonta oregonensis	Oregon floater		G5	S2?	None	None	IUCN:LC	Yes	
Gonidea angulata	western ridged mussel		G3	S2	None	None	IUCN:VU	Yes	
Margaritifera falcata	western pearlshell		G3G4	S1S2	None	None	IUCN:NT	Yes	
Pisidium ultramontanum	montane peaclam		G1	S1	None	None	IUCN:VU USFS:S	Yes	

GASTROPODA (snails, slugs, and abalones)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Ammonitella yatesii	tight coin (=Yates' snail)		G1	S1	None	None	IUCN:VU	Yes	
Ancotrema voyanum	hooded lancetooth		G1G2	S1S2	None	None		Yes	
Assiminea infima	Badwater snail		G1	S1	None	None	IUCN:VU	Yes	
Binneya notabilis	Santa Barbara shelled slug		G1	S1	None	None	IUCN:DD	Yes	
Colligyrus convexus	canary duskysnail		G2	S2	None	None		Yes	
Eremarionta immaculata	white desertsnail		G1	S1	None	None	IUCN:VU	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Eremarionta millepalmarum	Thousand Palms desertsnail		G1	S1	None	None	IUCN:VU	No	
Eremarionta morongoana	Morongo (=Colorado) desertsnail		G1G3	S1	None	None	IUCN:NT	Yes	
Eremarionta rowelli bakerensis	Baker's desertsnail		G3G4T1	S1	None	None	IUCN:DD	Yes	
Eremarionta rowelli mccoiana	California McCoy snail		G3G4T1	S1	None	None	IUCN:DD	Yes	
Fluminicola seminalis	nugget pebblesnail		G2	S3	None	None	IUCN:DD USFS:S	Yes	
Glyptostoma gabrielense	San Gabriel chestnut		G2	S3	None	None		Yes	
Haliotis corrugata	pink abalone		G3?	S2?	None	None	IUCN:CR	No	
Haliotis cracherodii	black abalone		G3	S2	Endangered	None	IUCN:CR	Yes	
Haliotis fulgens	green abalone		G3G4	S2	None	None	IUCN:CR	No	
Haliotis kamtschatkana	pinto abalone		G4	S2	None	None	IUCN:EN	No	
Haliotis sorenseni	white abalone		G1	S2	Endangered	None	IUCN:CR	No	
Haplotrema catalinense	Santa Catalina lancetooth		G1	S1	None	None		Yes	
Haplotrema duranti	ribbed lancetooth		G1G2	S1S2	None	None		Yes	
Helisoma newberryi	Great Basin rams-horn		G1	S1S2	None	None	USFS:S	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Helminthoglypta allynsmithi	Merced Canyon shoulderband		G1	S1	None	None	IUCN:VU	Yes	
Helminthoglypta arrosa monticola	mountain shoulderband		G2G3T1	S1	None	None		Yes	
Helminthoglypta arrosa pomoensis	Pomo bronze shoulderband		G2G3T1	S1	None	None	IUCN:DD	Yes	
Helminthoglypta callistoderma	Kern shoulderband		G1	S1	None	None	IUCN:EN	Yes	
Helminthoglypta coelata	mesa shoulderband		G1	S1	None	None	IUCN:VU	Yes	
Helminthoglypta concolor	whitefir shoulderband		G1G2	S1S2	None	None		Yes	
Helminthoglypta fontiphila	Soledad shoulderband		G1	S1	None	None		Yes	
Helminthoglypta greggi	Mohave shoulderband		G2	S2	None	None		Yes	
Helminthoglypta hertleini	Oregon shoulderband		G3Q	S1S2	None	None		Yes	
Helminthoglypta milleri	peak shoulderband		G1	S1	None	None		Yes	
Helminthoglypta mohaveana	Victorville shoulderband		G1	S1	None	None	IUCN:NT	Yes	
Helminthoglypta nickliniana awania	Peninsula coast range shoulderband		G3T1	S1	None	None	IUCN:DD	Yes	
Helminthoglypta nickliniana bridgesi	Bridges' coast range shoulderband		G3T1	S1S2	None	None	IUCN:DD	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Helminthoglypta sanctaecrucis	Limu shoulderband		G1	S1S2	None	None		Yes	
Helminthoglypta sequoicola consors	redwood shoulderband		G2T1	S1	None	None	IUCN:DD	Yes	
Helminthoglypta stiversiana williamsi	Williams' bronze shoulderband		G1G2T1	S1	None	None	IUCN:DD	Yes	
Helminthoglypta talmadgei	Trinity shoulderband		G2	S2	None	None		Yes	
Helminthoglypta taylori	westfork shoulderband		G1	S1	None	None		Yes	
Helminthoglypta traskii pacoimensis	Pacoima shoulderband		G1G2T1	S1	None	None		Yes	
Helminthoglypta traskii traskii	Trask shoulderband		G1G2T1	S2S3	None	None		Yes	
Helminthoglypta uvasana	Grapevine shoulderband		G1	S1	None	None		Yes	
Helminthoglypta vasquezi	Vasquez shoulderband		G1	S1	None	None		Yes	
Helminthoglypta walkeriana	Morro shoulderband		G2	S2	Threatened	None	IUCN:CR	Yes	
Herpeteros angelus	Soledad desertsnail		G1	S1	None	None		No	
Hesperarion plumbeus	leaden slug		G2	S1S2	None	None		Yes	
Ipnobius robustus	robust tryonia		G1	S1	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Juga acutifilosa	topaz juga		G2?	S2	None	None	IUCN:NT USFS:S	Yes	
Juga chacei	Chace juga		G1	S1	None	None	USFS:S	Yes	
Juga occata	scalloped juga		G1	S1	None	None	IUCN:EN USFS:S	Yes	
Juga orickensis	redwood juga		G2	S1S3	None	None		Yes	
Lanx alta	highcap lanx		G2G3	S3	None	None		Yes	
Lanx patelloides	kneecap lanx		G2?	S2	None	None	USFS:S	Yes	
Littorina subrotundata	Newcomb's littorine snail		G5	S1S2	None	None		No	
Megomphix californicus	Natural Bridge megomphix		G3	S3	None	None		Yes	
Micrarionta facta	Santa Barbara islandsnail		G1G2	S1S2	None	None	IUCN:VU	Yes	
Micrarionta feralis	San Nicolas islandsnail		G1	S1	None	None	IUCN:CR	Yes	
Micrarionta gabbii	San Clemente islandsnail		G1	S1	None	None	IUCN:VU	Yes	
Micrarionta opuntia	pricklypear islandsnail		G1	S1	None	None	IUCN:VU	Yes	
Monadenia callipeplus	downy sideband		G1?	S1S2	None	None		Yes	
Monadenia chaceana	Siskiyou shoulderband		G2G3	S2	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Monadenia churchi	Klamath sideband		G3	S3	None	None		Yes	
Monadenia circumcarinata	keeled sideband		G3	S3	None	None	BLM:S IUCN:VU	Yes	
Monadenia cristulata	crested sideband		G1?	S1S2	None	None		Yes	
Monadenia fidelis leonina	A terrestrial snail		G4G5T1T2	S1S2	None	None		Yes	
Monadenia fidelis pronotis	rocky coast Pacific sideband		G4G5T1	S1	None	None	IUCN:DD	Yes	
Monadenia infumata ochromphalus	yellow-based sideband		G2T1T2	S1S2	None	None		Yes	
Monadenia infumata setosa	Trinity bristle snail		G2T2	S2	None	Threatened	IUCN:VU	Yes	
Monadenia marmarotis	marble sideband		G1	S1	None	None		Yes	
Monadenia mormonum buttoni	Button's Sierra sideband		G2T1T2	S1S2	None	None	IUCN:DD	Yes	
Monadenia mormonum hirsuta	hirsute Sierra sideband		G2T1	S1	None	None	BLM:S IUCN:DD	Yes	
Monadenia troglodytes troglodytes	Shasta sideband		G2T2	S2	None	None	USFS:S	Yes	
Monadenia troglodytes wintu	Wintu sideband		G2T2	S2	None	None	USFS:S	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Monadenia tuolumneana	Tuolumne sideband		G1	S1	None	None	BLM:S	Yes	
Monadenia yosemitensis	Yosemite sideband		G1	S1S2	None	None		Yes	
Noyo intersessa	Ten Mile shoulderband		G2	S1S2	None	None		Yes	
Pomatiopsis binneyi	robust walker		G1	S1	None	None		Yes	
Pomatiopsis californica	Pacific walker		G1	S1	None	None	IUCN:DD	Yes	
Pomatiopsis chacei	marsh walker		G1	S2	None	None		Yes	
Pristiloma shepardae	Shepard's snail		G1	S1	None	None		Yes	
Pristinicola hemphilli	pristine pyrg		G3	S1	None	None	IUCN:DD USFS:S	Yes	
Prophysaon sp. 1	Klamath taildropper		G3	S3	None	None		Yes	Yes
Punctum hannai	Trinity Spot		G2	S1S2	None	None		Yes	
Pyrgulopsis aardahli	Benton Valley (=Aahrdahl's) springsnail		G1	S1	None	None		Yes	
Pyrgulopsis archimedis	Archimedes pyrg		G1G2	S1S2	None	None		Yes	
Pyrgulopsis cinerana	Ash Valley pyrg		G1G2	S1S2	None	None		Yes	
Pyrgulopsis diablensis	Diablo Range pyrg		G1	S1	None	None	IUCN:VU	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Pyrgulopsis eremica	Smoke Creek pyrg		G2	S2	None	None		Yes	
Pyrgulopsis falciglans	Likely pyrg		G1	S1	None	None		Yes	
Pyrgulopsis gibba	Surprise Valley pyrg		G3	S1S2	None	None		Yes	
Pyrgulopsis greggi	Kern River pyrg		G1	S1	None	None	IUCN:VU	Yes	
Pyrgulopsis lasseni	Willow Creek pyrg		G1G2	S1S2	None	None	USFS:S	Yes	
Pyrgulopsis longae	Long Valley pyrg		G1	S1	None	None		Yes	
Pyrgulopsis owensensis	Owens Valley springsnail		G1G2	S1S2	None	None	USFS:S	Yes	
Pyrgulopsis perturbata	Fish Slough springsnail		G1	S1	None	None		Yes	
Pyrgulopsis rupinicola	Sucker Springs pyrg		G1	S1	None	None		Yes	
Pyrgulopsis taylori	San Luis Obispo pyrg		G1	S1	None	None		Yes	
Pyrgulopsis ventricosa	Clear Lake pyrg		G1	S1	None	None	IUCN:CR	Yes	
Pyrgulopsis wongi	Wong's springsnail		G3	S2	None	None	IUCN:LC USFS:S	Yes	
Radiocentrum avalonense	Catalina mountainsnail		G1	S1	None	None	IUCN:CR	Yes	
Rothelix warnerfontis	Warner Springs shoulderband		G1	S1	None	None	USFS:S	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Sterkia clementina	San Clemente Island blunt-top snail		G2G3	S1S2	None	None	IUCN:NT	Yes	
Trilobopsis roperi	Shasta chaparral		G2	S1	None	None	USFS:S	Yes	
Trilobopsis tehamana	Tehama chaparral		G2	S1	None	None	USFS:S	Yes	
Tryonia imitator	mimic tryonia (=California brackishwater snail)		G2	S2	None	None	IUCN:DD	Yes	
Tryonia margae	Grapevine Springs elongate tryonia		G1	S1	None	None		Yes	
Tryonia rowlandsi	Grapevine Springs squat tryonia		G1	S1	None	None		Yes	
Vespericola karokorum	Karok hesperian		G2	S2	None	None	IUCN:DD	Yes	
Vespericola marinensis	Marin hesperian		G2	S2	None	None		Yes	
Vespericola pressleyi	Big Bar hesperian		G1	S1	None	None	USFS:S	Yes	
Vespericola scotti	Benson Gulch hesperian		G1	S1	None	None		Yes	
Vespericola shasta	Shasta hesperian		G3	S3	None	None	USFS:S	Yes	
Vespericola sierranus	Siskiyou hesperian		G3	S1S2	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Xerarionta intercisa	horseshoe snail		G1	S1	None	None	IUCN:VU	Yes	
Xerarionta redimita	wreathed cactussnail		G1G2	S1	None	None	IUCN:VU	Yes	
Xerarionta tryoni	Bicolor cactussnail		G1	S1	None	None	IUCN:VU	Yes	

ARACHNIDA (spiders and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Aphrastochthonius grubbsi	Grubbs' Cave pseudoscorpion		G1	S1	None	None		Yes	
Aphrastochthonius similis	Carlow's Cave pseudoscorpion		G1	S1	None	None		Yes	
Archeolarca aalbui	Aalbu's Cave pseudoscorpion		G1	S1	None	None		Yes	
Banksula californica	Alabaster Cave harvestman		GH	SH	None	None		Yes	
Banksula galilei	Galile's cave harvestman		G1	S1	None	None		Yes	
Banksula grubbsi	Grubbs' cave harvestman		G1	S1	None	None		Yes	
Banksula incredula	incredible harvestman		G1	S1	None	None		Yes	
Banksula martinorum	Martins' cave harvestman		G1	S1	None	None		Yes	
Banksula melones	Melones Cave harvestman		G1	S1	None	None	IUCN:VU	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Banksula rudolphi	Rudolph's cave harvestman		G1	S1	None	None		Yes	
Banksula tuolumne	Tuolumne cave harvestman		G2	S1	None	None		Yes	
Banksula tutankhamen	King Tut Cave harvestman		G1	S1	None	None		Yes	
Calicina arida	San Benito harvestman		G1	S1	None	None		Yes	
Calicina breva	Stanislaus harvestman		G1	S1	None	None		Yes	
Calicina cloughensis	Clough Cave harvestman		G1	S1	None	None		Yes	
Calicina conifera	Crane Flat harvestman		G1	S1	None	None		Yes	
Calicina diminua	Marin blind harvestman		G1	S1	None	None		Yes	
Calicina dimorphica	Watts Valley harvestman		G1	S1	None	None		Yes	
Calicina macula	marbled harvestman		G1	S1	None	None		Yes	
Calicina mesaensis	Table Mountain harvestman		G1	S1	None	None		Yes	
Calicina minor	Edgewood blind harvestman		G1	S1	None	None		Yes	
Calicina piedra	Piedra harvestman		G1	S1	None	None		Yes	
Calileptoneta briggsi	Briggs' leptonetid spider		G1	S1	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Calileptoneta oasa	Andreas Canyon leptonetid spider		G1	S1	None	None		Yes	
Calileptoneta ubicki	Ubick's leptonetid spider		G1	S1	None	None		Yes	
Calileptoneta wapiti	Mendocino leptonetid spider		G1	S1	None	None		Yes	
Fissilicreagris imperialis	Empire Cave pseudoscorpion		G1	S1	None	None	IUCN:VU	Yes	
Hubbardia idria	Idria short-tailed whipscorpion		G1	S1	None	None		Yes	
Hubbardia secoensis	Arroyo Seco short-tailed whipscorpion		G1	S1	None	None		Yes	
Hubbardia shoshonensis	Shoshone Cave whip-scorpion		G1	S1	None	None	BLM:S	Yes	Yes
Larca laceyi	Lacey's Cave pseudoscorpion		G1	S1	None	None		Yes	
Meta dolloff	Dolloff Cave spider		G3	S3	None	None	IUCN:VU	Yes	
Microcina edgewoodensis	Edgewood Park micro-blind harvestman		G1	S1	None	None		Yes	
Microcina homi	Hom's micro-blind harvestman		G1	S2	None	None		Yes	
Microcina jungi	Jung's micro-blind harvestman		G1	S1	None	None		Yes	
Microcina leei	Lee's micro-blind harvestman		G1	S1	None	None		Yes	
Microcina lumi	Lum's micro-blind harvestman		G1	S1	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Microcina tiburona	Tiburon micro-blind harvestman		G2	S2	None	None		Yes	
Neochthonius imperialis	Empire Cave pseudoscorpion		G1	S1	None	None		Yes	
Pseudogarypus orpheus	Music Hall Cave pseudoscorpion		G1	S1	None	None		Yes	
Socalchemmis gertschi	Gertsch's socalchemmis spider		G1	S1	None	None		Yes	
Socalchemmis icenoglei	Icenogle's socalchemmis spider		G1	S1	None	None		Yes	
Socalchemmis monterey	Monterey socalchemmis spider		G1	S1	None	None		Yes	
Talanites moodyae	Moody's gnaphosid spider		G2G3	S2S3	None	None		Yes	
Talanites ubicki	Ubick's gnaphosid spider		G1	S1	None	None		Yes	
Texella deserticola	Whitewater Canyon harvestman		G1	S1	None	None		Yes	
Texella kokoweef	Kokoweef Crystal Cave harvestman		G1	S1	None	None		Yes	
Texella shoshone	Shoshone Cave harvestman		G1	S1	None	None		Yes	

CRUSTACEA, Order Anostraca (fairy shrimp)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Artemia monica	Mono Lake brine shrimp		G3	S3	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Branchinecta campestris	pocket pouch fairy shrimp		G2	S1	None	None		Yes	
Branchinecta conservatio	Conservancy fairy shrimp		G2	S2	Endangered	None	IUCN:EN	Yes	
Branchinecta longiantenna	longhorn fairy shrimp		G2	S2	Endangered	None	IUCN:EN	Yes	
Branchinecta lynchi	vernal pool fairy shrimp		G3	S3	Threatened	None	IUCN:VU	Yes	
Branchinecta mesovallensis	midvalley fairy shrimp		G2	S2S3	None	None		Yes	
Branchinecta sandiegonensis	San Diego fairy shrimp		G2	S1	Endangered	None	IUCN:EN	Yes	
Linderiella occidentalis	California linderiella		G2G3	S2S3	None	None	IUCN:NT	Yes	
Linderiella santarosae	Santa Rosa Plateau fairy shrimp		G1G2	S1	None	None		Yes	
Streptocephalus woottoni	Riverside fairy shrimp		G1G2	S2	Endangered	None	IUCN:EN	Yes	

CRUSTACEA, Order Notostraca (tadpole shrimp)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Lepidurus packardi	vernal pool tadpole shrimp		G3	S3	Endangered	None	IUCN:EN	Yes	

CRUSTACEA, Order Diplostraca (water fleas)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Dumontia oregonensis	hairy water flea		G1G3	S1	None	None		Yes	

CRUSTACEA, Order Isopoda (isopods)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Bowmanasellus sequoiae	Sequoia cave isopod		G2	S2	None	None		Yes	
Caecidotea tomalensis	Tomales isopod		G2	S2S3	None	None		Yes	
Calasellus californicus	An isopod		G2	S3	None	None		Yes	
Calasellus longus	An isopod		G1	S1	None	None		Yes	

CRUSTACEA, Order Amphipoda (amphipods)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Hyalella muerta	Texas Spring amphipod		G1	S1	None	None		Yes	Yes
Hyalella sandra	Death Valley amphipod		G1	S1	None	None		Yes	Yes
Stygobromus cherylae	Barr's amphipod		G1	S1	None	None		Yes	
Stygobromus cowani	Cowan's amphipod		G1	S1	None	None		Yes	
Stygobromus gallawayae	Gallaway's amphipod		G1	S1	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Stygobromus gradyi	Grady's Cave amphipod		G1	S1	None	None	IUCN:VU	Yes	
Stygobromus grahami	Graham's Cave amphipod		G2	S2	None	None		Yes	
Stygobromus harai	Hara's Cave amphipod		G1	S1	None	None	IUCN:VU	Yes	
Stygobromus hyporheicus	hyporheic amphipod		G1	SX	None	None		Yes	
Stygobromus imperialis	Empire Cave amphipod		G1	S1	None	None		Yes	
Stygobromus lacicolus	Lake Tahoe amphipod		G1	S1	None	None		Yes	
Stygobromus mackenziei	Mackenzie's Cave amphipod		G1	S1	None	None	IUCN:VU	Yes	
Stygobromus myersae	Myer's amphipod		G1	S1S2	None	None		Yes	
Stygobromus mysticus	Secret Cave amphipod		G1	S1	None	None		Yes	
Stygobromus rudolphi	Rudolph's amphipod		G1	S1	None	None		Yes	
Stygobromus sheldoni	Sheldon's amphipod		G1	S1	None	None		Yes	
Stygobromus sierrensis	Sierra amphipod		G1	S1	None	None		Yes	
Stygobromus tahoensis	Lake Tahoe stygobromid		G1	S1	None	None		Yes	
Stygobromus trinus	Trinity County amphipod		G1	S1	None	None		Yes	
Stygobromus wengerorum	Wengerors' Cave amphipod		G1	S1	None	None	IUCN:VU	Yes	

CRUSTACEA, Order Decapoda (crayfish and shrimp)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Pacifastacus fortis	Shasta crayfish		G1	S1	Endangered	Endangered	IUCN:CR	Yes	
Pacifastacus leniusculus klamathensis	Klamath crayfish		G5T5	S4	None	None		No	
Syncaris pacifica	California freshwater shrimp		G2	S2	Endangered	Endangered	IUCN:EN	Yes	

INSECTA, Order Odonata (dragonflies and damselflies)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Ischnura gemina	San Francisco forktail damselfly		G2	S2	None	None	IUCN:EN	Yes	

INSECTA, Order Plecoptera (stoneflies)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Capnia lacustra	Lake Tahoe benthic stonefly		G1	S1	None	None		Yes	
Cosumnoperla hypocrena	Cosumnes stripetail		G2	S2	None	None		Yes	

INSECTA, Order Orthoptera (grasshoppers, katydids, and crickets)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Aglaothorax longipennis	Santa Monica shieldback katydid		G1G2	S1S2	None	None	IUCN:CR	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Ammopelmatus kelsoensis	Kelso jerusalem cricket		G1G2	S1S2	None	None	IUCN:VU	Yes	
Ammopelmatus muwu	Point Conception jerusalem cricket		G1	S1	None	None	IUCN:VU	Yes	
Idiostatus kathleenae	Pinnacles shieldback katydid		G1G2	S1S2	None	None		Yes	
Idiostatus middlekauffi	Middlekauff's shieldback katydid		G1G2	S1	None	None	IUCN:CR	Yes	
Macrobaenetes algodonensis	Algodones sand treader cricket		G1G2	S2	None	None		No	
Macrobaenetes kelsoensis	Kelso giant sand treader cricket		G2	S2	None	None	IUCN:VU	Yes	
Macrobaenetes valgum	Coachella giant sand treader cricket		G1G2	S2	None	None	IUCN:VU	Yes	
Pristoceuthophilus sp. 1	Samwell Cave cricket		G1G3	S1	None	None	IUCN:VU	Yes	
Psychomastax deserticola	desert monkey grasshopper		G2G3	S1	None	None	IUCN:VU	Yes	
Stenopelmatus cahuilaensis	Coachella Valley jerusalem cricket		G1G2	S2	None	None	IUCN:VU	Yes	
Tetrix sierrana	Sierra pygmy grasshopper		G1G2	S1	None	None	IUCN:VU	Yes	
Trimerotropis infantilis	Zayante band-winged grasshopper		G1	S1	Endangered	None	IUCN:EN	Yes	
Trimerotropis occidentiloides	Santa Monica grasshopper		G2	S2	None	None	IUCN:EN	Yes	
Trimerotropis occulens	Lompoc grasshopper		G1G2	S1S2	None	None	IUCN:EN	Yes	

INSECTA, Order Hemiptera (true bugs)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Ambrysus funebris	Nevares Spring naucorid bug		G1	S1	None	None		Yes	
Belostoma saratogae	Saratoga Springs belostoman bug		G1	S1	None	None		Yes	
Oravelia pege	Dry Creek cliff strider bug		G1	S1	None	None		Yes	
Pelocoris biimpressus	Amargosa naucorid bug		G1G3	S1S2	None	None		Yes	
Saldula usingeri	Wilbur Springs shorebug		G2	S2	None	None		Yes	

INSECTA, Order Neuroptera (lacewings)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Oliarces clara	cheeseweed owlfly (cheeseweed moth lacewing)		G1G3	S2	None	None		Yes	

INSECTA, Order Coleoptera (beetles)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Aegialia concinna	Ciervo aegilian scarab beetle		G1	S1	None	None	BLM:S IUCN:VU	Yes	
Agabus rumppi	Death Valley agabus diving beetle		G1G3	S1S2	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Agrilus harenus	Harenus jewel beetle		G1	S1	None	None		Yes	
Anomala carlsoni	Carlson's dune beetle		G1	S1	None	None		Yes	
Anomala hardyorum	Hardy's dune beetle		G1	S1	None	None		Yes	
Anthicus antiochensis	Antioch Dunes anthicid beetle		G3	S3	None	None		Yes	
Anthicus sacramento	Sacramento anthicid beetle		G4	S4	None	None	IUCN:EN	Yes	
Atractelmis wawona	Wawona riffle beetle		G3	S1S2	None	None		Yes	
Chaetarthria leechi	Leech's chaetarthrian water scavenger beetle		G1?	S1	None	None		Yes	
Cicindela hirticollis abrupta	Sacramento Valley tiger beetle		G5TH	SH	None	None		Yes	
Cicindela hirticollis gravida	sandy beach tiger beetle		G5T2	S2	None	None		Yes	
Cicindela latesignata	western beach tiger beetle		G2G3	S1	None	None		Yes	
Cicindela ohlone	Ohlone tiger beetle		G1	S1	Endangered	None		Yes	
Cicindela senilis frosti	senile tiger beetle		G2G3T1T3	S1	None	None		Yes	
Cicindela tranquebarica joaquinensis	San Joaquin tiger beetle		G5T1	S1	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Cicindela tranquebarica viridissima	greenest tiger beetle		G5T1	S1	None	None		Yes	
Coelus globosus	globose dune beetle		G1G2	S1S2	None	None	IUCN:VU	Yes	
Coelus gracilis	San Joaquin dune beetle		G1	S1	None	None	BLM:S IUCN:VU	Yes	
Coenonycha clementina	San Clemente Island coenonycha beetle		G1G2	S1S2	None	None		Yes	
Cyclocephala wandae	Wandae dune beetle		G1G2	S1	None	None		Yes	
Deltaspis ivae	marsh-elder long-horned beetle		G1	S1	None	None		Yes	
Desmocerus californicus dimorphus	valley elderberry longhorn beetle		G3T3	S3	Threatened	None		Yes	
Dinacoma caseyi	Casey's June beetle		G1	S1	Endangered	None		Yes	
Dubiraphia brunnescens	brownish dubiraphian riffle beetle		G1	S1	None	None		Yes	
Dubiraphia giulianii	Giuliani's dubiraphian riffle beetle		G1G3	S1S3	None	None		Yes	
Elaphrus viridis	Delta green ground beetle		G1	S1	Threatened	None	IUCN:CR	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Glaresis arenata	Kelso Dunes scarab glaresis beetle		G2	S2	None	None		Yes	
Habroscelimorpha gabbii	western tidal-flat tiger beetle		G2G4	S1	None	None		Yes	
*Hydrochara ricksecker*i	Ricksecker's water scavenger beetle		G2?	S2?	None	None		Yes	
Hydroporus leechi	Leech's skyline diving beetle		G3	S2S3	None	None		Yes	
Hydroporus simplex	simple hydroporus diving beetle		G3G4	S3S4	None	None		Yes	
Hygrotus curvipes	curved-foot hygrotus diving beetle		G2	S2	None	None		Yes	
Hygrotus fontinalis	travertine band-thigh diving beetle		G1	S1	None	None		Yes	
Juniperella mirabilis	juniper metallic wood-boring beetle		G2	S1	None	None		Yes	
Lepismadora algodones	Algodones sand jewel beetle		G1G2	S1S2	None	None		Yes	
Lichnanthe albipilosa	white sand bear scarab beetle		G1	S1	None	None		Yes	
Lichnanthe ursina	bumblebee scarab beetle		G2	S2	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Lytta hoppingi	Hopping's blister beetle		G1G2	S2	None	None		Yes	
Lytta insperata	Mojave Desert blister beetle		G1G2	S1S2	None	None		No	
Lytta moesta	moestan blister beetle		G2	S2	None	None		Yes	
Lytta molesta	molestan blister beetle		G2	S2	None	None		Yes	
Lytta morrisoni	Morrison's blister beetle		G1G2	S2	None	None		Yes	
Microcylloepus formicoideus	Furnace Creek riffle beetle		G1	S1	None	None		Yes	
Miloderes nelsoni	Nelson's miloderes weevil		G2	S2	None	None		Yes	
Nebria darlingtoni	South Forks ground beetle		G1	S1	None	None		Yes	
Nebria gebleri siskiyouensis	Siskiyou ground beetle		G4G5T4	S1S2	None	None		Yes	
Nebria sahlbergii triad	Trinity Alps ground beetle		G5T1	S1	None	None		Yes	
Ochthebius crassalus	wing shoulder minute moss beetle		G1G3	S1S3	None	None		No	
Ochthebius recticulus	Wilbur Springs minute moss beetle		G1	S1	None	None		Yes	
Onychobaris langei	Lange's El Segundo Dune weevil		G1	S1	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Optioservus canus	Pinnacles optioservus riffle beetle		G2	S1	None	None		Yes	
Palaeoxenus dohrni	Dohrn's elegant eucnemid beetle		G3?	S1S2	None	None		Yes	
Polyphylla anteronivea	Saline Valley snow-front June beetle		G2	S2	None	None		Yes	
Polyphylla barbata	Mount Hermon (=barbate) June beetle		G1	S2	Endangered	None		Yes	
Polyphylla erratica	Death Valley June beetle		G1G2	S1S2	None	None		Yes	
Polyphylla morroensis	Morro Bay June beetle		G1	S1	None	None		Yes	
Polyphylla nubila	Atascadero June beetle		G1	S1	None	None		Yes	
Prasinalia imperialis	Algodones white wax jewel beetle		G2	S2	None	None		No	
Pseudocotalpa andrewsi	Andrew's dune scarab beetle		G1	S1	None	None		Yes	
Scaphinotus behrensi	Behrens' snail-eating beetle		G2G4	S2S4	None	None		Yes	
Trachykele hartmani	serpentine cypress wood-boring beetle		G1	S1	None	None		Yes	
Trichinorhipis knulli	Knull's metallic wood-boring beetle		G1	S1	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Trigonoscuta brunnotesselata	brown tassel trigonoscuta weevil		G1G2	S1	None	None		Yes	
Trigonoscuta dorothea dorothea	Dorothy's El Segundo Dune weevil		G1T1	S1	None	None		Yes	
Trigonoscuta rothi algodones	Algodones dune weevil		G1G2T1	S1	None	None		No	
Trigonoscuta rothi imperialis	Imperial dune weevil		G1G2T1	S1	None	None		No	
Trigonoscuta rothi punctata	Punctate dune weevil		G1G2T1	S1	None	None		No	
Trigonoscuta rothi rothi	Roth's dune weevil		G1G2T1	S1	None	None		No	
Trigonoscuta sp.	Doyen's trigonoscuta dune weevil		G1Q	S1	None	None		Yes	Yes
Trigonoscuta stantoni	Santa Cruz Island shore weevil		G1	S1	None	None		Yes	
Vandykea tuberculata	serpentine cypress long-horned beetle		G1	S2	None	None		Yes	

INSECTA, Order Mecoptera (scorpionflies)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Orobittacus obscurus	gold rush hanging scorpionfly		G1	S1	None	None		Yes	

INSECTA, Order Diptera (flies)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Ablautus schlingeri	Oso Flaco robber fly		G2	S2	None	None		Yes	
Apiocera warneri	Glamis sand fly		G1G2	S1	None	None		Yes	
Brennania belkini	Belkin's dune tabanid fly		G1G2	S1S2	None	None	IUCN:VU	Yes	
Cophura hurdi	Antioch cophuran robberfly		GX	SX	None	None		Yes	
Efferia antiochi	Antioch efferian robberfly		G1G2	S1S2	None	None		Yes	
Efferia macroxipha	Glamis robberfly		G1G2	S2S3	None	None		Yes	
Metapogon hurdi	Hurd's metapogon robberfly		G1G2	S1S2	None	None		Yes	
Paracoenia calida	Wilbur Springs shore fly		G1	S1	None	None		Yes	
Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly		G1T1	S1	Endangered	None		Yes	
Rhaphiomidas terminatus terminatus	El Segundo flower-loving fly		G1T1	S1	None	None		Yes	
Rhaphiomidas trochilus	San Joaquin Valley giant flower-loving fly		G1	S1	None	None		Yes	

INSECTA, Order Lepidoptera (butterflies and moths)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Adela oplerella	Opler's longhorn moth		G2	S2	None	None		Yes	
Apodemia mormo langei	Lange's metalmark butterfly		G5T1	S1	Endangered	None		Yes	
Areniscythris brachypteris	Oso Flaco flightless moth		G2	S2	None	None		Yes	
Callophrys mossii bayensis	San Bruno elfin butterfly		G4T2	S2	Endangered	None		Yes	
Callophrys mossii hidakupa	San Gabriel Mountains elfin butterfly		G4T1T2	S1S2	None	None	USFS:S	Yes	
Callophrys mossii marinensis	Marin elfin butterfly		G4T1	S2	None	None		Yes	
Callophrys sheridanii comstocki	desert green hairstreak		G5T3T4	S1S2	None	None		No	
Callophrys thornei	Thorne's hairstreak		G3G4T2	S2	None	None	BLM:S	Yes	Yes
Carterocephalus palaemon magnus	Sonoma arctic skipper		G5T5	S1S3	None	None		Yes	
Cercyonis pegala carsonensis	Carson Valley wood nymph		G5T1T2	S1S2	None	None		No	
Chlosyne leanira elegans	Oso Flaco patch butterfly		G4G5T1T2	S1S2	None	None		Yes	
Coenonympha tullia yontockett	Yontocket satyr		G5T1T2	S1S2	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Danaus plexippus plexippus pop. 1	monarch - California overwintering population		G4T1T2Q	S2	Proposed Threatened	None	IUCN:EN USFS:S	Yes	
Euchloe hyantis andrewsi	Andrew's marble butterfly		G3G4T2	S2	None	None		Yes	
Eugnosta busckana	Busck's gallmoth		G1G3	S2S3	None	None		Yes	
Euphilotes allyni	El Segundo blue butterfly		G1?	S1	Endangered	None		Yes	
Euphilotes baueri	Bauer's dotted-blue		G2	S1S2	None	None	USFS:S	No	
Euphilotes enoptes smithi	Smith's blue butterfly		G5T2	S2	Endangered	None		Yes	
Euphilotes glaucon comstocki	Comstock's blue butterfly		G4T2?	S2	None	None		Yes	
Euphilotes mcjave	Mojave dotted-blue		G3	S3	None	None		No	
Euphydryas editha bayensis	Bay checkerspot butterfly		G4G5T1	S3	Threatened	None		Yes	
Euphydryas editha monoensis	Mono checkerspot butterfly		G4G5T2	S1S2	None	None	USFS:S	Yes	
Euphydryas editha quino	quino checkerspot butterfly		G4G5T1T2	S1S2	Endangered	Candidate Endangered		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Euphyes vestris harbisoni	dun skipper		G5T1	S1S2	None	None		No	
Euproserpinus euterpe	Kern primrose sphinx moth		G1G2	S1	Threatened	None		Yes	Yes
Glaucopsyche lygdamus palosverdesensis	Palos Verdes blue butterfly		G5T1	S1	Endangered	None		Yes	
Hesperia miriamae longaevicola	White Mountains skipper		G2G3T1T2	S1	None	None		Yes	
Hesperopsis gracielae	MacNeill's sootywing		G2?	S1S2	None	None		No	
Icaricia icarioides albihalos	White Mountains icarioides blue butterfly		G5T2T3	S1	None	None		Yes	
Icaricia icarioides missionensis	Mission blue butterfly		G5T2	S2	Endangered	None		Yes	
Icaricia icarioides moroensis	Morro Bay blue butterfly		G5T2	S2	None	None		Yes	
Icaricia icarioides parapheres	Point Reyes blue butterfly		G5T1T2	S1	None	None		Yes	
Icaricia icarioides pheres	Pheres blue butterfly		G5TX	SX	None	None		Yes	
Icaricia saepiolus albomontanus	White Mountains saepiolus blue butterfly		G5T2	S1	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Icaricia saepiolus aureolus	San Gabriel Mountains blue butterfly		G5T1	S1	None	None	USFS:S	Yes	
Lycaena hermes	Hermes copper butterfly		G1	S1	Threatened	None	IUCN:VU USFS:S	Yes	
Lycaena rubidus incana	White Mountains copper		G4?T2T3	S1	None	None		No	
Panoquina errans	wandering (=saltmarsh) skipper		G4	S2	None	None	IUCN:NT	Yes	
Pelochrista hennei	Henne's eucosman moth		G1	S1	None	None		Yes	
Philotiella speciosa bohartorum	Boharts' blue butterfly		G3T1	S1	None	None		Yes	
Plebejus anna lotis	lotis blue butterfly		G4TH	SH	Endangered	None		Yes	
Plebulina emigdionis	San Emigdio blue butterfly		G1G2	S1S2	None	None	USFS:S	Yes	
Polites mardon	mardon skipper		G2	S1	None	None	USFS:S	Yes	
Polites sabuleti albamontana	White Mountains sandhill skipper		G4T2	S1S2	None	None		No	
Pseudocopaeodes eunus eunus	alkali skipper		G3T2	S2	None	None		No	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Pseudocopaeodes eunus obscurus	Carson wandering skipper		G3T1	S2	Endangered	None		Yes	
Pyrgus ruralis lagunae	Laguna Mountains skipper		G4G5T1	S1	Endangered	None		Yes	
Speyeria adiaste adiaste	unsilvered fritillary		G1G2T1	S1S2	None	None		Yes	
Speyeria callippe callippe	callippe silverspot butterfly		G5T1	S1	Endangered	None		Yes	
Speyeria egleis tehachapina	Tehachapi Mountain silverspot butterfly		G5T2	S2	None	None	USFS:S	Yes	
Speyeria nokomis carsonensis	Carson Valley silverspot		G3T1T2	S1	None	None		Yes	
Speyeria zerene behrensii	Behren's silverspot butterfly		G5T1	S1	Endangered	None		Yes	
Speyeria zerene hippolyta	Oregon silverspot butterfly		G5T1	S1	Threatened	None		Yes	
Speyeria zerene myrtleae	Myrtle's silverspot butterfly		G5T1	S1	Endangered	None		Yes	Yes
Speyeria zerene sonomensis	Sonoma zerene fritillary		G5T1	S1	None	None		Yes	

INSECTA, Order Trichoptera (caddisflies)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Cryptochia denningi	Denning's cryptic caddisfly		G1G2	S1S2	None	None		Yes	
Cryptochia excella	Kings Canyon cryptochian caddisfly		G1G2	S2S3	None	None		Yes	
Cryptochia shasta	confusion caddisfly		G1G2	S1	None	None		Yes	
Desmona bethula	amphibious caddisfly		G2G3	S2S3	None	None		Yes	
Diplectrona californica	California diplectronan caddisfly		G2	S1	None	None		Yes	
Ecclisomyia bilera	Kings Creek ecclysomyian caddisfly		G2	S2	None	None		Yes	
Farula praelonga	long-tailed caddisfly		G1G2	S1S2	None	None		Yes	
Goeracea oregona	Sagehen Creek goeracean caddisfly		G3	S1S2	None	None		Yes	
Lepidostoma ermanae	Cold Spring caddisfly		G1	S1	None	None		Yes	
Limnephilus atercus	Fort Dick limnephilus caddisfly		G3G4	S1S2	None	None		Yes	
Neothremma genella	golden-horned caddisfly		G1G2	S2S3	None	None		Yes	
Neothremma siskiyou	Siskiyou caddisfly		G1G2	S1	None	None		No	
Parapsyche extensa	King's Creek parapsyche caddisfly		G1	S1	None	None		Yes	
Rhyacophila lineata	Castle Crags rhyacophilan caddisfly		G1	S1	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Rhyacophila mosana	bilobed rhyacophilan caddisfly		G1Q	S1	None	None		Yes	
Rhyacophila spinata	spiny rhyacophilan caddisfly		G1G2	S3	None	None		Yes	

INSECTA, Order Hymenoptera (ants, bees, and wasps)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Andrena blennospermatis	Blennosperma vernal pool andrenid bee		G2	S1	None	None		Yes	
Andrena macswaini	An andrenid bee		G2	S2	None	None		Yes	
Andrena subapasta	An andrenid bee		G1G2	S1S2	None	None		Yes	
Argochrysis lassenae	Lassen cuckoo wasp		G2	S2	None	None		Yes	
Ashmeadiella chumashae	Channel Islands leaf-cutter bee		G2?	S3	None	None		Yes	
Bombus caliginosus	obscure bumble bee		G2G3	S1S2	None	None	IUCN:VU	Yes	
Bombus crotchii	Crotch's bumble bee		G2	S2	None	Candidate Endangered	IUCN:EN	Yes	Yes
Bombus franklini	Franklin's bumble bee		G1	SH	Endangered	Candidate Endangered	IUCN:CR	Yes	Yes
Bombus morrisoni	Morrison bumble bee		G3	S1S2	None	None	IUCN:VU	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Bombus occidentalis	western bumble bee		G3	S1	None	Candidate Endangered	IUCN:VU USFS:S	Yes	Yes
Bombus pensylvanicus	American bumble bee		G3G4	S2	None	None	IUCN:VU	Yes	
Bombus suckleyi	Suckley's cuckoo bumble bee		G2G3	S1	Proposed Endangered	Candidate Endangered	IUCN:CR	Yes	Yes
Ceratochrysis bradleyi	Bradley's cuckoo wasp		G1	S1	None	None		Yes	
Ceratochrysis gracilis	Piute Mountains cuckoo wasp		G1	S1	None	None		Yes	
Ceratochrysis longimala	Desert cuckoo wasp		G1	S1	None	None		Yes	
Ceratochrysis menkei	Menke's cuckoo wasp		G2	S2	None	None		Yes	
Chrysis tularensis	Tulare cuckoo wasp		G1G2	S2	None	None		Yes	
Cleptes humboldti	Humboldt cuckoo wasp		G1G2	S1S2	None	None		Yes	
Dufourea stagei	Stage's dufourine bee		G1G2	S1	None	None		Yes	
Eucerceris ruficeps	redheaded sphecid wasp		G1G3	S2	None	None		Yes	
Euparagia unidentata	Algodones euparagia		G1G2	S1S2	None	None		Yes	
Habropoda pallida	white faced bee		G3	S3	None	None		No	
Halictus harmonius	haromonius halictid bee		G3	S3	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Hedychridium argenteum	Riverside cuckoo wasp		G1G2	S1S2	None	None		Yes	
Hedychridium milleri	Borax Lake cuckoo wasp		G1	S1	None	None		Yes	
Lasioglossum channelense	Channel Island sweat bee		G3	S3	None	None		Yes	
Melitta californica	California mellitid bee		G4?	S2?	None	None		Yes	
Microbembex elegans	Algodones elegant sand wasp		G1G2	S1	None	None		Yes	
Minymischa ventura	Ventura cuckoo wasp		GU	SU	None	None		Yes	
Myrmosula pacifica	Antioch multilid wasp		GH	SH	None	None		Yes	
Neolarra alba	white cuckoo bee		GH	SH	None	None		Yes	
Paranomada californica	California cuckoo bee		G1	S1	None	None		Yes	
Parnopes borregoensis	Borrego parnopes cuckoo wasp		G1G2	S1S2	None	None		Yes	
Perdita algodones	Algodones perdita		G1	S1	None	None		Yes	
Perdita frontalis	Imperial Perdita		G1G2	S1S2	None	None		Yes	
Perdita hirticeps luteocincta	yellow-banded andrenid bee		GNRTX	SX	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Perdita scitula antiochensis	Antioch andrenid bee		G1T1	S2	None	None		Yes	
Perdita stephanomeriae	a miner bee		G2	S1S2	None	None		Yes	
Philanthus nasalis	Antioch specid wasp		G2	S2	None	None		Yes	
Protodufourea wasbaueri	Wasbauer's protodufourea bee		G1	S1	None	None		Yes	
Protodufourea zavortinki	Zavortink's protodufourea bee		G1	S1	None	None		Yes	
Rhopalolemma robertsi	Roberts' rhopalolemma bee		G1	S1	None	None		Yes	
Sedomaya glamisensis	Glamis night tiphiid		G1	S1	None	None		No	
Sphaeropthalma ecarinata	Glamis night mutillid		G1	S1	None	None		No	
Sphecodogastra antiochensis	Antioch Dunes halcitid bee		G1	S1	None	None		Yes	
Stictiella villegasi	Algodones sand wasp		G1	S1	None	None		No	
Trachusa gummifera	San Francisco Bay Area leaf-cutter bee		G1	S1	None	None		Yes	

Fishes

PETROMYZONTIDAE (lampreys)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Entosphenus folletti	northern California brook lamprey		G1G2	S1S2	None	None	CDFW:SSC	Yes	
Entosphenus lethophagus	Pit-Klamath brook lamprey		G3G4	S3	None	None	AFS:VU CDFW:SSC IUCN:LC	Yes	
Entosphenus similis	Klamath River lamprey		G3	S3	None	None	AFS:TH CDFW:SSC IUCN:NT USFS:S	Yes	
Entosphenus tridentatus	Pacific lamprey		G4	S3	None	None	AFS:VU BLM:S CDFW:SSC IUCN:LC USFS:S	Yes	
Entosphenus tridentatus ssp. 1	Goose Lake lamprey		G4T1	S1	None	None	AFS:VU CDFW:SSC USFS:S	Yes	
Lampetra ayresii	western river lamprey		G5	S3	None	None	AFS:VU CDFW:SSC IUCN:LC	No	
Lampetra hubbsi	Kern brook lamprey		G1G2	S1S2	None	None	AFS:TH CDFW:SSC IUCN:VU USFS:S	Yes	
Lampetra richardsoni	western brook lamprey		G4G5	S3S4	None	None	CDFW:SSC IUCN:LC USFS:S	Yes	

ACIPENSERIDAE (sturgeon)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Acipenser medirostris pop. 1	green sturgeon - southern DPS		G2T1	S1	Threatened	None	AFS:VU CDFW:SSC IUCN:EN	Yes	
Acipenser medirostris pop. 2	green sturgeon - northern DPS		G2T1	S1	None	None	AFS:VU CDFW:SSC IUCN:VU	Yes	
Acipenser transmontanus	white sturgeon		G3	S2	None	Candidate Threatened	AFS:EN CDFW:SSC IUCN:VU	No	

SALMONIDAE (trout and salmon)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Oncorhynchus clarkii	coast cutthroat trout		G4	S3	None	None	AFS:VU CDFW:SSC USFS:S	Yes	
Oncorhynchus gorbuscha	pink salmon		G5	S1	None	None		Yes	
Oncorhynchus henshawi henshawi	Lahontan cutthroat trout		GNRT3	S2	Threatened	None	AFS:TH CDFW:SSC	Yes	
Oncorhynchus henshawi seleniris	Paiute cutthroat trout		GNRT1T2	S1	Threatened	None	AFS:EN CDFW:SSC	Yes	
Oncorhynchus keta	chum salmon		G5	S1	None	None		No	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Oncorhynchus kisutch pop. 2	coho salmon - southern Oregon / northern California ESU		G5T2Q	S2	Threatened	Threatened	AFS:TH	Yes	Yes
Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU		G5T2Q	S2	Endangered	Endangered	AFS:EN	Yes	Yes
Oncorhynchus mykiss aguabonita	California golden trout		G5T1	S1	None	None	AFS:TH CDFW:SSC USFS:S	Yes	
Oncorhynchus mykiss aquilarum	Eagle Lake rainbow trout		G5T1	S1	None	None	AFS:TH CDFW:SSC USFS:S	Yes	
Oncorhynchus mykiss gilberti	Kern River rainbow trout		G5T1T2Q	S1	None	None	AFS:TH CDFW:SSC USFS:S	Yes	
Oncorhynchus mykiss irideus pop. 1	steelhead - Klamath Mountains Province DPS		G5T3Q	S2	None	None	CDFW:SSC USFS:S	No	Yes
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS		G5T1Q	S1	Endangered	Endangered	AFS:EN	Yes	Yes
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS		G5T2Q	S2	Threatened	None	AFS:TH CDFW:SSC	Yes	Yes
Oncorhynchus mykiss irideus pop. 48	steelhead - northern California DPS summer-run		G5T2Q	S2	Threatened	Endangered	AFS:TH	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Oncorhynchus mykiss irideus pop. 49	steelhead - northern California DPS winter-run		G5T3Q	S3	Threatened	None	AFS:TH CDFW:SSC	Yes	
Oncorhynchus mykiss irideus pop. 8	steelhead - central California coast DPS		G5T3Q	S3	Threatened	None	AFS:TH CDFW:SSC	Yes	Yes
Oncorhynchus mykiss irideus pop. 9	steelhead - south-central California coast DPS		G5T2Q	S2	Threatened	None	AFS:TH CDFW:SSC	Yes	Yes
Oncorhynchus mykiss ssp. 1	Goose Lake redband trout		G5T2Q	S2	None	None	AFS:VU CDFW:SSC USFS:S	Yes	
Oncorhynchus mykiss ssp. 2	McCloud River redband trout		G5T1T2	S1S2	None	None	AFS:VU CDFW:SSC USFS:S	Yes	
Oncorhynchus mykiss ssp. 3	Warner Valley redband trout		G5T2Q	S1?	None	None	AFS:VU USFS:S	No	
Oncorhynchus mykiss whitei	Little Kern golden trout		GNRT3	S3	Threatened	None	AFS:EN CDFW:SSC	Yes	
Oncorhynchus tshawytscha pop. 11	chinook salmon - Central Valley spring-run ESU		G5T2Q	S2	Threatened	Threatened	AFS:TH	Yes	Yes
Oncorhynchus tshawytscha pop. 13	chinook salmon - Central Valley fall / late fall-run ESU		G5T3Q	S3	None	None	AFS:VU CDFW:SSC USFS:S	No	Yes

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Oncorhynchus tshawytscha pop. 14	chinook salmon - southern Oregon/northern California coastal		G5T3Q	S2	Candidate	None	CDFW:SSC	No	
Oncorhynchus tshawytscha pop. 17	chinook salmon - California coastal ESU		G5T2Q	S2	Threatened	None	AFS:TH CDFW:SSC	Yes	Yes
Oncorhynchus tshawytscha pop. 30	chinook salmon - upper Klamath and Trinity Rivers ESU		G5T2Q	S2	Candidate	Threatened	CDFW:SSC USFS:S	Yes	
Oncorhynchus tshawytscha pop. 7	chinook salmon - Sacramento River winter-run ESU		G5T2Q	S2	Endangered	Endangered	AFS:EN	Yes	
Prosopium williamsoni	mountain whitefish		G5	S3	None	None	CDFW:SSC	Yes	
Salvelinus confluentus	bull trout		G3	SX	Threatened	Endangered	IUCN:VU	Yes	

OSMERIDAE (smelt)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Hypomesus transpacificus	Delta smelt		G1	S1	Threatened	Endangered	AFS:TH IUCN:CR	Yes	
Spirinchus thaleichthys	longfin smelt		G5	S1	None	Threatened	IUCN:LC	Yes	
Spirinchus thaleichthys pop. 2	longfin smelt - San Francisco Bay-Delta DPS		G5TNRQ	S1	Endangered	Threatened	IUCN:LC	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Thaleichthys pacificus	eulachon		G4	S1	Threatened	None	CDFW:SSC IUCN:LC	Yes	Yes

CYPRINIDAE (minnows and carp)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Gila coerulea	blue chub		G3G4	S2S3	None	None	CDFW:SSC IUCN:LC	Yes	
Gila elegans	bonytail		G1	S1	Endangered	Endangered	AFS:EN IUCN:CR	Yes	
Gila orcuttii	arroyo chub		G1	S2	None	None	AFS:VU CDFW:SSC IUCN:VU USFS:S	Yes	
Hesperoleucus mitrulus	northern roach		G2	S2	None	None	AFS:VU CDFW:SSC	Yes	
Hesperoleucus parvipinnis	Gualala roach		G3	S3	None	None	CDFW:SSC	Yes	
Hesperoleucus symmetricus serpentinus	Red Hills roach		GNRT1	S1	None	None	AFS:VU BLM:S CDFW:SSC	Yes	
Hesperoleucus symmetricus symmetricus	central California roach		GNRT3	S3	None	None	CDFW:SSC	Yes	
Hesperoleucus venustus navarroensis	northern coastal roach		GNRT3	S3	None	None	CDFW:SSC	Yes	
Hesperoleucus venustus subditus	southern coastal roach		GNRT2	S2	None	None	CDFW:SSC	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Hesperoleucus venustus x H. symmetricus	Clear Lake roach		G3	S3	None	None	CDFW:SSC	No	
Lavinia exilicauda chi	Clear Lake hitch		G4T1	S1	Proposed Threatened	Threatened	AFS:VU USFS:S	Yes	
Lavinia exilicauda exilicauda	Sacramento hitch		G4T3	S3	None	None	CDFW:SSC	Yes	
Lavinia exilicauda harengus	Monterey hitch		G4T3	S3	None	None	CDFW:SSC	Yes	
Mylopharodon conocephalus	hardhead		G3	S3	None	None	CDFW:SSC IUCN:LC USFS:S	Yes	
Pogonichthys macrolepidotus	Sacramento splittail		G3	S3	None	None	AFS:VU CDFW:SSC IUCN:LC	Yes	
Ptychocheilus lucius	Colorado pikeminnow		G1	SX	Endangered	Endangered	CDFW:FP IUCN:VU	Yes	
Rhinichthys gabrielino	Santa Ana speckled dace		G1	S1	Proposed Threatened	None	AFS:TH CDFW:SSC USFS:S	Yes	
Rhinichthys nevadensis caldera	Long Valley speckled dace		GNRT1	S1	Proposed Endangered	None	AFS:EN CDFW:SSC	Yes	
Rhinichthys nevadensis nevadensis	Amargosa speckled dace		GNRTNR	S2S3	None	None	AFS:TH BLM:S CDFW:SSC	Yes	Yes
Siphateles bicolor mohavensis	Mohave tui chub		G4T1	S1	Endangered	Endangered	AFS:EN CDFW:FP	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Siphateles bicolor pectinifer	Lahontan Lake tui chub		G4T3	S1S2	None	None	CDFW:SSC	Yes	
Siphateles bicolor snyderi	Owens tui chub		G4T1	S1	Endangered	Endangered	AFS:EN	Yes	
Siphateles bicolor ssp. 11	High Rock Springs tui chub		G4TX	SX	None	None		Yes	Yes
Siphateles bicolor ssp. 12	Eagle Lake tui chub		G4T1T2	S1S2	None	None	CDFW:SSC	Yes	Yes
Siphateles bicolor ssp. 14	Pit River tui chub		G4T1T3	S1S3	None	None		No	Yes
Siphateles bicolor thalassinus	Goose Lake tui chub		G4T2T3	S2	None	None	AFS:TH CDFW:SSC	Yes	
Siphateles bicolor vaccaceps	Cow Head tui chub		G4T1	S1	None	None	AFS:EN BLM:S CDFW:SSC	Yes	

CATOSTOMIDAE (suckers)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Catostomus fumeiventris	Owens sucker		G3	S3	None	None	CDFW:SSC IUCN:LC	Yes	
Catostomus latipinnis	flannelmouth sucker		G3G4	S1	None	None	IUCN:LC	Yes	
Catostomus microps	Modoc sucker		G2G3	S2	Delisted	Endangered	AFS:EN CDFW:FP IUCN:NT	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Catostomus occidentalis lacusanserinus	Goose Lake sucker		G5T2Q	S1	None	None	AFS:VU CDFW:SSC USFS:S	Yes	
Catostomus rimiculus ssp. 1	Jenny Creek sucker		G5T2Q	S1	None	None	AFS:VU	No	
Catostomus snyderi	Klamath largescale sucker		G3	S3	None	None	AFS:TH CDFW:SSC IUCN:NT	Yes	
Chasmistes brevirostris	shortnose sucker		G1G2	S1	Endangered	Endangered	AFS:EN CDFW:FP IUCN:EN	Yes	
Deltistes luxatus	Lost River sucker		G2?	S2	Endangered	Endangered	AFS:EN CDFW:FP IUCN:EN	Yes	
Pantosteus lahontan	Lahontan mountain sucker		GNR	S2	None	None	CDFW:SSC	Yes	
Pantosteus santaanae	Santa Ana sucker		G1	S1	Threatened	None	AFS:TH CDFW:SSC IUCN:EN	Yes	
Xyrauchen texanus	razorback sucker		G1	S2	Endangered	Endangered	AFS:EN CDFW:FP IUCN:CR	Yes	

CYPRINODONTIDAE (killifishes)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Cyprinodon macularius	desert pupfish		G1	S1	Endangered	Endangered	AFS:EN IUCN:VU	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Cyprinodon nevadensis amargosae	Amargosa pupfish		G2T1T2	S1S2	None	None	AFS:VU BLM:S CDFW:SSC IUCN:VU	Yes	
Cyprinodon nevadensis nevadensis	Saratoga Springs pupfish		G2T1	S1	None	None	AFS:TH CDFW:SSC IUCN:VU	Yes	
Cyprinodon nevadensis shoshone	Shoshone pupfish		G2T1	S1	None	None	AFS:EN CDFW:SSC IUCN:VU	Yes	
Cyprinodon radiosus	Owens pupfish		G1	S2	Endangered	Endangered	AFS:EN CDFW:FP IUCN:EN	Yes	
Cyprinodon salinus milleri	Cottonball Marsh pupfish		G1T1Q	S1	None	Threatened	AFS:TH IUCN:EN	Yes	
Cyprinodon salinus salinus	Salt Creek pupfish		G1T1	S1	None	None	AFS:VU CDFW:SSC IUCN:EN	Yes	

GASTEROSTEIDAE (sticklebacks)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Gasterosteus aculeatus microcephalus	resident threespine stickleback	South of Pt. Conception only	G5T2T3	S2S3	None	None		No	
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback		G5T1	S1	Endangered	Endangered	AFS:EN CDFW:FP	Yes	

CENTRARCHIDAE (sunfishes)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Archoplites interruptus	Sacramento perch	Within native range only	G1	S1	None	None	AFS:TH CDFW:SSC IUCN:EN	Yes	

EMBIOTOCIDAE (surfperches)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Hysterocarpus traskii lagunae	Clear Lake tule perch		G5T3	S3	None	None	CDFW:SSC	Yes	
Hysterocarpus traskii pomo	Russian River tule perch		G5T4	S4	None	None	AFS:VU CDFW:SSC	Yes	
Hysterocarpus traskii traskii	Sacramento-San Joaquin tule perch		G5T2T3	S2S3	None	None		No	

GOBIIDAE (gobies)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Eucyclogobius newberryi	tidewater goby		G3	S3	Endangered	None	AFS:EN CDFW:SSC IUCN:NT	Yes	

COTTIDAE (sculpins)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Cottus asper ssp.	Clear Lake prickly sculpin		G5T2	SNR	None	None	CDFW:SSC	No	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Cottus asperrimus	rough sculpin		G2	S2	None	Threatened	AFS:VU BLM:S CDFW:FP IUCN:NT	Yes	
Cottus gulosus	riffle sculpin		G5	S4	None	None	CDFW:SSC IUCN:LC	No	
Cottus klamathensis klamathensis	Upper Klamath marbled sculpin		G4T2	S1S2	None	None	CDFW:SSC	Yes	
Cottus klamathensis macrops	bigeye marbled sculpin		G4T2T3	S2S3	None	None	AFS:VU CDFW:SSC	Yes	
Cottus klamathensis polyporus	Lower Klamath marbled sculpin		G4T2T4	S2S4	None	None	CDFW:SSC	Yes	
Cottus perplexus	reticulate sculpin		G4	S2S3	None	None	IUCN:LC	No	

Amphibians

AMBYSTOMATIDAE (mole salamanders)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Ambystoma californiense pop. 1	California tiger salamander - central California DPS		G3T3	S3	Threatened	Threatened	CDFW:WL IUCN:VU	Yes	
Ambystoma californiense pop. 2	California tiger salamander - Santa Barbara County DPS		G3T2	S2	Endangered	Threatened	CDFW:WL IUCN:VU	Yes	
Ambystoma californiense pop. 3	California tiger salamander - Sonoma County DPS		G3T2	S2	Endangered	Threatened	CDFW:WL IUCN:VU	Yes	
Ambystoma macrodactylum croceum	Santa Cruz long-toed salamander		G5T1T2	S2	Endangered	Endangered	CDFW:FP	Yes	
Ambystoma macrodactylum sigillatum	southern long-toed salamander		G5T4	S2	None	None	CDFW:SSC	Yes	

DICAMPTODONTIDAE (giant salamanders)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Dicamptodon ensatus	California giant salamander		G3	S2S3	None	None	CDFW:SSC IUCN:NT	Yes	

RHYACOTRITONIDAE (Olympic salamanders)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Rhyacotriton variegatus	southern torrent salamander		G3?	S2S3	None	None	CDFW:SSC IUCN:LC USFS:S	Yes	

SALAMANDRIDAE (newts)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Taricha rivularis	red-bellied newt		G2	S2	None	None	CDFW:SSC IUCN:LC	Yes	
Taricha torosa	Coast Range newt	Monterey Co. & south only	G4	S4	None	None	CDFW:SSC	Yes	

PLETHODONTIDAE (lungless salamanders)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Aneides niger	Santa Cruz black salamander		G2G3	S3	None	None	CDFW:SSC	Yes	Yes
Batrachoseps altasierrae	Greenhorn Mountains slender salamander		G2	S2	None	None		Yes	
Batrachoseps bramei	Fairview slender salamander		G3	S3	None	None	USFS:S	Yes	
Batrachoseps campi	Inyo Mountains slender salamander		G3	S3	None	None	BLM:S CDFW:SSC IUCN:EN USFS:S	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Batrachoseps diabolicus	Hell Hollow slender salamander		G3	S3	None	None	IUCN:DD	No	
Batrachoseps gabrieli	San Gabriel slender salamander		G2G3	S2S3	None	None	IUCN:DD USFS:S	Yes	
Batrachoseps incognitus	San Simeon slender salamander		G2	S2	None	None	IUCN:DD USFS:S	No	
Batrachoseps kawia	Sequoia slender salamander		G2	S2	None	None	IUCN:DD	No	
Batrachoseps luciae	Santa Lucia slender salamander		G3	S3	None	None	IUCN:LC	No	
Batrachoseps major aridus	desert slender salamander		G4T1	S1	Endangered	Endangered		Yes	
Batrachoseps minor	lesser slender salamander		G1	S1	None	None	CDFW:SSC IUCN:DD USFS:S	Yes	
Batrachoseps pacificus	Channel Islands slender salamander		G3G4	S3S4	None	None	IUCN:LC	Yes	
Batrachoseps regius	Kings River slender salamander		G2G3	S2S3	None	None	IUCN:VU USFS:S	Yes	
Batrachoseps relictus	relictual slender salamander		G1	S1	Proposed Endangered	None	CDFW:SSC IUCN:DD USFS:S	Yes	Yes
Batrachoseps robustus	Kern Plateau salamander		G3	S3	None	None	IUCN:NT	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Batrachoseps simatus	Kern Canyon slender salamander		G2G3	S2S3	Proposed Threatened	Threatened	IUCN:VU USFS:S	Yes	
Batrachoseps stebbinsi	Tehachapi slender salamander		G2G3	S2	None	Threatened	BLM:S IUCN:VU	Yes	
Batrachoseps wakei	Arguello slender salamander		G1	S1	None	None		Yes	
Ensatina eschscholtzii croceater	yellow-blotched salamander		G5T3	S3	None	None	BLM:S CDFW:WL USFS:S	Yes	
Ensatina eschscholtzii klauberi	large-blotched salamander		G5T2?	S3	None	None	CDFW:WL USFS:S	Yes	
Hydromantes brunus	limestone salamander		G2G3	S2S3	None	Threatened	BLM:S CDFW:FP IUCN:VU USFS:S	Yes	
Hydromantes platycephalus	Mount Lyell salamander		G4	S4	None	None	CDFW:WL IUCN:LC	Yes	
Hydromantes shastae	Shasta salamander		G3	SNR	None	Threatened	BLM:S IUCN:NT USFS:S	Yes	Yes
Hydromantes wintu	Wintu Shasta salamander		GNR	SNR	None	Threatened	BLM:S IUCN:VU USFS:S	Yes	Yes
Hydromantes samweli	Samwel Shasta salamander		GNR	SNR	None	Threatened	BLM:S IUCN:NT USFS:S	Yes	Yes

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Plethodon asupak	Scott Bar salamander		G2G3	S3	None	Threatened	IUCN:VU	Yes	Yes
Plethodon elongatus	Del Norte salamander		G4	S3	None	None	CDFW:WL IUCN:NT	Yes	
Plethodon stormi	Siskiyou Mountains salamander		G3?	S3	None	Threatened	IUCN:EN USFS:S	Yes	

ASCAPHIDAE (tailed frogs)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Ascaphus truei	Pacific tailed frog		G4	S3S4	None	None	CDFW:SSC IUCN:LC	Yes	

SCAPHIOPODIDAE (spadefoot toads)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Scaphiopus couchii	Couch's spadefoot		G5	S2	None	None	BLM:S CDFW:SSC IUCN:LC	Yes	
Spea hammondii	western spadefoot		G2G3	S3S4	Proposed Threatened	None	BLM:S CDFW:SSC IUCN:NT	Yes	

BUFONIDAE (true toads)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Anaxyrus californicus	arroyo toad		G1G2	S2	Endangered	None	CDFW:SSC IUCN:EN	Yes	Yes
Anaxyrus canorus	Yosemite toad		G2	S2	Threatened	None	CDFW:SSC IUCN:EN USFS:S	Yes	Yes
Anaxyrus exsul	black toad		G1	S1	None	Threatened	BLM:S CDFW:FP IUCN:VU USFS:S	Yes	Yes
Incilius alvarius	Sonoran Desert toad		G5	SH	None	None	CDFW:SSC IUCN:LC	Yes	Yes

RANIDAE (true frogs)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Lithobates pipiens	northern leopard frog	Native populations only	G5	S2	None	None	CDFW:SSC IUCN:LC	Yes	Yes
Lithobates yavapaiensis	lowland leopard frog		G4	SX	None	None	BLM:S CDFW:SSC IUCN:LC	Yes	Yes
Rana aurora	northern red-legged frog		G4	S3	None	None	CDFW:SSC IUCN:LC USFS:S	Yes	Yes
Rana boylii pop. 1	foothill yellow-legged frog - north coast DPS		G3T4	S4	None	None	BLM:S CDFW:SSC USFS:S	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Rana boylii pop. 2	foothill yellow-legged frog - Feather River DPS		G3T2	S2	Threatened	Threatened	BLM:S USFS:S	Yes	
Rana boylii pop. 3	foothill yellow-legged frog - north Sierra DPS		G3T2	S2	None	Threatened	BLM:S USFS:S	Yes	
Rana boylii pop. 4	foothill yellow-legged frog - central coast DPS		G3T2	S2	Threatened	Endangered	BLM:S USFS:S	Yes	
Rana boylii pop. 5	foothill yellow-legged frog - south Sierra DPS		G3T2	S2	Endangered	Endangered	BLM:S USFS:S	Yes	
Rana boylii pop. 6	foothill yellow-legged frog - south coast DPS		G3T1	S1	Endangered	Endangered	BLM:S USFS:S	Yes	
Rana cascadae	Cascades frog		G3	S3	None	Candidate Endangered	CDFW:SSC IUCN:NT USFS:S	Yes	
Rana draytonii	California red-legged frog		G2G3	S2S3	Threatened	None	CDFW:SSC IUCN:VU	Yes	Yes
Rana muscosa	southern mountain yellow-legged frog		G1	S2	Endangered	Endangered	CDFW:WL IUCN:EN USFS:S	Yes	Yes
Rana pretiosa	Oregon spotted frog		G2	SH	Threatened	None	BLM:S CDFW:SSC IUCN:VU	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Rana sierrae	Sierra Nevada yellow-legged frog		G2	S2	Endangered	Threatened	CDFW:WL IUCN:EN USFS:S	Yes	Yes

Reptiles

CHELONIIDAE (sea turtles)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Chelonia mydas	green turtle		G4	S1	Threatened	None	IUCN:EN	Yes	

KINOSTERNIDAE (musk and mud turtles)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Kinosternon sonoriense	Sonoran mud turtle		G3	SH	None	None	CDFW:SSC IUCN:NT	Yes	

EMYDIDAE (box and water turtles)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Actinemys marmorata	northwestern pond turtle		G2	SNR	Proposed Threatened	None	BLM:S CDFW:SSC IUCN:VU USFS:S	Yes	
Actinemys pallida	southwestern pond turtle		G2	SNR	Proposed Threatened	None	BLM:S CDFW:SSC IUCN:VU USFS:S	Yes	

TESTUDINIDAE (land tortoises)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Gopherus agassizii	Mojave desert tortoise		G2G3	S2S3	Threatened	Endangered	IUCN:CR	Yes	

GEKKONIDAE (geckos)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Coleonyx switaki	barefoot banded gecko		G4	S3	None	Threatened	BLM:S IUCN:LC	Yes	
Coleonyx variegatus abbotti	San Diego banded gecko		G5T5	S1S2	None	None	CDFW:SSC	Yes	

CROTAPHYTIDAE (collared and leopard lizards)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Gambelia copeii	Cope's leopard lizard		G5	S1S2	None	None	CDFW:SSC IUCN:LC	Yes	
Gambelia sila	blunt-nosed leopard lizard		G1	S2	Endangered	Endangered	CDFW:FP IUCN:EN	Yes	

PHRYNOSOMATIDAE (spiny lizards)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Phrynosoma blainvillii	coast horned lizard		G4	S4	None	None	BLM:S CDFW:SSC IUCN:LC	Yes	
Phrynosoma mcallii	flat-tailed horned lizard		G3	S3	None	None	BLM:S CDFW:SSC IUCN:NT	Yes	
Sceloporus graciosus graciosus	northern sagebrush lizard		G5T5	S3	None	None	BLM:S	Yes	
Uma inornata	Coachella Valley fringe-toed lizard		G1	S1	Threatened	Endangered	IUCN:EN	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Uma notata	Colorado Desert fringe-toed lizard		G3	S2	None	None	BLM:S CDFW:SSC IUCN:NT	Yes	
Uma scoparia	Mojave fringe-toed lizard		G4	S3S4	None	None	BLM:S CDFW:SSC IUCN:LC	Yes	

XANTUSIIDAE (night lizards)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Xantusia gracilis	sandstone night lizard		G1	S2	None	None	CDFW:SSC IUCN:VU	Yes	
Xantusia riversiana	island night lizard		G3	S3	Delisted	None	IUCN:LC	Yes	
Xantusia vigilis sierrae	Sierra night lizard		G5T1	S1	None	None	CDFW:SSC USFS:S	Yes	Yes

SCINCIDAE (skinks)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Plestiodon skiltonianus interparietalis	Coronado skink		G5T5	S2S3	None	None	BLM:S CDFW:WL	Yes	

TEIIDAE (whiptails and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Aspidoscelis hyperythra	orange-throated whiptail		G5	S2S3	None	None	CDFW:WL IUCN:LC USFS:S	Yes	
Aspidoscelis tigris stejnegeri	coastal whiptail		G5T5	S3	None	None	CDFW:SSC	Yes	

ANGUIDAE (alligator lizards)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Elgaria panamintina	Panamint alligator lizard		G3	S3	None	None	BLM:S CDFW:SSC IUCN:VU USFS:S	Yes	

ANNIELLIDAE (legless lizards)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Anniella alexanderae	Temblor legless lizard		G1	S1	None	Candidate Endangered	CDFW:SSC	Yes	Yes
Anniella campi	Southern Sierra legless lizard		G1G2	S2	None	None	CDFW:SSC USFS:S	Yes	Yes
Anniella grinnelli	Bakersfield legless lizard		G2G3	S2S3	None	None	CDFW:SSC	Yes	Yes
Anniella pulchra	Northern California legless lizard		G3	S2S3	None	None	CDFW:SSC USFS:S	Yes	Yes
Anniella spp.	California legless lizard		G3G4	S3S4	None	None	CDFW:SSC	Yes	Yes

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Anniella stebbinsi	Southern California legless lizard		G3	S3	None	None	CDFW:SSC USFS:S	Yes	Yes

HELODERMATIDAE (venomous lizards)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Heloderma suspectum cinctum	banded Gila monster		G4T3	S1	None	None	BLM:S CDFW:SSC	Yes	Yes

BOIDAE (boas)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Charina bottae umbratica	southern rubber boa		G4T2	S2	None	Threatened	IUCN:VU USFS:S	Yes	

COLUBRIDAE (egg-laying snakes)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Arizona elegans occidentalis	California glossy snake		G5T2	S2	None	None	CDFW:SSC	Yes	
Diadophis punctatus modestus	San Bernardino ringneck snake		G5T2T3	S2?	None	None	USFS:S	Yes	
Diadophis punctatus regalis	regal ringneck snake		G5TNR	S2	None	None	CDFW:SSC	Yes	
Diadophis punctatus similis	San Diego ringneck snake		G5T4	S2?	None	None	USFS:S	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Masticophis flagellum ruddocki	San Joaquin coachwhip		G5T2T3	S3	None	None	CDFW:SSC	Yes	
Masticophis fuliginosus	Baja California coachwhip		G5	S1S2	None	None	CDFW:SSC	Yes	
Masticophis lateralis euryxanthus	Alameda whipsnake		G4T2	S2	Threatened	Threatened		Yes	
Pituophis catenifer pumilus	Santa Cruz Island gophersnake		G5T1T2	S1?	None	None	CDFW:WL	No	
Salvadora hexalepis virgultea	coast patch-nosed snake		G5T4	S3	None	None	CDFW:SSC	Yes	

NATRICIDAE (live-bearing snakes)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Thamnophis gigas	giant gartersnake		G2	S2	Threatened	Threatened	IUCN:VU	Yes	
Thamnophis hammondii	two-striped gartersnake		G4	S3S4	None	None	BLM:S CDFW:SSC IUCN:LC USFS:S	Yes	
Thamnophis hammondii pop. 1	Santa Catalina gartersnake		G4T1?	S1	None	None		No	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Thamnophis sirtalis pop. 1	south coast gartersnake	Coastal plain from Ventura Co. to San Diego Co., from sea level to about 850 m.	G5T1T2	S1S2	None	None	CDFW:SSC	Yes	Yes
Thamnophis sirtalis tetrataenia	San Francisco gartersnake		G5T2Q	S2	Endangered	Endangered	CDFW:FP	Yes	

CROTALIDAE (pit vipers)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Crotalus ruber	red-diamond rattlesnake		G4	S3	None	None	CDFW:SSC IUCN:LC USFS:S	Yes	

Birds

ANATIDAE (ducks, geese, and swans)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Anser albifrons elgasi	tule greater white-fronted goose	Wintering	G5T3	S3	None	None	CDFW:SSC	No	
Aythya americana	redhead	Nesting	G5	S3	None	None	CDFW:SSC IUCN:LC	No	
Aythya valisineria	canvasback	Nesting	G5	S2	None	None	IUCN:LC	No	
Branta bernicla	brant	Wintering & staging	G5	S2	None	None	CDFW:SSC IUCN:LC	No	
Branta hutchinsii leucopareia	cackling (=Aleutian Canada) goose	Wintering	G5T3	S3	Delisted	None	CDFW:WL	Yes	
Bucephala islandica	Barrow's goldeneye	Nesting	G5	S1	None	None	CDFW:SSC IUCN:LC	No	
Dendrocygna bicolor	fulvous whistling-duck	Nesting	G5	S1	None	None	CDFW:SSC IUCN:LC	Yes	
Histrionicus histrionicus	harlequin duck	Nesting	G4	S2	None	None	CDFW:SSC IUCN:LC	Yes	

PHASIANIDAE (grouse and ptarmigan)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Bonasa umbellus	ruffed grouse		G5	S3S4	None	None	CDFW:WL IUCN:LC	Yes	
Centrocercus urophasianus	greater sage-grouse	Nesting & leks	G3	S2S3	Proposed Threatened	Candidate Endangered	BLM:S CDFW:SSC IUCN:NT USFS:S	Yes	Yes

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Dendragapus fuliginosus howardi	Mount Pinos sooty grouse		G5T2T3	S3	None	None	CDFW:SSC	Yes	Yes
Tympanuchus phasianellus columbianus	Columbian sharp-tailed grouse		G5T3	SX	None	None	CDFW:SSC	No	

ODONTOPHORIDAE (partridge and quail)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Callipepla californica catalinensis	Catalina California quail		G5T2	S2	None	None	CDFW:SSC	No	

GAVIIDAE (loons)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Gavia immer	common loon	Nesting	G5	S1	None	None	CDFW:SSC IUCN:LC	No	

DIOMEDEIDAE (albatrosses)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Phoebastria albatrus	short-tailed albatross		G1	S1	Endangered	None	CDFW:SSC IUCN:VU	No	

HYDROBATIDAE (storm petrels)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Hydrobates furcatus	fork-tailed storm-petrel	Nesting colony	G5	S1	None	None	BLM:S CDFW:SSC IUCN:LC	Yes	
Hydrobates homochroa	ashy storm-petrel	Nesting colony	G2	S2	None	None	BLM:S CDFW:SSC IUCN:EN USFWS:BCC	Yes	
Hydrobates melania	black storm-petrel	Nesting colony	G3	S1	None	None	CDFW:SSC IUCN:LC USFWS:BCC	Yes	

PELECANIIDAE (pelicans)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Pelecanus erythrorhynchos	American white pelican	Nesting colony	G4	S1S2	None	None	CDFW:SSC IUCN:LC USFWS:BCC	Yes	
Pelecanus occidentalis californicus	California brown pelican	Nesting colony & communal roosts	G4T3T4	S3	Delisted	Delisted	BLM:S USFS:S	Yes	Yes

PHALACROCORACIDAE (cormorants)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Nannopterum auritum	double-crested cormorant	Nesting colony	G5	S4	None	None	CDFW:WL IUCN:LC	Yes	

ARDEIDAE (herons, egrets, and bitterns)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Ardea alba	great egret	Nesting colony	G5	S4	None	None	CDF:S IUCN:LC	Yes	
Ardea herodias	great blue heron	Nesting colony	G5	S4	None	None	CDF:S IUCN:LC	Yes	
Botaurus exilis	least bittern	Nesting	G4	S2	None	None	CDFW:SSC IUCN:LC	Yes	
Botaurus lentiginosus	American bittern		G5	S3S4	None	None	IUCN:LC	No	
Egretta thula	snowy egret	Nesting colony	G5	S4	None	None	IUCN:LC	Yes	
Nycticorax nycticorax	black-crowned night heron	Nesting colony	G5	S4	None	None	IUCN:LC	Yes	

THRESKIORNITHIDAE (ibises and spoonbills)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Plegadis chihi	white-faced ibis	Nesting colony	G5	S3S4	None	None	CDFW:WL IUCN:LC	Yes	

CICONIIDAE (storks)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Mycteria americana	wood stork		G4	S1	None	None	CDFW:SSC IUCN:LC	No	

CATHARTIDAE (New World vultures)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Gymnogyps californianus	California condor		G1	S2	Endangered	Endangered	CDF:S CDFW:FP IUCN:CR	Yes	

PANDIONIDAE (ospreys)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Pandion haliaetus	osprey	Nesting	G5	S4	None	None	CDF:S CDFW:WL IUCN:LC	Yes	

ACCIPITRIDAE (hawks, kites, harriers, and eagles)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Accipiter striatus	sharp-shinned hawk	Nesting	G5	S4	None	None	CDFW:WL IUCN:LC	Yes	
Aquila chrysaetos	golden eagle	Nesting and wintering	G5	S3	None	None	BLM:S CDF:S CDFW:FP CDFW:WL IUCN:LC	Yes	
Astur atricapillus	American goshawk	Nesting	G5	S3	None	None	BLM:S CDF:S CDFW:SSC USFS:S	Yes	
Astur cooperii	Cooper's hawk	Nesting	G5	S4	None	None	CDFW:WL IUCN:LC	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Buteo regalis	ferruginous hawk	Wintering	G4	S3S4	None	None	CDFW:WL IUCN:LC	Yes	
Buteo swainsoni	Swainson's hawk	Nesting	G5	S4	None	Threatened	BLM:S IUCN:LC	Yes	
Circus hudsonius	northern harrier	Nesting	G5	S3	None	None	CDFW:SSC IUCN:LC USFWS:BCC	Yes	Yes
Elanus leucurus	white-tailed kite	Nesting	G5	S3S4	None	None	BLM:S CDFW:FP IUCN:LC	Yes	
Haliaeetus leucocephalus	bald eagle	Nesting and wintering	G5	S3	Delisted	Endangered	BLM:S CDF:S CDFW:FP IUCN:LC USFS:S	Yes	
Parabuteo unicinctus	Harris' hawk	Nesting	G5	S1	None	None	CDFW:WL IUCN:LC	No	

FALCONIDAE (falcons)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Falco columbarius	merlin	Wintering	G5	S3S4	None	None	CDFW:WL IUCN:LC	Yes	
Falco mexicanus	prairie falcon	Nesting	G5	S4	None	None	CDFW:WL IUCN:LC	Yes	
Falco peregrinus anatum	American peregrine falcon	Nesting	G4T4	S3S4	Delisted	Delisted	CDF:S	Yes	Yes

RALLIDAE (rails, coots, and gallinules)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Coturnicops noveboracensis	yellow rail		G4	S2	None	None	CDFW:SSC IUCN:LC USFS:S USFWS:BCC	Yes	
Laterallus jamaicensis coturniculus	California black rail		G3T1	S2	None	Threatened	BLM:S CDFW:FP IUCN:EN	Yes	Yes
Rallus obsoletus levipes	light-footed Ridgway's rail		G3T1T2	S1	Endangered	Endangered	CDFW:FP	Yes	
Rallus obsoletus obsoletus	California Ridgway's rail		G3T1	S2	Endangered	Endangered	CDFW:FP	Yes	
Rallus obsoletus yumanensis	Yuma Ridgway's rail		G3T3	S1	Endangered	Threatened	CDFW:FP	Yes	

GRUIDAE (cranes)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Antigone canadensis canadensis	lesser sandhill crane	Wintering	G5T4	S4	None	None	CDFW:SSC	No	
Antigone canadensis tabida	greater sandhill crane	Nesting & wintering	G5T5	S2	None	Threatened	BLM:S CDFW:FP USFS:S	Yes	

CHARADRIIDAE (plovers and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Anarhynchus montanus	mountain plover	Wintering	G3	S2	None	None	BLM:S CDFW:SSC IUCN:NT USFWS:BCC	Yes	
Anarhynchus nivosus nivosus	western snowy plover	Nesting	G3T3	S3	Threatened	None	CDFW:SSC	Yes	Yes

SCOLOPACIDAE (sandpipers and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Numenius americanus	long-billed curlew	Nesting	G4	S2	None	None	CDFW:WL IUCN:LC	No	

LARIDAE (gulls and terns)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Chlidonias niger	black tern	Nesting colony	G4G5	S2	None	None	CDFW:SSC IUCN:LC USFWS:BCC	Yes	
Gelochelidon nilotica	gull-billed tern	Nesting colony	G5	S1	None	None	CDFW:SSC IUCN:LC USFWS:BCC	Yes	Yes
Hydroprogne caspia	Caspian tern	Nesting colony	G5	S4	None	None	IUCN:LC	Yes	Yes
Larus californicus	California gull	Nesting colony	G5	S4	None	None	CDFW:WL IUCN:LC USFWS:BCC	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Leucophaeus atricilla	laughing gull	Nesting colony	G5	S1	None	None	CDFW:WL IUCN:LC	No	
Rynchops niger	black skimmer	Nesting colony	G5	S2	None	None	CDFW:SSC IUCN:LC USFWS:BCC	Yes	
Sternula antillarum browni	California least tern	Nesting colony	G4T2T3Q	S2	Endangered	Endangered	CDFW:FP	Yes	Yes
Thalasseus elegans	elegant tern	Nesting colony	G4	S3	None	None	CDFW:WL IUCN:NT USFWS:BCC	No	Yes

ALCIDAE (auklets, puffins, and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Brachyramphus marmoratus	marbled murrelet	Nesting	G3	S2	Threatened	Endangered	CDF:S IUCN:EN	Yes	
Cerorhinca monocerata	rhinoceros auklet	Nesting colony	G5	S3	None	None	CDFW:WL IUCN:LC	Yes	
Fratercula cirrhata	tufted puffin	Nesting colony	G5	S1S2	None	None	CDFW:SSC IUCN:LC USFWS:BCC	Yes	
Ptychoramphus aleuticus	Cassin's auklet	Nesting colony	G4	S3	None	None	CDFW:SSC IUCN:NT USFWS:BCC	No	
Synthliboramphus scrippsi	Scripps's murrelet	Nesting colony	G2	S2	None	Threatened	BLM:S IUCN:VU USFWS:BCC	Yes	Yes

CUCULIDAE (cuckoos and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Nesting	G5T2T3	S1	Threatened	Endangered	BLM:S USFS:S	Yes	

STRIGIDAE (owls)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Asio flammeus	short-eared owl	Nesting	G5	S2	None	None	CDFW:SSC IUCN:LC USFWS:BCC	Yes	
Asio otus	long-eared owl	Nesting	G5	S3?	None	None	CDFW:SSC IUCN:LC USFWS:BCC	Yes	
Athene cunicularia	burrowing owl	Burrow sites & some wintering sites	G4	S2	None	Candidate Endangered	BLM:S CDFW:SSC IUCN:LC USFWS:BCC	Yes	Yes
Micrathene whitneyi	elf owl	Nesting	G4	S1	None	Endangered	BLM:S IUCN:LC	Yes	
Psiloscops flammeolus	flammulated owl	Nesting	G4	S2S4	None	None	IUCN:LC USFWS:BCC	Yes	
Strix nebulosa	great gray owl	Nesting	G5	S1	None	Endangered	CDF:S IUCN:LC USFS:S	Yes	
Strix occidentalis caurina	northern spotted owl		G3G4T3	S2	Threatened	Threatened	CDF:S	No	Yes

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Strix occidentalis occidentalis	California spotted owl		G3G4T2T3	S2	None	None	BLM:S CDFW:SSC USFS:S USFWS:BCC	No	Yes

APODIDAE (swifts)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Chaetura vauxi	Vaux's swift	Nesting	G5	S3	None	None	CDFW:SSC IUCN:LC USFWS:BCC	No	
Cypseloides niger	black swift	Nesting	G4	S3	None	None	CDFW:SSC IUCN:VU USFWS:BCC	Yes	

TROCHILIDAE (hummingbirds)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Calypte costae	Costa's hummingbird	Nesting	G5	S4	None	None	IUCN:LC USFWS:BCC	No	
Selasphorus rufus	rufous hummingbird	Nesting	G4	S1S2	None	None	IUCN:NT USFWS:BCC	No	

PICIDAE (woodpeckers)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Colaptes chrysoides	gilded flicker		G4	S2	None	Endangered	BLM:S IUCN:LC USFWS:BCC	Yes	
Melanerpes lewis	Lewis' woodpecker	Nesting	G4	S4	None	None	IUCN:LC USFWS:BCC	Yes	
Melanerpes uropygialis	Gila woodpecker		G5	S2	None	Endangered	BLM:S IUCN:LC USFWS:BCC	Yes	
Picoides arcticus	black-backed woodpecker		G5	S2	None	None	IUCN:LC	Yes	

TYRANNIDAE (tyrant flycatchers)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Contopus cooperi	olive-sided flycatcher	Nesting	G4	S3	None	None	CDFW:SSC IUCN:NT USFWS:BCC	Yes	
Empidonax traillii	willow flycatcher	Nesting	G5	S3	None	Endangered	IUCN:LC USFS:S	Yes	Yes
Empidonax traillii brewsteri	little willow flycatcher	Nesting	G5T3T4	S3	None	Endangered		Yes	Yes
Empidonax traillii extimus	southwestern willow flycatcher	Nesting	G5T2	S3	Endangered	Endangered		Yes	Yes
Myiarchus tyrannulus	brown-crested flycatcher	Nesting	G5	S3	None	None	CDFW:WL IUCN:LC	Yes	
Pyrocephalus rubinus	vermilion flycatcher	Nesting	G5	S2S3	None	None	CDFW:SSC IUCN:LC	Yes	

LANIIDAE (shrikes)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Lanius ludovicianus	loggerhead shrike	Nesting	G4	S4	None	None	CDFW:SSC IUCN:NT	Yes	
Lanius ludovicianus anthonyi	Island loggerhead shrike		G4T1	S1	None	None	CDFW:SSC	No	
Lanius ludovicianus mearnsi	San Clemente loggerhead shrike		G4T1Q	S2	Endangered	None	CDFW:SSC	Yes	Yes

VIREONIDAE (vireos)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Vireo bellii arizonae	Arizona Bell's vireo	Nesting	G5T4	S3	None	Endangered	BLM:S	Yes	Yes
Vireo bellii pusillus	least Bell's vireo	Nesting	G5T2	S3	Endangered	Endangered		Yes	Yes
Vireo huttoni unitti	Catalina Hutton's vireo		G5T2?	S2	None	None	CDFW:SSC	No	
Vireo vicinior	gray vireo	Nesting	G5	S2	None	None	BLM:S CDFW:SSC IUCN:LC USFS:S	Yes	

CORVIDAE (jays, crows, and magpies)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Aphelocoma californica cana	Eagle Mountain scrub-jay		G5T3	S3	None	None	CDFW:WL	No	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Aphelocoma insularis	Island scrub-jay		G1	S1	None	None	IUCN:NT USFWS:BCC	No	
Pica nuttalli	yellow-billed magpie	Nesting & communal roosts	G3G4	S3S4	None	None	IUCN:VU USFWS:BCC	No	

ALAUDIDAE (larks)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Eremophila alpestris actia	California horned lark		G5T4Q	S4	None	None	CDFW:WL IUCN:LC	Yes	

HIRUNDINIDAE (swallows)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Progne subis	purple martin	Nesting	G5	S3	None	None	CDFW:SSC IUCN:LC	Yes	
Riparia riparia	bank swallow	Nesting	G5	S3	None	Threatened	BLM:S IUCN:LC	Yes	

PARIDAE (titmice and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Poecile atricapillus	black-capped chickadee		G5	S3	None	None	CDFW:WL IUCN:LC	No	

TROGLODYTIDAE (wrens)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	San Diego & Orange Counties only	G5T3Q	S2	None	None	CDFW:SSC USFS:S USFWS:BCC	Yes	Yes
Cistothorus palustris clarkae	Clark's marsh wren		G5T2	S2	None	None	CDFW:SSC	No	
Thryomanes bewickii leucophrys	San Clemente Bewick's wren		G5TX	SX	None	None	CDFW:SSC	No	

POLIOPTILIDAE (gnatcatchers)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Polioptila californica californica	coastal California gnatcatcher		G4G5T3Q	S2	Threatened	None	CDFW:SSC	Yes	Yes
Polioptila melanura	black-tailed gnatcatcher		G5	S3S4	None	None	CDFW:WL IUCN:LC	Yes	

MIMIDAE (mockingbirds and thrashers)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Toxostoma bendirei	Bendire's thrasher		G4	S2	None	None	BLM:S CDFW:SSC IUCN:VU USFWS:BCC	Yes	
Toxostoma crissale	Crissal thrasher		G5	S2	None	None	BLM:S CDFW:SSC IUCN:LC	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Toxostoma lecontei	Le Conte's thrasher		G4	S3	None	None	BLM:S CDFW:SSC IUCN:LC USFWS:BCC	Yes	Yes

PASSERELLIDAE (sparrows)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Aimophila ruficeps canescens	southern California rufous-crowned sparrow		G5T3	S4	None	None	CDFW:WL	Yes	
Aimophila ruficeps obscura	Santa Cruz Island rufous-crowned sparrow		G5T2	S2	None	None	CDFW:SSC	No	
Ammodramus savannarum	grasshopper sparrow	Nesting	G5	S3	None	None	CDFW:SSC IUCN:LC	Yes	
Artemisiospiza belli belli	Bell's sparrow		G5T2T3	S3	None	None	CDFW:WL	Yes	
Artemisiospiza belli clementeae	San Clemente Bell's sparrow		G5T2Q	S2	Delisted	None	CDFW:SSC	Yes	Yes
Junco hyemalis caniceps	gray-headed junco	Nesting	G5T5	S1	None	None	CDFW:WL	Yes	
Melospiza melodia graminea	Channel Island song sparrow		G5T1	S1	None	None	CDFW:SSC USFWS:BCC	Yes	Yes

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Melospiza melodia maxillaris	Suisun song sparrow		G5T3	S2	None	None	CDFW:SSC	Yes	
Melospiza melodia pop. 1	song sparrow ("Modesto" population)		G5T3?Q	S3?	None	None	CDFW:SSC	Yes	
Melospiza melodia pusillula	Alameda song sparrow		G5T2T3	S2	None	None	CDFW:SSC USFWS:BCC	Yes	
Melospiza melodia samuelis	San Pablo song sparrow		G5T2	S2	None	None	CDFW:SSC USFWS:BCC	Yes	
Melozone aberti	Abert's towhee		G4	S4	None	None	IUCN:LC	No	
Melozone crissalis eremophilus	Inyo California towhee		G4G5T2	S2	Threatened	Endangered		Yes	Yes
Passerculus sandwichensis alaudinus	Bryant's savannah sparrow		G5T3	S3	None	None	CDFW:SSC	No	
Passerculus sandwichensis beldingi	Belding's savannah sparrow		G5T3	S3	None	Endangered	USFWS:BCC	Yes	
Passerculus sandwichensis rostratus	large-billed savannah sparrow	Wintering	G5T2T3Q	S2	None	None	CDFW:SSC	No	
Pipilo maculatus clementae	San Clemente spotted towhee		G5T1T2	S3	None	None	CDFW:SSC	No	
Pooecetes gramineus affinis	Oregon vesper sparrow	Wintering	G5T2	S2	None	None	CDFW:SSC USFWS:BCC	No	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Spizella breweri	Brewer's sparrow	Nesting	G5	S4	None	None	IUCN:LC	Yes	

ICTERIIDAE (yellow-breasted chats)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Icteria virens	yellow-breasted chat	Nesting	G5	S4	None	None	CDFW:SSC IUCN:LC	Yes	

ICTERIDAE (blackbirds)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Agelaius phoeniceus aciculatus	Kern red-winged blackbird		G5T1	S1	None	None	CDFW:SSC	No	
Agelaius tricolor	tricolored blackbird	Nesting colony	G3	S2	None	Threatened	BLM:S CDFW:SSC IUCN:EN USFWS:BCC	Yes	
Xanthocephalus xanthocephalus	yellow-headed blackbird	Nesting	G5	S3	None	None	CDFW:SSC IUCN:LC	Yes	

PARULIDAE (wood-warblers)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Geothlypis trichas sinuosa	saltmarsh common yellowthroat		G5T3	S3	None	None	CDFW:SSC USFWS:BCC	Yes	Yes

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Leiothlypis luciae	Lucy's warbler	Nesting	G4	S3	None	None	BLM:S CDFW:SSC IUCN:LC	Yes	
Leiothlypis virginiae	Virginia's warbler	Nesting	G5	S2	None	None	CDFW:WL IUCN:LC USFWS:BCC	Yes	
Setophaga petechia	yellow warbler	Nesting	G5	S3	None	None	CDFW:SSC IUCN:LC	Yes	Yes
Setophaga petechia sonorana	Sonoran yellow warbler	Nesting	G5T2T3	S2	None	None	CDFW:SSC	Yes	Yes

CARDINALIDAE (cardinals)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Cardinalis cardinalis	northern cardinal		G5	S1	None	None	CDFW:WL IUCN:LC	Yes	
Piranga flava	hepatic tanager	Nesting	G5	S1	None	None	CDFW:WL IUCN:LC	Yes	
Piranga rubra	summer tanager	Nesting	G5	S1	None	None	CDFW:SSC IUCN:LC	Yes	

FRINGILLIDAE (finches and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Spinus lawrencei	Lawrence's goldfinch	Nesting	G3G4	S4	None	None	IUCN:LC USFWS:BCC	Yes	

Mammals

FELIDAE (cats and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Puma concolor pop. 2	mountain lion - central coast & southern California DPS		G5TNRQ	SNR	None	Candidate Threatened		No	

SORICIDAE (shrews)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Sorex lyelli	Mount Lyell shrew		G3G4	S3S4	None	None	CDFW:SSC IUCN:LC	Yes	
Sorex ornatus relictus	Buena Vista Lake ornate shrew		G5T1	S1	Endangered	None	CDFW:SSC	Yes	
Sorex ornatus salarius	Monterey shrew		G5T1T2	S1S2	None	None	CDFW:SSC	Yes	
Sorex ornatus salicornicus	southern California saltmarsh shrew		G5T1?	S1	None	None	CDFW:SSC	Yes	
Sorex ornatus sinuosus	Suisun shrew		G5T1T2Q	S1S2	None	None	CDFW:SSC	Yes	
Sorex ornatus willetti	Santa Catalina shrew		G5T1	S1	None	None	CDFW:SSC	Yes	
Sorex vagrans halicoetes	salt-marsh wandering shrew		G5T1	S1	None	None	CDFW:SSC	Yes	
Sorex vagrans paludivagus	Monterey vagrant shrew		G5T1	S2	None	None		Yes	

TALPIDAE (moles)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Scapanus latimanus insularis	Angel Island mole		GNRT1	S2?	None	None		Yes	
Scapanus latimanus parvus	Alameda Island mole		GNRT1	SH	None	None	CDFW:SSC	Yes	

PHYLLOSTOMIDAE (leaf-nosed bats)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Choeronycteris mexicana	Mexican long-tongued bat		G3G4	S1	None	None	CDFW:SSC IUCN:NT	Yes	
Leptonycteris yerbabuenae	lesser long-nosed bat		G3	S1	Delisted	None	CDFW:SSC IUCN:NT	Yes	Yes
Macrotus californicus	California leaf-nosed bat		G3G4	S3	None	None	BLM:S CDFW:SSC IUCN:LC	Yes	

VESPERTILIONIDAE (evening bats)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Antrozous pallidus	pallid bat		G4	S3	None	None	BLM:S CDFW:SSC IUCN:LC USFS:S	Yes	
Corynorhinus townsendii	Townsend's big-eared bat		G4	S2	None	None	BLM:S CDFW:SSC IUCN:LC USFS:S	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Euderma maculatum	spotted bat		G4	S3	None	None	BLM:S CDFW:SSC IUCN:LC	Yes	
Lasionycteris noctivagans	silver-haired bat		G4	S3S4	None	None	IUCN:LC	Yes	
Lasiurus cinereus	hoary bat		G3G4	S4	None	None	IUCN:LC	Yes	
Lasiurus frantzii	western red bat		G4	S3	None	None	CDFW:SSC IUCN:LC	Yes	Yes
Lasiurus xanthinus	western yellow bat		G4G5	S3	None	None	CDFW:SSC IUCN:LC	Yes	
Myotis ciliolabrum	western small-footed myotis		G5	S3	None	None	BLM:S IUCN:LC	Yes	
Myotis evotis	long-eared myotis		G5	S3	None	None	BLM:S IUCN:LC	Yes	
Myotis occultus	Arizona Myotis		G4G5	S1	None	None	CDFW:SSC IUCN:LC	Yes	
Myotis thysanodes	fringed myotis		G4	S3	None	None	BLM:S IUCN:LC USFS:S	Yes	
Myotis velifer	cave myotis		G4G5	S1	None	None	BLM:S CDFW:SSC IUCN:LC	Yes	
Myotis volans	long-legged myotis		G4G5	S3	None	None	IUCN:LC	Yes	
Myotis yumanensis	Yuma myotis		G5	S4	None	None	BLM:S IUCN:LC	Yes	

MOLOSSIDAE (free-tailed bats)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Eumops perotis californicus	western mastiff bat		G4G5T4	S3S4	None	None	BLM:S CDFW:SSC	Yes	
Nyctinomops femorosaccus	pocketed free-tailed bat		G5	S3	None	None	CDFW:SSC IUCN:LC	Yes	
Nyctinomops macrotis	big free-tailed bat		G5	S3	None	None	CDFW:SSC IUCN:LC	Yes	

OCHOTONIDAE (pikas)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Ochotona princeps schisticeps	gray-headed pika		G5T4	S2S4	None	None		Yes	

LEPORIDAE (rabbits and hares)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Brachylagus idahoensis	pygmy rabbit		G4	S3	None	None	BLM:S CDFW:SSC IUCN:LC USFS:S	Yes	
Lepus americanus klamathensis	Oregon snowshoe hare		G5T3T4Q	S2	None	None	CDFW:SSC	Yes	
Lepus americanus tahoensis	Sierra Nevada snowshoe hare		G5T3T4Q	S2	None	None	CDFW:SSC	Yes	

Lepus californicus bennettii	San Diego black-tailed jackrabbit		G5T3T4	S3S4	None	None		Yes	
Lepus townsendii townsendii	western white-tailed jackrabbit		G5T5	S3?	None	None	CDFW:SSC	Yes	
Sylvilagus bachmani riparius	riparian brush rabbit		GNRT2	S2	Endangered	Endangered		Yes	

APLODONTIIDAE (mountain beavers)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Aplodontia rufa californica	Sierra Nevada mountain beaver		G5T3T4	S2S3	None	None	CDFW:SSC IUCN:LC	Yes	Yes
Aplodontia rufa humboldtiana	Humboldt mountain beaver		G5T2T3	SNR	None	None		Yes	
Aplodontia rufa nigra	Point Arena mountain beaver		G5T1	S1	Endangered	None	CDFW:SSC IUCN:LC	Yes	Yes
Aplodontia rufa phaea	Point Reyes mountain beaver		G5T2	S2	None	None	CDFW:SSC IUCN:LC	Yes	Yes

SCIURIDAE (squirrels and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Ammospermophilus nelsoni	Nelson's (=San Joaquin) antelope squirrel		G2G3	S3	None	Threatened	BLM:S IUCN:EN	Yes	
Callospermophilus lateralis bernardinus	San Bernardino golden-mantled ground squirrel		G5T1	S1	None	None		Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Glaucomys oregonensis californicus	San Bernardino flying squirrel		G5T1T2	S1S2	None	None	CDFW:SSC USFS:S	Yes	
Neotamias alpinus	Alpine chipmunk		G4	S3	None	None	IUCN:LC	Yes	
Neotamias panamintinus acrus	Kingston Mountain chipmunk		G4T1T2	S1S2	None	None		Yes	
Neotamias speciosus callipeplus	Mount Pinos chipmunk		G4T2	S2	None	None	USFS:S	Yes	
Neotamias speciosus speciosus	lodgepole chipmunk		G4T3T4	S2	None	None		Yes	
Urocitellus mollis	Piute ground squirrel		G5	S3	None	None	IUCN:LC	Yes	
Xerospermophilus mohavensis	Mohave ground squirrel		G3	S2	None	Threatened	BLM:S IUCN:NT	Yes	
Xerospermophilus tereticaudus chlorus	Palm Springs round-tailed ground squirrel		G5T2	S2	None	None	BLM:S CDFW:SSC	Yes	

GEOMYIDAE (pocket gophers)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Thomomys bottae operarius	Owens Lake pocket gopher		G5T1?	S1?	None	None		No	

HETEROMYIDAE (kangaroo rats, pocket mice, and kangaroo mice)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Chaetodipus californicus femoralis	Dulzura pocket mouse		G5T3	S3	None	None		Yes	
Chaetodipus fallax fallax	northwestern San Diego pocket mouse		G5T3T4	S3S4	None	None		Yes	
Chaetodipus fallax pallidus	pallid San Diego pocket mouse		G5T3T4	S3S4	None	None		Yes	
Dipodomys californicus eximius	Marysville California kangaroo rat		G3T1	S1	None	None	CDFW:SSC	Yes	
Dipodomys heermanni arenae	Lompoc kangaroo rat		G4T1T2	S1S2	None	None		No	
Dipodomys heermanni berkeleyensis	Berkeley kangaroo rat		G4T1	S2	None	None		Yes	
Dipodomys heermanni dixoni	Merced kangaroo rat		G4T2	S2	None	None		Yes	
Dipodomys heermanni goldmani	Salinas kangaroo rat		G4T2T3	S2S3	None	None		Yes	
Dipodomys heermanni heermanni	Heermann's kangaroo rat		G4T2	S2	None	None		No	
Dipodomys heermanni morroensis	Morro Bay kangaroo rat		G4TH	SH	Endangered	Endangered	CDFW:FP	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Dipodomys ingens	giant kangaroo rat		G1G2	S2	Endangered	Endangered	IUCN:EN	Yes	
Dipodomys merriami collinus	Earthquake Merriam's kangaroo rat		G5T2?	S2	None	None		Yes	
Dipodomys merriami parvus	San Bernardino kangaroo rat		G5T1	S1	Endangered	Endangered	CDFW:SSC	Yes	
Dipodomys merriami trinidadensis	Valle de la Trinidad kangaroo rat		G5T2T3Q	S2	None	None		Yes	
Dipodomys nitratoides brevinasus	short-nosed kangaroo rat		G2T1T2	S1S2	None	None	BLM:S CDFW:SSC IUCN:VU	Yes	
Dipodomys nitratoides exilis	Fresno kangaroo rat		G2TH	SH	Endangered	Endangered	IUCN:VU	Yes	
Dipodomys nitratoides nitratoides	Tipton kangaroo rat		G2T1T2	S2	Endangered	Endangered	IUCN:VU	Yes	
Dipodomys panamintinus argusensis	Argus Mountains kangaroo rat		G4T1T3	S1S3	None	None		Yes	
Dipodomys panamintinus panamintinus	Panamint kangaroo rat		G4T3	S3	None	None		Yes	
Dipodomys simulans	Dulzura kangaroo rat		G5	S3	None	None	IUCN:LC	Yes	
Dipodomys stephensi	Stephens' kangaroo rat		G2	S3	Threatened	Threatened	IUCN:VU	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Dipodomys venustus elephantinus	big-eared kangaroo rat		G2T2	S3	None	None		Yes	
Dipodomys venustus sanctiluciae	Santa Lucia Mountain kangaroo rat		G2T3	S3	None	None		Yes	
Dipodomys venustus venustus	Santa Cruz kangaroo rat		G2T1	S1	None	None		Yes	
Perognathus alticolus alticolus	white-eared pocket mouse		G2TH	SH	None	None	BLM:S CDFW:SSC IUCN:VU USFS:S	Yes	Yes
Perognathus alticolus inexpectatus	Tehachapi pocket mouse		G2T1T2	S1S2	None	None	CDFW:SSC IUCN:VU USFS:S	Yes	Yes
Perognathus inornatus	San Joaquin pocket mouse		G3	S2S3	None	None	BLM:S IUCN:LC	Yes	Yes
Perognathus inornatus psammophilus	Salinas pocket mouse		G3T1	S1	None	None	CDFW:SSC	Yes	
Perognathus longimembris bangsi	Palm Springs pocket mouse		G5T2	S1	None	None	BLM:S CDFW:SSC	Yes	
Perognathus longimembris brevinasus	Los Angeles pocket mouse		G5T2	S1S2	None	None	CDFW:SSC	Yes	
Perognathus longimembris internationalis	Jacumba pocket mouse		G5T2T3	S2	None	None	CDFW:SSC	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Perognathus longimembris pacificus	Pacific pocket mouse		G5T2	S2	Endangered	Candidate Endangered	CDFW:SSC	Yes	
Perognathus longimembris salinensis	Saline Valley pocket mouse		G5T1	S1	None	None		No	
Perognathus longimembris tularensis	Tulare pocket mouse		G5T1	S1	None	None		No	
Perognathus mollipilosus xanthonotus	yellow-eared pocket mouse		GNRT2	S2	None	None	BLM:S	Yes	

CRICETIDAE (mice, rats, and voles)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Arborimus albipes	white-footed vole		G3G4	S2	None	None	CDFW:SSC IUCN:LC	Yes	
Arborimus pomo	Sonoma tree vole		G3	S3	None	None	CDFW:SSC IUCN:NT	Yes	
Microtus californicus halophilus	Monterey vole		G5T1	S2	None	None		Yes	
Microtus californicus mohavensis	Mohave river vole		G5T1	S1	None	None	CDFW:SSC	Yes	
Microtus californicus sanpabloensis	San Pablo vole		G5T1T2	S1S2	None	None	CDFW:SSC	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Microtus californicus scirpensis	Amargosa vole		G5T1	S1	Endangered	Endangered		Yes	
Microtus californicus stephensi	south coast marsh vole		G5T2T3	S2	None	None	CDFW:SSC	Yes	
Microtus californicus vallicola	Owens Valley vole		G5T3	S3	None	None	BLM:S CDFW:SSC	Yes	
Neotoma albigula venusta	Colorado Valley woodrat		G5T3T4	S1S2	None	None		Yes	
Neotoma fuscipes annectens	San Francisco dusky-footed woodrat		G5T2T3	S2S3	None	None		Yes	
Neotoma fuscipes riparia	riparian (=San Joaquin Valley) woodrat		G5T1	S1	Endangered	None	CDFW:SSC	Yes	Yes
Neotoma lepida intermedia	San Diego desert woodrat		G5T3T4	S3S4	None	None		Yes	
Neotoma macrotis luciana	Monterey dusky-footed woodrat		G5T3	S3	None	None	BLM:S	Yes	
Onychomys torridus ramona	southern grasshopper mouse		G5T3	S3	None	None	CDFW:SSC	Yes	
Onychomys torridus tularensis	Tulare grasshopper mouse		G5T1T2	S1S2	None	None	BLM:S CDFW:SSC	Yes	

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Peromyscus maniculatus anacapae	Anacapa Island deer mouse		G5T1T2	S1S2	None	None	CDFW:SSC	Yes	
Peromyscus maniculatus clementis	San Clemente deer mouse		G5T1T2	S1S2	None	None		No	
Reithrodontomys megalotis distichlis	Salinas harvest mouse		G5T1	S2	None	None		Yes	
Reithrodontomys megalotis santacruzae	Santa Cruz harvest mouse		G5T1Q	S1	None	None		Yes	Yes
Reithrodontomys raviventris	salt-marsh harvest mouse		G1G2	S3	Endangered	Endangered	CDFW:FP IUCN:EN	Yes	
Sigmodon arizonae plenus	Colorado River cotton rat		G5T2T3	S1S2	None	None	CDFW:SSC	Yes	
Sigmodon hispidus eremicus	Yuma hispid cotton rat		G5T2T3	S2	None	None	CDFW:SSC	Yes	

ERETHIZONTIDAE (New World porcupines)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Erethizon dorsatum	North American porcupine		G5	S3	None	None	IUCN:LC	Yes	

CANIDAE (foxes, wolves, and coyotes)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Canis lupus	gray wolf		G5	S1	Endangered	Endangered	IUCN:LC	Yes	
Urocyon littoralis catalinae	Santa Catalina Island fox		G3T1	S2	Threatened	Threatened		Yes	Yes
Urocyon littoralis clementae	San Clemente Island fox		G3T1	S2	None	Threatened		Yes	Yes
Urocyon littoralis dickeyi	San Nicolas Island fox		G3T1	S1	None	Threatened		Yes	Yes
Urocyon littoralis littoralis	San Miguel Island fox		G3T1	S1	Delisted	Threatened		Yes	Yes
Urocyon littoralis santacruzae	Santa Cruz Island fox		G3T1	S2	Delisted	Threatened		Yes	Yes
Urocyon littoralis santarosae	Santa Rosa Island fox		G3T1	S2	Delisted	Threatened		Yes	Yes
Vulpes macrotis mutica	San Joaquin kit fox		G4T2	S3	Endangered	Threatened		Yes	
Vulpes vulpes necator pop. 1	Sierra Nevada red fox - southern Cascades DPS		G5TNR	S1	None	Threatened	USFS:S	Yes	
Vulpes vulpes necator pop. 2	Sierra Nevada red fox - Sierra Nevada DPS		G5T1	S1	Endangered	Threatened	USFS:S	Yes	
Vulpes vulpes patwin	Sacramento Valley red fox		G5T2	S2	None	None		No	

OTARIIDAE (sea lions and fur seals)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Arctocephalus townsendi	Guadalupe fur-seal		G2	S1	Threatened	Threatened	CDFW:FP IUCN:LC	Yes	
Callorhinus ursinus	northern fur-seal		G3	S1	None	None	IUCN:VU	Yes	
Eumetopias jubatus	Steller sea lion		G3	S2	Delisted	None	IUCN:NT MMC:SSC	Yes	

PROCYONIDAE (raccoons and ringtails)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Bassariscus astutus nevadensis	Nevada ringtail		G5TNR	SNR	None	None	CDFW:FP	No	
Bassariscus astutus octavus	southern California ringtail		G5T3	S3	None	None	CDFW:FP	No	
Bassariscus astutus raptor	northern California ringtail		G5TNR	SNR	None	None	CDFW:FP	No	
Bassariscus astutus willetti	Palo Verde Mountains ringtail		G5T2	S2	None	None	CDFW:FP	No	
Bassariscus astutus yumanensis	Yuma ringtail		G5TU	S2	None	None	CDFW:FP	No	

MUSTELIDAE (weasels and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Enhydra lutris nereis	southern sea otter		G4T2	S3	Threatened	None	CDFW:FP IUCN:EN MMC:SSC	Yes	Yes

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Gulo gulo	wolverine		G4	S1	Threatened	Threatened	CDFW:FP IUCN:LC USFS:S	Yes	
Lontra canadensis sonora	southwestern river otter		G5T1	SH	None	None	CDFW:SSC	Yes	Yes
Martes caurina	Pacific marten		G4G5	S3	None	None	IUCN:LC USFS:S	Yes	
Martes caurina humboldtensis	Humboldt marten		G4G5T1	S1	Threatened	Endangered	CDFW:SSC USFS:S	Yes	Yes
Martes caurina sierrae	Sierra marten		G4G5T3	S3	None	None	USFS:S	Yes	
Neogale frenata inyoensis	Inyo long-tailed weasel		G5T2Q	S2	None	None		No	
Neogale frenata xanthogenys	San Joaquin long-tailed weasel		G5T2T3	S3	None	None		No	
Pekania pennanti	Fisher		G5	S2S3	None	None	BLM:S CDFW:SSC IUCN:LC USFS:S	Yes	Yes
Pekania pennanti pop. 2	Fisher - southern Sierra Nevada ESU		G5T1	S1	Endangered	Threatened	BLM:S CDFW:SSC USFS:S	Yes	
Taxidea taxus	American badger		G5	S3	None	None	CDFW:SSC IUCN:LC	Yes	

MEPHITIDAE (skunks)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Spilogale gracilis amphialus	Channel Islands spotted skunk		G5T3	S3	None	None	CDFW:SSC	Yes	

FELIDAE (cats and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Lynx rufus pallescens	pallid bobcat		G5T3?	S3?	None	None		No	

CERVIDAE (deer, elk, and moose)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Cervus canadensis nannodes	tule elk		G4T3	S3	None	None		No	

ANTILOCAPRIDAE (pronghorn)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Antilocapra americana	pronghorn		G5	S3	None	None	IUCN:LC	No	

BOVIDAE (sheep and relatives)

Scientific Name	Common Name	Comments	Global Rank	State Rank	ESA	CESA	Other Status	Records in CNDDB?	End Notes?
Ovis canadensis nelsoni	desert bighorn sheep		G4T3	S3	None	None	BLM:S CDFW:FP USFS:S	Yes	Yes
Ovis canadensis nelsoni pop. 2	Peninsular bighorn sheep DPS		G4T3Q	S2	Endangered	Threatened	CDFW:FP	Yes	Yes
Ovis canadensis sierrae	Sierra Nevada bighorn sheep		G4T2	S2	Endangered	Endangered	CDFW:FP	Yes	

End Notes

Invertebrates

GASTROPODA (snails, slugs, and abalones)

Prophysaon sp. 1

Klamath taildropper

1) This entity is known to be unique morphologically and genetically (Frest & Johannes 2000, Wilke & Duncan 2004, Roth & Sadeghian 2006), but has not been formally described and some may reference it as part of the *Prophysaon coeruleum* species complex.

ARACHNIDA (spiders and relatives)

Hubbardia shoshonensis

Shoshone Cave whip-scorpion

1) BLM Sensitive list uses the scientific name *Trithyreus shoshonensis*.

CRUSTACEA, Order Amphipoda (amphipods)

Hyalella muerta

Texas Spring amphipod

1) First North American hypogean hyalellid.

Hyalella sandra

Death Valley amphipod

1) Population in Texas Springs is an accidental introduction. Population in Nevares Springs may be a new species.

INSECTA, Order Coleoptera (beetles)

Trigonoscuta sp.

Doyen's trigonoscuta dune weevil

1) Sometimes referred to as *Trigonoscuta doyeni*, which is an unpublished manuscript name.

INSECTA, Order Lepidoptera (butterflies and moths)

Callophrys thornei

Thorne's hairstreak

1) Formerly *Mitoura thornei*.

Euproserpinus euterpe

Kern primrose sphinx moth

1) Until its rediscovery in Kern County in 1974, this moth had been thought to be extinct. A second population was later found in San Luis Obispo County (Xerces Society 2005).

Speyeria zerene myrtleae

Myrtle's silverspot butterfly

1) The USFWS and others have not yet determined if the taxonomic expansion by Emmel and Emmel (1998) into *S. z. myrtleae* and *S. z. puntareyes* is warranted. The *Speyereia zerene* along the coast of Marin and Sonoma Counties are federally endangered under the subspecies concept in the 1992 listing.

INSECTA, Order Hymenoptera (ants, bees, and wasps)

Bombus crotchii

Crotch's bumble bee

1) Originally advanced to candidacy by the Fish and Game Commission in June 2019. The candidacy determination was challenged in court. Candidacy was temporarily stayed beginning February 2021 following an adverse trial court judgment. The Third District Court of Appeal reversed the trial court judgment. Candidacy was reinstated on September 30, 2022.

Bombus franklini

Franklin's bumble bee

1) Originally advanced to candidacy by the Fish and Game Commission in June 2019. The candidacy determination was challenged in court. Candidacy was temporarily stayed beginning February 2021 following an adverse trial court judgment. The Third District Court of Appeal reversed the trial court judgment. Candidacy was reinstated on September 30, 2022.

Bombus occidentalis

western bumble bee

1) Originally advanced to candidacy by the Fish and Game Commission in June 2019. The candidacy determination was challenged in court. Candidacy was temporarily stayed beginning February 2021 following an adverse trial court judgment. The Third District Court of Appeal reversed the trial court judgment. Candidacy was reinstated on September 30, 2022.

Bombus suckleyi

Suckley's cuckoo bumble bee

1) Originally advanced to candidacy by the Fish and Game Commission in June 2019. The candidacy determination was challenged in court. Candidacy was temporarily stayed beginning February 2021 following an adverse trial court judgment. The Third District Court of Appeal reversed the trial court judgment. Candidacy was reinstated on September 30, 2022.

Fishes

SALMONIDAE (trout and salmon)

Oncorhynchus kisutch pop. 2

coho salmon - southern Oregon / northern California ESU

1) Federal listing refers to populations between Cape Blanco, Oregon and Punta Gorda, Humboldt County, California.
2) State listing refers to populations between the Oregon border and Punta Gorda, Humboldt County, California.

Oncorhynchus kisutch pop. 4

coho salmon - central California coast ESU

1) Federal listing is limited to naturally spawning populations in streams between Punta Gorda, Humboldt County and the San Lorenzo River, Santa Cruz County.
2) State listing is limited to populations south of Punta Gorda, Humboldt County.

Oncorhynchus mykiss irideus pop. 1

steelhead - Klamath Mountains Province DPS

1) This ESU includes all naturally spawned populations residing in streams between the Elk River in Oregon and the Klamath River in California, inclusive.
2) CDFW SSC designation refers only to the California portion of the ESU and refers only to the summer-run.

Oncorhynchus mykiss irideus pop. 10

steelhead - southern California DPS

1) The federal designation refers to fish in the coastal basins from the Santa Maria River (inclusive), south to the U.S. - Mexico Border.

Oncorhynchus mykiss irideus pop. 11

steelhead - Central Valley DPS

1) Federal listing includes all runs in the Sacramento and San Joaquin rivers and their tributaries.

Oncorhynchus mykiss irideus pop. 8

steelhead - central California coast DPS

1) Federal listing includes all runs in coastal basins from the Russian River in Sonoma County, south to Soquel Creek in Santa Cruz County, inclusive. It includes the San Francisco and San Pablo Bay basins, but excludes the Sacramento-San Joaquin River basins.

Oncorhynchus mykiss irideus pop. 9

steelhead - south-central California coast DPS

1) Federal listing includes all runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River.
2) CDFW SSC designation refers to southern steelhead trout.

Oncorhynchus tshawytscha pop. 11

chinook salmon - Central Valley spring-run ESU

1) Federal listing refers to the Central Valley spring-run ESU. It includes populations spawning in the Sacramento River and its tributaries.

Oncorhynchus tshawytscha pop. 13

chinook salmon - Central Valley fall / late fall-run ESU

1) The Central Valley fall/late fall-run ESU refers to populations spawning in the Sacramento and San Joaquin rivers and their tributaries.
2) CDFW SSC designation refers only to the fall-run.

Oncorhynchus tshawytscha pop. 17

chinook salmon - California coastal ESU

1) Originally proposed as part of a larger Southern Oregon and California Coastal ESU. This new ESU was revised to include only naturally spawned coastal spring- and fall-run chinook salmon between Redwood Creek in Humboldt County and the Russian River in Sonoma County.

OSMERIDAE (smelt)

Thaleichthys pacificus

eulachon

1) The Federal Threatened status pertains to the "southern DPS" of eulachon that range from central British Columbia, Washington, Oregon, and northern California.

CYPRINIDAE (minnows and carp)

Rhinichthys nevadensis nevadensis

Amargosa speckled dace

1) Moyle et al. 2023 formally named/described the *Rhinichthys* complex in California and Nevada, and former Amargosa Canyon speckled dace (*R. osculus* ssp. 1) and Owens speckled dace (*R. osculus* ssp. 2) are combined as newly described Amargosa speckled dace (*R. nevadensis nevadensis*).

Siphateles bicolor ssp. 11

High Rock Springs tui chub

1) Formerly *Siphateles bicolor* ssp. 2, which did not account for other undescribed subspecies outside of CA.

Siphateles bicolor ssp. 12

Eagle Lake tui chub

1) Formerly *Siphateles bicolor* ssp. 1, which did not account for other undescribed subspecies outside of CA.

Siphateles bicolor ssp. 14

Pit River tui chub

1) Formerly *Siphateles bicolor* ssp. 3, which did not account for other undescribed subspecies outside of CA.

Amphibians

PLETHODONTIDAE (lungless salamanders)

Aneides niger

Santa Cruz black salamander

1) CDFW SSC status uses former subspecies concept of *Aneides flavipunctatus niger*.

Hydromantes shastae

Shasta salamander

1) *Hydromantes shastae* (sensu lato) has been recognized as consisting of cryptic genetic structuring resulting in new species concepts: *Hydromantes shastae* (sensu stricto), *Hydromantes samweli*, and *Hydromantes wintu*. Until formally reviewed by the Fish and Game Commission, all populations in the Shasta salamander complex are legally state Threatened.

Hydromantes wintu

Wintu Shasta salamander

1) *Hydromantes shastae* (sensu lato) has been recognized as consisting of cryptic genetic structuring resulting in new species concepts: *Hydromantes shastae* (sensu stricto), *Hydromantes samweli*, and *Hydromantes wintu*. Until formally reviewed by the Fish and Game Commission, all populations in the Shasta salamander complex are legally state Threatened.

Hydromantes samweli

Samwel Shasta salamander

1) *Hydromantes shastae* (sensu lato) has been recognized as consisting of cryptic genetic structuring resulting in new species concepts: *Hydromantes shastae* (sensu stricto), *Hydromantes samweli*, and *Hydromantes wintu*. Until formally reviewed by the Fish and Game Commission, all populations in the Shasta salamander complex are legally state Threatened.

Batrachoseps relictus

relictual slender salamander

1) Taxonomy follows Jockusch et al. 2012. Morphological and molecular diversification of slender salamanders (Caudata: Plethodontidae: *Batrachoseps*) in the southern Sierra Nevada of California with descriptions of two new species. Zootaxa 3190:1-30, which synonymized *Batrachoseps* sp. 1, Breckenridge Mountain slender salamander, with *B. relictus*.

Plethodon asupak

Scott Bar salamander

1) Since this newly described species was formerly considered to be a subpopulation of *Plethodon stormi* (Mead et al. 2005), and since *Plethodon stormi* is listed as threatened under CESA, *Plethodon asupak* retains the designation as a threatened species under CESA (Calif. Regulatory Notice Register, No. 21-Z, p.916, 25 May 2007).

BUFONIDAE (true toads)

Anaxyrus californicus

arroyo toad

1) At the time of listing, arroyo toad was known as *Bufo microscaphus californicus*, a subspecies of southwestern toad. In 2001, it was determined to be its own species, *Bufo californicus*. Since then, many species in the genus *Bufo* were changed to the genus *Anaxyrus*, and now arroyo toad is known as *Anaxyrus californicus* (Frost et al. 2006).

Anaxyrus canorus

Yosemite toad

1) Formerly *Bufo canorus*; Frost et al. (2006. The Amphibian Tree of Life. Bulletin of the American Museum of Natural History 297: 1-370) placed this species in the genus *Anaxyrus* (Tschudi 1845).

Anaxyrus exsul

black toad

1) Formerly *Bufo canorus*; Frost et al. (2006. The Amphibian Tree of Life. Bulletin of the American Museum of Natural History 297: 1-370) placed this species in the genus *Anaxyrus* (Tschudi 1845).

Incilius alvarius

Sonoran Desert toad

1) Formerly *Bufo alvarius*. Between 2006-2009, the scientific name has been changed to *Cranopsis alvaria*, *Ollotis alvaria*, *Incilius alvarius*, back to *Ollotis alvarius*, and then back to *Incilius alvarius*. The common name has changed from Colorado River toad to Sonoran Desert toad.

RANIDAE (true frogs)

Lithobates pipiens

northern leopard frog

1) Formerly Rana pipiens; Frost et al. (2006. The Amphibian Tree of Life. Bulletin of the American Museum of Natural History 297: 1-370) placed this species in the genus *Lithobates* (Fitzinger 1843).

Lithobates yavapaiensis

lowland leopard frog

1) Formerly *Rana yavapaiensis*; Frost et al. (2006. The Amphibian Tree of Life. Bulletin of the American Museum of Natural History 297: 1-370) placed this species in the genus *Lithobates* (Fitzinger 1843).

Rana aurora

northern red-legged frog

1) An mtDNA study (Shaffer et al. 2004) concluded that *Rana aurora aurora* and *Rana aurora draytonii* should be recognized as separate species with a narrow zone of overlap

Rana draytonii

California red-legged frog

1) An mtDNA study (Shaffer et al. 2004) concluded that *Rana aurora aurora* and *Rana aurora draytonii* should be recognized as separate species with a narrow zone of overlap, and that the range of *draytonii* extends about 100 km further north in coastal California than previously thought.

Rana muscosa

southern mountain yellow-legged frog

1) Both federally recognized Distinct Population Segments (DPS) of the mountain yellow-legged frog (*Rana muscosa*) are currently Endangered (2021). The mountain yellow-legged frog – northern DPS is known from the southern Sierra Nevada; the mountain yellow-legged frog – southern DPS is known from the Transverse Ranges.

Rana sierrae

Sierra Nevada yellow-legged frog

1) Formerly *Rana muscosa*. *Rana muscosa* was split into *Rana sierrae*, the Sierra Nevada yellow-legged frog, found in the northern and central Sierra Nevada, and *Rana muscosa*, the southern mountain yellow-legged frog, found in the southern Sierra Nevada and southern California.

Reptiles

XANTUSIIDAE (night lizards)

Xantusia vigilis sierrae

Sierra night lizard

1) Formerly *Xantusia sierrae*; scientific name changed to reflect currently accepted subspecies concept.

ANNIELLIDAE (legless lizards)

Anniella alexanderae

Temblor legless lizard

1) Legless lizards (*Anniella* spp.) in California were traditionally considered one species, but are now considered five species (Pappenfuss and Parham, 2013). The prior (Jennings and Hayes, 1994) and current (Thompson et al. 2016) Species of Special Concern (SSC) projects evaluated the traditional single species taxon and determined all legless lizards in California to be an SSC. Therefore, the SSC status is carried over to the new taxon concepts until further SSC evaluation.

Anniella campi

Southern Sierra legless lizard

1) Legless lizards (*Anniella* spp.) in California were traditionally considered one species, but are now considered five species (Pappenfuss and Parham, 2013). The prior (Jennings and Hayes, 1994) and current (Thompson et al. 2016) Species of Special Concern (SSC) projects evaluated the traditional single species taxon and determined all legless lizards in California to be an SSC. Therefore, the SSC status is carried over to the new taxon concepts until further SSC evaluation.

Anniella grinnelli

Bakersfield legless lizard

1) Legless lizards (*Anniella* spp.) in California were traditionally considered one species, but are now considered five species (Pappenfuss and Parham, 2013). The prior (Jennings and Hayes, 1994) and current (Thompson et al. 2016) Species of Special Concern (SSC) projects evaluated the traditional single species taxon and determined all legless lizards in California to be an SSC. Therefore, the SSC status is carried over to the new taxon concepts until further SSC evaluation.

Anniella pulchra

Northern California legless lizard

1) Legless lizards (*Anniella* spp.) in California were traditionally considered one species, but are now considered five species (Pappenfuss and Parham, 2013). The prior (Jennings and Hayes, 1994) and current (Thompson et al. 2016) Species of Special Concern (SSC) projects evaluated the traditional single species taxon and determined all legless lizards in California to be an SSC. Therefore, the SSC status is carried over to the new taxon concepts until further SSC evaluation.

Anniella spp.

California legless lizard

1) This element represents California records of *Anniella* not yet assigned to new species within the *Anniella pulchra* complex. Legless lizards (*Anniella* spp.) in California were traditionally considered one species, but are now considered

five species (Pappenfuss and Parham, 2013). CNDDB has assigned new species concepts to most, but not all, previously known and extant legless lizard occurrences. Where an occurrence of a legless lizard is not known to the species level, the general concept California legless lizard (*Anniella* spp.) will be applied until further evidence is available. All legless lizards in California are a Species of Special Concern (Thomson et al., 2016).

Anniella stebbinsi

Southern California legless lizard

1) Legless lizards (*Anniella* spp.) in California were traditionally considered one species, but are now considered five species (Pappenfuss and Parham, 2013). The prior (Jennings and Hayes, 1994) and current (Thompson et al. 2016) Species of Special Concern (SSC) projects evaluated the traditional single species taxon and determined all legless lizards in California to be an SSC. Therefore, the SSC status is carried over to the new taxon concepts until further SSC evaluation.

HELODERMATIDAE (venomous lizards)

Heloderma suspectum cinctum

banded Gila monster

1) BLM Sensitive designation refers to the full species.

NATRICIDAE (live-bearing snakes)

Thamnophis sirtalis pop. 1

south coast gartersnake

1) CDFW Species of Special Concern treats this population as a distinct taxon, though it is more commonly treated as a subpopulation of *Thamnophis sirtalis infernalis*, the California red-sided gartersnake.

Birds

PHASIANIDAE (grouse and ptarmigan)

Centrocercus urophasianus

greater sage-grouse

1) The federal proposal applies to the Bi-State DPS (Mono Basin of CA and NV; Mono, Alpine, and Inyo counties in California).

Dendragapus fuliginosus howardi

Mount Pinos sooty grouse

1) Formerly merged with *D. obscurus* as blue grouse, but separated on the basis of genetic evidence and differences in voice, behavior, and plumage.

PELECANIIDAE (pelicans)

Pelecanus occidentalis californicus

California brown pelican

1) Removed from Fully Protected list (Fish & Game Code §3511) in July 2023 by Senate Bill no. 147

ACCIPITRIDAE (hawks, kites, harriers, and eagles)

Circus hudsonius

northern harrier

1) Formerly considered conspecific with *Circus cyaneus*, but treated as separate on the basis of differences in morphology, plumage, and breeding habitat.

FALCONIDAE (falcons)

Falco peregrinus anatum

American peregrine falcon

1) Removed from Fully Protected list (Fish & Game Code §3511) in July 2023 by Senate Bill no. 147

RALLIDAE (rails, coots, and gallinules)

Laterallus jamaicensis coturniculus

California black rail

1) The IUCN designation of Near Threatened refers to the full species.

CHARADRIIDAE (plovers and relatives)

Anarhynchus nivosus nivosus

western snowy plover

1) Federal listing applies only to the Pacific coastal population.
2) CDFW SSC designation refers to both the coastal and interior populations.

LARIDAE (gulls and terns)

Gelochelidon nilotica

gull-billed tern

1) Taxonomy recently changed from *Sterna nilotica*.

Hydroprogne caspia

Caspian tern

1) Taxonomy recently changed from *Sterna caspia*.

Sternula antillarum browni

California least tern

1) Taxonomy recently changed from *Sterna antillarum browni*.

Thalasseus elegans

elegant tern

1) Taxonomy recently changed from *Sterna elegans*.

ALCIDAE (auklets, puffins, and relatives)

Synthliboramphus scrippsi

Scripps's murrelet

1) Formerly included in Xantus's murrelet as *Synthliboramphus hypoleucus scrippsi*. Now considered a full species.

STRIGIDAE (owls)

Athene cunicularia

burrowing owl

1) A burrow site = an observation of one or more owls at a burrow or evidence of recent occupation such as whitewash and feathers. Winter observations at a burrow are mapped. Winter observations with or without a burrow in San Francisco, Ventura, Sonoma, Marin, Napa, and Santa Cruz Counties are mapped.

Strix occidentalis caurina

northern spotted owl

1) There are no spotted owl EOs in the CNDDB. All spotted owl location information is maintained in a separate database (https://wildlife.ca.gov/Data/CNDDB/Spotted-Owl-Info). CNDDB subscribers can access these datasets from the same bookmark as the CNDDB layer in BIOS (https://www.wildlife.ca.gov/Data/BIOS).

Strix occidentalis occidentalis

California spotted owl

1) There are no spotted owl EOs in the CNDDB. All spotted owl location information is maintained in a separate database (https://wildlife.ca.gov/Data/CNDDB/Spotted-Owl-Info). CNDDB subscribers can access these datasets from the same bookmark as the CNDDB layer in BIOS (https://www.wildlife.ca.gov/Data/BIOS).
2) On 20230223, coastal-southern California DPS was federally proposed Endangered, and Sierra Nevada DPS was federally proposed Threatened.

TYRANNIDAE (tyrant flycatchers)

Empidonax traillii

willow flycatcher

1) State listing of the full species includes all subspecies.

Empidonax traillii brewsteri

little willow flycatcher

1) State listing of the full species includes all subspecies.

Empidonax traillii extimus

southwestern willow flycatcher

1) State listing of the full species includes all subspecies.

LANIIDAE (shrikes)

Lanius ludovicianus mearnsi

San Clemente loggerhead shrike

1) Subspecific identity of shrikes currently on San Clemente is uncertain. Mundy et al. (1997a, b) provided evidence *L. l. mearnsi* is genetically distinct from *L. l. gambeli* and *L. l. anthonyi*, whereas Patten and Campbell (2000) concluded, based on morphology, that the birds now on San Clemente are intergrades between *L. l. mearnsi* and *L. l. anthonyi*.

VIREONIDAE (vireos)

Vireo bellii arizonae

Arizona Bell's vireo

1) The IUCN designation of Near Threatened refers to the full species.

Vireo bellii pusillus

least Bell's vireo

1) The IUCN designation of Near Threatened refers to the full species.

TROGLODYTIDAE (wrens)

Campylorhynchus brunneicapillus sandiegensis

coastal cactus wren

1) CDFW Bird Species of Special Concern report uses the common name San Diego cactus wren.

POLIOPTILIDAE (gnatcatchers)

Polioptila californica californica

coastal California gnatcatcher

1) CDFW Bird Species of Special Concern report uses the common name Alta California gnatcatcher.

MIMIDAE (mockingbirds and thrashers)

Toxostoma lecontei

Le Conte's thrasher

1) CDFW SSC designation refers only to the San Joaquin population.
2) The BLM Sensitive designation refers to the San Joaquin Le Conte's thrasher, *Toxostoma lecontei macmillanorum*, although the subspecies concept is not universally recognized.

PASSERELLIDAE (sparrows)

Artemisiospiza belli clementeae

San Clemente Bell's sparrow

1) Subspecific validity uncertain. Recognized by AOU (1957), but not by Patten and Unitt (2002).

Melospiza melodia graminea

Channel Island song sparrow

1) Subspecific validity is uncertain. This subspecies when referred to as Santa Barbara song sparrow is extinct. However, the subspecies was merged by Patten (2001) with the San Miguel (*M. m. micronyx*), and San Clemente (*M. m. clementae*) song sparrows as the Channel Island song sparrow with the subspecific name *M. m. graminea*.

Melozone crissalis eremophilus

Inyo California towhee

1) Previously in the genus Pipilo.

PARULIDAE (wood-warblers)

Geothlypis trichas sinuosa

saltmarsh common yellowthroat

1) CDFW Bird Species of Special Concern report uses the common name San Francisco common yellowthroat

Setophaga petechia

yellow warbler

1) This element includes the subspecies *S. p. morcormi* and *S. p. brewsteri*, which are tracked under the full species, *S. petechia*, due to difficulty distinguishing them. *S. p. sonorana*, which nests in California only along the Colorado River, is tracked separately.

Setophaga petechia sonorana

Sonoran yellow warbler

1) Nests in California only along the Colorado River. Observations of yellow warblers from other regions are tracked as the full species, *S. petechia*.

Mammals

PHYLLOSTOMIDAE (leaf-nosed bats)

Leptonycteris yerbabuenae

lesser long-nosed bat

1) Federal listing uses the scientific name *Leptonycteris curasoae yerbabuenae*.

VESPERTILIONIDAE (evening bats)

Lasiurus frantzii

western red bat

1) Nomenclature changed from *Lasiurus blossevillii* to *Lasiurus frantzii* based on Baird et al. 2015, J. of Mammalogy 96(6):1255-1274.

APLODONTIIDAE (mountain beavers)

Aplodontia rufa californica

Sierra Nevada mountain beaver

1) The IUCN Least Concern designation refers to the full species.

Aplodontia rufa nigra

Point Arena mountain beaver

1) The IUCN Least Concern designation refers to the full species.

Aplodontia rufa phaea

Point Reyes mountain beaver

1) The IUCN Least Concern designation refers to the full species.

HETEROMYIDAE (kangaroo rats, pocket mice, and kangaroo mice)

Perognathus alticolus alticolus

white-eared pocket mouse

1) CDFW SSC, BLM Sensitive, and IUCN Endangered designations refer to the full species.

Perognathus alticolus inexpectatus

Tehachapi pocket mouse

1) CDFW SSC and IUCN Endangered designations refer to the full species.

Perognathus inornatus

San Joaquin pocket mouse

1) This element includes the subspecies *P. i. inornatus* and *P. i. neglectus*, which are tracked under the full species, *P. inornatus*, due to difficulty distinguishing them. *P. i. inornatus* generally occurs on the eastern side of the San Joaquin Valley, while *P. i. neglectus* generally occurs on the western side. *P. i. psammophilus*, which occurs only in the Salinas Valley, is tracked separately.

CRICETIDAE (mice, rats, and voles)

Neotoma fuscipes riparia

riparian (=San Joaquin Valley) woodrat

1) This species is currently undergoing taxonomic revision

Reithrodontomys megalotis santacruzae

Santa Cruz harvest mouse

1) Synonymous with *Reithrodontomys megalotus longicaudus*, Santa Cruz Island population.

CANIDAE (foxes, wolves, and coyotes)

Urocyon littoralis catalinae

Santa Catalina Island fox

1) The IUCN Near Threatened status refers to the full species.

Urocyon littoralis clementae

San Clemente Island fox

1) The IUCN Near Threatened status refers to the full species.

Urocyon littoralis dickeyi

San Nicolas Island fox

1) The IUCN Near Threatened status refers to the full species.

Urocyon littoralis littoralis

San Miguel Island fox

1) The IUCN Near Threatened status refers to the full species.

Urocyon littoralis santacruzae

Santa Cruz Island fox

1) The IUCN Near Threatened status refers to the full species.

Urocyon littoralis santarosae

Santa Rosa Island fox

1) The IUCN Near Threatened status refers to the full species.

MUSTELIDAE (weasels and relatives)

Enhydra lutris nereis

southern sea otter

1) The IUCN Endangered designation refers to the full species.

Lontra canadensis sonora

southwestern river otter

1) CDFW SSC status refers only to the subspecies *L. canadensis sonora*, which is known in California only from the Colorado River.

Martes caurina humboldtensis

Humboldt marten

1) Federal status refers to the coastal DPS of Pacific marten (*Martes caurina*)

Pekania pennanti

Fisher

1) In 2004, the West Coast DPS of fisher became a candidate for federal listing, and underwent numerous evaluations, proposed rules, and revisions in subsequent years. In 2020, the West Coast DPS was further divided into the Southern Sierra Nevada DPS and the Northern California/Southern Oregon DPS (which also includes Northern Sierra Nevada and Southern Oregon Cascades subpopulations which arose from reintroductions). State threatened and federal endangered statuses apply only to the Southern Sierra Nevada ESU/DPS. State listing defines the northern limit of the SSN ESU as the Merced River, while federal listing uses the Tuolumne River.

BOVIDAE (sheep and relatives)

Ovis canadensis nelsoni

desert bighorn sheep

1) Desert bighorn sheep (*O. c. nelsoni*) in the Peninsular Ranges are tracked as a metapopulation of the subspecies, Peninsular bighorn sheep DPS (*O. c. nelsoni* pop. 2)
2) Fully Protected with the exception of legal hunting conducted in compliance with California Code of Regulations 14 CCR 362.

Ovis canadensis nelsoni pop. 2

Peninsular bighorn sheep DPS

1) The subspecies peninsular bighorn sheep (*O. c. cremnobates*) has been synonymized with *O. c. nelsoni* (Wehausen & Ramey 1993). Peninsular bighorn sheep are now considered to be a metapopulation and are recognized as a federal Distinct Population Segment (DPS).

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT K

Birds of Conservation Concern 2021 Migratory Bird Program – Footnote 30

U.S. Fish & Wildlife Service

Birds of Conservation Concern 2021

Migratory Bird Program



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Table 3. Birds of Conservation Concern 2021 in the Continental USA (CON), continental Bird Conservation Regions (BCR), Puerto Rico and Virgin Islands (PRVI), and Hawaii and Pacific Islands (HAPI). Refer to Appendix 1 for scientific names of species, subspecies and populations Breeding (X) and nonbreeding (nb) status are indicated for each geography. Parenthesized names indicate conservation concern only exists for a specific subspecies or population. 18

Table 4. Numbers of taxa of Birds of Conservation Concern 2021 represented on the Continental USA (CON), continental Bird Conservation Region (BCR), Puerto Rico and VirginIslands (PRVI), Hawaii and Pacific Islands (HAPI) lists by general taxonomic groups. Also presented are the unique taxa represented on all lists. 24

Table 5. Birds of Conservation Concern 2021 designated within BCRs 1, 2, 3, 4 and MBCRs 13, 14, 15. See Table 2 for descriptions of BCRs and MBCRs, Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR or MBCR; breeding BCRs may also support passage or wintering birds. 25

Cover: Baird's Sparrow, Rick Bohn/USFWS

Table 6. Birds of Conservation Concern 2021 designated within BCRs 5, 10, 15, 32 and MBCR 17. See Table 2 for descriptions of BCRs and MBCRs. Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR or MBCR; breeding BCRs may also support passage or wintering birds. 26

Table 7. Birds of Conservation Concern 2021 designated within BCRs 9, 16, 33, 34, 35 and 36. See Table 2 for descriptions of BCRs. Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR; breeding BCRs may also support passage or wintering birds. 28

Table 8. Birds of Conservation Concern 2021 designated within BCRs 11, 17, 18, 19, 20, 21, 37 and MBCR 20. See Table 2 for descriptions of BCRs and MBCRs. Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR/MBCR; breeding BCRs may also support passage or wintering birds. 30

Table 9. Birds of Conservation Concern 2021 designated within BCRs 12, 13, 22, 23, 24, 25, 26, 28 and 29. See Table 2 for descriptions of BCRs. Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR; breeding BCRs may also support passage or wintering birds. 32

Table 10. Birds of Conservation Concern 2021 designated within BCRs 14, 27, 30, 31 and MBCR 18, 19. See Table 2 for descriptions of BCRs and MBCRs. Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR/MBCR; breeding BCRs may also support passage or wintering birds. 34

Appendices 36

Appendix 1. Common and scientific names of species, subspecies, and populations designated as Birds of Conservation Concern 2021, listed as threatened or endangered under the USA Endangered Species Act, considered as extinct in the wild, or included as non-migratory birds on the Watch Lists of the State of the Birds (Rosenberg et al. 2014) or in the Avian Conservation Assessment Database (Partners in Flight 2019). Taxonomic sequence and nomenclature follow the American Ornithologists' Union Check-list of North American Birds, 7th Edition (1983), through the 61th supplement (Chesser et al. 2020). Subspecies and population nomenclature follow Andres et al. (2012) and Clements et al. (2019); nomenclature for Pacific island species follows Clements et al. (2019). 36

Appendix 2. Numbers of Birds of Conservation Concern 2021, non-migratory birds on the Watch Lists in the 2014 State of the Birds (Rosenberg et al. 2014) or Avian Conservation Assessment Database (Partners in Flight 2019), species or populations listed as threatened or endangered under the ESA, and extinct species or populations for the Continental USA, Puerto Rico and the Virgin Islands, and Hawaii and the Pacific Islands. Shared taxa assigned to breeding area list or by greatest abundance. 47



Allen's Hummingbird, Brima Battle/USFWS

Executive Summary

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the U.S. Fish and Wildlife Service (USFWS) to identify species, subspecies and populations (hereafter taxa) of all migratory nongame birds that without additional conservation action are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973. The Birds of Conservation Concern 2021 (BCC 2021) is the most recent effort to carry out this mandate. The overall goal of this report is to identify those bird taxa (beyond those already designated as federally threatened or endangered) that represent the highest conservation priorities of the USFWS. The BCC 2021 is intended to stimulate coordinated, collaborative and proactive conservation actions among international, federal, state, tribal and private partners.

The geographic scope of this endeavor is the United States of America (USA) in its entirety, including island states, commonwealths and territories in the Pacific Ocean and Caribbean Sea and the marine areas delineated as territorial sea, contiguous zone and exclusive economic zone. The BCC 2021 encompasses four distinct geographic scales: 1) the Continental USA, including Alaska; 2) Pacific Ocean islands, including Hawaii; 3) Puerto Rico, the U.S. Virgin Islands and Navassa; and 4) continental Bird Conservation Regions (BCRs) and Marine Bird Conservation Regions (MBCRs), as defined by Bird Studies Canada and NABCI (2014). New to the BCC 2021 is the explicit inclusion of MBCRs.

Bird taxa considered for the BCC 2021 lists include nongame birds, gamebirds without hunting seasons or where harvest is minimal, and subsistence-hunted nongame birds in Alaska. Excluded from consideration for the BCC 2021 are bird species not protected under the Migratory Bird Treaties (Federal Register 2020a), taxa already listed as threatened or endangered under the ESA, or taxa that only occur irregularly or peripherally in the USA. Our conservation assessment was based on several factors, including population abundance and trends, threats on breeding and nonbreeding grounds, and size of breeding and nonbreeding ranges. The factor scores and associated thresholds used for identifying birds of conservation concern in the 2014 State of the Birds Watch List (Rosenberg et al. 2014) and the Avian Conservation Assessment Database (Partners in Flight 2019, Punjabi et al. 2019) served as the foundation on which we developed the BCC 2021 lists. Thus, we sought consistency of the BCC 2021 with priorities identified through these other efforts, noting that appropriate differences do occur due to the unique scope and mandate of the Birds of Conservation Concern. The BCC 2021 also represents the first time we tried to unify the assessment system among waterbirds, shorebirds and landbirds.

The BCC 2021 identifies 269 individual bird taxa of conservation concern. Of these, 135 taxa are of conservation concern at the Continental scale, 88 taxa at the BCR scale, 29 taxa on Puerto Rico and the Virgin Islands, and 35 taxa on Hawaii and the Pacific Islands; 18 taxa identified on the Continental/BCR lists are shared with either Puerto Rico and the Virgin Islands or Hawaii and the Pacific Islands. The number of taxa on the Hawaii/Pacific Island list appears deceptively low, because a high number of birds there are already listed under the ESA. The number of taxa listed within a BCR, which includes those identified as conservation concern at the Continental or BCR scales, ranges from 12 taxa in the Arctic Plains and Mountains to 49 taxa in Coastal California, with an average of 25.4 taxa per BCR. Among MBCRs, the number of taxa ranged from two taxa in the Chuckchi and Beaufort Seas to 13 taxa in the California Current, with an average of 7.4 taxa per MBCR.

Although the bird taxa included in the BCC 2021 are priorities for conservation action, this list makes no finding with regard to whether they warrant consideration for ESA listing. Our goal is to eliminate the need for additional ESA bird listings by implementing proactive management and conservation actions that sustain populations well above thresholds of endangerment. We recommend that these lists be consulted in accordance with Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds. Many of the taxa identified herein are targets of ongoing conservation attention by national and international initiatives (e.g., Partners in Flight, U.S. Shorebird Conservation Partnership), Migratory Bird Joint Ventures, state and federal natural resource agencies, non-governmental organizations, and other partnerships.

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This edition of the BCC 2021 is dedicated to the original USFWS "Nongame 7" who retired since the previous publication of the Birds of Conservation Concern: Tara Zimmerman (Pacific Region), Bill Howe (Southwest Region), Steve Lewis (Midwest Region), Stephanie Jones (Mountain-Prairie Region), and Kent Wohl (Alaska Region). They all contributed significantly to past versions of the Birds of Conservation Concern and thereby supported the development of this report.

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Reddish Egret, Keenan Adams/USFWS

Introduction

A Congressional amendment to the Fish and Wildlife Conservation Act (16 U.S.C. 2901–2912) in 1988 directed the Secretary of Interior, through the U.S. Fish and Wildlife Service (USFWS), to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543)". The intent of the legislation was to stimulate coordinated and proactive conservation actions among federal, state and tribal governments, non-governmental organizations (NGOs), and private partners in the United States (USA) before birds require protection under the ESA. Even prior to the passage of this amendment, the USFWS was providing periodic assessments of migratory birds that might become candidates for listing under the ESA, generating the first list of migratory nongame birds of management concern in 1982 (U.S. Fish and Wildlife Service 1982). Since that time, five additional lists have been published (U.S. Department of the Interior 1990; U.S. Fish and Wildlife Service 1987, 1995, 2002, 2008).

The Birds of Conservation Concern 2021 (BCC 2021) presented here is the most recent effort by the USFWS to carry out the Fish and Wildlife Conservation Act's proactive conservation mandate and updates the Birds of Conservation Concern (BCC) 2008 (U.S. Fish and Wildlife Service 2008). Development of the BCC 2021 aligns with the USFWS mission of "working with others to conserve, protect, and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people" and meets the current USFWS objective to "guide the conservation, development, and management of the Nation's fish and wildlife resources". The overall goal of the BCC 2021 is to identify, by geography, those nongame migratory birds (beyond those already federally listed as threatened or endangered) in greatest need of conservation attention.

The philosophy underlying the BCC reports is that proactive bird conservation is critical at a time when continued human impacts will be intensified by effects of a changing climate. By investing in actions for designated BCC taxa, we can prevent further degradation to environments that we all share, improve the odds for successful long-term conservation, and avoid the complexities associated with federal ESA listing. Proactive conservation is recognized as being more cost-effective than the recovery efforts required once a bird is listed under the ESA (e.g., Drechsler et al. 2011).

Because it is mandated by law and produced by the USFWS, federal agencies, international NGOs and foreign governments view the BCC list as the official USA Government position on migratory nongame birds of conservation concern. The BCC list is also used to identify priority wetland birds for evaluating North American Wetlands Conservation Act proposals, used in scoring of Neotropical Migratory Bird Conservation Act proposals, and referenced in Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds. To promote more consistency among organizations developing various lists of birds of conservation concern, the BCC 2021 closely followed the methods used to generate the Watch List for the 2014 State of the Birds (Rosenberg et al. 2014), 2016 Partners in Flight Landbird Conservation Plan (Rosenberg et al. 2016) and Avian Conservation Assessment Database (Partners in Flight 2019). However, the BCC 2021 differs somewhat from these lists because of its unique scope and mandate.



Cerulean Warbler, Jerry Oldenettel CC BY 2.0

Methods

Geographic Scope

The geographic scope of the BCC 2021 consists of the entirety of the lands and waters of the USA, including states, commonwealths, territories and other affiliations in the Caribbean Sea and Pacific Ocean. Also included in the geographic scope are marine boundaries defined as the territorial sea, contiguous zone and exclusive economic zone (see https://www.nauticalcharts.noaa.gov/csdl/mbound.htm). To facilitate use and interpretation of the BCC 2021, we organized the presentation into four geo-political and ecoregional groupings: 1) Continental USA, including Alaska; 2) Puerto Rico and the U.S. Virgin Islands, 3) Hawaii and the Pacific Islands, and 4) continental Bird Conservation Regions (BCRs) and Marine Bird Conservation Regions (MBCRs). Offshore jurisdictional waters associated with Hawaii and the Pacific Islands and Puerto Rico and the U.S. Virgin Islands are included in their respective regions. We decided to treat states, commonwealths, territories and other affiliations in the Caribbean Sea and Pacific Ocean separately because of the high endemism and high vulnerability of island avifauna (Kier et al. 2009). Descriptions of states, commonwealths, territories and other affiliations in the Caribbean Sea and Pacific Ocean are provided in Table 1, and BCRs and MBCRs are described in Table 2 and illustrated in Figure 1. For details on BCRs and MBCRs, please see Bird Studies Canada and NABCI (2014).

Birds Considered

The taxonomic scope for the BCC 2021 is bounded by the Migratory Bird Treaties that the USA has with Canada (1916), Mexico (1936), Japan (1972) and Russia (1976). The USFWS periodically updates the list of migratory birds covered by these treaties, which usually results from changes in taxonomy, status or distribution. The most recent published list of migratory birds (Federal Register 2020b) was used as the basis for developing the BCC 2021. Within this list, birds considered for inclusion in the BCC 2021 either do not have sport-hunting seasons in the USA or have sporting-hunting seasons where little harvest occurs (e.g., rails). Birds that are not sport-hunted in the lower 48 states but are hunted for subsistence in Alaska are also considered. Because the intent of BCC is to highlight potential candidate birds where ESA listing could be averted through proactive conservation attention, the BCC 2021 further excludes any species, subspecies or population of bird already listed as threatened or endangered under ESA. We also eliminated from consideration any bird that currently occurs as an accidental species in the USA per the AOU Checklist (1983) and subsequent updates, or that was introduced into the USA by humans (Federal Register 2005). Although there is a conservation benefit to protecting accidental species that may potentially expand their regular range into the U.S. in the future, additional conservation actions are not currently necessary and would have little effect on the present status of those species. We use the term "taxon" or "taxa" to refer to species, subspecies and delineated populations of birds considered for the BCC 2021.

To present a more comprehensive perspective on the conservation status of birds within the jurisdictions of the USA, we provide additional information in Appendix 1 on taxa that do not fall within the scope of the BCC 2021 but were identified on the Watch Lists of the State of the Birds (Rosenberg et al. 2014) or in the Avian Conservation Assessment Database (Partners in Flight 2019); were listed as endangered or threatened under the ESA as of January 15, 2021; or are believed to be extinct. To our knowledge, a comprehensive presentation of all birds with an elevated conservation status within the USA was heretofore unavailable.

In general, common and scientific names of birds are presented at the species level, except where it is necessary to differentiate among taxa of a species that may occur in the USA but differ in their conservation status among geographic scales or populations (e.g., taxa listed under the ESA). Relevant taxa of island populations are also identified. Geographic and other modifiers are used throughout the tables to aid in identifying such differentiation, particularly at the BCR and MBCR scales. Species-level classification generally follows the American Ornithologists' Union's Checklist of North American Birds, 7th Edition (1983), including changes and supplements through the 61st supplement in 2020 (Chesser et al. 2020). Subspecies and population classification and species classification in the Pacific Islands generally follows Clements et al. (2019), with some exceptions for shorebirds (see Andres et al. 2012).

Assessing Conservation Status

The BCC 2021 represents the first application of a unified approach to evaluate the conservation status of landbirds, shorebirds and waterbirds for the BCC — an approach greatly facilitated through the efforts to promote consistency during the development of the State of the Birds Watch List in 2014 (Rosenberg et al. 2014). Although the overall approach to evaluate conservation status across all

bird groups for the BCC 2021 is now more consistent than previous BCC assessments, data availability and quality still vary widely among taxonomic groups.

Scoring factors and criteria developed by Partners in Flight (Rosenberg et al. 2016, Panjabi et al. 2019) were the primary means for evaluating conservation status of landbirds, shorebirds, and waterbirds. For areas or taxa where it was not possible to directly apply this evaluation approach, we consulted State Wildlife Action Plans for American Samoa (Department of Marine and Wildlife Resources 2006, 2015), Guam (Guam Division of Aquatic and Wildlife Resources 2006), Hawaii (Hawai'i Department of Land and Natural Resources 2015), the Northern Mariana Islands (Liske-Clark 2015), Puerto Rico (Puerto Rico Department of Natural and Environmental Resources 2015), and the U.S. Virgin Islands (Platenberg and Valiulis 2018). We also consulted the IUCN Red List of Threatened Species (2019), particularly for seabirds.

The intent of the assessment for landbirds, shorebirds and waterbirds is to emphasize their conservation status relative to the entire USA. The conservation status of many landbirds reflects their global status, in the case of entire species that breed in, migrate through or winter in the USA. In contrast, most waterbirds and shorebirds tend to have cosmopolitan distributions, and their conservation at the species level includes populations occurring outside of the USA; therefore, we evaluated several species of shorebirds and waterbirds at the North American population scale. At the BCR and MBCR scales, we evaluated the conservation status of taxa relative to each region, to the degree available data and current understanding allowed.

Scores ranging from one to five were assigned to each of six assessment factors, which are presented below along with scoring criteria (see Panjabi et al. 2019 for details). Data on these six factors were recently updated for shorebirds (U.S. Shorebird Conservation Partnership 2016), landbirds (Partners in Flight 2019) and waterbirds (BirdLife International 2015; Wetlands International 2015; Partners in Flight 2019; L. Wires, unpublished data).



Black-footed Albatross pair, Dan Clark/USFWS

Population Size (PS).
The current estimated number of individuals of a taxon. The factor generally refers to the number of breeding adults but varies somewhat among taxonomic groups due to differing biology and estimation methods.

Score	Criterion
1	≥50,000,000 individuals
2	≥5,000,000 and <50,000,000 individuals
3	≥500,000 and <5,000,000 individuals
4	≥50,000 and <500,000 individuals
5	<50,000 individuals

Breeding Distribution (BD) and Nonbreeding Distribution (ND).
This factor is generally derived from maps developed by NatureServe (2015) and Birdlife International (2015). All range sizes are derived from two-dimensional polygons. For island-breeding seabirds, the breeding distribution generally refers to the size of their nesting islands and does not include pelagic foraging areas, which are hard to delineate for many taxa.

Score	Criterion
1	≥4,000,000 km2
2	≥1,000,000 and <4,000,000 km2
3	≥300,000 and <1,000,000 km2
4	≥80,000 and <300,000 km2
5	<80,000 km2

Breeding Threats (TB) and Nonbreeding Threats (TN).
Threats were evaluated based on the cumulative level of significance to the future viability of a taxon within the geographic region of interest. For taxa that are widely dispersed during migration (e.g., landbirds), TN primarily reflects threats during the boreal winter; for groups that aggregate during migration (e.g., shorebirds), TN reflects migration and wintering threats.

Score	Criterion
1	Future conditions are expected to significantly improve for the majority of the taxon.
2	Future conditions are expected to remain stable; no significant threats.
3	Slight to moderate decline in the future suitability of conditions is expected for the majority of the taxon.
4	Severe deterioration in the future suitability of conditions is expected for the majority of the taxon.
5	Extreme deterioration in the future suitability of conditions is expected.

Population Trend (PT).
Forty-year trends from the Breeding Bird Survey (Criterion 1; see https://www.mbr-pwrc.usgs.gov/) provided information on the majority of landbirds. For waterbirds and shorebirds, information was used from a variety of sources and was less comprehensive and quantitative (Criterion 2).

Score	Criterion 1	Criterion 2
1	change ≥ 50%; P ≤ 0.1	significant large increase
2	change 0 to 50%; P ≤ 0.1 change > 0%; P ≤ 0.33 change > -15%; P ≤ 0.33; reliable	significant small increase possible increase stable
3	P >0.33; unreliable or change ≤ -15%; P > 0.33; reliable change -15% to 0%; 0.1 < P < 0.33 change -15% to 0%; P ≤ 0.1	uncertain population change possible small decrease significant small decrease
4	change -15% to -50%; 0.1 < P < 0.33 change -15% to -50%; P ≤ 0.1 change ≤ -50%; 0.1 < P < 0.33	moderate decrease possible large decrease
5	change ≤ -50%; P ≤ 0.1	significant large decrease

Relative Density (RD).
Relative Density is an additional factor assessed at the BCR/MBCR scale but not at the continental scale. RD scores reflect the mean density of a taxa within a BCR/MBCR relative to density in the single BCR/MBCR in which the taxa occurs in its highest density (Panjabi et al. 2019). Nonbreeding season scores and those for MBCRs were often generated using expert opinion).

	Quantitative Criterion		Qualitative Criterion
Score	**Relative abundance**	**Relative frequency**	
0		BCR relative frequency < 1.5% of the maximum relative frequency	has occurred only irregularly, or strong evidence of regular occurrence is lacking
1	BCR relative abundance < 1% of the maximum relative abundance	BCR relative frequency 1.5-3.6% of maximum relative frequency	occurs regularly but in very small numbers or in only a very small part of the region in question
2	BCR relative abundance 1-10% of maximum relative abundance	BCR relative frequency 3.6-21.7% of maximum relative frequency	occurs in low mean abundance relative to the region(s) in which the taxa occurs in maximum density
3	BCR relative abundance 10-25% of maximum relative abundance	BCR relative frequency 21.7-44.6% of maximum relative frequency	occurs in moderate mean abundance relative to the region(s) in which the taxa occurs in maximum density
4	BCR relative abundance 25-50% of maximum relative abundance	BCR relative frequency 44.6-68.1% of maximum relative frequency	occurs in moderately high mean abundance relative to the region(s) in which the taxa occurs in maximum density
5	BCR relative abundance > 50% of maximum relative abundance	BCR relative frequency > 68.1% of maximum relative frequency	occurs in high mean abundance, similar to the region(s) in which the taxa occurs in maximum density

Identifying Birds of Conservation Concern
The following Combined Continental Scores (CCS) of factors and scoring thresholds, based primarily on Panjabi et al. (2019), were used to identify taxa of elevated conservation concern:

CCS(max) ≥ 14 or
CCS(max) = 13 and PT = 5, where

CCS(max) is the maximum score of either CCS(B) or CCS(N),
CCS(B) is Combined Continental Score (Breeding) = PS + BD + TB + PT, and
CCS(N) is Combined Continental Score (Nonbreeding) = PS + ND + TN + PT.

The above criteria are consistent with a breeding season Watch List designation at a North American continental scale (USA and Canada) in the recently published version of the Avian Conservation Assessment Database (Panjabi et al. 2019).

To be included as a Bird of Conservation Concern at the BCR or MBCR scale, a taxon had to meet the Watch List criteria above and had to occur regularly within the region at a manageable level (RD ≥ 2). Taxa breeding in a BCR were generally assessed using the quantitative criteria, whereas nonbreeding taxa were most often assessed using the qualitative criteria.

At the BCR scale, we identified additional taxa that did not meet the criteria for the BCC 2021 Continental list (Watch List) but were nonetheless of elevated conservation concern regionally. Taxa included as birds of conservation concern at the BCR scale had RD ≥ 2 and met the following scoring thresholds, based on the Partners in Flight action codes (Panjabi et al. 2019) at the regional scale:

1) TB or TN = 5 (Critical Recovery); or
2) TB or TN = 4 and PT = 5 (Immediate Management); or
3) Combined Regional Breeding Score (CRBS) ≥17, and
    a) TB or TN = 3 and PT ≥ 4 or (Management Attention)
    b) TB or TN = 4 and PT < 5 (Management Attention).

The CRBS is equivalent to the CCS(B) + RD. Inclusion of nonbreeding taxa at the BCR level was generally based on expert opinion, because BCR-scale nonbreeding scores are not yet incorporated into the Avian Conservation Assessment Database (Panjabi et al. 2019).

These regional criteria for the BCC 2021 were more stringent than the criteria used in the Avian Conservation Assessment Database to identify species of regional concern (Panjabi et al. 2019) but better address the overall mandate of the BCC. A few taxa below the species level were elevated to the Continental list due to continued concern expressed by partners or were subspecies unique to North America (e.g., Swallow-tailed Kite, Gray-headed Chickadee).

Results and Discussion

The BCC 2021 identifies 269 individual bird taxa of conservation concern (Appendix 1). Of these, 135 taxa are of conservation concern at the Continental scale, 88 taxa at the BCR scale, 29 taxa on Puerto Rico and the Virgin Islands and 35 taxa on Hawaii and the Pacific Islands; 18 taxa identified on the Continental/BCR lists are shared with either Puerto Rico and the Virgin Islands or Hawaii and the Pacific Islands (Table 3). The number of taxa on the Hawaii/Pacific Island list appears deceptively low, because a relatively high number of birds there are already listed under the ESA or are extinct (Appendix 2). A few of the taxa identified in the BCC 2021 are currently being considered for listing or de-listing under the ESA.

All major bird groups are represented in the BCC 2021, but shorebirds, seabirds and some landbirds have particularly high representation (Table 4). Of eligible taxa, 53% of shorebirds and 48% of seabirds met criteria for inclusion in the BCC 2021. Based on habitat designations of landbirds provided in Rosenberg et al. (2019), which apply to the Continental and BCR scales (Table 4), a high percentage of taxa inhabiting grasslands (54%) and aridlands (47%) were included in the BCC 2021, as were aerial insectivores (31%). Excluding aridland birds, the other groups experienced the greatest losses of individuals over the last fifty years (Rosenberg et al. 2019).



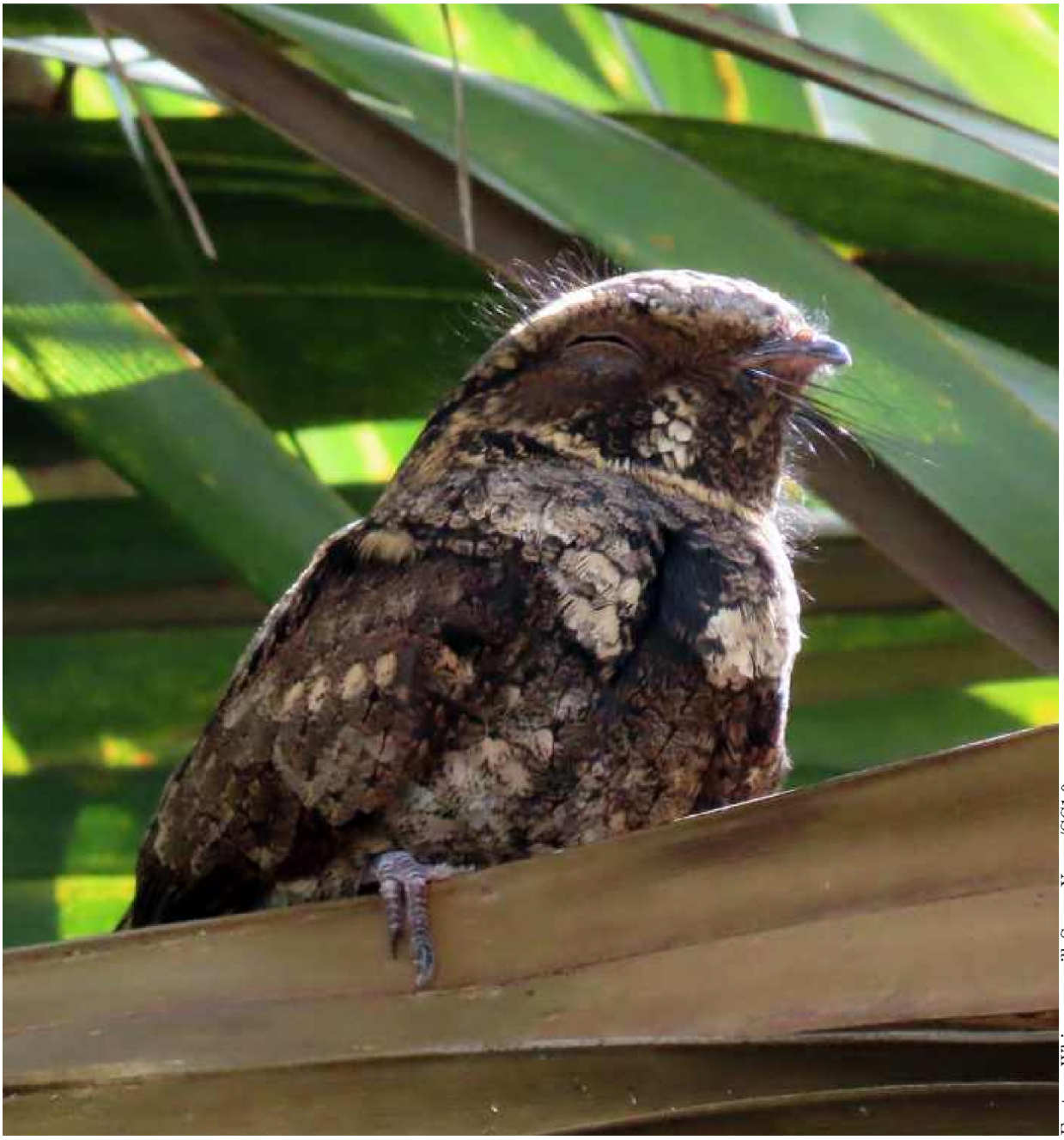
Wilson's Plover, Russ/CC BY 2.0

The BCR/MBCR lists incorporate the 135 taxa of Continental concern where they are considered to occur at manageable levels and include an additional 88 taxa of regional concern within specific BCRs or MBCRs. The number of taxa listed within a BCR ranges from 12 taxa in the Arctic Plains and Mountains to 49 taxa in Coastal California, with an average of 25.4 taxa per BCR (see Tables 5-10). Among MBCRs, the number of taxa ranged from two taxa in the Chuckchi and Beaufort Seas to 13 taxa in the California Current, with an average of 7.4 taxa per MBCR (see Tables 5, 6, 8 and 10).

The BCC 2021 is the latest update in a continuing effort to assess and prioritize migratory birds for conservation purposes (U.S. Department of the Interior 1990; U.S. Fish and Wildlife Service 1982, 1987, 1995, 2002, 2008). Overall, it is difficult to make meaningful comparisons among the lists over the years because of differences in the way each list was constructed. However, the 2021 and 2008 lists were most similar in the assessment approach, with the exception of inclusion of some taxa in 2008 not considered in 2021. Accounting for this difference, the number of taxa was essentially the same on the Continental list between years (133 versus 132 in 2008), had a small increase (8%) on Puerto Rico/Virgin Islands list (28 versus 26 in 2008), and a significant increase (52%) on the Hawaii/Pacific Islands list (35 versus 23 in 2008). Between years, nine taxa identified in the 2008 BCC were listed under the ESA in 2021, and three species de-listed during the period were included in BCC 2021. The increase in Hawaii and the Pacific Islands is attributed to a more thorough treatment of Pacific Islands beyond Hawaii and inclusion of more seabird taxa; additional nonbreeding seabird taxa occurring in continental USA waters were included on the Continental list. Similar numbers of taxa were identified at the BCR level in 2008 and 2021 (84 taxa versus 83). Notwithstanding these differences, a number of taxa identified in 2008 are not included in the BCC 2021, which reflects a real change in our understanding of current conservation status. We do not present USFWS Region lists in 2021 as we did in 2008 and recognize the current acceptance of BCRs and MBCRs as fundamental conservation planning and implementation units.

The State of the Birds produced in 2014 (North American Bird Conservation Initiative, U.S. Committee 2014) provides more details on how land-use change and other environmental threats affect birds in the major ecosystems in the USA, and a more recent analysis provides an overview of declines and losses of birds in North America (Rosenberg et al. 2019). As with the results presented in the BCC 2021, island birds, grassland birds, seabirds and shorebirds demonstrate the greatest conservation need. Although we did not build specific climate change scoring into the current assessment, the 2010 State of the Birds provided an overview of climate change effects on USA birds (North American Bird Conservation Initiative, U.S. Committee 2010). Future updates to the Birds of Conservation Concern might consider including measures of the potential effects of climate change.

Although all of the bird taxa included in the BCC 2021 are priorities for conservation action, this list makes no finding with regard to whether they warrant consideration for ESA listing. Our goal is to avert the need for additional ESA bird listings by implementing and coordinating implementation of proactive management and conservation actions. We recommend that these lists be consulted in accordance with Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds. The BCC 2021 is intended to stimulate coordinated and collaborative proactive conservation actions among federal, state, tribal and private partners. Many of the taxa identified herein are targets of ongoing conservation attention by national and international initiatives (e.g., Partners in Flight, U.S. Shorebird Conservation Partnership), Migratory Bird Joint Ventures, state and federal natural resource agencies, NGOs, and other partnerships.



Eastern Whip-poor-will, Susan Young/CC1.0

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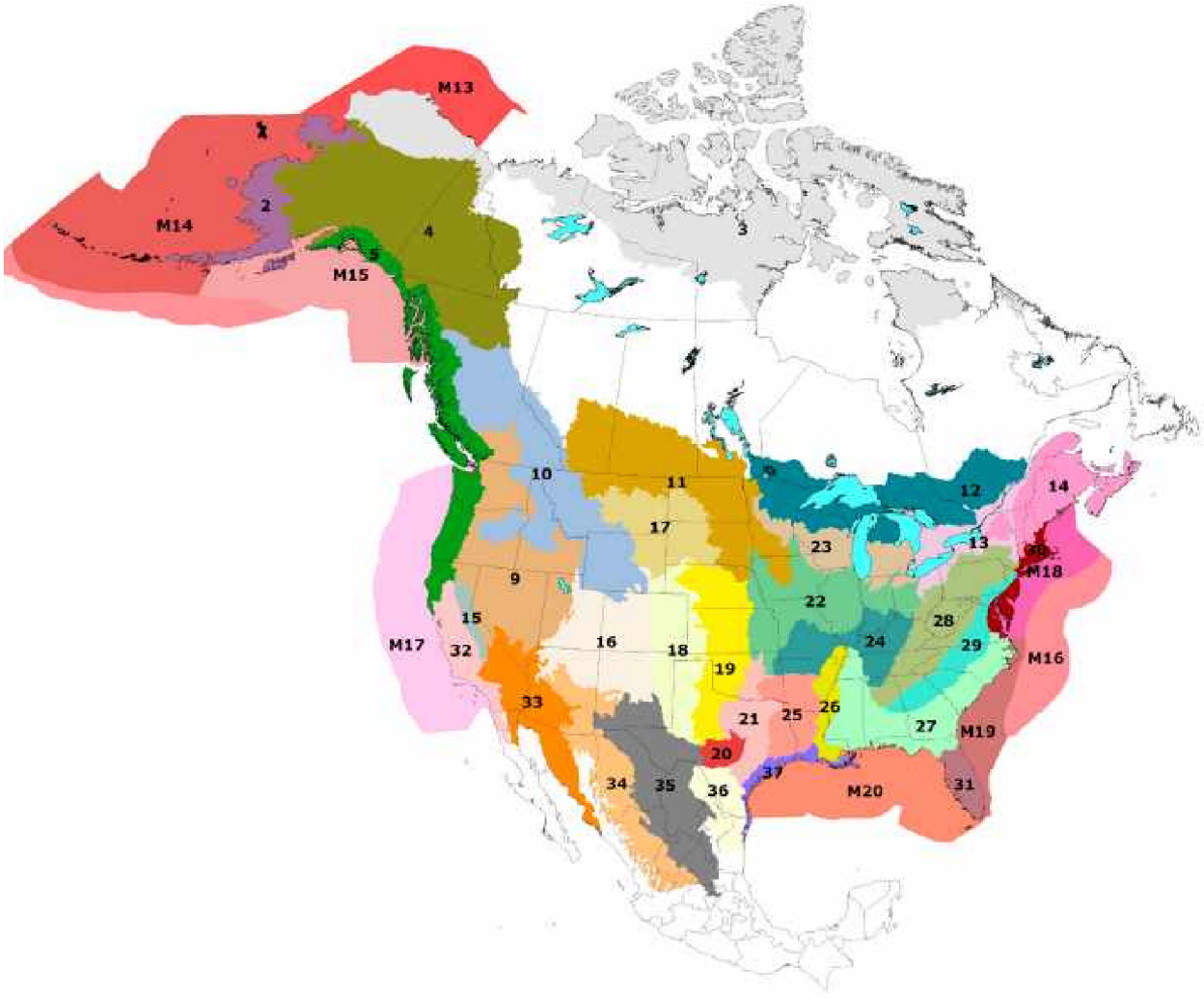


Mariana Fruit-dove, Laura Wolf/CC BY 2.0

Figures

Figure 1.

Map of terrestrial Bird Conservation Regions (BCRs) Marine Bird Conservation Regions (MBCRs) of North America (Bird Studies Canada and NABCI 2014). See Table 2 for BCR and MBCR names.



Tables

Table 1.
Island states, commonwealths, territories and other affiliations of the United States (USA), including the USA territorial sea, contiguous zone and exclusive economic zone considered in the development of the Birds of Conservation Concern 2021.

Hawaii and Pacific Islands
State of Hawaii
American Samoa (unincorporated and unorganized territory)
Commonwealth of the Northern Marianas Islands (aligned through a covenant of "political union")
Guam (unincorporated organized territory)
Unincorporated territories administered by the U.S. Fish and Wildlife Service (USFWS) as National Wildlife Refuges (NWR) unless noted.
Howland Island
Jarvis Island
Johnston Atoll (joint control with the Department of Defense)
Kingman Reef
Midway Atoll
Palmyra Atoll (partially privately owned)
Wake Island (administered by the Department of the Interior)
Puerto Rico and U.S. Virgin Islands
Commonwealth of Puerto Rico (commonwealth)
U.S. Virgin Islands (unincorporated organized territory)
Navassa Island (administered by the USFWS as a NWR)



King Rail, Alan Schmierer/CC0 1.0

Table 2.
Terrestrial Bird Conservation Regions (BCR) and Marine Bird Conservation Regions (MBCR) either wholly or partially within the jurisdiction of the Continental USA, including Alaska, used in the Birds of Conservation Concern 2021.

BCR/ MBCR	BCR/MBCR Name
1	Aleutian/Bering Sea Islands
2	Western Alaska
3	Arctic Plains and Mountains
4	Northwestern Interior Forest
5	Northern Pacific Rainforest
9	Great Basin
10	Northern Rockies
11	Prairie Potholes
12	Boreal Hardwood Transition
13	Lower Great Lakes/St. Lawrence Plain
14	Atlantic Northern Forest
15	Sierra Nevada
16	Southern Rockies/Colorado Plateau
17	Badlands and Prairies
18	Shortgrass Prairie
19	Central Mixed-grass Prairie
20	Edwards Plateau
21	Oaks and Prairies
22	Eastern Tallgrass Prairie
23	Prairie Hardwood Transition
24	Central Hardwoods
25	West Gulf Coastal Plain/Ouachitas
26	Mississippi Alluvial Valley
27	Southeastern Coastal Plain
28	Appalachian Mountains
29	Piedmont
30	New England/Mid-Atlantic Coast
31	Peninsular Florida
32	Coastal California
33	Sonoran and Mohave Deserts
34	Sierra Madre Occidental
35	Chihuahuan Desert
36	Tamaulipan Brushlands
37	Gulf Coastal Prairie
M13	Chukchi and Beaufort Seas
M14	East Bering Sea
M15	Gulf of Alaska
M17	California Current
M18	Northeast U.S. Continental Shelf and U.S. waters (M16) beyond the shelf
M19	Southeast U.S. Continental Shelf and U.S. waters (M16) beyond the shelf
M20	Gulf of Mexico

Table 3.
Birds of Conservation Concern 2021 in the Continental USA (CON), continental Bird Conservation Regions (BCR), Puerto Rico and Virgin Islands (PRVI), and Hawaii and Pacific Islands (HAPI). Refer to Appendix 1 for scientific names of species, subspecies and populations. Breeding (X) and nonbreeding (nb) status are indicated for each geography. Parenthesized names indicate conservation concern only exists for a specific subspecies or population.

Common Name	CON	BCR	PRVI	HAPI
West Indian Whistling-Duck			X	
Pacific Black Duck (Palau)				X
White-cheeked Pintail (West Indies)			X	
Masked Duck			X	
Ruddy Duck (West Indies)			X	
Western Grebe	X			
Clark's Grebe	X			
White-crowned Pigeon	X		X	
White-throated Ground Dove				X
Bridled Quail-Dove			X	
Many-colored Fruit-Dove				X
Mariana Fruit-Dove				X
Pacific Imperial-Pigeon (Pacific)				X
Yellow-billed Cuckoo (Eastern)		X		
Mangrove Cuckoo		X		
Black-billed Cuckoo	X			
Common Nighthawk (Lesser)		X		
Common Nighthawk (Henry's)		X		
Chuck-will's Widow		X		
Eastern Whip-poor-will	X			
Mexican Whip-poor-will	X			
Black Swift	X		X	
Chimney Swift	X			
Vaux's Swift (Vaux's)		X		
Antillean Mango (Puerto Rican)			X	
Lucifer Hummingbird	X			
Costa's Hummingbird		X		
Calliope Hummingbird	X			
Rufous Hummingbird	X			
Allen's Hummingbird	X			
Broad-tailed Hummingbird	X			
King Rail	X			
American Coot (Caribbean)			X	
Australasian (Purple) Swamphen (Samoan)				X
Spotless Crake (Tongan)				X
Yellow Rail	X			
Yellow-breasted Crake (Henderson's)			X	
Limpkin (Puerto Rican/Hispaniolan)			X	
American Avocet		X		
American Oystercatcher	X		X	
Black Oystercatcher	X			

Common Name	CON	BCR	PRVI	HAPI
American Golden-Plover	X			
Wilson's Plover	X		X	
Mountain Plover	X			
Snowy Plover (Interior/Gulf Coast)	X			
Snowy Plover (Caribbean)			X	
Upland Sandpiper		X		
Bristle-thighed Curlew	X			nb
Whimbrel (Atlantic)		X		
Long-billed Curlew		X		
Bar-tailed Godwit	X			
Hudsonian Godwit	X			
Marbled Godwit	X			
Ruddy Turnstone (Atlantic)		X		
Black Turnstone	X			
Red Knot (Pacific)	X			
Dunlin (Northern Alaska)		X		
Dunlin (Hudson Bay)		X		
Rock Sandpiper (Pribilof)		X		
Purple Sandpiper	X			
Buff-breasted Sandpiper	X			
Pectoral Sandpiper	X			
Semipalmated Sandpiper (Eastern/Central)		X	nb	
Short-billed Dowitcher	X			
Solitary Sandpiper (Western)		X		
Wandering Tattler	X			nb
Lesser Yellowlegs	X		nb	
Willet	X		nb	
Marbled Murrelet (Alaska)	X			
Kittlitz's Murrelet	X			
Scripps's Murrelet	X			
Guadalupe Murrelet	nb			
Craveri's Murrelet	nb			
Ancient Murrelet	X			
Cassin's Auklet		X		
Whiskered Auklet	X			
Tufted Puffin		X		
Red-legged Kittiwake	X			
Ivory Gull	nb			
Ross's Gull	nb			
Franklin's Gull	X			
Heermann's Gull	X			
Western Gull	X			
Yellow-footed Gull	nb			
California Gull	X			
Black Noddy (Hawaiian)				X
Blue-gray Noddy (Hawaiian)				X

Common Name	CON	BCR	PRVI	HAPI
Gray-backed Tern				X
Aleutian Tern	X			
Least Tern (Atlantic/Interior)	X		X	
Gull-billed Tern	X			
Black Tern	X			
Common Tern		X		
Forster's Tern		X		
Sandwich Tern		X		
Elegant Tern	X			
Black Skimmer	X			
White-tailed Tropicbird (Atlantic)			X	
Red-billed Tropicbird (Caribbean)			X	
Red-tailed Tropicbird (Black-billed)				X
Yellow-billed Loon	X			
Laysan Albatross	nb			X
Black-footed Albatross	nb			X
Polynesian Storm-Petrel				nb
Ashy Storm-Petrel	X			
Band-rumped Storm-Petrel (Atlantic)	nb			
Black Storm-Petrel	X			
Tristram's Storm-Petrel				X
Murphy's Petrel	nb			
Mottled Petrel	nb			nb
Black-capped Petrel	nb			
Bonin Petrel				X
Fea's Petrel	nb			
Cook's Petrel	nb			nb
Tahiti Petrel				X
Bulwer's Petrel				X
Cory's Shearwater	nb			
Buller's Shearwater	nb			nb
Pink-footed Shearwater	nb			
Christmas Shearwater				X
Manx Shearwater	nb			
Black-vented Shearwater	nb			
Audubon's Shearwater	nb		X	
Magnificent Frigatebird		X	X	
Great Frigatebird (Central Pacific)				X
Masked Booby (Atlantic)			X	
Red-footed Booby (Atlantic)			X	
Brandt's Cormorant	X			
Red-faced Cormorant	X			
American White Pelican		X		
Brown Pelican (Caribbean)			X	
Great Blue Heron (Great White)		X		
Little Blue Heron		X		

Common Name	CON	BCR	PRVI	HAPI
Reddish Egret	X			
Swallow-tailed Kite	X			
Northern Harrier		X		
Harris's Hawk		X		
'Io				X
Ferruginous Hawk		X		
Flammulated Owl	X			
Puerto Rican Screech-Owl (Virgin Islands)			X	
Whiskered Screech-Owl	X			
Western Screech-Owl (Northern Pacific)		X		
Snowy Owl	X			
Burrowing Owl (Western)		X		
Burrowing Owl (Florida)		X		
Spotted Owl (California)	X			
Long-eared Owl	X			
Short-eared Owl	X			
Pueo				X
Northern Saw-whet Owl		X		
Elegant Trogon	X			
Mariana Kingfisher				X
Belted Kingfisher		X		
Lewis's Woodpecker	X			
Red-headed Woodpecker	X			
Gila Woodpecker		X		
Williamson's Sapsucker (Rocky Mountain)		X		
Nuttall's Woodpecker		X		
White-headed Woodpecker (California)		X		
Arizona Woodpecker	X			
Gilded Flicker	X			
American Kestrel (Southeast)		X		
Prairie Falcon		X		
Olive-sided Flycatcher	X			
Cordilleran Flycatcher		X		
Loggerhead Shrike (Eastern)		X		
Black-capped Vireo	X			
Puerto Rican Vireo			X	
Plumbeous Vireo		X		
Pinyon Jay	X			
Island Scrub-Jay	X			
Woodhouse's Scrub-Jay (Woodhouse's)		X		
Clark's Nutcracker		X		
Yellow-billed Magpie	X			
Chihuahuan Raven		X		
Black-capped Chickadee (Appalachian)		X		
Mexican Chickadee	X			
Chestnut-backed Chickadee (Northern)		X		

Common Name	CON	BCR	PRVI	HAPI
Gray-headed Chickadee (Alaska)	X			
Oak Titmouse	X			
Verdin (Southwest)		X		
White-breasted Nuthatch (Slender-billed)		X		
Brown-headed Nuthatch		X		
Marsh Wren (Worthington's)		X		
Bewick's Wren (Eastern)		X		
Cactus Wren (Speckled)		X		
American Dipper		X		
Wrentit	X			
'Ōma'o				X
Veery (Eastern)		X		
Bicknell's Thrush	X			
Wood Thrush	X			
Varied Thrush (Pacific)		X		
Curve-billed Thrasher (Brownsville)		X		
Curve-billed Thrasher (Palmer's)		X		
Bendire's Thrasher	X			
California Thrasher	X			
LeConte's Thrasher	X			
Sage Thrasher		X		
Phainopepla (Southwest)		X		
Sprague's Pipit	X			
Evening Grosbeak	X			
Maui 'Alauahio				X
'Apapane				X
Anianiau				X
Hawai'i 'Amakihi				X
O'ahu 'Amakihi				X
Kaua'i 'Amakihi				X
Black Rosy-Finch	X			
Brown-capped Rosy-Finch	X			
Cassin's Finch	X			
Cassia Crossbill	X			
Lawrence's Goldfinch	X			
Chestnut-collared Longspur	X			
Thick-billed Longspur	X			
McKay's Bunting	X			
Rufous-winged Sparrow	X			
Cassin's Sparrow		X		
Bachman's Sparrow	X			
Grasshopper Sparrow (Northern)		X		
Lark Bunting		X		
Black-chinned Sparrow	X			
Field Sparrow		X		
Vesper Sparrow (Oregon)		X		

Common Name	CON	BCR	PRVI	HAPI
LeConte's Sparrow	X			
Seaside Sparrow (Atlantic/Gulf)	X			
Saltmarsh Sparrow	X			
Baird's Sparrow	X			
Henslow's Sparrow	X			
Savannah Sparrow (Belding's)		X		
Song Sparrow (Alameda/Samuels)		X		
Song Sparrow (Channel Island)		X		
Rufous-crowned Sparrow (Rock)		X		
Yellow-breasted Chat (Eastern)		X		
Yellow-headed Blackbird		X		
Bobolink	X			
Eastern Meadowlark		X		
Puerto Rican Oriole			X	
Orchard Oriole		X		
Bullock's Oriole		X		
Scott's Oriole		X		
Tricolored Blackbird	X			
Rusty Blackbird		X		
Golden-winged Warbler	X			
Blue-winged Warbler		X		
Prothonotary Warbler	X			
Colima Warbler	X			
Virginia's Warbler	X			
Connecticut Warbler	X			
Kentucky Warbler	X			
Common Yellowthroat (San Francisco)		X		
Kirtland's Warbler	X			
Cape May Warbler		X		
Cerulean Warbler	X			
Bay-breasted Warbler		X		
Prairie Warbler	X		nb	
Grace's Warbler	X			
Black-throated Gray Warbler		X		
Hermit Warbler		X		
Black-throated Green Warbler (Wayne's)		X		
Canada Warbler	X			
Red-faced Warbler	X			
Scarlet Tanager		X		
Pyrrhuloxia	X			
Rose-breasted Grosbeak		X		
Varied Bunting	X			
Painted Bunting		X		
Dickcissel		X		
Totals	135	88	29	35

Table 4.
Numbers of taxa of Birds of Conservation Concern 2021 represented on the Continental USA (CON), continental Bird Conservation Region (BCR), Puerto Rico and Virgin Islands (PRVI), Hawaii and Pacific Islands (HAPI) lists by general taxonomic groups and by habitats within landbirds. Also presented are the unique taxa represented on all lists.

	CON	BCR	PRVI	HAPI	Unique Taxa
Landbirds[1]	71	69	8	14	159
aerial insectivores[2]	5	4	1		
grasslands	7	9			
forests	38	33	5	12	
aridlands	13	13			
wetlands	3	8			
other habitats	5	2	2	2	
Shorebirds[3]	19	10	6	2	30
Seabirds[4]	36	7	7	16	58
Waterbirds[5]	8	3	8	3	22
All Taxa	134	88	29	35	269

[1]Doves and pigeons; cuckoos; nightjars and allies; swifts; hummingbirds; eagles and hawks; owls; trogons; kingfishers; woodpeckers; falcons; songbirds (perching birds).

[2]Nightjars and allies; swifts; some flycatchers.

[3]Avocets; oystercatchers; plovers; and sandpipers and allies.

[4]Auks, murres and puffins; gulls, terns and skimmers; tropicbirds; albatrosses; shearwaters and petrels; storm-petrels; frigatebirds; and boobies.

[5]Ducks; grebes; rails, gallinules and coots; limpkins; cranes; loons; storks; cormorants; pelicans; and herons and egrets.



Flammulated Owl, Alan Schmierer/CC0 1.0

Table 5.
Birds of Conservation Concern 2021 designated within BCRs 1, 2, 3, 4 and MBCRs 13, 14, 15. See Table 2 for descriptions of BCRs and MBCRs, Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR or MBCR; breeding BCRs may also support passage or wintering birds.

Taxon Common Name	BCR/MBCR						
	1	2	3	4	M13	M14	M15
Black Oystercatcher	X	X					
American Golden-Plover		X	X	X			
Bristle-thighed Curlew		X		X			
Bar-tailed Godwit		X	X				
Hudsonian Godwit		X		X			
Marbled Godwit		X					
Black Turnstone		X					
Red Knot (Pacific)		X	X				
Dunlin (Northern Alaska)		nb	X				
Rock Sandpiper (Pribilof)	X	nb		nb			
Buff-breasted Sandpiper			X				
Pectoral Sandpiper			X				
Short-billed Dowitcher		X		X			
Solitary Sandpiper (Western)				X			
Wandering Tattler		X	X	X			
Lesser Yellowlegs				X			
Marbled Murrelet (Alaska)	X	X		X		nb	nb
Kittlitz's Murrelet	X	X	X			nb	nb
Ancient Murrelet	X					nb	nb
Whiskered Auklet	X					nb	
Red-legged Kittiwake	X					nb	nb
Ivory Gull					nb	nb	
Ross's Gull					nb		
Aleutian Tern	X	X		X			
Yellow-billed Loon	nb	X	X				nb
Laysan Albatross							nb
Black-footed Albatross						nb	nb
Murphy's Petrel						nb	nb
Mottled Petrel						nb	nb
Buller's Shearwater							nb
Pink-footed Shearwater							nb
Red-faced Cormorant	X	X					
Snowy Owl	X	X	X				
Short-eared Owl	X	X	X	X			
Olive-sided Flycatcher		X		X			
Gray-headed Chickadee (Alaska)			X	X			
McKay's Bunting	X						
Totals	13	20	12	13	2	9	11

Table 6.
Birds of Conservation Concern 2021 designated within BCRs 5, 10, 15, 32 and MBCR 17. See Table 2 for descriptions of BCRs and MBCRs. Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR or MBCR; breeding BCRs may also support passage or wintering birds.

Taxon Common Name	BCR/MBCR				
	5	10	15	32	M17
Western Grebe	X	X	X	X	
Clark's Grebe	X	X	X	X	
Black Swift	X	X	X	X	
Vaux's Swift	X				
Calliope Hummingbird		X	X		
Rufous Hummingbird	X	X			
Allen's Hummingbird	X			X	
Broad-tailed Hummingbird		X			
Yellow Rail		X		nb	
Black Oystercatcher	X			X	
Mountain Plover		X		nb	
Snowy Plover (Interior/Gulf Coast)				X	
Marbled Godwit	nb			nb	
Red Knot (Pacific)	nb			nb	
Rock Sandpiper (Pribilof)	nb				
Short-billed Dowitcher	X			nb	
Lesser Yellowlegs	nb	nb			
Willet	nb	X	X	nb	
Marbled Murrelet (Alaska)	X				
Kittlitz's Murrelet	X				
Scripps's Murrelet				X	nb
Guadalupe Murrelet					nb
Craveri's Murrelet					nb
Ancient Murrelet	X				
Cassin's Auklet	X				
Tufted Puffin	X				nb
Franklin's Gull		X			
Heermann's Gull				X	
Western Gull	X			X	
California Gull	X	X	X	X	
Aleutian Tern	X				
Gull-billed Tern				X	
Black Tern		X		X	
Elegant Tern				X	
Black Skimmer				X	
Laysan Albatross					nb
Black-footed Albatross					nb
Ashy Storm-Petrel				X	nb
Black Storm-Petrel				X	nb
Murphy's Petrel					nb
Cook's Petrel					nb

Taxon Common Name	BCR/MBCR				
	5	10	15	32	M17
Buller's Shearwater					nb
Pink-footed Shearwater					nb
Black-vented Shearwater					nb
Brandt's Cormorant	X			X	
Red-faced Cormorant	X				
Northern Harrier				X	
Flammulated Owl	X	X	X	X	
Western Screech-Owl (Northern Pacific)	X			X	
Burrowing Owl (Western)				X	
Spotted Owl (California)			X	X	
Long-eared Owl		X	X	X	
Short-eared Owl				X	
Lewis's Woodpecker		X	X		
Williamson's Sapsucker (Rocky Mountain)		X			
Nuttall's Woodpecker				X	
White-headed Woodpecker (California)				X	
Olive-sided Flycatcher	X	X	X	X	
Pinyon Jay		X	X	X	
Island Scrub-Jay				X	
Yellow-billed Magpie				X	
Chestnut-backed Chickadee (Northern)	X				
Oak Titmouse	X		X	X	
White-breasted Nuthatch (Slender-billed)	X				
American Dipper			X		
Wrentit	X		X	X	
Varied Thrush (Pacific)	X				
California Thrasher			X	X	
LeConte's Thrasher				X	
Evening Grosbeak	X	X	X		
Black Rosy-Finch		X			
Cassin's Finch	X	X	X	X	
Lawrence's Goldfinch			X	X	
Thick-billed Longspur		X			
Black-chinned Sparrow				X	
Vesper Sparrow (Oregon)	X				
Savannah Sparrow (Belding's)				X	
Song Sparrow (Alameda/Samuels)				X	
Song Sparrow (Channel Island)				X	
Bobolink		X			
Bullock's Oriole				X	
Tricolored Blackbird				X	
Common Yellowthroat (San Francisco)				X	
Black-throated Gray Warbler			X		
Hermit Warbler			X		
Totals	34	24	21	49	13

Table 7.
Birds of Conservation Concern 2021 designated within BCRs 9, 16, 33, 34, 35 and 36. See Table 2 for descriptions of BCRs. Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR; breeding BCRs may also support passage or wintering birds.

Taxon Common Name	BCR/MBCR					
	9	16	33	34	35	36
Western Grebe	X	X	X	X		
Clark's Grebe	X	X	X		X	
Common Nighthawk (Henry's)					X	
Mexican Whip-poor-will				X	X	
Black Swift	X	X				
Chimney Swift						X
Lucifer Hummingbird					X	
Costa's Hummingbird			X			
Calliope Hummingbird	X					
Rufous Hummingbird	X					
Broad-tailed Hummingbird	X	X		X	X	
King Rail						X
Yellow Rail	X					
American Avocet	X		X			
American Golden-Plover						nb
Wilson's Plover						X
Mountain Plover		X	nb		nb	nb
Snowy Plover (Interior/Gulf Coast)	X	X	X		X	X
Long-billed Curlew					nb	nb
Marbled Godwit	nb		nb			
Red Knot (Pacific)	nb					
Buff-breasted Sandpiper						nb
Pectoral Sandpiper	nb	nb				nb
Lesser Yellowlegs	nb	nb				nb
Willet	X		nb			
Franklin's Gull	X					
Yellow-footed Gull			nb			
California Gull	X	X				
Gull-billed Tern			X			X
Black Tern	X					
Forster's Tern	X					
Black Skimmer			X			
American White Pelican	X					
Northern Harrier	X					
Harris's Hawk						X
Ferruginous Hawk					X	
Flammulated Owl	X	X		X	X	
Whiskered Screech-Owl				X		
Burrowing Owl (Western)			X		X	
Long-eared Owl	X	X	X	X		
Short-eared Owl	X	X				

Taxon Common Name	BCR/MBCR					
	9	16	33	34	35	36
Elegant Trogon				X		
Lewis's Woodpecker	X	X		X		
Gila Woodpecker			X			
Arizona Woodpecker				X		
Gilded Flicker			X	X		
Olive-sided Flycatcher	X	X		X		
Cordilleran Flycatcher				X		
Black-capped Vireo					X	
Plumbeous Vireo				X		
Pinyon Jay	X	X	X	X	X	
Woodhouse's Scrub-Jay (Woodhouse's)					X	
Clark's Nutcracker		X				
Chihuahuan Raven						X
Mexican Chickadee				X		
Verdin (Southwest)			X			
Cactus Wren (Speckled)					X	
Curve-billed Thrasher (Palmer's))			X			
Curve-billed Thrasher (Brownsville)						X
Bendire's Thrasher	X	X	X	X	X	
California Thrasher			X			
LeConte's Thrasher			X			
Sage Thrasher	X					
Phainopepla (Southwest)				X		
Sprague's Pipit				nb	nb	nb
Evening Grosbeak	X	X		X	X	
Black Rosy-Finch	X	X				
Brown-capped Rosy-Finch		X				
Cassin's Finch	X	X				
Cassia Crossbill	X					
Lawrence's Goldfinch			X			
Chestnut-collared Longspur				nb	nb	nb
Thick-billed Longspur					nb	
Rufous-winged Sparrow			X	X		
Cassin's Sparrow					X	
Black-chinned Sparrow		X	X	X	X	
Baird's Sparrow				nb	nb	
Yellow-headed Blackbird		X				
Bobolink	X					
Eastern Meadowlark					X	X
Orchard Oriole						X
Scott's Oriole				X	X	
Tricolored Blackbird			X			
Colima Warbler					X	
Virginia's Warbler	X	X		X	X	
Grace's Warbler		X	X	X	X	

Taxon Common Name	BCR/MBCR					
	9	16	33	34	35	36
Black-throated Gray Warbler				X		
Red-faced Warbler				X		
Pyrrhuloxia			X	X	X	X
Varied Bunting				X	X	
Painted Bunting						X
Totals	34	25	27	30	30	20

Table 8.
Birds of Conservation Concern 2021 designated within BCRs 11, 17, 18, 19, 20, 21, 37 and MBCR 20. See Table 2 for descriptions of BCRs and MBCRs. Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR/MBCR; breeding BCRs may also support passage or wintering birds.

Taxon Common Name	BCR/MBCR							
	11	17	18	19	20	21	37	M20
Western Grebe	X	X		X				
Clark's Grebe	X		X					
Black-billed Cuckoo	X	X		X				
Eastern Whip-poor-will	X							
Chimney Swift	X		X	X	X	X	X	
Broad-tailed Hummingbird			X					
King Rail				X			X	
Yellow Rail	X						nb	
American Oystercatcher							X	
American Golden-Plover	nb			nb	nb	nb	nb	
Wilson's Plover							X	
Mountain Plover	X	X	X	nb	nb	nb	nb	
Snowy Plover (Interior/Gulf Coast)			X	X			X	
Whimbrel (Atlantic)			nb	nb			nb	
Long-billed Curlew	X		X		nb	nb	nb	
Hudsonian Godwit	nb		nb	nb			nb	
Marbled Godwit	X	X					nb	
Ruddy Turnstone (Atlantic)	nb						nb	
Red Knot (Pacific)							nb	
Dunlin (Hudson Bay)	nb						nb	
Buff-breasted Sandpiper	nb		nb	nb	nb	nb	nb	
Pectoral Sandpiper	nb		nb	nb	nb	nb	nb	
Short-billed Dowitcher	nb						nb	
Lesser Yellowlegs	nb	nb	nb	nb	nb	nb	nb	
Willet	X	X		X			X	
Franklin's Gull	X	X						
California Gull	X	X						
Least Tern (Atlantic/Interior)				X		X	X	
Gull-billed Tern							X	
Black Tern	X	X		X				
Forster's Tern							X	

Taxon Common Name	BCR/MBCR							
	11	17	18	19	20	21	37	M20
Sandwich Tern							X	
Black Skimmer							X	
Band-rumped Storm-Petrel (Atlantic)								nb
Black-capped Petrel								nb
Cory's Shearwater								nb
Audubon's Shearwater								nb
Magnificent Frigatebird								nb
Little Blue Heron						X		
Reddish Egret							X	
Swallow-tailed Kite							X	
Northern Harrier	X	X	X					
Ferruginous Hawk		X	X					
Burrowing Owl (Western)		X		X				
Long-eared Owl	X	X	X	X				
Short-eared Owl	X	X	nb	nb				
Lewis's Woodpecker		X	X					
Red-headed Woodpecker	X	X	X	X		X	X	
Prairie Falcon		X						
Loggerhead Shrike (Eastern)						X	X	
Black-capped Vireo				X	X			
Pinyon Jay		X	X					
American Dipper		X						
Sprague's Pipit	X	X	nb	nb		nb	nb	
Chestnut-collared Longspur	X	X	X	nb	nb			
Thick-billed Longspur	X	X	X	nb	nb			
Grasshopper Sparrow (Northern)	X	X	X		X			
Lark Bunting		X		X				
Field Sparrow					X			
LeConte's Sparrow	X						nb	
Seaside Sparrow (Atlantic/Gulf)							X	
Baird's Sparrow	X	X						
Henslow's Sparrow	X					X	X	
Rufous-crowned Sparrow (Rock)					X			
Bobolink	X	X		X				
Eastern Meadowlark					X			
Golden-winged Warbler	X							
Prothonotary Warbler						X	X	
Kentucky Warbler						X		
Pyrrhuloxia			X	X	X		X	
Painted Bunting					X		X	
Dicksissel							X	
Totals	33	26	22	27	16	15	36	5

Table 9.
Birds of Conservation Concern 2021 designated within BCRs 12, 13, 22, 23, 24, 25, 26, 28 and 29. See Table 2 for descriptions of BCRs. Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR; breeding BCRs may also support passage or wintering birds.

Taxon Common Name	BCR/MBCR								
	12	13	22	23	24	25	26	28	29
Western Grebe				X					
Yellow-billed Cuckoo (Eastern)								X	
Black-billed Cuckoo	X	X	X	X	X			X	X
Common Nighthawk (Lesser)								X	
Chuck-will's Widow						X		X	X
Eastern Whip-poor-will	X	X	X	X	X	X	X	X	X
Chimney Swift	X	X	X	X	X	X	X	X	X
King Rail			X	X	X	X	X		X
Yellow Rail	X			X		nb	nb		
American Golden-Plover		nb	nb	nb		nb	nb		
Upland Sandpiper		X	X	X					
Whimbrel (Atlantic)	nb								
Hudsonian Godwit			nb						
Marbled Godwit				X					
Ruddy Turnstone (Atlantic)	nb	nb	nb	nb					
Dunlin (Hudson Bay)	nb	nb	nb	nb					
Buff-breasted Sandpiper		nb	nb	nb					
Pectoral Sandpiper	nb	nb	nb	nb		nb	nb		
Semipalmated Sandpiper (Eastern/Central)	nb	nb	nb	nb	nb		nb		
Short-billed Dowitcher		nb	nb	nb					
Lesser Yellowlegs	nb	nb	nb	nb	nb	nb	nb		
Least Tern (Atlantic/Interior)					X	X	X		
Black Tern	X			X					
Common Tern	X								
Little Blue Heron							X		
Swallow-tailed Kite						X	X		
Long-eared Owl	X	X		X					
Short-eared Owl		nb	nb	nb	nb				nb
Northern Saw-whet Owl								X	
Belted Kingfisher		X							
Red-headed Woodpecker		X	X	X	X	X	X	X	X
American Kestrel (Southeast)						X			
Olive-sided Flycatcher	X								
Loggerhead Shrike (Eastern)			X						
Black-capped Chickadee (Appalachian)								X	
Brown-headed Nuthatch					X	X			
Bewick's Wren (Eastern)					X	X			
Veery (Eastern)	X								
Bicknell's Thrush								X	

Taxon Common Name	BCR/MBCR								
	12	13	22	23	24	25	26	28	29
Wood Thrush	X	X	X	X	X	X	X	X	X
Sprague's Pipit						nb			
Evening Grosbeak	X	X							
Bachman's Sparrow					X	X			
Grasshopper Sparrow (Northern)			X	X	X				X
Field Sparrow					X				
LeConte's Sparrow	X			X	nb	nb	nb		
Henslow's Sparrow			X	X	X	nb	nb	X	
Bobolink	X	X	X	X	X			X	
Eastern Meadowlark		X							
Rusty Blackbird			nb	nb	nb		nb	nb	nb
Golden-winged Warbler	X	X		X				X	
Blue-winged Warbler		X							
Prothonotary Warbler			X		X	X	X	X	X
Connecticut Warbler	X								
Kentucky Warbler			X		X	X	X	X	X
Kirtland's Warbler	X			X					
Cerulean Warbler	X	X	X	X	X		X	X	X
Prairie Warbler		X			X	X	X	X	X
Canada Warbler	X	X		X				X	
Rose-breasted Grosbeak		X							
Totals	24	26	25	30	23	22	20	20	14



Bicknell's Thrush, Alan Schmierer/CC0 1.0

Table 10.
Birds of Conservation Concern 2021 designated within BCRs 14, 27, 30, 31 and MBCR 18, 19. See Table 2 for descriptions of BCRs and MBCRs. Scientific names of species, subspecies and populations are provided in Appendix 1. Breeding (X) and nonbreeding (nb) status are indicated for each BCR/MBCR; breeding BCRs may also support passage or wintering birds.

Taxon Common Name	BCR/MBCR					
	14	27	30	31	M18	M19
White-crowned Pigeon				X		
Mangrove Cuckoo				X		
Black-billed Cuckoo	X		X			
Chuck-will's Widow		X				
Eastern Whip-poor-will	X	X	X			
Chimney Swift	X	X	X	X		
King Rail		X	X	X		
Yellow Rail		nb		nb		
American Oystercatcher		X	X	X		
Wilson's Plover		X		X		
Snowy Plover (Interior/Gulf Coast)		X		X		
Whimbrel (Atlantic)	nb	nb	nb	nb		
Hudsonian Godwit	nb		nb			
Marbled Godwit		nb				
Ruddy Turnstone (Atlantic)		nb	nb	nb		
Dunlin (Hudson Bay)		nb	nb	nb		
Purple Sandpiper	nb	nb	nb			
Pectoral Sandpiper		nb	nb	nb		
Semipalmated Sandpiper (Eastern/ Central)	nb	nb	nb	nb		
Short-billed Dowitcher		nb	nb	nb		
Lesser Yellowlegs	nb	nb	nb	nb		
Willet	X	X	X	X		
Least Tern (Atlantic/Interior)		X	X	X		
Gull-billed Tern		X	X	X		
Black Skimmer		X	X	X		
Band-rumped Storm-Petrel (Atlantic)					nb	nb
Black-capped Petrel						nb
Fea's Petrel					nb	nb
Cory's Shearwater					nb	nb
Manx Shearwater					nb	nb
Audubon's Shearwater					nb	nb
Magnificent Frigatebird				X		nb
Great Blue Heron (Great White)				X		
Reddish Egret				X		
Swallow-tailed Kite		X		X		
Burrowing Owl (Florida)				X		
Long-eared Owl	X		X			
Short-eared Owl	nb		nb			
Red-headed Woodpecker		X	X	X		

Taxon Common Name	BCR/MBCR					
	14	27	30	31	M18	M19
American Kestrel (Southeast)		X		X		
Olive-sided Flycatcher	X					
Brown-headed Nuthatch		X				
Marsh Wren (Worthington's)				X		
Veery (Eastern)	X					
Bicknell's Thrush	X					
Wood Thrush	X	X	X			
Evening Grosbeak	X					
Bachman's Sparrow		X		X		
Grasshopper Sparrow (Northern)		X	X			
LeConte's Sparrow		nb				
Seaside Sparrow (Atlantic/Gulf)		X	X	X		
Saltmarsh Sparrow		nb	X	nb		
Henslow's Sparrow		nb		nb		
Yellow-breasted Chat (Eastern)			X			
Bobolink	X		X			
Rusty Blackbird		nb	nb			
Blue-winged Warbler			X			
Prothonotary Warbler		X	X			
Kentucky Warbler		X	X			
Cape May Warbler	X					
Cerulean Warbler		X	X			
Bay-breasted Warbler	X					
Prairie Warbler	X	X	X	X		
Black-throated Green Warbler (Wayne's)		X				
Canada Warbler	X		X			
Scarlet Tanager			X			
Rose-breasted Grosbeak	X					
Painted Bunting		X		X		
Totals	22	39	35	32	5	7



Yellow-billed Loon, Bob Wick/BLM

Appendices

Appendix 1.
Common and scientific names of species, subspecies, and populations designated as Birds of Conservation Concern 2021, listed as threatened or endangered under the USA Endangered Species Act, considered as extinct in the wild, or included as non-migratory birds on the Watch Lists of the State of the Birds (Rosenberg et al. 2014) or in the Avian Conservation Assessment Database (Partners in Flight 2019). Taxonomic sequence and nomenclature follow the American Ornithologists' Union Check-list of North American Birds, 7th Edition (1998), through the 60th supplement (2019). Subspecies and population nomenclature follow Andres et al. (2012) and Clements et al. (2019); nomenclature for Pacific island species follows Clements et al. (2019).

Common Name	Scientific Name	BCC 2021[1]			ESA/WL[2]	
		CO	PV	HP	List	Area
West Indian Whistling-Duck	Dendrocygna arborea		P			
Emperor Goose	Anser canagicus				W	C
Brant	Branta bernicla				W	C
Nēnē	Branta sandvicensis				E	H
Cinnamon Teal	Spatula cyanoptera				W	C
Pacific Black Duck (Palau)	Anas superciliosa pelewensis			H		
Laysan Duck	Anas laysanensis				E	H
Hawaiian Duck/Koloa	Anas wyvilliana				E	H
Mariana Mallard	Anas oustaleti (?)				X	H
Mottled Duck	Anas fulvigula				W	C
White-cheeked Pintail (West Indies)	Anas bahamensis bahamensis		P			
Steller's Eider	Polysticta stelleri				T	C
Spectacled Eider	Somateria fischeri				T	C
Labrador Duck	Camptorhynchus labradorius				X	C
Masked Duck	Nomonyx dominicus		P			
Ruddy Duck (West Indies)	Oxyura jamaicensis (West Indies)		P			
Micronesian Scrubfowl (Mariana)	Megapodius laperouse laperouse				E	H
Mountain Quail	Oreortyx pictus				W	C
Northern Bobwhite (Masked)	Colinus virginianus ridgwayi				E	C
Greater Sage-Grouse	Centrocercus urophasianus				W	C
Gunnison Sage-Grouse	Centrocercus minimus				T	C
Greater Prairie-Chicken	Tympanuchus cupido pinnatus				W	C
Greater Prairie-Chicken (Heath Hen)	Tympanuchus cupido cupido				X	C
Attwater's (Greater) Prairie-Chicken	Tympanuchus cupido attwateri				E	C
Lesser Prairie-Chicken	Tympanuchus pallidicinctus				W	C
Western Grebe	Aechmophorus occidentalis	C				
Clark's Grebe	Aechmophorus clarkii	C				
White-crowned Pigeon	Patagioenas leucocephala	C	P			

Common Name	Scientific Name	BCC 2021[1]			ESA/WL[2]	
		CO	PV	HP	List	Area
Plain Pigeon (Puerto Rican)	Patagioenas inornata wetmorei				E	P
Passenger Pigeon	Ectopistes migratorius				X	C
Shy (Friendly) Ground Dove	Alopecoenas stairi				E	H
White-throated Ground Dove	Alopecoenas xanthonurus			H		
Bridled Quail-Dove	Geotrygon mystacea		P			
Many-colored Fruit-Dove	Ptilinopus perousii perousii			H		
Mariana Fruit-Dove	Ptilinopus roseicapilla			H		
Pacific Imperial-Pigeon (Pacific)	Ducula pacifica pacifica			H		
Yellow-billed Cuckoo (Western)	Coccyzus americanus (Western)				T	C
Yellow-billed Cuckoo (Eastern)	Coccyzus americanus (Eastern)	R				
Mangrove Cuckoo	Coccyzus minor	R				
Black-billed Cuckoo	Coccyzus erythropthalmus	C				
Common Nighthawk (Lesser)	Chordeiles minor minor	R				
Common Nighthawk (Henry's)	Chordeiles minor henryi	R				
Chuck-will's Widow	Antrostomus carolinensis	R				
Eastern Whip-poor-will	Antrostomus vociferus	C				
Mexican Whip-poor-will	Antrostomus arizonae	C				
Puerto Rican Nightjar	Antrostomus noctitherus				E	P
Black Swift	Cypseloides niger	C	P			
Chimney Swift	Chaetura pelagica	C				
Vaux's Swift (Vaux's)	Chaetura vauxi vauxi	R				
Mariana Swiftlet	Aerodramus bartschi				E	H
Antillean Mango (Puerto Rican)	Anthracothorax dominicus aurulentus		P			
Lucifer Hummingbird	Calothorax lucifer	C				
Costa's Hummingbird	Calypte costae	R				
Calliope Hummingbird	Selasphorus calliope	C				
Rufous Hummingbird	Selasphorus rufus	C				
Allen's Hummingbird	Selasphorus sasin	C				
Broad-tailed Hummingbird	Selasphorus platycercus	C				
Antillean Cave-Rail	Nesotrochis debooyi				X	P
Ridgway's Rail (California)	Rallus obsoletus obsoletus				E	C
Ridgway's Rail (Light-footed)	Rallus obsoletus levipes				E	C
Ridgway's Rail (Yuma)	Rallus obsoletus yumanensis				E	C
King Rail	Rallus elegans	C				
Guam Rail	Gallirallus owstoni				E	H
Wake Island Rail	Gallirallus wakensis				X	H
Common Gallinule (Hawaiian)	Gallinula galeta sandvicensis				E	H
Common Moorhen (Mariana)	Gallinula chloropus guami				E	H
Hawaiian Coot	Fulica alai				E	H
American Coot (Caribbean)	Fulica americana americana (Caribbean)		P			
Australasian (Purple) Swamphen (Samoan)	Porphyrio (porphyrio) melanotus samoensis			H		
Laysan Rail	Zapornia palmeri				X	H

Common Name	Scientific Name	BCC 2021[1]			ESA/WL[2]	
		CO	PV	HP	List	Area
Hawaiian Rail	Zapornia sandwichensis				X	H
Spotless Crake (Tongan)	Zapornia tabuensis tabuensis			H		
Yellow Rail	Coturnicops noveboracensis	C				
Yellow-breasted Crake (Henderson's)	Hapalocrex flaviventer hendersoni		P			
Black Rail	Laterallus jamaicensis jamaicensis/ coturniculus				E	C,P
Limpkin (Puerto Rican/Hispaniolan)	Aramus guarauna elucus		P			
Sandhill Crane (Mississippi)	Antigone canadensis pulla				E	C
Whooping Crane	Grus americana				E	C
Black-necked Stilt (Hawaiian)	Himantopus mexicanus knudseni				E	H
American Avocet	Recurvirostra americana	R				
American Oystercatcher	Haematopus palliatus	C	P			
Black Oystercatcher	Haematopus bachmani	C				
American Golden-Plover	Pluvialis dominica	C				
Piping Plover (Atlantic)	Charadrius melodus melodus				T	C
Piping Plover (Great Lakes)	C. m. circumcinctus (Great Lakes)				E	C
Piping Plover (Great Plains)	C. m. circumcinctus (Great Plains)				T	C
Wilson's Plover	Charadrius wilsonia	C	P			
Mountain Plover	Charadrius montanus	C				
Snowy Plover (Pacific Coast)	Charadrius nivosus nivosus (Pacific Coast)				T	C
Snowy Plover (Interior/Gulf Coast)	C. n. nivosus (Interior/Gulf Coast)	C				
Snowy Plover (Caribbean)	C. n. tenuirostris		P			
Upland Sandpiper	Bartramia longicauda	R				
Bristle-thighed Curlew	Numenius tahitiensis	C		H		
Whimbrel (Atlantic)	Numenius phaeopus hudsonicus (Atlantic)	R				
Eskimo Curlew	Numenius borealis				E	C
Long-billed Curlew	Numenius americanus	R				
Bar-tailed Godwit	Limosa lapponica	C				
Hudsonian Godwit	Limosa haemastica	C				
Marbled Godwit	Limosa fedoa	C				
Ruddy Turnstone (Atlantic)	Arenaria interpres morinella	R				
Black Turnstone	Arenaria melanocephala	C				
Red Knot (Atlantic)	Calidris canutus rufa				T	C
Red Knot (Pacific)	Calidris canutus roselaari	C				
Dunlin (Northern Alaska)	Calidris alpina arcticola	R				
Dunlin (Hudson Bay)	Calidris alpina hudsonia	R				
Rock Sandpiper (Pribilof)	Calidris ptilocnemis ptilocnemis	R				
Purple Sandpiper	Calidris maritima	C				
Buff-breasted Sandpiper	Calidris subruficollis	C				
Pectoral Sandpiper	Calidris melanotos	C				
Semipalmated Sandpiper (Eastern/ Central)	Calidris pusilla (Eastern/Central)	R	P			
Short-billed Dowitcher	Limnodromus griseus	C				

Common Name	Scientific Name	BCC 2021[1]			ESA/WL[2]	
		CO	PV	HP	List	Area
American Woodcock	Scolopax minor				W	C
Solitary Sandpiper (Western)	Tringa solitaria cinnamomea	R				
Wandering Tattler	Tringa incana	C		H		
Lesser Yellowlegs	Tringa flavipes	C	P			
Willet	Tringa semipalmata	C	P			
Great Auk	Pinguinus impennis				X	C
Marbled Murrelet (CA/OR/WA)	Brachyramphus marmoratus (California/ Oregon/ Washington)				T	C
Marbled Murrelet (Alaska)	Brachyramphus marmoratus (Alaska)	C				
Kittlitz's Murrelet	Brachyramphus brevirostris	C				
Scripps's Murrelet	Synthliboramphus scrippsi	C				
Guadalupe Murrelet	Synthliboramphus hypoleucus	C				
Craveri's Murrelet	Synthliboramphus craveri	C				
Ancient Murrelet	Synthliboramphus antiquus	C				
Cassin's Auklet	Ptychoramphus aleuticus	R				
Whiskered Auklet	Aethia pygmaea	C				
Tufted Puffin	Fratercula cirrhata	R				
Red-legged Kittiwake	Rissa brevirostris	C				
Ivory Gull	Pagophila eburnea	C				
Ross's Gull	Rhodostethia rosea	C				
Franklin's Gull	Leucophaeus pipixcan	C				
Heermann's Gull	Larus heermanni	C				
Western Gull	Larus occidentalis	C				
Yellow-footed Gull	Larus livens	C				
California Gull	Larus californicus	C				
Black Noddy (Hawaiian)	Anous minutus melanogenys			H		
Blue-gray Noddy (Hawaiian)	Anous cerulea saxatilis			H		
Gray-backed Tern	Onychoprion lunata			H		
Aleutian Tern	Onychoprion aleuticus	C				
Least Tern (California)	Sternula antillarum brownii				E	C
Least Tern (Atlantic/Interior)	Sternula antillarum antillarum/ athalassos	C	P			
Gull-billed Tern	Gelochelidon nilotica	R				
Black Tern	Chlidonias niger surinamensis	C				
Roseate Tern	Sterna dougallii dougallii				E/T	C,P
Common Tern	Sterna hirundo	R				
Forster's Tern	Sterna forsteri	R				
Sandwich Tern	Thalasseus sandvicensis	R				
Elegant Tern	Thalasseus elegans	C				
Black Skimmer	Rynchops niger	C				
White-tailed Tropicbird (Atlantic)	Phaethon lepturus catesbyi		P			
Red-billed Tropicbird (Caribbean)	Phaethon aethereus mesonauta (Caribbean)		P			

Common Name	Scientific Name	BCC 2021[1]			ESA/WL[2]	
		CO	PV	HP	List	Area
Red-tailed Tropicbird (Black-billed)	Phaethon rubricauda melanorhynchos			H		
Yellow-billed Loon	Gavia adamsii	C				
Laysan Albatross	Phoebastria immutabilis	C		H		
Black-footed Albatross	Phoebastria nigripes	C		H		
Short-tailed Albatross	Phoebastria albatrus				E	C,H
Polynesian Storm-Petrel	Nesofregetta fuliginosa			H		
Ashy Storm-Petrel	Hydrobates homochroa	C				
Band-rumped Storm-Petrel (Pacific)	Hydrobates castro (Pacific)				E	H
Band-rumped Storm-Petrel (Atlantic)	Hydrobates castro (Atlantic)	C				
Black Storm-Petrel	Hydrobates melania	C				
Tristram's Storm-Petrel	Hydrobates tristrami			H		
Murphy's Petrel	Pterodroma ultima	C				
Mottled Petrel	Pterodroma inexpectata	C		H		
Bermuda Petrel	Pterodroma cahow				E	C
Black-capped Petrel	Pterodroma hasitata	C				
Hawaiian Petrel	Pterodroma sandwichensis				E	H
Bonin Petrel	Pterodroma hypoleuca			H		
Fea's Petrel	Pterodroma feae	C				
Cook's Petrel	Pterodroma cookii	C		H		
Tahiti Petrel	Pseudobulweria rostrata			H		
Bulwer's Petrel	Bulweria bulwerii			H		
Cory's Shearwater	Calonectris diomedea	C				
Buller's Shearwater	Ardenna bulleri	C		H		
Pink-footed Shearwater	Ardenna creatopus	C				
Christmas Shearwater	Puffinus nativitatis			H		
Manx Shearwater	Puffinus puffinus	C				
Newell's Shearwater	Puffinus newelli				T	H
Black-vented Shearwater	Puffinus opisthomelas	C				
Audubon's Shearwater	Puffinus lherminieri	C	P			
Wood Stork (Southeast USA)	Mycteria americana (Southeast USA)				T	C
Magnificent Frigatebird	Fregata magnificens	R	P			
Great Frigatebird (Central Pacific)	Fregata minor palmerstoni			H		
Masked Booby (Atlantic)	Sula dactylatra dactylatra		P			
Red-footed Booby (Atlantic)	Sula sula sula		P			
Brandt's Cormorant	Phalacrocorax penicillatus	C				
Red-faced Cormorant	Phalacrocorax urile	C				
American White Pelican	Pelecanus erythrorhynchos	R				
Brown Pelican (Caribbean)	Pelecanus occidentalis occidentalis		P			
Great Blue Heron (Great White)	Ardea herodias occidentalis	R				
Little Blue Heron	Egretta caerulea	R				
Reddish Egret	Egretta rufescens	C				
California Condor	Gymnogyps californianus				E	C

Common Name	Scientific Name	BCC 2021[1]			ESA/WL[2]	
		CO	PV	HP	List	Area
Swallow-tailed Kite	Elanoides forficatus	C				
Northern Harrier	Circus hudsonius	R				
Sharp-shinned Hawk (Puerto Rican)	Accipiter striatus venator				E	P
Snail Kite (Everglade)	Rostrhamus sociabilis plumbeus				E	C
Harris's Hawk	Parabuteo unicinctus harrisi	R				
Broad-winged Hawk (Puerto Rican)	Buteo platypterus brunnescens				E	P
'Io	Buteo solitarius			H		
Ferruginous Hawk	Buteo regalis	R				
Flammulated Owl	Psiloscops flammeolus	C				
Puerto Rican Screech-Owl (Virgin Islands)	Megascops nudipes newtoni		P			
Whiskered Screech-Owl	Megascops trichopsis	C				
Western Screech-Owl (Northern Pacific)	Megascops kennicottii kennicottii/ cardonensis	R				
Snowy Owl	Bubo scandiacus	C				
Burrowing Owl (Western)	Athene cunicularia hypugaea	R				
Burrowing Owl (Florida)	Athene cunicularia floridana	R				
Spotted Owl (California)	Strix occidentalis occidentalis	C				
Spotted Owl (Northern)	Strix occidentalis caurina				T	C
Spotted Owl (Mexican)	Strix occidentalis lucida				T	C
Long-eared Owl	Asio otus	C				
Short-eared Owl	Asio flammeus flammeus	C				
Pueo	Asio flammeus sandwichensis			H		
Northern Saw-whet Owl	Aegolius acadicus	R				
Elegant Trogon	Trogon elegans	C				
Guam Kingfisher	Todiramphus cinnamominus				E	H
Mariana Kingfisher	Todiramphus albicilla			H		
Belted Kingfisher	Megaceryle alcyon	R				
Lewis's Woodpecker	Melanerpes lewis	C				
Red-headed Woodpecker	Melanerpes erythrocephalus	C				
Gila Woodpecker	Melanerpes uropygialis	R				
Williamson's Sapsucker (Rocky Mountain)	Sphyrapicus thyroideus nataliae	R				
Nuttall's Woodpecker	Drybates nuttallii	R				
Red-cockaded Woodpecker	Drybates borealis				E	C
White-headed Woodpecker (California)	Drybates albolarvatus gravirostris	R				
Arizona Woodpecker	Drybates arizonae	C				
Gilded Flicker	Colaptes chrysoides	C				
Ivory-billed Woodpecker	Campephilus principalis				X	C
Crested Caracara (Audubon's)	Caracara cheriway audubonii				T	C
American Kestrel (Southeast)	Falco sparverius paulus	R				
Aplomado Falcon (Northern)	Falco femoralis septentrionalis				E	C
Prairie Falcon	Falco mexicanus	R				
Blue-crowned Lorikeet	Vini australis				W	H
Carolina Parakeet	Conuropsis carolinensis				X	C

Common Name	Scientific Name	BCC 2021[1]			ESA/WL[2]	
		CO	PV	HP	List	Area
Green Parakeet	Psittacara holochlorus				W	C
Puerto Rican Parakeet	Psittacara maugei				X	P
Thick-billed Parrot	Rhynchopsitta pachyrhyncha				E	C
Puerto Rican Parrot	Amazona vittata				E	P
Red-crowned Parrot	Amazona viridigenalis				W	C
Olive-sided Flycatcher	Contopus cooperi	C				
Willow Flycatcher (Southwestern)	Empidonax traillii extimus				E	C
Cordilleran Flycatcher	Empidonax occidentalis	R				
Micronesian Myzomela	Myzomela rubratra saffordi				W	H
Mao	Gymnomyza samoensis				E	H
Loggerhead Shrike (San Clemente)	Lanius ludovicianus mearnsi				E	C
Loggerhead Shrike (Eastern)	Lanius ludovicianus excubitorides/ migrans	R				
Black-capped Vireo	Vireo atricapilla	C				
Puerto Rican Vireo	Vireo latimeri		P			
Bell's Vireo (Least)	Vireo bellii pusillus				E	C
Plumbeous Vireo	Vireo plumbeus	R				
Pinyon Jay	Gymnorhinus cyanocephalus	C				
Florida Scrub-Jay	Aphelocoma coerulescens				T	C
Island Scrub-Jay	Aphelocoma insularis	C				
Woodhouse's Scrub-Jay (Woodhouse's)	Aphelocoma woodhouseii woodhouseii	R				
Clark's Nutcracker	Nucifraga columbiana	R				
Yellow-billed Magpie	Pica nuttalli	C				
Mariana Crow	Corvus kubaryi				E	H
White-necked Crow	Corvus leucognaphalus				E	P
Hawaiian Crow/'Alalā	Corvus hawaiiensis				E	H
Chihuahuan Raven	Corvus cryptoleucus	R				
Rufous Fantail (Guam)	Rhipidura rufifrons uraniae				X	H
Rufous Fantail (Saipan)	Rhipidura rufifrons saipanensis				W	H
Rufous Fantail (Rota)	Rhipidura rufifrons mariae				W	H
Hawai'i ʻElepaio	Chasiempis sandwichensis				W	H
Kaua'i ʻElepaio	Chasiempis sclateri				W	H
O'ahu ʻElepaio	Chasiempis ibidis				E	H
Fiji Shrikebill (Manua)	Clytorhynchus vitiensis powelli				W	H
Tinian Monarch	Monarcha takatsukasae				W	H
Guam Flycatcher	Myiagra freycineti				X	H
Horned Lark (Streaked)	Eremophila alpestris strigata				T	C
Black-capped Chickadee (Appalachian)	Poecile atricapillus practicus	R				
Mexican Chickadee	Poecile sclateri	C				
Chestnut-backed Chickadee (Northern)	Poecile rufescens rufescens	R				
Gray-headed Chickadee (Alaska)	Poecile cinctus lathami	C				
Oak Titmouse	Baeolophus inornatus	C				

Common Name	Scientific Name	BCC 2021[1]			ESA/WL[2]	
		CO	PV	HP	List	Area
Verdin (Southwest)	Auriparus flaviceps acaciarum	R				
White-breasted Nuthatch (Slender-billed)	Sitta carolinensis aculeata	R				
Brown-headed Nuthatch	Sitta pusilla	R				
Marsh Wren (Worthington's)	Cistothorus palustris griseus	R				
Bewick's Wren (Eastern)	Thryomanes bewickii bewickii	R				
Cactus Wren (Speckled)	Campylorhynchus brunneicapillus guttatus	R				
California Gnatcatcher (Coastal)	Polioptila californica californica				T	C
American Dipper	Cinclus mexicanus	R				
Wrentit	Chamaea fasciata	C				
Golden White-eye	Cleptornis marchei				W	H
Bridled White-eye (Guam)	Zosterops conspicillatus conspicillatus				X	H
Bridled White-eye (Saipan)	Zosterops conspicillatus saypani				W	H
Rota White-eye	Zosterops rotensis				E	H
Nightingale Reed Warbler (Guam)	Acrocephalus luscinius				X	H
Nightingale (Saipan) Reed Warbler	Acrocephalus luscinius/hiwae				E	H
Aguiguan Reed Warbler	Acrocephalus nijoi				X	H
Pagan Reed Warbler	Acrocephalus yamashinae				X	H
Millerbird (Nihoa)	Acrocephalus familiaris kingi				E	H
Kāma'o	Myadestes myadestinus				X	H
Āmaui	Myadestes woahensis				X	H
Oloma‘o	Myadestes lanaiensis rutha				E	H
'Ōma'o	Myadestes obscurus			H		
Puaiohi	Myadestes palmeri				E	H
Veery (Eastern)	Catharus fuscescens fuscescens	R				
Bicknell's Thrush	Catharus bicknelli	C				
Wood Thrush	Hylocichla mustelina	C				
Varied Thrush (Pacific)	Ixoreus naevius naevius	R				
Curve-billed Thrasher (Brownsville)	Toxostoma curvirostre oberholseri	R				
Curve-billed Thrasher (Palmer's)	Toxostoma curvirostre palmeri	R				
Bendire's Thrasher	Toxostoma bendirei	C				
California Thrasher	Toxostoma redivivum	C				
LeConte's Thrasher	Toxostoma lecontei	C				
Sage Thrasher	Oreoscoptes montanus	R				
Polynesian Starling (Manua)	Aplonis tabuensis manuae				W	H
Polynesian Starling (Tutuila)	Aplonis tabuensis tutuilae				W	H
Samoan Starling	Aplonis atrifusca				W	H
Kaua'I Ō'Ō	Moho braccatus				X	H
O'ahu Ō'Ō	Moho apicalis				X	H
Bishop's Ō'Ō	Moho bishopi				X	H
Hawai'i Ō'Ō	Moho nobilis				X	H
Kioea	Chaetoptila angustipluma				X	H
Phainopepla (Southwest)	Phainopepla nitens lepida	R				

Common Name	Scientific Name	BCC 2021[1]			ESA/WL[2]	
		CO	PV	HP	List	Area
Sprague's Pipit	Anthus spragueii	C				
Evening Grosbeak	Coccothraustes vespertinus	C				
Po`ouli	Melamprosops phaeosoma				X	H
'Akikiki	Oreomystis bairdi				E	H
O'ahu 'Alauahio	Paroreomyza maculata				E	H
Kākāwahie	Paroreomyza flammea				X	H
Maui 'Alauahio	Paroreomyza montana			H		
Palila	Loxioides bailleui				E	H
Laysan Finch	Telespyza cantans				E	H
Nihoa Finch	Telespyza ultima				E	H
Kona Grosbeak	Chloridops kona				X	H
Lesser Koa-Finch	Rhodacanthis flaviceps				X	H
Greater Koa-Finch	Rhodacanthis palmeri				X	H
'Ula-'ai-hawane	Ciridops anna				X	H
'Akohekohe	Palmeria dolei				E	H
Laysan Honeycreeper	Himatione fraithii				X	H
'Apapane	Himatione sanguinea			H		
'I'iwi	Drepanis coccinea				E	H
Hawai'i Mamo	Drepanis pacifica				X	H
Black Mamo	Drepanis funerea				X	H
`Ō`ū	Psittirostra psittacea				E	H
Lanai Hookbill	Dysmorodrepanis munroi				X	H
Maui Parrotbill	Pseudonestor xanthophrys				E	H
Kaua'i Nukupu'u	Hemignathus hanapepe				X	H
O'ahu Nukupu'u	Hemignathus lucidus				X	H
Maui Nukupu'u	Hemignathus affinis				X	H
'Akiapōlā'au	Hemignathus wilsoni				E	H
Lesser 'Akialoa	Akialoa obscura				X	H
Kaua'i 'Akialoa	Akialoa stejnegeri				X	H
O'ahu 'Akialoa	Akialoa ellisiana				X	H
Maui-nui 'Akialoa	Akialoa lanaiensis				X	H
'Anianiau	Magumma parva			H		
Hawai'i 'Amakihi	Chlorodrepanis virens			H		
O'ahu 'Amakihi	Chlorodrepanis flava			H		
Kaua'i 'Amakihi	Chlorodrepanis stejngeri			H		
Greater 'Amakihi	Viridonia sagittirostris				X	H
Hawai'i Creeper	Loxops mana				E	H
'Akeke'e	Loxops caeruleirostris				E	H
O'ahu 'Akepa	Loxops wolstenholmei				X	H
Maui 'Akepa	Loxops ochraceus				X	H
Hawai'i 'Akepa	Loxops coccineus				E	H
Black Rosy-Finch	Leucosticte atrata	C				
Brown-capped Rosy-Finch	Leucosticte australis	C				
Cassin's Finch	Haemorhous cassinii	C				
Cassia Crossbill	Loxia sinesciuris	C				

Common Name	Scientific Name	BCC 2021[1]			ESA/WL[2]	
		CO	PV	HP	List	Area
Lawrence's Goldfinch	Spinus lawrencei	C				
Chestnut-collared Longspur	Calcarius ornatus	C				
Thick-billed Longspur	Rhynchophanes mccownii	C				
McKay's Bunting	Plectrophenax hyperboreus	C				
Rufous-winged Sparrow	Peucaea carpalis	C				
Cassin's Sparrow	Peucaea cassinii	R				
Bachman's Sparrow	Peucaea aestivalis	C				
Grasshopper Sparrow (Florida)	Ammodramus savannarum floridanus				E	C
Grasshopper Sparrow (Northern)	Ammodramus savannarum perpallidus/pratensis	R				
Lark Bunting	Calamospiza melanocorys	R				
Black-chinned Sparrow	Spizella atrogularis	C				
Field Sparrow	Spizella pusilla	R				
Bell's Sparrow (San Clemente)	Artemisiospiza belli clementeae				T	C
Vesper Sparrow (Oregon)	Pooecetes gramineus affinis	R				
LeConte's Sparrow	Ammodramus leconteii	C				
Dusky Seaside Sparrow	Ammospiza maritima nigrescens				X	C
Seaside Sparrow (Cape Sable)	Ammodramus maritimus mirabilis				E	C
Seaside Sparrow (Atlantic/Gulf)	Ammodramus maritima maritima/ pennisulae/ macgillivraii/ fisheri/sennetti	C				
Saltmarsh Sparrow	Ammodramus caudacuta	C				
Baird's Sparrow	Centronyx bairdii	C				
Henslow's Sparrow	Centronyx henslowii	C				
Savannah Sparrow (Belding's)	Passerculus sandwichensis beldingi	R				
Song Sparrow (Alameda/Samuels)	Melospiza melodia pusillula/ samuelis	R				
Song Sparrow (Channel Island)	Melospiza melodia graminea	R				
California Towhee (Inyo)	Melozone crissalis eremophilus				T	C
Rufous-crowned Sparrow (Rock)	Aimophila ruficeps eremoeca	R				
Yellow-breasted Chat (Eastern)	Icteria virens virens	R				
Yellow-headed Blackbird	Xanthocephalus xanthocephalus	R				
Bobolink	Dolichonyx oryzivorus	C				
Eastern Meadowlark	Sturnella magna	R				
Puerto Rican Oriole	Icterus portoricensis		P			
Orchard Oriole	Icterus spurius	R				
Bullock's Oriole	Icterus bullockii	R				
Scott's Oriole	Icterus parisorum	R				
Tricolored Blackbird	Agelaius tricolor	C				
Yellow-shouldered Blackbird	Agelaius xanthomus				E	P
Rusty Blackbird	Euphagus carolinus	R				
Bachman's Warbler	Vermivora bachmanii				X	C
Golden-winged Warbler	Vermivora chrysoptera	C				
Blue-winged Warbler	Vermivora cyanoptera	R				
Prothonotary Warbler	Protonotaria citrea	C				

Common Name	Scientific Name	BCC 2021[1]			ESA/WL[2]	
		CO	PV	HP	List	Area
Colima Warbler	Leiothlypis crissalis	C				
Virginia's Warbler	Leiothlypis virginiae	C				
Connecticut Warbler	Oporornis agilis	C				
Kentucky Warbler	Geothlypis formosa	C				
Common Yellowthroat (San Francisco)	Geothlypis trichas sinuosa	R				
Elfin-woods Warbler	Setophaga angelae				T	P
Kirtland's Warbler	Setophaga kirtlandii	C				
Cape May Warbler	Setophaga tigrina	R				
Cerulean Warbler	Setophaga cerulea	C				
Bay-breasted Warbler	Setophaga castanea	R				
Prairie Warbler	Setophaga discolor	C	P			
Grace's Warbler	Setophaga graciae	C				
Black-throated Gray Warbler	Setophaga nigrescens	R				
Hermit Warbler	Setophaga occidentalis	R				
Golden-cheeked Warbler	Dendroica chrysoparia				E	C
Black-throated Green Warbler (Wayne's)	Setophaga virens (Wayne's)	R				
Canada Warbler	Cardellina canadensis	C				
Red-faced Warbler	Cardellina rubrifrons	C				
Scarlet Tanager	Piranga olivacea	R				
Pyrrhuloxia	Cardinalis sinuatus	C				
Rose-breasted Grosbeak	Pheucticus ludovicianus	R				
Varied Bunting	Passerina versicolor	C				
Painted Bunting	Passerina ciris	R				
Dickcissel	Spiza americana	R				

[1]BCC = Birds of Conservation Concern 2021: CO (C) = Continental USA, R = continental Bird Conservation Region list (BCR); PV (P) = Puerto Rico and Virgin Islands; HP (H) = Hawaii and Pacific Islands.

[2]ESA/WL (List) = listed under the USA Endangered Species Act as endangered (E) or threatened (T); considered extinct in the wild (X); or on the Partners in Flight Watch List in 2014 or the Avian Conservation Assessment Database in 2019 and not defined as a Migratory Bird (W). Area = main occurrence region of ESA or Watch List taxa as described above (C, P, H).

Appendix 2.
Numbers of Birds of Conservation Concern 2021, non-migratory birds on the Watch Lists in the 2014 State of the Birds (Rosenberg et al. 2014) or Avian Conservation Assessment Database (Partners in Flight 2019), species or populations listed as threatened or endangered under the ESA, and extinct species or populations for the Continental USA, Puerto Rico and the Virgin Islands, and Hawaii and the Pacific Islands. Shared taxa assigned to breeding area list or by greatest abundance.

Region	BCC 2021	Watch List 2014/2019	ESA	Extinct
Continental USA[1]	129 (88)[1]	11	43	8
Puerto Rico/Virgin Islands	21	0	8	2
Hawaii/Pacific Islands	31	13	37	37

[1]Continental list and (additional BCR-scale taxa).



Least Tern, Joanna Gilkeson/USFWS

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U.S. Fish and Wildlife Service
Migratory Birds Program
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April 2021

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT L

History of Cultural Influences on the Distribution and Reproduction of Oaks in California – Footnote 32



History of Cultural Influences on the Distribution and Reproduction of Oaks in California[1]

Randall S. Rossi[2/]

Abstract: Prior to the advent of European colonization, the California Indians' impact on oaks was confined to acorn collecting and the occasional use of fire. Since 1769 oaks have been vulnerable to six human activities: stock raising, wood cutting, agriculture, flood control, fire supression, and urbanization. Specific research concerning human impacts on the distribution and reproduction of oaks has been meager. In this survey of cultural influences, grazing activity is identified as the most persistent pressure on oak reproduction. Charcoal production consumed a significant amount of oak until the 1960's; incomplete data suggest that cordwood sales continue to account for much wood cutting. Agricultural clearing, initially for orchards, and later for row and field crops, has greatly reduced the range of some species, e.g. valley oak (Quercus lobata). Extensive clearing of blue oak (Q. douglasii) from foothill range in the late 1950's and 1960's was partially supported by federal payments. Riparian oak in the Sacramento Valley have been disappearing since early American occupance and today only a fraction of the original woodland remains. Because of fire suppression efforts since 1900, the build up of fuels and the invasion of woody plants in oak communities make lethal, high-intensity fires more likely. Finally, urban and suburban land uses continually displace native oaks and condemn remnant stands to slow decline without replacement.

INTRODUCTION

Human activities of the last two hundred years have greatly reduced the range of many California oaks and adversely affected their reproduction. While we are aware of the general course of this demise, the actual losses have been incremental, unchallenged, and unrecorded. Further, we are only beginning to ask: What are the consequences of this impoverishment of the landscape?

This paper surveys the state of our knowledge about human impacts on California's oaks. Historically, oaks have been vulnerable to at least six human activities: stock raising, wood cutting, agriculture, flood control, fire supression, and urbanization. The biggest change of the last two hundred years, of course, is that the foothills and valley floors, once occupied by many species of oaks, are largely covered by the farms, cities, and freeways of twenty-two million people.

Four major oak communities, covering about 10 percent of the state, have been recognized as part of California's original landscape. These are: 1) Northern Oak Woodland of the North Coast Ranges and valleys, (Quercus garryana, Q. kelloggii, Q. chrysolepis, and Q. wislizenii); 2) Foothill Woodland of the alluvial terraces

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[1/] Presented at the Symposium on the Ecology, Management, and Utilization of California Oaks, Claremont, California, June 26-28, 1979

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Figure 1 - Areas of Oak Savanna and Woodland in California

and surrounding hills of the Central Valley and Inner Coast Ranges, (Q. douglasii, Q. lobata, Q. chrysolepis, Q. agrifolia, and Q. wislizenii); 3) Southern Oak Woodland of the coastal valleys of Southern California, (Q. agrifolia, and Q. engelmannii); and 4) Riparian Woodlands especially on the Central Valley river margins, where valley oaks (Q. lobata) were locally abundant (Munz and Keck 1963; Griffin 1977).

Each species and certain associations have sustained different kinds of impacts at different times. While some areas are relatively unchanged, in others some species have been eliminated over wide areas, or exist only as remnant stands. And where individual trees or woodland tracts remain there may be a false sense of well-being, since few, if any seedlings are becoming established.

The nature and extent of human impacts on oaks before 1930 is not comparable to that of the last fifty years. Pressures on oaks have increased due to the rapid increase and spread of population, increasing land values, the lengthy periods of fire suppression, the development of practices and machinery for clearing range land, channelizing streams, and building roads and cities. The oaks, which were the single most important plants in the lives of the Indians, are valued by modern man only as amenities in real estate.

Oaks are part of what we define and identify as typically Californian. Attention naturally focuses on the California endemics, Quercus lobata (valley oak) and Q. douglasii (blue oak) which are widely distributed in and around the Central Valley and Coast Ranges. The valley oak, largest of the North American oaks, grows on deep alluvial soils and up onto broad ridge tops. It often forms strikingly beautiful savannas, having a parklike appearance. The blue oak grows on rolling hills and drier sites, singly or in clumps, and is common on thousands of acres throughout the state.

The task of reconstructing how our oak woodlands have changed is a difficult one, and there will always be great gaps in our knowledge. Only a handful of studies have been concerned with landscape changes in the oak woodland (Thompson 1961; Brooks 1967; Vankat 1970; Griffin 1971, 1976; Snow 1972; Dutzi 1979; Rossi 1979). While university and government personnel have advocated and aided in the clearing of thousands of acres of oaks, no state or federal agency has monitored or inventoried the extent or cumulative effects of the activity. Today we find we lack any accurate estimates of even the most recent clearing. Further, with notable exceptions (Griffin 1971, 1976; Snow 1972), the conspicuous lack of oak regeneration, perhaps the most important issue in oak management, has received virtually no study. In strong contrast to the long history of conservation and land stewardship examined by Parsons (1962) in Spain's oak woodlands, California oaks have been disregarded as a natural resource.

ABORIGINAL INFLUENCES

The extensive, almost continuous oak woodlands and savannas of California provided the staple food of the native Indians for centuries. The acorn and the oak were worshipped by these hunter-gatherers (Fages 1937). The extent of their adverse impact on oaks was confined to acorn collecting and the occasional use of fire.

An estimated 500 pounds (230 kg) of acorns were consumed each year (Hoover 1977). In poor seed years it is likely that nearly all of the crop from some species was collected and stored. The preference for acorns of tan oak (Lithocarpus densiflora) and California black oak, (Q. kelloggii) and the accessibility of acorns from valley oak must have created a considerable pressure on these species (Chestnut 1902; Baumhoff 1963). In the Central and Southern Coast Ranges, coast live oak (Q. agrifolia) sustained California's densest Indian population. The effects on reproduction of acorn collecting should not be ignored, but the extent to which it may have

altered oak distribution is not known.

The use of fire to clear the ground before acorn harvesting has been noted in Northern California and Yosemite Valley (Baxley 1865; Harrington 1932; Schenck and Gifford) 1952). Fire was used to drive game, aid in collecting food, and make clearings for growing tobacco (Kroeber 1925). Any such fire could kill oak seedlings, but light ground fires would not harm established trees. Captain Belcher observed on the Sacramento River in 1837 that during the dry season the natives burned the annual growth, "and probably by such means destroy many oak plantations which otherwise would flourish" (Belcher 1969, p.48). Hinds, a botanist on Belcher's expedition reported Sacramento Valley natives' practice of lighting their fires at the bases of valley oaks. He continued, "and as they naturally select the largest, it was really a sorrowful sight to behold numbers of the finest trees prematurely and wantonly destroyed" (Hinds 1844, p. 3). From this brief description the death of the trees must be interpreted as accidental, since they represented a perennial food resource.

Regarding the valley oaks, Jepson felt "it is clear that the singular spacing of the trees is a result of the periodic firing of the country — an aboriginal practice of which there is ample historical evidence" (Jepson 1923, p. 167). Lewis (1973) has argued that the California native had an active role in manipulating vegetation with fire. Sampson (1944), Burcham (1957), and Clar (1959) have suggested the influence was more benign. Periodic burning by the California Indians may have thinned oak stands or caused certain areas to remain open, but probably was not a significant factor in altering the overall abundance or distribution of oaks.

EARLY STOCK RAISING

Before European contact, California oaks were principally a food resource, and had evolved in the absence of grazing, agriculture, or commercial uses. However, this changed forever when the Spaniards brought their faith, agriculture, and grazing animals to Alta California in 1769. Cattle and sheep certainly consumed acorns and many seedling oaks in the vicinity of the missions. The grazing tracts, or ranchos, of many missions were in oak studded lands, for example Mission Santa Clara, San Jose, San Antonio, San Miguel, Santa Ines, and San Juan Capistrano. Jepson (1910) observed that the chain of missions corresponded roughly to the range of the coast live oak, and that Spanish land grants encompassed most of the valley oak forests. Local overgrazing, droughts, and the introduction of Mediterranean annual plants contributed to the rapid replacement of the original bunchgrass vegetation (Hendry 1931; Burcham 1957). There is evidence that this change resulted in greater competition for oak seedlings in the thick annual cover (Holland 1976).[3/] Further, poisoning and trapping of predators, coupled with the increase in seed-bearing plants, has brought an increase in seed-eating rodents and birds, putting added pressures on the acorn crop (Holland 1976).

When a mission was established, it would customarily receive from other missions gifts of livestock to begin new herds. In 1827, four years after the founding of the last mission, Thomas Coulter reported that collectively they had 210,000 branded and 100,000 unbranded cattle (Coulter 1951).

Grazing continued to be the most widespread pressure on oaks throughout the Rancho era that followed mission secularization in 1833. Most of the land grants and grazing activity were in the Southern and Central Coast Ranges where huge herds roamed the grasslands and the woodlands alike (Cleland 1941). Burcham (1957) in his history of California range land considers the foothill woodland a grazing resource second only to the grasslands. In the woodlands, grazing impacts are highly selective, since cattle seek out the shade, devouring the oak seedlings and acorns. Further, repeated trampling of clay soils makes germination of woody plants more difficult (Wells 1962). The acorn crop suffers doubly because of its palability and the time of its ripening at the end of the dry season when forage is scarce. Bryant (1848) observed in the Central Valley that "during the period of transition from the dry grass to fresh growth, horses, mules, and even horned cattle, mostly subsist and fatten upon these large and oleginous nuts" (p. 351). Jepson (1910)called the acorns of blue oak in the Sierra foothills "one of the ranchman's assets for stock feed" (p. 216.).

Beginning in the late 1700's swine fed on acorns at Mission San Antonio and other missions (Bolton 1926; Engelhardt 1929). During the 19th century hogs were driven to oak groves for mast feeding in the Coast Ranges (Q. agrifolia), Central Valley (Q. lobata), and Sierra foothills (Q. douglasii), and the acorns were also collected and fed to the animals in lieu of grain (Bryant 1848; Sudworth 1908; Jepson 1923; Fages 1937). In the 1920's hogs were still being fattened on acorns in the Santa Lucia Mountains for shipment to San Francisco (Coulter 1926).

[3/] Personal communication, C.B. Hardham, Botanist, Paso Robles, California.

In 1834 the number of cattle held by the missions alone was estimated to be 400,000 (Bolton 1917). As private ranchos replaced the mission holdings, stock raising spread throughout the state. Cattle numbers burgeoned in response to the Gold Rush influx, until an estimated one million roamed the land in 1860 (Burcham 1957). From 1849 on, month-long cattle drives were regularly made from Southern California ranchos to San Francisco. Treks involving herds of several thousand were made through the Central Coast Ranges and San Joaquin Valley in the fall as the acorns ripened (Cleland 1951). The drought of 1862-64 brought cattle numbers plummeting, but the oaks continued to suffer. During the droughts of 1862-64 and 1897-98, small trees and branches from larger ones, especially Q. agrifolia in the South Coast Ranges, were cut to provide browse in the path of starving cattle and sheep (Jepson 1910; Lynch 1935). The recurring droughts, while temporarily reducing the cattle population, actually heightened the immediate grazing pressures, and seedling oaks stood little chance of survival.

In the 1870's and 1880's the livestock industry began recovering with sheep numbers reaching over four million in 1880, and cattle one million again by 1890 (Burcham 1957). During the wheat "bonanza" decades at the end of the 1800's, grazing land was pushed out to the margins of the cropland, and into the oak woodland and foothills (Hutchinson 1946). The poor natural reproduction in California's oak woodlands since that time has been generally attributed to grazing-related influences (Sudworth 1908; Jepson 1910).

WOOD CUTTING

In 1793 on Vancouver's voyage down the California coast, parties were landed near Santa Barbara to secure water and fuel. Menzies reported in his journal wood "was easily procured at no great distance from the beach as there were some large trees of a kind of ever green Oak, which they were suffered to cut down for the purpose" (Menzies 1924).

During the 19th century, oak wood was a primary source of fuel, but it is impossible to know how much was cut for this purpose. It was reported that mission padres in the San Gabriel Valley had instructed the Indians to cut only oak tree limbs for fuel "preserving the trunks with sacred care" (Clar 1957). Oak wood was used for heating and cooking throughout the mission and rancho period. Fuel and timber demands were locally heavy during the mining era. Blue oak and pine were used as fuel and mine timbers in the Mother Lode mines, with forest removal greatest in El Dorado County (Watts 1959). Oak wood was used to fuel the quicksilver (mercury) retorts at New Almaden (Santa Clara Co.) and New Idria (San Benito Co.), as well as at mines in Napa, Lake, and San Luis Obispo Counties (Yale 1904).[4/]

Fire wood cutting was incidental to land clearing in some instances, but in others a profitable activity in itself. Sudworth (1908) noted that valley oak from the river banks, and interior live oak (Q. wislizenii) from the Sierra foothills were "highly prized for domestic use" in the Sacramento Valley. In 1914-1916, as part of an orchard development, 20,000 cords of oak (valley oak, blue oak, coast live oak) were cleared from 12,000 acres (4800 ha) on the Salinas River near Atascadero in San Luis Obispo County (Rossi 1979). The wood was shipped by rail to San Francisco and Los Angeles. There are, no doubt, numerous examples such as these from all over the state.

For more than a century oak has been the preferred wood for manufacture of charcoal in California. Bancroft (1890) says that charcoal from oak had been burned in California since the early 1850's. Oak was cut around San Francisco Bay to supply charcoal burners in the 1850's and 1860's (May 1957). In 1855, 11,000 bags of charcoal, the equivalent of 110 tons made from "red", white, and live oak, was consumed in and about San Francisco. In the 1860's powder mills in Santa Cruz and Marin Counties used charcoal as a major constituent of their product. In the 1880's the Clipper Gap Iron Company annually burned 10,000 to 15,000 tons of charcoal in its furnace near Auburn, requiring as much as 30,000 cords of wood each year (May 1956).

In the early 1900's charcoal from oak was made in large quantities throughout the state, especially in Sacramento, Shasta and Sonoma Counties. Between 1905 and 1910 California's annual charcoal production averaged 160,000 sacks from 3200 cords of wood. Sonoma County was the top producer then, with about 100,000 sacks annually, or about 1,000 tons of charcoal per year. In 1914 at Heroult on the Pit River, a site now under Shasta Lake, 50 cords a day of California black oak were distilled to charcoal for the Noble Electric Steel Company (May 1956).

In the decades from 1920 to 1940 there were only a few charcoal plants of substantial size in operation. During the early 1920's a charcoal plant near Templeton in San Luis Obispo County was making charcoal out of coast live

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[4/] Rossi, R.S. (1975) The quicksilver mines of the Santa Lucia Mountains in northwestern San Luis Obispo County, California. Unpublished manuscript. 40 p.

oak and valley oak, and one near Ukiah in Mendocino County was using canyon live oak (Q. chrysolepis). In 1939 about 1400 tons were produced, but eight years later only a few small kilns in San Luis Obispo County were operating (May 1956). However, ten years later, following World War II, the increasing popularity of "outdoor living" sustained the operation of over forty charcoal plants once again in the state. A 1955-56 survey found 30 wood charcoal kilns in San Luis Obispo County, seven in the Sierra foothills, and four in Southern California. In that year San Luis Obispo accounted for more than 80 percent of the 4,650 tons produced (May 1957). Questionnaires determined that 99 percent of the wood burned was oak. Coast live oak was the most commonly used in San Luis Obispo County, cut from the Santa Lucia foothills in the Upper Salinas Valley. Oregon white oak (Q. garryana) was used in Sonoma and Yolo Counties; blue oak and to a lesser extent California black oak in the Sierra foothills (May 1957). By 1961 twenty producers in California were making 5,400 tons of charcoal from 10,000 cords of oak; eleven of these were in San Luis Obispo County (USDA 1963). In the last 15 years, production in the state has dwindled as inexpensive imported charcoal has become available from Mexico.

Use of California oaks for manufactured products has always been limited. Jepson (1923) thought when the name "Mush Oak" was applied to valley oak it was a contemptuous reference to its failure to meet the requirements of a strong, straight wood. He says that the most valuable oak, canyon live oak, was used for shipbuilding, wheels, axles, plow beams, tool handles, and furniture in the early days of the state (Jepson 1910). Coast live oak and blue oak were utilized to a lesser extent for tools and wagon parts. In the 1870 - 1880's in Mendocino County, the forks of open grown California black oak were used as "naturally assembled" ship keels and ribs (McDonald 1969). Wood from valley oak was used in California shipyards during World War II for keel blocks, and a very limited use has been made of it for wine barrels (Schniewind and Bryan 1959; Dost and Gorvad 1977).

Generally oaks have not been managed for commercial uses in California, and in conifer stands have been considered undesirable forest components. California black oak in particular has been removed from softwood stands on state and national forest land, where experiments have shown trees as large as 24" dbh can be poisoned by herbicides (Otter 1960). However, California black oak remains the most important commercial hardwood species in the state.

Statistics point out that 7.8 million board-feet of hardwoods were cut in 1976, virtually all of it California black oak. At the state's largest hardwood mill, Cal Oak, located at Oroville, the wood is used primarily for pallet stock, with a small volume entering furniture manufacturing in Los Angeles.[5/] A smaller amount of white oak, mostly Q. lobata is cut annually, and estimated to be between one and two million board-feet (Dost and Gorvad 1977). Recently riparian oaks (Q. lobata) have been cut and sold for wood chips (McGill 1975). Additionally, each year thousands of cords of oak firewood are sold in metropolitan areas, but the sales reported are only a fraction of the actual volume involved. In 1977 California Department of Forestry reported 18,500 cords of fuelwood cut in the state (California Dept. of Forestry 1977). For the last three quarters of 1977 the State Board of Equalization reported 6,000 cords of oak firewood sold in California (three million board-feet)[6/] but this may reflect as little as 10 percent of the total.

AGRICULTURE

Throughout California's history, agriculture has displaced extensive tracts of native oaks, and eventually much of the land has become sprawling suburbs. Agricultural operations have made reproduction virtually impossible even when mature trees have been left in the cropland.

The earliest agricultural clearing affecting oaks was for orchards. Following the early Gold Rush immigration, orchards were planted where blue oak, black oak and interior live oak had been cleared from the Sierra foothills (Hutchinson 1946). Between 1900 and 1920 orchards expanded greatly in the Sierra foothills, and in the 1930's Placer, El Dorado, and Nevada Counties were still among the top four counties in pear acreage (Hutchinson 1946; Watts 1959). Early orchards planted on the broad natural levees of the Sacramento River were at the expense of riparian valley oak groves, especially between Rio Vista and Marysville.

In the Santa Clara Valley, the expansion of orchards in the early 1900's led Broek (1932) to observe: "Once a grassland dotted

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[5/] Personal communication, Brian Barrette, California Department of Forestry.

[6/] Personal communication, J.C. Denny, Chief, Resource Management, The Resource Agency, State of California.

with evergreen oaks, a large portion of the valley is now covered by a veritable forest of deciduous trees" (p. 137). In the Coast Ranges around Paso Robles, a huge promotional development from 1915 to 1925 converted 8,000 acres (3200 ha) of dense coast live oak woodlands and 6,000 (2400 ha) acres of valley oak and blue oak savanna to almond orchards.[7] When most of the acreage proved unprofitable due to marginal rainfall, early frosts and increasing competition from irrigated plantings, the trees were removed in favor of dry farming uses. At least from 1910 on it was recognized that oaks are host to the fungus Armillaria mellea, which may subsequently attack the roots of orchard trees (Smith 1909). After 1925 fewer oaks were cleared specifically for orchards.

For cropland, however, as Jepson (1910) observed, early settlers knew well that the presence of valley oaks was a "sign of the richest soil". Being flat and accessible, these parklike, often pure stands of valley oak, developed on deep alluvial soils, have continually been under the greatest pressure from agriculture. Land cleared of valley oaks includes huge tracts on the east side of the San Joaquin Valley, where today scattered individual trees on the Kaweah River plain attest to the report of 400 square miles (104,000 ha) of valley oaks there in 1910 (Jepson 1910). Valley oaks have been removed or isolated by agricultural uses in the Sacramento Valley, Livermore Valley, Napa Valley, Santa Clara Valley, parts of the Santa Ynez Valley, and the upper Salinas Valley. Round Valley in Mendocino County and San Antonio Valley in the Santa Lucia Range are examples of a few locations where sizable valley oak savannas remain.

In 1861 William Brewer traveling through northern San Luis Obispo County remarked: "... in these valleys are trees every few rods — great oaks, often of immense size, ten, twelve, eighteen, and more feet in circumference ... In passing over this country, every hill presents a new view of these trees — here a park, there a vista with the blue mountains ahead" (Brewer 1864, p. 93). Today, in this area where I have examined the extent of clearing, over 70 percent of the valley oak parkland has been eliminated to facilitate agriculture. Of the trees that remain, nowhere is there a reproductively viable tract of Q. lobata (Rossi 1979).

Clearing, however, is not the only activity affecting the survival of oak savanna. More important is the widespread lack of reproduction. Even where mature trees remain in the fields, reproduction is precluded by recurring planting and harvest operations, and the practice of grazing animals on the crop stubble, where they eat both the acorns and any seedling trees. Characterizing the plight of valley oak, Griffin (1973) observed: "... the scene is now one of tired relics towering over an intensively cultivated system" (p. 6). Very often the only areas where oaks become established is in waste places, abandoned fields, and along roadsides, between the asphalt and the fences. Ironically, one place in San Luis Obispo County where thickets of valley oak saplings have become established is on the freeway borders and median.

STOCK RAISING

Over a large area, particularly in the foothill woodland, grazing activities have caused the same impacts on oak reproduction. The results of predator control and overgrazing included explosive ground squirrel numbers, which in at least one instance, at Fort Hunter Liggett, received national attention.[8]

Oak reproduction also has been found absent in areas protected from grazing (White 1966). Mice, wild pigs, and especially deer consume acorns and oak seedlings, and gophers kill many seedlings by girdling and chewing oak roots (White 1966; Griffin 1970, 1977).

Fifty years ago, Bauer (1930) observed in the Tehachapi Mountains, "grazing explains the openness of the understory and ... absence of young growth generally in oak communities... the very young oaks being readily grazed" (p. 279). Studying the vegetation of the San Luis Obispo quadrangle, Wells (1962) found oak seedlings everywhere absent, except occasionally outside fences, and pointed to heavy cattle stocking to account for the poverty of oak reproduction. In the Santa Ana Mountains, Snow (1972) found that browsing and trampling by cattle destroyed all unprotected seedlings of coast live oak and Engelmann oak (Q. engelmannii) in open habitats. He observed that the absence of grazing in the area between 1895 and 1905 corresponded to a period of successful reproduction of these species. Observing oak reproduction on 50,000 acres (20,000 ha) at heavily grazed Hunter Liggett, Fieblekorn found seedlings of valley oak and blue oak exceedingly rare, and those of coast live oak present on

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[7] Rossi, R.S. (1974) Paso Robles area almond orchard promotion 1910-1925. Unpublished manuscript. 45 p.

[8] San Francisco Examiner-Chronicle, September 12, 1976.

only about 2,000 acres (800 ha).[9] Over an area as large as the Santa Lucia Mountains, Griffin (1976) found a general absence of valley oak seedlings more than one year old and saplings less than 50 years old. Holland (1976) has made the same observation about blue oak throughout its range.

In the blue oak foothill woodlands, ranchers have been clearing oaks and digger pine (Pinus sabiniana) for range improvement since about 1940. It was assumed that the removal of these "weed" trees would improve the forage production and therefore the output of meat. The practice became widespread on the east and west side of the Sacramento Valley when inexpensive methods of killing the oaks were developed. The practice was advocated and directed by the Agricultural Extension Service and university advisors (Leonard 1956; Leonard and Harvey 1956; Johnson et al. 1959; Murphy and Crampton 1964; Dal Porto 1965; Brown 1973). Extensive clearing was done in the period 1945-1960, especially of blue oak and live oak in the Sierra foothills and North and Central Coast Ranges. Methods have included bulldozing, burning, girdling, cutting, and chemical treatment with 2,4-D and 2,4,5-T applied in axe cuts, and even broadcast spraying from aircraft.

From 1945 to 1953 some of the clearing was paid for through matching funds by federal programs of the Agricultural Adjustment Administration (now the Agricultural Stabilization and Conservation Service, A.S.C.S.). Beginning in 1945 the A.A.A. offered payments for clearing land for tillage, and in 1947 payments were extended to clearing land for pasture. Though the statistics reflect only the total clearing it appears that counties with large areas of oak woodland were the most active participants. For instance, in 1947, Amador, Calaveras, and El Dorado counties accounted for one-third of the 1,500 acres (600 ha) cleared for pasture (U.S. Ag. Adj. Adm. Annual Reports 1944-53). From 1948 to 1952 six central Sierra counties (Amador, Calaveras, El Dorado, Placer, Tuolomne, and Mariposa) accounted for over 50 percent of the 110,000 (44,000 ha) acres cleared for range. San Luis Obispo Co. lost over 6500 acres (2600 ha) of oak savanna and woodland under these programs. In Tehama County, where clearing was most extensive, the A.S.C.S. Director estimates that during the last half of the 1950's through the 1960's, blue oak trees were removed from 90,000 acres (36,000 ha). Herbicides were used on about 5,000 acres (2,000 ha), but in these areas subsequent resprouting has reversed the clearing effort.[10] [11]

It was not until 1973 that the practice of clearing oaks from rangeland was seriously questioned. Holland (1973) working in oak savanna sites near Madera, in the Temblor Range, in Kern County, and at Hastings Reservation in Carmel Valley, showed that forage production and nutritional quality are greater under the blue oaks than between them. Further, the forage has greater nutritional value and remains greener into the dry season; the trees also modify the micro-climate and improve range land soils. Further details of this blue oak canopy effect and its implications for oak clearing appear in Holland (1980) and Holland and Morton (1980). Where oaks form a nearly closed canopy (120-200 trees per acre) tree removal has reportedly not affected forage value in some areas (Murphy and Crampton 1964) and enhanced it in others (Johnson et al. 1959).

RIPARIAN OAKS

The riparian forests of the Central Valley, in which valley oaks were a conspicuous element, have undergone a complete transformation, most having disappeared without description. Captain Sir Edward Belcher, visiting the Sacramento Valley about 1840, said of the forests lining the river: "Within, and at the verge of the banks, oaks of immense size were plentiful. These appeared to form a band on each side, about three hundred yards in depth, and within (on the immense park-like extent, which we generally explored when landing for positions) they were seen to be disposed in clumps, which served to relieve the eye, wandering over what might otherwise be described as one level plain or sea of grass" (Belcher 1843). Based on historical accounts of the Sacramento Valley there were about 775,000 acres (310,000 ha) of riparian woodland in 1850. By 1952 only about 20,000 acres (8,000 ha) remained. Today the estimate is 12,000 acres (McGill 1975; Dutzi 1979). Thompson (1961) in his study of the Sacramento Valley concluded that the riparian forests were effaced during the first two or three decades of Anglo-American occupance. Cronise (1868) recognized large-scale destruction of riparian forests by 1868 in Colusa,

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[9] Fieblekorn, C. (1972) Interim report on oak regeneration study. Unpublished report on file, Natural Resources Conservation Office, Fort Hunter Liggett, Jolon, California, 23 p.

[10] Personal communication, A. Cornell, Agricultural Stabilization and Conservation Service, Davis, California.

[11] Personal communication, R. Christianson, Agricultural Stabilization and Conservation Service Advisor, Tehama County, California.

Yuba, Solano, and Sacramento Counties. At Knight's Landing, huge quantities of cordwood were loaded onto the numerous steamboats navigating the Central Valley rivers during the mining days (Thompson 1961). Agricultural land uses, especially orchards on the broad natural levees, displaced further miles of gallery forests.

Tree removal was also incidental to flood control projects and levee construction. The construction of Shasta Dam by the U.S. Bureau of Reclamation in the mid 1940's caused landowners to respond to dramatically reduced flood and erosion dangers on low lying alluvial soils. Moving onto the floodplain, they converted much riparian vegetation to permanent cropland and orchards (McGill 1975). During the period 1952-1972 over 50 percent of the high terrace riparian vegetation on the margins of the Sacramento River was converted to other uses, especially new orchards (13,100 acres (5,240 ha))(McGill 1975).

Valley oaks have been killed indirectly in some areas by greatly lowered water tables created by water impoundment in the foothills and local ground water pumping; in other areas the accumulation of saline irrigation runoff has been equally destructive.

In the Sacramento Valley, local concern for the continuing loss of riparian habitat has been manifested in a workshop and several conferences (e.g., Sands 1977). At the state level, the Secretary for Resources has established the Upper Sacramento River Task Force whose work includes specific interest in diminishing riparian vegetation.

FIRE SUPPRESSION

Fire suppression policies of the last 50 years have resulted in the unnatural build up of fuels in oak woodland communities. The absence of frequent low intensity fires has permitted the invasion of chaparral species, or highly flammable conifers into the understory (Dodge 1975; Griffin 1976). Overgrazing has aggravated the situation by eliminating ground cover to carry low intensity burns. When fires do start, the oaks are consumed in the conflagration unless they are protected in a canyon bottom or by rocky outcroppings. In San Diego County, Dodge (1975) noted that an oak woodland between Pine Valley and Corte Madera that was "fairly open" in 1931 had become covered with a dense understory of brush. When the 1970 Laguna Fire burned through, approximately 50 percent of the oaks were killed, and the remainder extensively damaged. He concluded that high intensity fires are having the effect of converting oak woodlands to pure chaparral stands. In the 1977 Marble Cone fire, the valley oaks in the area of Chews Ridge which had not burned in almost fifty years, were greatly damaged where Coulter pines (Pinus coulteri) had invaded. Griffin (1980) found 47 percent of the valley oaks were killed in the areas of crown fire and that the thicket of pine saplings and litter had greatly increased the fire hazard to the oaks.

URBANIZATION

Since 1945 the most conspicuous impact on California's oaks has resulted from the growth of cities and suburbs. At both ends of "El Camino Real" huge population centers have grown up. In the Los Angeles basin where Engelmann oak used to be extensive between Pasadena and Claremont, no intact woodland remains in the path of suburban growth (Griffin 1977). Cities named for their oaks, such as Thousand Oaks, Sherman Oaks and Encino, are often left only with token examples of their natural heritage in order to accommodate growth and development. Around San Francisco Bay, there are few oaks in Oakland, very few left among the suburbs filling in the Livermore Valley, and even fewer in the Santa Clara Valley. Between San Jose and Redwood City, Cooper (1926) found a "more or less skeletonized form" of what was "originally a continuous belt of oak forest" on the alluvial fans that reach the bay. Observing this same area in 1798, Captain George Vancouver compared it to a well kept park planted with huge oaks, and added prophetically, it "required only to be adorned with the neat habitations of an industrious people" (Vancouver 1798). These people certainly have come; the area today numbers over one million people in ten cities and endless suburbs, shopping centers and freeways.

Very often, of course, where urban areas have developed, oaks were originally cleared for agriculture. Yet, where they were spared it is paradoxical that now in large and small cities alike, they fare so poorly and are so little revered. However susceptible oaks are to cutting, grazing and other rural pressures, they succumb just as quickly to overwatering, blankets of asphalt, grade changes and pruning. As parcel sizes become smaller, and the land uses intensify, it becomes less likely that viable oak communities will persist on the metropolitan fringes. Often, in fact, the new suburban residential uses put greater pressures on the native plants than did the previous agricultural uses. Horses and cattle in "backyard" corrals are typically overstocked. Home owners cut and disk weed from their property and also often from the roadsides. In the

foothill woodland, land for residential uses includes areas that were too steep or inaccessible for farming; now even these waste places have lost their protected status. Seedling oaks are treated as weeds, and the heavily manicured gardens and public parks are filled with non-native plants.

Many cities have adopted tree ordinances primarily intended to save their remaining oaks, as for example in Visalia, Menlo Park and San Luis Obispo. Unfortunately, the fine for cutting a two-hundred-year-old oak is generally far less than the value of the cordwood from the tree.[12/] County-wide tree ordinances pertain only to incorporated cities, and therefore exempt the vast rural areas and unincorporated suburbs. Steinhart (1978) observed that the luxury of fine healthy groves of oak seem to be the sole possession of the most exclusive and expensive communities, such as Brentwood, Beverly Hills, Montecito, Atherton, Woodside and Piedmont.

SUMMARY

In a brief span of time, modern man has made impacts on California oaks which will affect their distribution and abundance for centuries to come. This stands in contrast to the gentle tenancy of the native Indians.

The oaks in the riparian woodlands have suffered the most extensive losses. Almost everywhere, the range of valley oaks has been seriously reduced and the remaining tracks are largely barren of seedlings. In the foothills, hundreds of thousands of acres of blue oak have been converted to grassland and crops, and grazing activity inhibits oak regeneration in the remaining woodland. Until recently, oaks were cut in the state for charcoal production, but currently fuelwood accounts for the bulk of cutting. In Southern California Engelmann oak and coast live oak have been displaced by suburban growth. Approximately 10 million board feet of oaks are cut each year for manufactured products, most of it being California black oak from Northern California.

The clearing of oaks and the impairment of reproduction indirectly affects wildlife populations, soil development, and the ecosystem in general. The landscape is impoverished both in a visual sense and in terms of its natural diversity. It is slowly losing its appeal, its distinction, its uniqueness. Although the individual species of oak are not likely to become extinct, human use has fragmented the handsome oak landscape, and the unique character of many oak communities is already gone or frozen in premature senescence.

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Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT M

Guide to Sacramento Oaks – Footnote 32

OAKS

GUIDE TO SACRAMENTO



SACRAMENTO Tree FOUNDATION



Mighty Oaks

Sacramento's native oak trees are the true monarchs of the forest. With a life span of up to 400 years, they can reach 100 feet tall and have a canopy 100 feet wide. The branches and leaves are often ornamented with interesting galls. Their picturesque trunks and gnarled branches inspire awe and imagination. These majestic oak trees are important islands of life for thousands of insects, birds, and animals. Acorns provide nourishment for all types of wildlife – and even some hard working humans. This is Sacramento County's natural heritage– the native oak!



Identifying Native Oaks

There are 20 species of oak trees native to California with three native oak species dominating Sacramento County landscapes – the valley oak, interior live oak, and blue oak.



Valley oak *(Quercus lobata)* is the monarch of all California oaks because of its great size and beauty. The valley oak may be the largest oak tree in North America, reaching 100 feet tall and equally as wide. Mature trees typically live 150-250 years and support a rounded crown with drooping branches sometimes touching the ground. In areas where they grow more slowly, they may live up to 400 years or more.

Valley oaks grow best in valley areas near perennial creeks and rivers. Here their deep roots thrive in rich alluvial soils and have permanent access to ground water. These areas are also prime farmland and were consequently cleared of the extensive oak woodlands and riparian forest that dominated California's central valley prior to the 20th century.

Valley oaks are deciduous with large, deeply lobed leaves from which the scientific name *Quercus lobata* was derived. In winter their bare branches form black lace-work against the cold sky. One conspicuous valley oak feature is the round, hard, ball shaped galls that hang from their branches. Often called 'oak apples,' these galls are created by the tree in response to a small wasp laying its eggs.

Interior live oak *(Quercus wislizenii)* is an adaptable tree that grows in many soils and conditions. It was the dominant tree growing along rivers flowing from the Sierra to the Central Valley before many of the rivers were dammed and the land cleared.



It is evergreen and can be identified by its leaves, which are often prickly along the margins. These trees usually have a multi-trunk form where they have re-sprouted from the base and are often wider than they are tall. The trunk is another good way to identify this tree because it has smooth gray bark that looks similar to the leg of an elephant! Interior live oaks are often confused with the coast live oak, whose leaves are generally more cupped.

Blue oak *(Quercus douglasii)* has the amazing ability to grow on dry hillsides through the heat of summer. This allows the blue oak to range through 39 counties in California! This tree grows throughout Sacramento in the higher and drier locations that valley oaks can seldom endure.



One adaptation that allows them to withstand summer drought is a waxy blue layer on the leaves to prevent water loss. If conditions become dry enough, they may even drop their leaves in the summer and become dormant. The blue oak leaves are great for discovering small galls that look like saucers, urchins, and stars.

Other Oaks

In addition to the three species of oak native to Sacramento, there is a native oak hybrid named oracle oak. It is a cross between the California black oak of the foothills and the interior live oak. Many oaks from the Eastern US and around the world such as cork, red, scarlet, and pin oak are common in landscaped areas around Sacramento. Sacramento is a great place for oak trees!



A few examples of colorful oak galls!

Oak History

Oaks covered much of Sacramento County before the Gold Rush of 1849. Valley oak riparian forests grew in vast stands along the flood prone rivers and streams. Interior live and blue oaks populated many of the hills and savannas of Citrus Heights, Fair Oaks, and Folsom. Imagine traveling with a member of an 1854 railroad survey near Cache Creek who wrote "The timber belt is composed of the most magnificent oaks I have ever seen. They are not crowded as in our forests, but grow scattered about in groups or singly, with open grass-covered glades between them… There is not undergrowth beneath them, and as far as the eye can reach, when standing among them, an unending series of great trunks is seen rising from the lawn-like surface," (Plavic, et al). Can you picture it?



Road near Sloughouse in 1920.
Courtesy of the California History Room, California State Library

Unfortunately, only a small portion of the majestic oak forest remains. Most of the land used today for agriculture, ranching, and urban uses has been cleared of native oak trees at some point in the last 150 years. Our best estimates are that less than 10% of the riparian valley oak forests remain as isolated fragments of what existed in 1850. Less than one percent of the valley oak woodlands that existed prior to 1850 have been preserved.

The interior live oaks that once grew along the rivers in the foothills were impacted by mining, dam construction, and agricultural conversion. Increasing suburban growth around Sacramento in the valley and foothill areas has removed large areas of interior live and blue oaks.

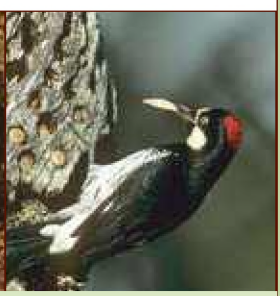
Oaks and Native Americans

The main tribe located in and around the Sacramento area, the Maidu Indian People, valued oak trees for a diet staple – the acorn. Some oaks produced 200-300 pounds of acorns on a single tree and the average adult ate 2,000 pounds of acorns a year! Acorns were harvested and used to make soup, bread, cakes, flour, and more. The whole village would gather the acorns in the fall. The acorns would first be dried in the sun then stored in baskets and granaries. The nuts were ground into meal on grinding rocks (many examples of these rocks still exist in the area). After grinding, the meal was sifted and then leached by pouring water over it several times to remove the tannin, which made the meal bitter. The finished meal would then be used to make cereal and bread. Some meal was rolled into hard balls for food on a journey. The Maidu Indian People would celebrate the acorn harvest with a tribal gathering every year. This gathering was called Big Time and is still celebrated today at several locations in the valley.



Oaks and Wildlife





Deer use the oak forests for food and shelter. The acorn woodpecker stores acorns in a granary tree.

Native trees are critical to wildlife both large and small. Hundreds of vertebrates and thousands of insects are associated with the oak woodlands of California. Animals as large as the grizzly bear eat a great amount of acorns. A single mule deer can eat up to 300 acorns a day! Tiny insects eat the acorns, leaves, and branches as a primary food source. Some animals depend on oaks to keep them safe from predators, while others use the trees as a home. Animals such as scrub jays help disperse the seeds.

Regulations

Because of their great value to Sacramento's natural and cultural history, native trees are protected in Sacramento County and cannot be pruned or removed without a permit. Any oak tree with a trunk that measures at least 6 inches in diameter at breast height (4'6" above the ground) is protected. Other native tree species are also protected: black walnut, sycamore, cottonwood, Oregon ash, boxelder, and willow.

Protecting Oak Trees

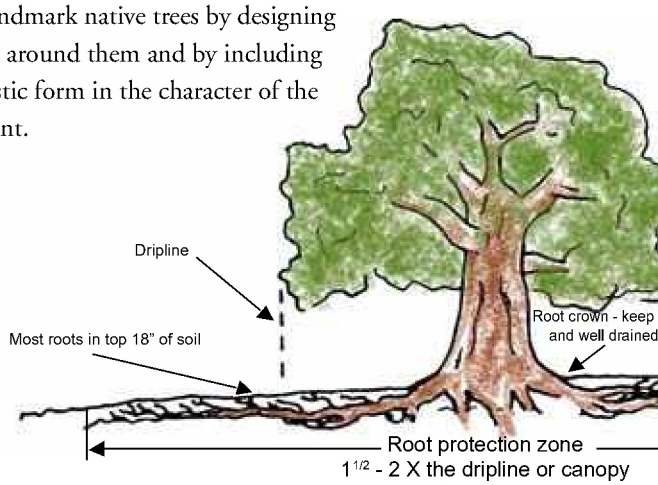
The key to protecting native trees is to not disturb the root zone. The root zone varies with soil type and drainage, tree species, and age of the tree. Commonly it is $1^{1/2}$-2 times as wide as the dripline or even greater.

Construction activies	Potential damage
• Grading • Paving • Trenching • Filling • Driving heavy equipment	• Severed roots • Compacted soil • Roots buried under fill • Different drainage and runoff patterns

During construction, make sure the root zone is fenced off to prevent damage to trees. Also be aware of how construction activities outside the root zone may affect the tree by changing water drainage and runoff patterns.

For more details on preventing damage to mature oaks during construction, an excellent publication *Living Among the Oaks: A Management Guide for Landowners* is available from the Integrated Hardwood Rangeland Management Program at http://danr.ucop.edu/ihrmp/allpubs.html#living

Development projects in Sacramento County are required to preserve landmark native trees by designing the project around them and by including their majestic form in the character of the development.



Caring For Native Oak Trees

For mature oak trees, a "hands off" policy is the best general guideline. The vast majority of tree roots are in the top 18 inches of soil and are easily damaged.

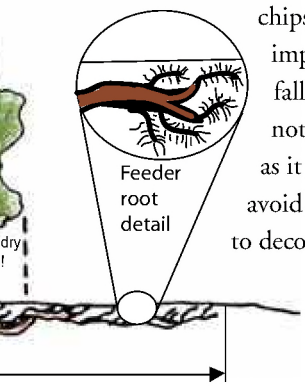
Rules of thumb for mature oak tree care
• Water deeply and infrequently only in drought years • Do not disturb the soil of the root zone or mound soil against the trunk. • Avoid trenching, compacting, adding or removing soil in the root zone • Do not cover root zone with asphalt or concrete • Avoid changing the watering and drainage patterns • Allow the leaf litter from the tree to create natural mulch

Watering frequently in the dry months is a common cause of mature tree decline and death. Lawns and sprinklers are incompatible with established native oak trees. Allowing the soil to dry out prevents fungal disease from attacking and eventually killing the tree. However, in drought years it can be beneficial to deep water native oaks once or twice in rainless months if the drought is severe. To deep water, soak the outer two thirds of the root zone to a depth of at least 12 inches, moving slowly about the tree. The water penetration may take many hours if the soil is compacted or has high clay content. Never water more than once a month and keep water at least 10 feet from the trunk of the tree.

Fertilization does not benefit mature trees unless indicated by a specific soil deficiency. Consult a certified arborist to perform a soil test if you are concerned.

Pruning is generally not necessary except to remove dead or diseased branches. Obtain a tree permit from your local jurisdiction before pruning and select an ISA certified arborist to professionally prune your tree. For tips about selecting a professional arborist, visit our website at www.sactree.com.

Mulching with organic material like wood chips can reduce weed growth and insulate the important feeder roots. Allow natural litter to fall from the tree and mulch the surface, but do not place it against the trunk. Do not use rock as it compacts the soil and absorbs heat. Also avoid redwood and cedar mulches which are slow to decompose.



Landscaping Near Oaks

It is best not to disturb the root zone of mature oaks with plantings or other materials. Instead, retain the natural leaf mulch from the tree. This will insulate important feeder roots, recycle nutrients into the soil, hold moisture longer, and save yourself the work of raking!



Do not plant anything within 10 feet of the trunk, as this will help prevent disease.

Drought tolerant and native species that tolerate partial shade and dry summers can be planted outside of the dripline. Wildflower mixes can be used for a splash of color, and native grasses will also add texture and interest to the area around the tree. Some suggestions for plantings in this area are in the table below.

This is a small sampling of drought tolerant native plants that may be planted outside an oak's dripline. Many other species can also be found at native plant nurseries and California Native Plant Society plant sales.

Scientific name	Common name
Rosa californica	California wild rose
Ceonothus sp.	Wild lilacs
Baccharis pilularis	Coyote bush
Lupinus albifrons	Bush lupine
Rhamnus californica	Coffeeberry
Cercis occidentalis	Western redbud
Muhlenbergia rigens	Deergrass
Epilobium californica	California fuschia
Fremontodendron californicum	Flannelbush

Growing New Oaks

Because native oaks are adapted to Sacramento, they can be a low maintenance addition to a landscape that endures for generations. Young oak trees can be easily established from acorns or seedlings if they are protected from rodents and given monthly watering in the dry months. Many people find oak seedlings coming up in their yards that were deposited there by scrub jays or squirrels! Most local nurseries also carry container stock of our native oak trees that can be planted for a quick start.

Native oaks that start their lives in lawns or irrigated conditions will grow quickly but eventually succumb to fungal diseases unless summer watering is greatly reduced and kept away from the trunk.

Oak Regeneration

Large native oaks are common in Sacramento, but you may have noticed that there aren't enough small oak saplings to take the place of the aging giant oaks in the natural cycle. Oak trees throughout California are threatened not only by human impact, but by failure to maintain population numbers through natural regeneration. Valley oak and blue oak in particular have not established enough new trees in the last 100 years. Scientists are studying this problem and have proposed several reasons for the failure of oaks to regenerate. Since the arrival of the Spaniards in the 1700s, annual weedy grasses have taken over the open savannahs and woodlands. These weeds create dense mats of undergrowth that dry out the soil and compete with oak seedlings for water. Fire suppression and changes in the fire cycle, which used to clear this undergrowth from the woodlands, may now limit the chances of a seedling growing without competition. Since most of the extensive oak woodlands are on ranch land, grazing impacts oak regeneration as livestock and wild animals browse young trees and prevent them from transitioning to saplings. Other possible causes may include increased rodent populations and global climate change.

Landowners can help seedlings become established by removing competing weeds from around new seedlings, protecting them with tree tubes, and fencing out livestock long enough for the seedlings to grow above the browse line.

Native Tree Mitigation



These newly planted oaks are mitigation for projects around Sacramento County

Replacement trees must be planted when the County approves native trees to be removed by a development project. This mitigation is meant to replace the habitat and environmental values of the native trees that are removed.

When possible, the mitigation trees should be planted within the development so that there is no long term loss of native trees on the site. When replanting on the site is not feasible, the trees are replanted at another location that is appropriate for them to grow and provide habitat.

The Sacramento Tree Foundation offers a program called Native Trees in Urban and Rural Environments (NATURE) which replants trees in public places where they will be protected and help restore the native landscapes of Sacramento County. You can help plant trees with NATURE or teach school children to grow acorns into seedlings as a volunteer docent. Contact the Sacramento Tree Foundation to sign up!

Native Oak Woodlands

Sacramento contains some great places to see native woodlands. Here are a few that you can take advantage of and appreciate our natural heritage.

American River Parkway
http://www.sacparks.net/our-parks/american-river-parkway

Effie Yeaw Nature Center in Ancil Hoffman Park contains nature trails and excellent examples of riparian and oak woodlands.
http://www.effieyeaw.org

Ambassador Park is in the midst of a large grove west of Sunrise Boulevard and east of Elmanto

Goethe Park in Rancho Cordova has a nature area with many interior live oak specimens.

Discovery Park near Garden Highway and Interstate 5 has many native sycamore and cottonwood.

Folsom Lake State Recreation Area
Take the Middle Ridge or Shady trails from the Nimbus Dam overlook to enjoy blue and interior live oaks.

http://www.parks.ca.gov/?page_id=500

Deer Creek Hills
http://www.sacramentovalleyconservancy.org/

Sacramento Valley Conservancy leads regular hikes and horseback rides through the blue and interior live oak woodlands of eastern Sacramento County.

Cosumnes River Preserve
http://www.cosumnes.org/

The preserve has several trails which pass through riparian areas, valley oak woodland, and restoration plantings.

Stone Lakes National Wildlife Refuge
http://www.stonelakes.org/

Stone Lakes is open for hiking and bird watching in their riparian areas on alternating Saturdays.

Other fine locations include:

Sacramento - Natomas Oaks Park off Garden Hwy., Land Park near Fairytale Town, Del Paso Park

Citrus Heights – Rusch Community Park

Rio Linda – Dry Creek Parkway

Orangevale – Orangevale Park, Snipes Pershing Ravine

Fair Oaks – Fair Oaks Park, Fair Oaks Bluff, Phoenix Park

Elk Grove – Elk Grove Regional Park, Miwok Park

References

Pavlik, Bruce M. 1991 . Oaks of California . Cachuma Press and California Oak Foundation

McCreary, Douglas D. 2001 . Regenerating Rangeland Oaks in California . University of California Agriculture and Natural Resources Publication 21601

Johnson, Sharon G. Living Among the Oaks: A Management Guide for Landowners . University of California Cooperative Extension, Natural Resources Program.

Hagen, Bruce W. Frequently Asked Questions (FAQs) About Oaks. http://www.californiaoaks.org/ExtAssets/faqs.pdf

Resources

California Oak Foundation

A nonprofit organization dedicated to preserving the oak forest ecosystem and its rural landscapes.
http://www.californiaoaks.org/

University of California Integrated Hardwood Rangeland Management Program

Conducts research and outreach to assure the sustainability of oak woodlands.
http://danr.ucop.edu/ihrmp/

California Oak Mortality Taskforce

Tracks the most recent findings of Sudden Oak Death
http://www.cnr.berkeley.edu/comtf/index.html

California Native Plant Society

Information on oaks and other native plants suitable for landscapes
http://www.cnps.org/

Sacramento County Tree Coordinator

Contact regarding tree permits and questions about oak trees in Sacramento County
(916) 874-5278

City of Sacramento Urban Forest Services

Contact regarding trees in Sacramento city limits
(916) 808-6345
http://www.cityofsacramento.org/parksandrecreation/urbanforest/

Trees



- Clean and cool the air
- Produce oxygen
- Shade our homes, streets, parks, and more
- Save energy
- Add beauty
- Increase property values
- Hold stormwater
- Prevent erosion
- Help us feel comfortable
- Provide food for humans and wildlife
- Provide homes and shelter for wildlife
- Produce useful wood products
- Reduce greenhouse gases

Help build the best urban forest!



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June 25, 2026

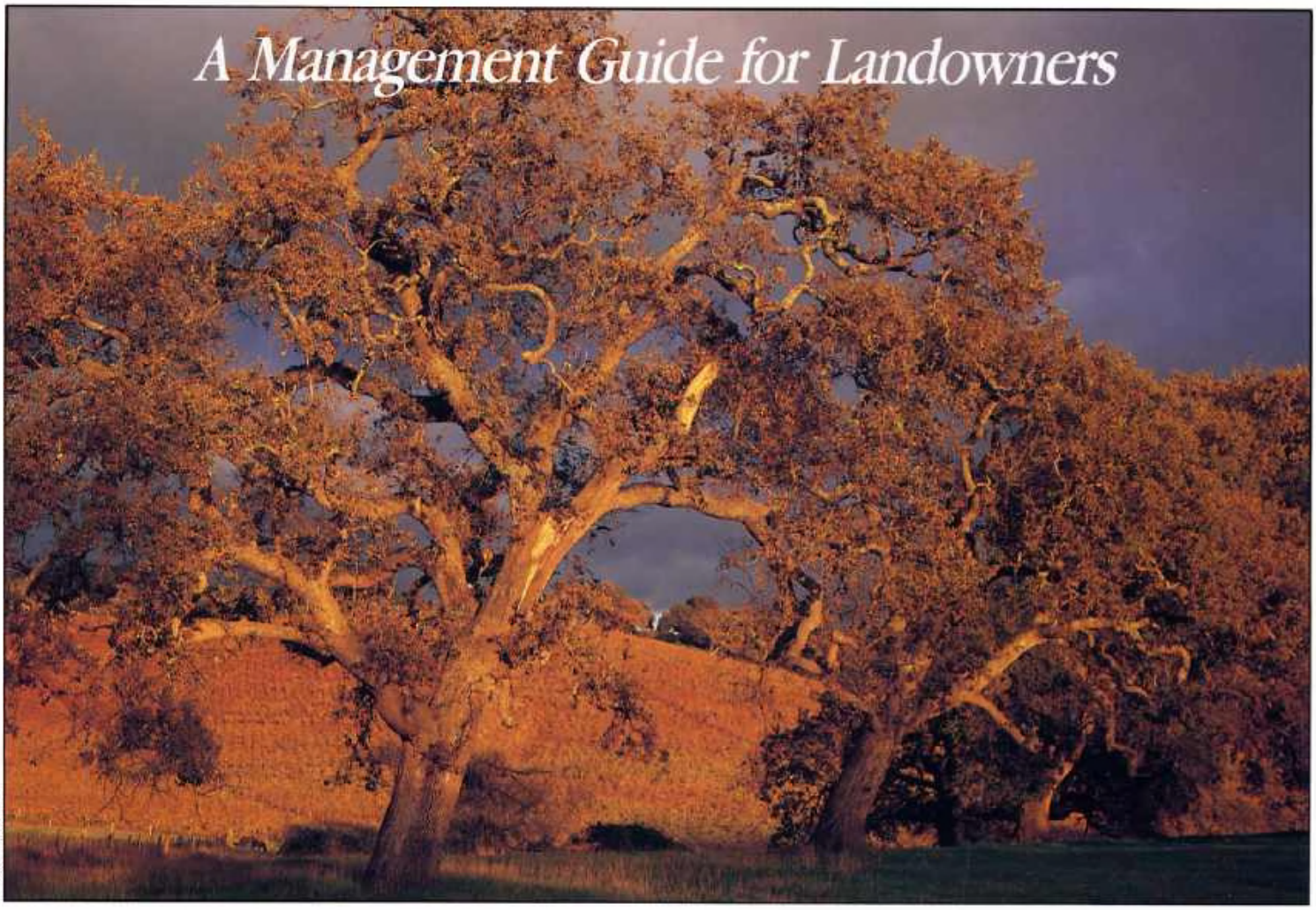
Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT N

Living Among the Oaks, A Management Guide for Landowners – Footnote 32

LIVING AMONG THE OAKS

A Management Guide for Landowners



LARRY ULRICH

What is more characteristic of the California landscape than the oak? Round-crowned oaks dapple the rolling hills, solitary monarchs shade our rural roads, and valley giants stretch skyward in banners of leaves and lichen. Both past and present-day travelers have stopped in awe of our native oaks, and countless photographs and memories are framed by their spreading, weather-worn branches. The oak is particularly emblematic of the inland regions of California, where scattered oaks, rolling pasture, and distant cattle are the common elements of an infinitely variable landscape.

In this region—often called the hardwood range by land managers—the vistas of oaks, pasture, and cattle bestow a tranquility that sometimes belies the fourth element—people. Like the earliest Californians, humans today come to the oaks for food, shelter, and beauty. As we appreciate the beauty of oak landscapes, we fatten our flocks on their bounty, and seek homesites in their shadows. But intensifying land use in the hardwood range has brought soil erosion, reduced forage production, poor regeneration among some species of oaks, and dwindling resources, due to development. Today the hardwood range clearly shows signs of the last hundred years of human habitation.

All Californians can assist in the protection and enhancement of native oak resources, but none are in a better position to do so than landowners in the hardwood range. These individuals shape the future by their decisions, which cumulatively direct the management and land use of more than seven million acres of California's oaks and pasture.

This brochure is designed for you—the landowner. It brings together a variety of current information about living and making a living among the oaks. The University of California Cooperative Extension hopes that you will find this information useful as you manage your land and make decisions that shape the future of your oaks.

OAKS GIVE US:

- **Shade & Shelter**
- **Increased Property Values**
- **Beautiful Carefree Landscapes**
- **Food & Fuel**

Needs and Conflicts

In designing and building homes, workspaces, storage areas, gardens, orchards, and places for animals, your decisions are shaped by your over-all objectives for your land. Managing land as a residential site, for animal production, for wild or park-like qualities, all may require different actions. As you choose management objectives for your land and evaluate its suitability, also consider the oaks on those sites and whether your objectives are compatible with the basic needs of the trees. Careful planning and design can often provide benefits for both people and oaks.

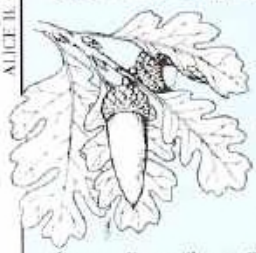
Past development among the oaks has revealed specific areas of conflict. Various construction practices seriously injure oaks or inadvertently kill them, increasing fire hazards and creating liability and management problems. Gardening practices such as amending the soil, planting lawns, or irrigating under established oaks will kill them. Domestic animals and wildlife, as well as insect and fungus pests, also take their toll. In combination these elements can present formidable obstacles to the survival of mature oak trees. Harmful effects can be minimized, however, by thoughtful management practices.

DIVISION OF AGRICULTURE AND NATURAL RESOURCES PUBLICATION # 21538

LIVING AMONG THE

Oaks of the Hardwood Range

California has 15 species of oak in the genus *Quercus*, 8 of which grow to tree size. Of these, only 5 are conspicuous members of the hardwood range plant community.



ALICE H. ADDICOTT

Valley oak, *(Q. lobata)*
This tall, spreading deciduous oak was once an important member of the Central Valley's riparian forests. From Shasta County to Los Angeles county, it is still a conspicuous oak in the hardwood range, especially in valley bottoms and on deep alluvial soils.



HART GORDON BAILEY

Blue oak, *(Q. douglasii)*
this deciduous oak is the dominant oak of the hardwood range from Shasta County to Kern County. Where it shares its range with the Valley oak, but oak occupies the more shallow soils, steeper slope, and upland sites.



Coast live oak *(Q. agrifolia)*
is an evergreen oak found from southern Mendocino County southward into northern Baja California, primarily west of the coast ranges. In the southern portions of its range, it replaces the valley oak in the hardwood range, and in valley and alluvial sites, it often attains a tall spreading appearance.



GERI HUISE-STEPHENS

Interior Live Oak *(Quercus wislizenii).*
This evergreen oak is widely distributed in California from Siskiyou County south into Baja California. It is abundant in the Sierra Nevada foothills and in the coast ranges occupies the higher, drier, or more inland sites than the coast live oak. Interior live oak is generally found in more heavily wooded sites than the blue oak, and in chaparral habitats or other dry locations it often develops a shrubby form.



HART GORDON BAILEY

Engelmann or mesa oak *(Q. engelmannii).*
This semi-deciduous oak has a limited distribution in less than 2 percent of the state—primarily in western San Diego County. There, the mesa oak replaces the blue oak in the hardwood range.

COURTESY OF THE UC DAVIS ARBORETUM

Building Around Oaks: The Hazard Zone—Where the Roots Are

Young, native oaks are tolerant of environmental changes and will usually adapt to landscaping practices. But as oaks mature, their environmental tolerances become set and changes can weaken or kill them. A mature oak, for example, is well adapted to California's naturally dry summer weather. If the environment of an adult tree is changed by the introduction of summer watering—for gardens, lawns, or improved pasture—fungi will proliferate on its roots and begin to kill it. Unfortunately, there may be few visible signs of a fungus attack before it is too late (See "Oaks in the Home Garden"). On the other hand, a young tree on well-drained soils, raised under a regime of summer watering, maintains some resistance to threatening fungi even into adulthood.

The most vulnerable parts of a mature tree are the root crown (at the base of the trunk) and the entire root zone. Oak roots are relatively shallow and extend from the root crown outward, reaching some distance beyond the tree's drip line (the outermost edge of a tree's foliage). For management purposes, think of a tree's root zone as being one third larger than the drip line area. Ideally there should be no disturbance within this zone. This means no grading, digging, trenching, covering the ground with asphalt or concrete, or landscaping with plants that require summer watering (see "Oaks in the Home Garden"). Even excessive foot traffic, operating heavy equipment, and parking vehicles (particularly heavy ones) should be avoided.

Think of the root zone as the tree's "home"—the minimum ground required for its survival. The best way to live with a mature oak is to leave it and the area beneath its canopy alone. Establish a mini-park, if possible, for birds and other wildlife, and keep it dry. If modifications are unavoidable, strive to keep the root zone area in as natural a condition as possible, and keep ground disturbance as far away from a tree's trunk as possible.

Threats To The Root Zone

A mature oak is accustomed to a certain balance of moisture, air, soil temperature, and nutrients. A change in these factors can severely alter conditions for the tree. The most common human activities that alter a tree's root environment are:

Changes in grade. This includes any changes in the ground level under the tree, either by mounding up soil or excavating it. Excavating soil can destroy the roots and expose them to damage by surface activities. Mounding up soil reduces the oxygen supply to the root zone, which can suffocate a tree. Depending on climate and soil moisture, additions of soil can also encourage root rot.



Changes in drainage. Changes in the drainage around an oak can put water into the root zone during the season when soil temperatures are high and oaks need to be dry. Saturated soils inhibit the exchange of oxygen in the root zone and encourage the proliferation of soil-borne diseases.

Soil compaction. Heavy traffic or the operation of heavy equipment can cause soil compaction, that is, the spaces between the soil particles become compressed. Since a tree "breathes" through the exchange of gasses that occurs within these spaces, compaction will lessen gas exchange, suffocating the tree.

Paving. Paving presents many of the same hazards as soil compaction, and compaction itself often occurs in preparation for and during paving. When the ground is covered with a nonporous material such as asphalt or concrete, the free passage of moisture, air, and other gases within the root zone is impeded. There are porous materials, however, that are more compatible with the oak environment and make excellent ground coverings. Porous brick with sand joints, for example, or gravel, bark, wood, mulches, and many other similar such materials provide an attractive ground covering that permits the free passage of water and air.

Regardless of the permeability of the ground covering, nothing should be placed within a six-foot radius of a tree's trunk—the minimum area that should always be left undisturbed and uncovered.

Fills. In general, do not fill within the drip zone of a tree because fills tend to compact the soil and hence reduce permeability.



OAKS

They also promote water entrapment in the root zone, encouraging root and crown rots. Use retaining walls outside of the drip line to protect the natural grade under the tree.

If there is no alternative to filling within the dripline, techniques are available to minimize impact on the tree. Consult an arborist specializing in oaks, or some of the publications listed in "Additional Resources".

ROOTS AT RISK: Avoid Trenching And Heavy Equipment In The Root Zone

Trenching. Trenching is a commonly overlooked cause of tree mortality. When utility trenches are dug into the root zone, major portions of a tree's roots may be cut or severely damaged. When a large proportion of the roots are damaged, trees die. Trenching in the root zone should be avoided whenever possible.

Perhaps the best alternative to trenching is to place utilities in a conduit which is bored through the soil. This eliminates the need for trenching, and the small size of the conduit minimizes root damage.

If utility conduits are unavailable, try to have all utilities placed in a single trench, as multiple trenching by different companies is a common culprit in tree deaths. Convincing utilities to use a single trench may require vigilant lobbying with the various companies, since it is often difficult to coordinate their timing needs and trenching specifications. Persistence pays off, however, and coordination can be accomplished!

After any trenching in the root zone, the tree should be carefully pruned to remove canopy material proportional to the roots lost or damaged. An arborist can best advise on the needs of this pruning.

Disturbance beyond the root zone. Beyond the root zone, mature oaks are usually less affected by landform and drainage changes, soil compactation, paving, fills, and trenching activities. But the indirect effects must still be considered. Watch out for fill materials that could pond water around a tree. Consider the effects of nearby pools on local soil moisture, and watch for bank or hillside cuts that could drain moisture that a tree is used to receiving. Any activity that changes the environment of a mature tree, even indirectly, could threaten its well-being.

Native Plants for Oak Gardens

These are just a few California native plants that can be used in landscaping oak gardens. Once established—usually after a year—they require little care, one monthly watering, and offer beautiful foliage, showy blossoms, and sometimes, pleasant fragrances.

Shrubs Partial Shade

Carpenteria californica, Carpenteria
Ceanothus species: Wild lilacs
C. griseus, C. thyrsiflorus, C. maritimus, plus cultivars: *C. Joyce Coulter, C. Ray Hartman.*
Cercis occidentalis, Western redbud
Cercocarpus betuloides var. *blancheae*, Mountain-mahogany
Eriogonum arborescens, Santa Cruz Island wild buckwheat
Garrya elliptica, Silk-tassel bush
Heteromeles arbutifolia, Toyon
Mahonia species, Barberries and Mahonias:
M. amplectens, M. dictyota, M. fremontii, M. Haematocarpa, M. higginsiae, M. pinnata
Prunus ilicifolia, Holly-leaf cherry
Rhamnus Californica, Coffeeberry
Ribes species, Gooseberries:
R. aureum vr. *gracillimum, R. malvaceum, R. speciosum, R. sanguinium, R. viburnifolium*
Rosa californica, California wild rose
Rosa californica, "Plena" double California rose
Salvia clevelandii, San Diego wild sage
Salvia leucophylla, Coastal white sage

Shrubs Full Sun

Fremontodendron californicum mexicanum and cultivars, Fremontia, Flannel bush, "California glory" "Pacific sunset"
Galvesia speciosa, Island snapdragon
Lupinus albifrons, Silver bush lupine
Lupinus chamissonis, Chamisso bush lupin
Mimulus aurantiacus, Bush monkey-flower
Mimulus pumiceus, Red monkeyflower
Penstemon clevelandii, Cleveland's penstemon and other species
Romoneya coulteri, Matilija poppy

Ground Covers

Baccharis pilularis subsp. *pilularis*, Dwarf coyote bush
Ceanothus griseus var. *horizontalis*, Carmel creeper
Ceanothus maritimus, Hoover ceanothus
Ribes viburnifolium, Catalina currant

Evergreen Herbaceous Plants

Dryopteris arguta, Wood fern
Eriogonum umbellatum var. *polyanthum*, Buckwheat
Heuchera maxima, Giant alum root
Iris douglasiana and hybrids
Viguiera deltoidea var. *parishii*

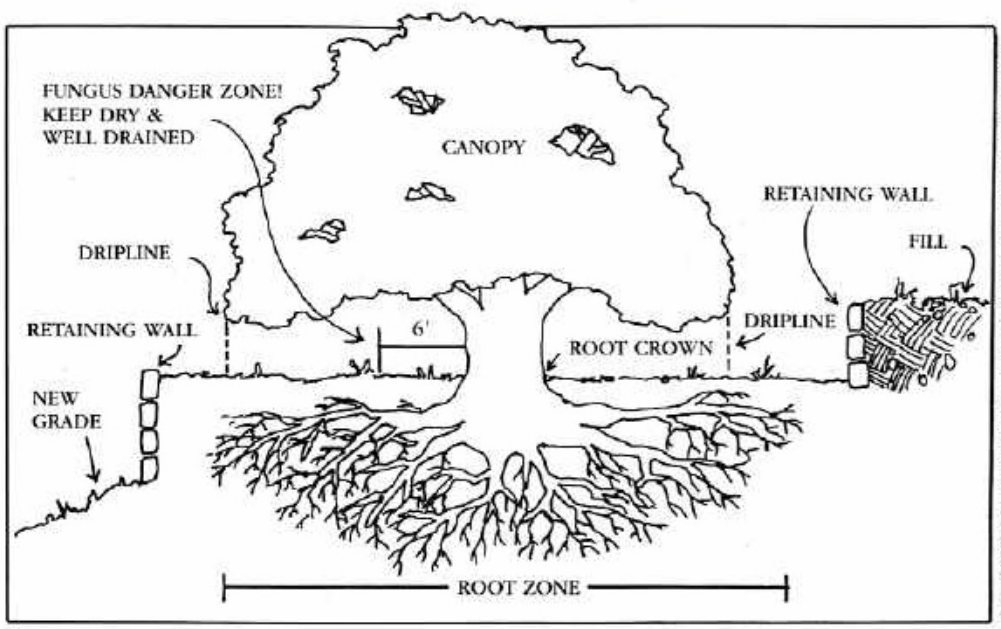
Deciduous or Annual Herbaceous Plants

Clarkia species, Clarkias
Collinsia species, Chinese houses
Dodecatheon clevelandii, Shooting stars
Eschscholzia species, Poppies
Montia perfoliata, miners lettus
Nemophila Menziesii, Baby blue eyes
Oenothera species, Evening Primroses
Sisyrinchium bellum, Blue-eyed-grass
Viola pedunculata, Yellow pansey
Zauschneria californica, California wild fuchsia

Bulbs

Brodiaea species and related genera:
Dichelostemma pulchellum
Tritileta laxa
Calochortus species, Mariposa lilies
Chlorogalum pomeridianum, Soap plant
Lilium pardalinum, Leopard lily
Trillium chloropetalum, Common trillium

For more information about these and other California native plants compatible with oak gardens, contact local arboretums, botanical gardens, and the California Native Plant Society (see "Additional Resources").



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OAKS IN THE HOME GARDEN

Oaks can prosper in close proximity to human habitation if care is taken to preserve the basic elements of the natural oak environment. Garden settings include many of the building hazards discussed above, but there are several more considerations. If the needs and limitations of mature oaks are not part of gardening design and procedures, well-meaning people can make serious mistakes.

Care and Feeding of Mature Oaks

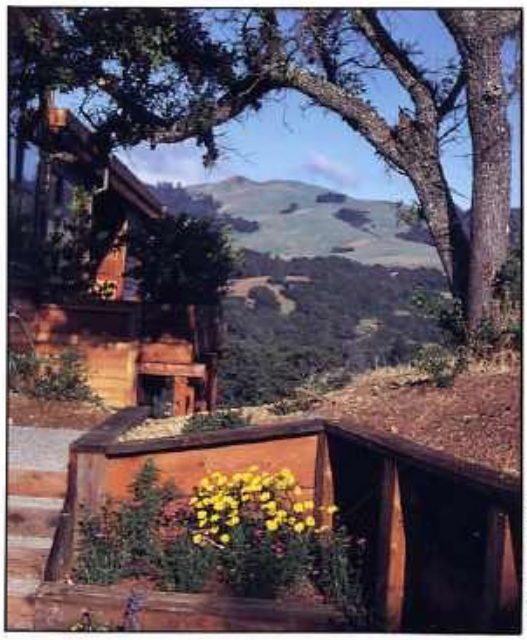
In approaching the design and care of your oak garden, periodically evaluate the health of your oaks. The information in "Oak Health Check" (see right) should help you with this. If problems are evident, consult the references at the end of this brochure or an arborist specializing in oaks. If your oaks pass their health check, they will not need a lot of attention from you as long as care is taken to preserve the basic elements of their environment. The following information can guide your care of mature, healthy oaks.

Pruning. Mature oaks do not require pruning except to remove dead, weakened, diseased, or dangerous branches. Sometimes a light thinning, called "daylighting", of 10 to 20 percent of the leaf area from branches three to six inches in diameter can benefit a tree by opening its canopy to deeper light penetration. This also reduces wind resistance and the weight of branches. Avoid excessive pruning, however, as it stimulates vigorous sprouting that is highly vulnerable to damage from mildew.

Light pruning can be done at any time of the year. Heavy pruning, however, should be made during the dormant period (winter) on deciduous oaks and during July and August on evergreen trees. The most important factor in pruning is to make all cuts correctly. Avoid leaving branch stubs and do not paint cuts. For more advice consult an arborist or recent publications on pruning techniques.

Watering. Mature oaks in wildland settings are adapted to dry, summer conditions. Summer irrigation will doom the adult tree (see "Diseases") and is to be avoided, especially near the base of the tree. Do not water even ornamentals planted under oaks. If they need watering they do not belong there (see "Oaks in the Home Garden"). If the winter season is unusually dry, a supplemental watering in the early spring, can complement natural rainfall. Water deeply in the outer two—thirds of the root zone. A similar watering can be repeated once or twice during especially dry summers.

Feeding. A healthy, mature oak under natural conditions does not require supplemental feeding. But when the oak exhibits disease or stress, or when growth is poor and its natural fertilizer supply (the leaf drop and organic litter that decomposes under the canopy) is removed, supplemental feeding can be beneficial. Young oaks can be fertilized to encourage rapid growth.



HARDESTY ASSOC.

Compatible building around oaks protects a tree's root zone.

Nitrogen is the primary fertilizer of value to oaks. It can either be spread on the ground in the outer two-thirds of the root zone, or it can be applied through holes dug into the ground, 18 inches apart, along the tree's drip line. Fertilizers should be applied at a rate of two to four pounds of actual nitrogen per thousand square feet of surface area. Consult the label on the fertilizer container to determine the nitrogen content and calculate an application rate. A fertilizer that is 50 percent nitrogen, for example, would require an application of four to eight pounds per thousand square feet.

Either nitrate or organic fertilizers can be used on oaks. Organic fertilizers are preferable as they remain available to the tree longer than nitrate fertilizers, and should be applied in winter so nitrogen will be available in the root zone during spring. Nitrate fertilizers should be applied in late spring, after the first flush of growth is complete. Do not over-fertilize, as it stimulates excessive new growth that is subject to mildew.

An iron deficiency, indicated by yellow leaves with thin dark-green veins, can develop in oaks on poorly drained, alkaline, or clay soils. This situation is difficult to correct, but acidifying the soil with sulfur, worked into the surface at a rate of 10-20 pounds per thousand square feet, may slowly improve conditions. Iron chelates (organic complexes of iron) are also helpful, but are expensive.

Compatible Gardening Beneath Oaks

Since mature oaks will not tolerate summer watering, care must be taken to select landscaping components that are in harmony with the established oak environment. Thick ground coverings of lawn, ferns, ivy, or any other vegetation requiring watering are inappropriate under oaks, not only because of their water requirements and fungus problems, but also because the thick root mats of such ground covers inhibit the exchange of air and moisture that a mature tree requires.

Many attractive native plants are well suited to the natural oak environment and, when incorporated into oak landscapes, will provide beautiful, low maintenance, irrigation-free gardens. The California Native Plant Society can provide excellent information on landscaping with native plants (see "Additional Resources"). In addition, the University of California has developed some strains of drought-tolerant, shade-tolerant grasses that could be used under an oak in the outer portions of its drip-line area.

In all cases of planting under oaks, the zone within six feet of the trunk should be disturbed as little as possible. If care is taken to keep the base of the tree dry, some native plants, as well as mulches or porous ground coverings such as gravel, brick with sand joints, and wooden decking (built on concrete piers rather than on poured foundations), can be used even in this sensitive area.



DAVID CAVAGNARO

Colorful galls, caused by gall wasps, are common on twigs, branches, and leaves.

Fire Safety Considerations

The threat of wildfire exists throughout all oak-inhabited regions of California. Oaks are fairly resilient when burned and will usually resprout at the base of the tree, where branches join the trunk, or in the forks of branches.

Oaks can also be readily incorporated into the fire-resistant landscaping needed around homes and buildings. Local fire fighting agencies require clearance zones around buildings (usually 30 feet) where brush must be removed and dry, highly flamable vegetation must be reduced. Since oaks cannot tolerate lawn coverings or summer watering, porous ground coverings can be used under mature oaks to retard the growth of flammable weeds (see "Threats to the Root Zone—Paving"). Organic debris should be cleared and branches should be pruned and kept from touching the ground or hanging over buildings. This reduces the dangers of ground fires spreading into tree canopies or onto roofs.

Dependable water sources, such as water

impoundments, swimming pools or water tanks (located away from mature oaks), greatly improve fire-fighting resources on any piece of land. For guidance always consult the clearance regulations of local fire-fighting agencies.

Diseases and Infestations

Oaks in natural conditions are relatively free from disease. But when compromised by soil compaction, changes in soil moisture, or other disturbances, trees become weakened and have difficulty fending off their natural enemies. Often by the time the symptoms appear the tree is in crisis, and remedies may be too late. An arborist or Cooperative Extension Advisor should be called when the following symptoms are noticed:

—Loss of tree vigor, twig die-back and wilting, abnormally yellowish leaves, and wounds on the bark that ooze rusty-looking fluid. These symptoms accompany crown rot (*Phytophthora and Pythium* spp.).

—Die-back of branches, emergence of clumps of honey-colored mushrooms at or near the base of the tree in the late summer or fall; often accompanied by a white fan-like fungus growth between the bark and sapwood and black shoestring-like rhyzomorphs in the soil. These symptoms accompany the oak root fungus, *Armillaria melea*.

Armillaria melea is usually present on the roots of all oaks, even when the fungus is not visible. Under natural conditions it is held in check by summer drought. Once a serious infestation develops on the roots of a tree, however, the fungus can persist in the soil organic material and can later infect other trees—even after death and removal of the host tree. Fruit trees and ornamentals planted on the site, particularly those that are irrigated during the summer, may be subject to infestations.

—Another, less common fungus infestation, called "heart rot," occurs when one or several fungi attack the inactive heartwood of an oak. This does not usually impair the tree's vigor but can weaken it structurally. Weakened branches will break off, and a weakened trunk may not be able to support the crown during a wind storm. Regular examination of the tree and judicious pruning and bracing where needed can prolong the life of an afflicted oak.

Coast live oak laden with Spanish moss.



DAVID CAVAGNARO

DANIEL D'AGOSTINI

Mistletoe. This parasitic shrub grows in the branches of many oaks and can cause structural weaknesses that make a tree more vulnerable to branch breakage. Small infestations can be controlled by cutting out the mistletoe, and cutting back the oak's bark around the spot where the mistletoe stem entered the oak branch. Major infestations are difficult to control, however, and a Cooperative Extension Advisor or an arborist specializing in oaks should be consulted.

Spanish Moss. Spanish moss is actually a lichen, rather than a moss, and since it is not parasitic it generally offers little threat to oaks. Growth may be slightly reduced due to shading of many leaves in a tree heavily laden with Spanish moss. But the situation is not life-threatening and is easily alleviated by judicious pruning.

Insect pests. Innumerable insects find their livelihoods in the branches and leaves of the oaks, usually without much consequence to the healthy tree. The oak gall, for example, is a harmless swelling of branchlets in reaction to enzymes released where a wasp lays its eggs. These galls can be so abundant, colorful, and multi-formed that they resemble dangling Christmas ornaments.

There are some insect infestation however, like pit scales (appearing as pinhead-size scales on the bark of twigs and branchlets), oak moth, and other leaf-eating infestations, that can cause serious damage to oaks. Whenever a severe insect attack causes substantial leaf loss, changes in leaf color, twig die-back, sooty foliage and branches, or other significant changes in appearance, intervention may be required. University of California Cooperative Extension has several publications on diagnosis and treatment of insect infestations (see "Additional Resources"). Farm Advisors and arborists can also provide needed information.

Animal pests. In most cases animals pose little problem to the mature oak. Browsing or grazing animals may inhibit natural regeneration but rarely threaten the mature tree. There have been cases, however, where populations of ground squirrels or other ground-dwelling rodents have caused serious damage to oaks. Take measures to control these populations if oak vigor is diminished or if there is extensive excavation by animals in the root zone.

Other Diseases. The health and vigor of oaks can also be compromised by a number of other afflictions that are not discussed here. Since 1980, for example, die-back and decline, particularly among coast live oak (*Quercus agrifolia*), has been observed in wide-spread areas of California. Several fungi may be involved in this condition and treatments are still experimental. Whenever you notice serious, unexplained decline in your oaks, contact an arborist or a Cooperative Extension Advisor for information and advice.

Oak Health Check

Check for tree growth:

- Tree size is not a good indicator of growth. Oaks on steep, less watered sites may be smaller but still healthy.
- Twig growth for the season can vary from 3 to 24 inches or more in length. If twig growth is less each year, the tree may be declining.
- Look for growth cracks on a tree's trunk. Cracks appear as widening fissures on existing bark. Tissue in the cracks should be bright green or pink when scratched. Loose bark indicates dead tissue and a diseased condition.

Check for pests and stress:

- Watch for disease or insect infestations indicated by leaf loss, changes in leaf color, twig die-back, sooty foliage and branches, or other significant changes in appearance.
- Watch for unusual leaf drop during the early summer, particularly among the older leaves. This can be an indication of drought stress, nutrient deficiencies or other root zone problems.
- Watch for twig and branch die-back from the ends of branches. This can be an indication of disease, root loss and/or other root zone problems.
- Watch for emergence of clumps of honey-colored mushrooms at or near the base of a tree in the fall and early winter. These are often accompanied by a white fan-like fungal growth between the bark and sapwood. These symptoms accompany the oak root fungus, *Armillaria melea*.
- Watch for mistletoe, a parasitic, broad-leaved shrub that grows in the branches of many oaks.
- Watch for other changes of tree appearance that may indicate declining health.

Check for structural weakness:

- Watch for developing structural weaknesses caused by mistletoe, heavy foliage or poor branch structure. Tight, V-shaped branch crotches, long horizontal limbs, extensive decay in branches, and cracks developing in crotches are all indications of weak branch structure. Have tree pruned or support branches to prevent further breakage.

Check for poor drainage:

- Standing water should not be evident within a tree's root zone.
- Building, landscaping, or other activities near oaks should not increase water in the root zone during the summer.

Check the root crown condition by digging carefully at the base of the tree:

- A characteristic root flare should be obvious. If not, the trunk has been buried and soil should be excavated to the original grade.
- Bright pink, green or dark red bark tissue is healthy. Dark yellow or brown tissue underneath the bark indicates disease.
- Large decay pockets at the root crown or in the buttress roots may indicate a dangerous condition.

Consult a U.C. Cooperative Extension Advisor, an arborist specializing in oaks, or "Additional Resources" for guidance in dealing with problems you may find.

MANAGING AND ENHANCING

Historically, livestock grazing and wildlife production have been the dominant land use throughout the hardwood range. We can thank the livestock industry for the open, pastoral character of much of California's countryside. But it is also in portions of this region that regeneration for several oak species has been poor, especially during the last 80 years. Cattle are the oft-named culprits, and although it is true that cattle do take their toll on the oaks by consuming acorns, seedlings, and saplings, oaks often do not regenerate even when the cattle are taken off the land. Obviously, the oak regeneration problem is more complex.

It has been suggested that grazing for the last hundred years has caused a combination



DAVID CAVAGNARO

of ecological reactions that are inhibiting natural oak regeneration. Such factors as changes in the species composition of the grassland, greater ground squirrel populations, insect and soil fauna changes, and alterations in populations of acorn and seedling eaters may all complicate oak regeneration. Whatever the causes, careful management is needed—of both land and oaks—if these trees are to continue their traditional and ecological role on the hardwood range.

In managing land, animals, plants, and other property resources, there are many things landowners can do to encourage healthy, vigorous oak populations. Some basic management considerations are discussed in the following section. But, in making management decisions that affect oaks, your greatest guidance will probably come from your own observations. Oaks and ecological settings vary tremendously from place to place, as does the relevance of management concepts. So before making decisions, study what actually takes place on your land. Experiment if you want to—you may discover techniques that could also be useful to other landowners.

Grazing Animals and Oaks

Minimizing direct impact on existing trees. Watch your trees for signs of animal damage. Take care that the number of animals congregating under trees does not cause excessive soil compaction, expose the root crown at the base of the trunk, or expose surface roots. Also watch for excessive chewing on the tree trunk. Animals can kill a tree by girdling if they chew around the tree, through the bark, and into living wood. These types of problems are of particular concern in paddocks or pastures where animals are concentrated.

Measures such as reducing numbers of stock, alternating pastures in use, installing exclosures, screens, or other protective devices to keep animals away from sensitive or damaged areas, can alleviate problems. If damage is severe, you may want to consult an arborist for remedial treatments.

Pasture management. In managing your pastures, always remember the general prohibition against summer watering of oaks. If your pastures are improved by summer irrigation, adjust irrigation devices to apply water outside of the root zone only. Adjusting watering schedules to infrequent but long periods of irrigation will also reduce stress on oaks. Always try to keep the base of the tree dry (see "Oaks in the Home Garden"). Observe the location of watering devices and other water sources to make sure that the area beneath an oak's canopy does not become wet from leaky water lines, valves, holding tanks, or from animals splashing in troughs.

Experiments to Encourage Natural Oak Regeneration

This is currently an area of considerable experimentation and few results—in part because it takes a long time to obtain results from trees that live many years. But if you have the interest and flexibility in your management needs, you might experiment to encourage greater natural oak regeneration on your land. Do not count on high success rates, however, since other, unknown factors may be limiting the oaks.

Promising sites. Areas particularly favorable to natural regeneration include north-facing slopes, regions with an annual precipitation greater than ten inches, deep soils, alluvial sites, swales, or other places with subsurface water. The absence of large numbers of seedling, sapling, or acorn eaters, like ground squirrels, deer, or feral pigs will also improve seedling survival.

Because seedling mortality is usually high, regeneration possibilities are best in areas that can remain free from grazing animals for a number of years, and where several mature trees provide acorns. Small groves or clusters of trees could provide such sites. Sites offering some natural protection, such as rocky or shrubby areas that naturally exclude or impede the movements of deer or livestock may also be favorable.

Techniques. A number of techniques can be employed to encourage natural regeneration:

1) Create fenced areas, called exclosures, that protect seedlings from animals. Exclosures can be small enough to protect single seedlings or large enough to accommodate entire groves. They are designed to exclude specific animals . For example, some of the smaller exclosures can keep out birds and ground-burrowing animals. You can design appropriate exclosures yourself, look at examples on this page, or refer to the references in this brochure for ideas.

2) Experiment with seasons of grazing, as well as duration and numbers of animals in areas where seedlings or saplings are present. These may be in areas where you have employed exclosures or in areas where regeneration is occurring naturally. Cattle may avoid oak leaves when other forage is abundant. Oak seedlings and saplings can also resprout after being grazed.



DAVID CAVAGNARO

Helping Nature—Propagation and Planting

Propagation and planting are rewarding ways to speed up nature's processes, beautify your home site, or even enhance the woodland on more remote parts of your property. Your investment for propagation activities can vary according to the time and money you want to spend. Both simple and elaborate efforts have proved successful. Site factors such as soil moisture, predators, weather, and luck are important in propagation success, and these are often hard to evaluate.

Seed and seedling sources. Regardless of whether you are planting acorns you collect or seedlings raised elsewhere (by native plant nurseries, youth groups, or service clubs, for example), an effort should be made to use local seeds for all wildland planting. Scientists believe that local ecotypes, or strains of species, have evolved in response to local conditions and are therefore best adapted for survival.

Collecting acorns. Most acorns ripen from late October to early November, with seeds on the lower branches ripening first. Use tools, such as long-handled loppers, or sticks to knock them down. Fully mature acorns will dislodge easier than green ones, but birds, deer, and insects will quickly take their toll if acorns are not collected soon after ripening. The biggest acorns are usually best. Test by soaking them in a pail of water, keeping only sinkers. Acorns that float often have been damaged by insects or have not matured properly. But if acorns were collected off the

OAK RESOURCES

ground where they may have dried out, soak them longer—up to 24 hours—before discarding floaters.

Storing acorns. Acorns may be stored up to six months without significant loss in viability if they are kept cool and not allowed to dry out. Place them in peat or saw dust within polyethylene bags, in an environment with temperatures around 40 degrees Fahrenheit, such as in a refrigerator. Polyethylene bags with a wall thickness of four to ten mils are ideal for storing acorns since they are permeable to carbon dioxide and oxygen but impermeable to moisture—two factors that help maintain acorn viability.

Preparation for planting. Float the acorns again, and select the sinkers.

Planting directly in the field. Direct planting of acorns eliminates the root disturbance that occurs with transplanting and allows maximum root development. Methods for planting vary tremendously, so feel free to experiment. Additional information on planting can be found in other Cooperative Extension publications (see "Additional Resources").

Select a site with good drainage. Plant in the late fall or early winter when acorns will be well-watered by the rains. Dig a hole ten inches in diameter and four to five inches deep. Break apart hard or compacted soil with a shovel. Place one gram of nitrogen fertilizer in the bottom of the hole and replace the soil, tamping it down and leaving a one to three inch depression at the top. Remove acorn caps and place six to ten acorns, tips down or sideways, in the hole. Cover with remaining material and tamp down. Use some protective device (see illustration) to exclude both above and below-ground predators. Keep the soil covered with mulch and weed when necessary. Thin seedlings to two or three at the end of the first season and one by the third year.

If the site is on a steep slope, cut into the hillside to create a pocket for the seed. Plant the acorns on the lip of the pocket with the cut sloping slightly downward and deeper into the hillside(see illustraton of exclosures). This acts to reduce erosion and collect moisture for the seedling. It also keeps the seedling out of the seasonally-saturated soil at the back of the cut.

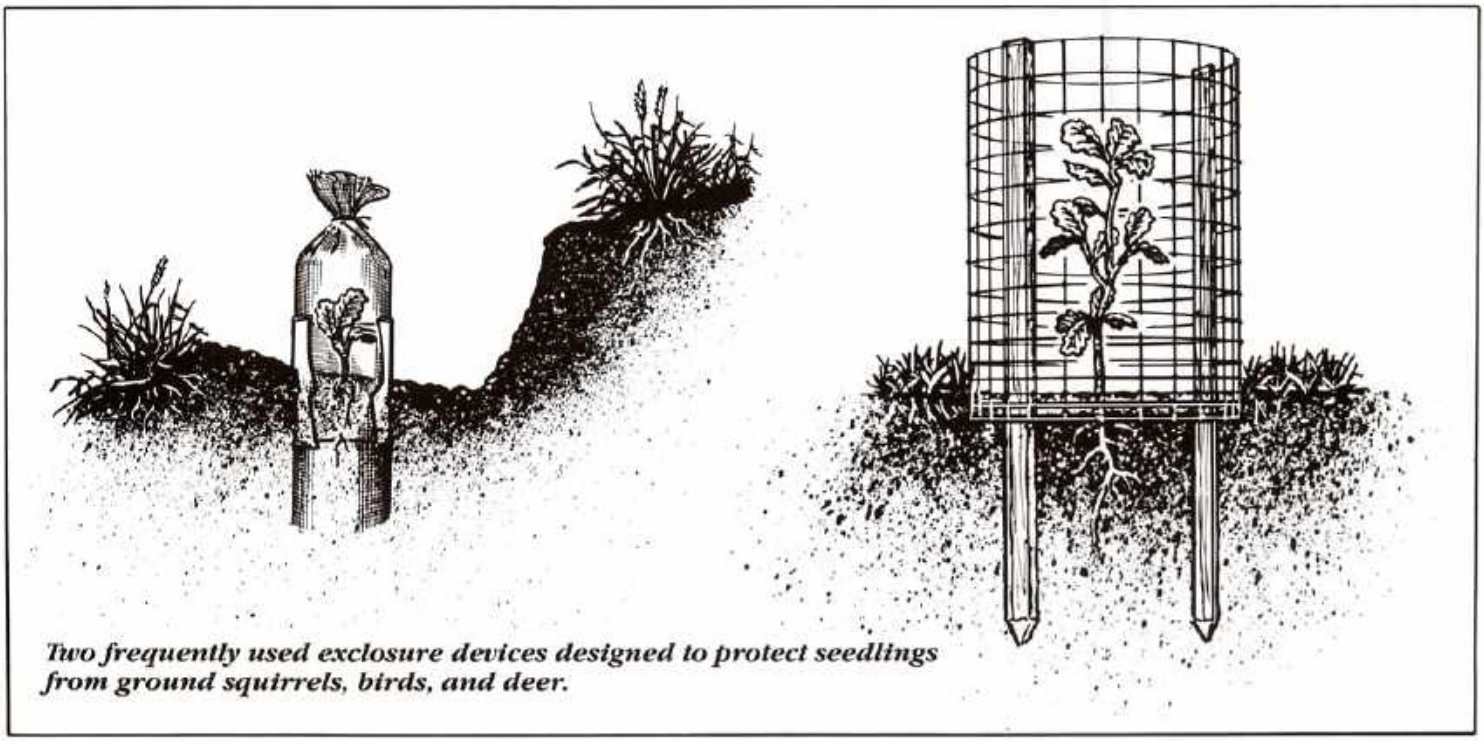
If acorns are planted after heavy rains when soils are moist, watering is not needed. Otherwise, water thoroughly after planting. Periodic watering during the first several summers will increase seedling survival. Good sites may only need watering two or three times the first year, but dry conditions in poor or sandy soils may require watering as often as once a week. Always soak the soil thoroughly to stimulate root development, and allow the surface to dry between waterings. Taper off watering during the second and third year.

HOOF & TOOTH THREAT
Avoid Root Zone Trampling & Chewing By Livestock

Planting into cans. Plant acorns in loose potting soil in one-gallon cans or deeper containers (because the tap root grows quickly, depth of containers, not width, is important). Containers should have holes in the bottom to allow for drainage. Place acorns on their sides at a depth of one half to one times the width of the acorn. Keep the soil moist but aerated.

Transplanting. If possible, seedlings should be transplanted as soon as the first leaves open and become firm, before extensive root development occurs. Young trees in containers should be transplanted in the late winter or early spring, after the ground has begun to warm and before the leaves of deciduous trees begin to emerge. The hole should be twice as wide and deep as the can. Thoroughly wet the root ball in the can. Carefully remove the root ball. If roots have begun to curve around the inside of the container, prune them to allow placement in the hole without bending or folding. Prune a corresponding amount of foliage after transplanting. Gently set the root ball in the hole with the root crown at the level of the soil surface. Fill the hole with soil, firmly tamp and soak.

Watering transplanted oaks. Watering, weeding, and mulching is important until the seedling is well established. If transplanting is done during the fall or winter, normal rains should be adequate until the dry season. For the first season, thoroughly soak seedlings so that water deeply penetrates the soil every two weeks or whenever the top two inches of soil is dry. Taper off as trees become established—many plantings are successful with only several supplemental waterings during the first season. If the transplant is to live in an irrigated environment make sure the area around the root crown is adequately drained.



CARL DENNIS BUELL

Two frequently used exclosure devices designed to protect seedlings from ground squirrels, birds, and deer.

ENHANCING PROPERTY

Wildlife Enhancement

Oak environments are among California's richest wildlife habitats; 110 species of birds use oak habitats during the breeding season, and 35 percent of California's land mammals utilize oaks during some time of their lives. California's deer herds are particularly dependent on oak habitats. By maintaining the health of your oak woodland, you also maintain an abundance and diversity of native wildlife.

Aside from reducing oak seedling and sapling survival, wildlife do not harm oaks, and instead provide benefits through maintaining ecological balances. Some birds and mammals even "plant" acorns during their foraging activities. The presence of wildlife often adds beauty to a woodland and value to property. When desired, landowners can take some measures to increase the abundance and diversity of wildlife on their lands. Here are a few suggestions.

Leave brush piles in areas where they do not pose a fire hazard. These environments are used by quail for cover and by a variety of small animals for food and shelter.

Leave a few snags if they do not pose a fire hazard or safety concerns. Snags—dead, standing trees—are often rich environments for wildlife, especially birds. Woodpeckers and other cavity-nesting birds rely on these habitats, and predatory birds use snags as perches. Many birds will move acorns, inadvertantly distributing them to new germination sites.

Add water impoundments (well away from oaks). Not only does year-round water increase wildlife diversity, it also improves fire-fighting capabilities.

Manage vegetation for diversity. The diversity of wildlife depends upon the diversity of habitats and age classes of vegetation. If you maintain grassland, oak woodland, shrubland, as well as diverse gradations between these vegetation types, you will encourage diversity in wildlife occupants. The edges between these zones are particularly rich in wildlife. For example, if you allow a field to become shrubby on the edges where it borders shrubland or woodland, you will be inviting deer, quail and other animals.

Thinning

Individual oaks and groves of oaks can be thinned to meet many landowner needs. Thinning can increase tree growth, stimulate young trees, produce firewood, encourage wildlife, provide forage for livestock, and improve fire safety, while maintaining or even enhancing the oak ecosystem. The degree of thinning and trees selected depend upon the nature of the woodland and the objectives of the landowner. Assistance in designing thinning objectives and how to meet them can be obtained from Cooperative Extension, local Resource Conservation Districts, and professional foresters.

Commercial Prospects

Because of the ever-increasing demands of a growing population on dwindling open-space resources, owners of rural and semi-rural lands can use their lands for a variety of commercial ventures. Consider raising Christmas trees, specialty or nursery crops, or mushrooms. You could also open your lands for recreational uses such as camping, hiking, hunting, horseback riding, birdwatching, photography, fishing or mushroom-picking. The references in the bibliography provide further information.

COMMUNITY ACTIVITIES

Throughout California, landowners are working together to solve common problems in the hardwood range. Many regional problems can only be solved by landowners working together in innovative ways. Here are a few examples of landowner efforts:

Landowner associations. In many areas, particularly newer subdivisions, landowner associations are working on a variety of issues including fire safety, regional landscaping, and woodland protection. One excellent example of such an endeavor is the Portola Valley Ranch, a Hardesty Associates project. This planned unit development in the foothills of the Santa Cruz Mountains includes areas of shared open space that are managed and maintained by the Ranch Homeowners Association.

Open space easements and dedications of land. In many areas individual landowners, entire developments, and local land trusts are dedicating lands to open space uses through easements and a variety of other legal tools. Landowners dedicating such lands often enjoy some tax relief as well. The Trust for Public Land and the American Farmland Trust (both headquartered in San Francisco), the Marin Agricultural Land Trust, and many small community land trusts are just a few of the organizations that operate such programs.

Community groups have developed throughout California to sponsor a variety of education, protection, and woodland enhancement activities. These groups pursue public awareness and educational programs, tree planting projects, registry programs for significant individual trees, and lobbying efforts with local jurisdictions for ordinances to protect local tree resources. An excellent example of one such program is the Sacramento Tree Foundation.

Written by Sharon G. Johnson
Designed by Nancy Austin

ADDITIONAL RESOURCES

Landowners have a number of resources at their disposal for assistance and additional information. A few of these are:

Public Agencies:

Univ. of California Cooperative Extension's Integrated Hardwood Range Management Program, 145 Mulford Hall, Berkeley, CA 94720-3114, (510) 643-5429, email: ihrmp@nature.berkeley.edu, http://danr.ucop.edu/ihrmp/

California Department of Forestry and Fire Protection, P.O. Box 944246, Sacramento, CA 94244-2460, (916) 653-8007, http://www.fire.ca.gov

Department of Fish and Game, 1416 9th Street, Sacramento, CA 95814, (916) 653-7664, http://www.dfg.ca.gov

USDA Natural Resources Conservation Service, 430 G Street #4164, Davis, CA 95616-4164, (530) 792-5644, http://www.ca.nrcs.usda.gov

Private Sector:

American Farmland Trust, California Regional Office, 260 Russell Boulevard Suite D, Davis, CA 95616, (530) 753-1073, http://www.farmland.org

California Native Plant Society, 1722 J Street, Suite 17, Sacramento, CA 95814; (916) 447-2677; email: cnps@cnps.org, http://www.cnps.org

Sacramento Tree Foundation, http://www.sactree.com

Trust for Public Land, http://www.tpl.org

California Rangeland Trust, 1221 H Street, Sacramento, CA 95814-1910, (916) 444-2096, http://www.rangelandtrust.org

California Oak Foundation, 1212 Broadway, Suite 810, Oakland, CA 94612; (510) 763-0282, http://www.californiaoaks.org

California Oak Mortality Task Force, http:// www.suddenoakdeath.org

Newsletters & Publications:

Oaks 'n Folks published by Univ. of California Cooperative Extension, contact: ihrmp@nature.berkeley.edu

Forest Stewardship Newsletter, contact: llitman@pacbell.net

Wildlife Among the Oaks: A Management Guide for Landowners, 1995, ANR Pub. 21537

Vineyards in an Oak Landscape, 1998, ANR Pub. 21577

How to Grow California Oaks, 1995, ANR Pub. 21540

Guidelines for Managing California's Hardwood Rangeland, 1996, ANR Pub. 3368

A Planner's Guide for Oak Woodlands, ANR Pub. 3369 (Available September 2001)

Landscape Conservation Planning: Preserving Ecosystems in Open Space Networks, 1993, ANR Pub. 3370

Oaks on Home Grounds, 1984, ANR Pub. 2783

Management of Small Pastures, 1990, ANR Pub. 2906

Protecting Trees when Building on Forested Land, 1983, ANR Pub. 21348

*Other publications of interest to rural landowners are available from Agriculture and Natural Resources, Univ. of California, 6701 San Pablo Ave., Oakland, CA 94608, (510) 642-2431 or (800) 994-8849, http://anrcatalog.ucdavis.edu

This is a publication of the University of California Integrated Hardwood Range Management Program. Additional copies may be obtained at 163 Mulford Hall, Berkeley, CA 94720, (510) 643-5429, email: ihrmp@nature.berkeley.edu, http://danr.ucop.edu/ihrmp/

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT O

Keeping Native California Oaks Healthy – Footnote 33

TREE NOTES

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

Pete Wilson
Governor
State of California

Harold R. Walt
Director

Douglas Wheeler
Secretary for Resources
The Resources Agency

NUMBER: 7 JUNE 1990

Keeping Native California Oaks Healthy

Bruce W. Hagen

Forest Pest Specialist, Forest Pest Management Program, P. O. Box 820, Santa Rosa, CA 95402-0820

Oak trees in the residential landscape are often seriously damaged or killed during the construction and/or landscaping phase of development. Decline and early death may also stem from inappropriate landscaping and irrigation practices. Damage often takes years to become evident, and by the time the tree shows signs of decline it is usually too late to help.

Oaks and Summer Water

Once established, native oaks require little or no supplemental irrigation. In fact, they do best in non-irrigated soils. This is because oak roots, particularly those originating at the base of the trunk (root crown), are susceptible to root-disease fungi when exposed to prolonged moisture during the summer (Figure 1). These fungi are normally inactive in dry soil, but proliferate under the warm, moist conditions created when frequent summer water is applied. (Other species of trees are less susceptible to these fungi because they have evolved where summer soil moisture is high.) Oaks weakened by the loss of roots or root function are particularly susceptible to root pathogens and other pests. Frequent summer irrigation, particularly near the root crown, is likely to cause root decay which, over time, may destroy the roots, killing the tree or causing a hazardous situation. Therefore, irrigation for lawns, ground covers or other ornamental vegetation should be avoided or, at the very least, kept well away from the trunk. The common notion that younger oaks can adapt to frequent irrigation is incorrect. Young or newly planted oaks in irrigated situations often show signs of decline after 15 to 20 years.

Oak Roots

The roots of mature oaks grow predominantly within the upper three feet of soil. Most of the roots responsible for the uptake of water and minerals are concentrated within 18 inches of the surface. Few roots grow deeper than three feet. Although the roots typically radiate well beyond the periphery of foliage (drip line), much of the active root system is within the drip line (Figure 1). Roots are sensitive to environmental change (soil compaction, grade change, increased moisture, paving). Oak roots like those of most trees, are associated with beneficial fungi that resist pathogens in the soil and aid in the absorption of water and minerals. These fungi are easily killed by changes in soil conditions.

Common Problems That Occur During Construction and Landscaping

Life-supporting roots are frequently severed during construction or damaged by other construction practices that change the existing soil environment. The frequent irrigation of lawns and ornamental vegetation commonly planted under oaks after construction, leads to decay and progressive root loss. The net effect is reduced water and mineral uptake. This typically causes die-back and decline over one to many years. Few people associate this decline with construction or landscaping because the symptoms often develop gradually. Most of these trees will die or fall prematurely unless prompt remedial action is taken.

Activities That Damage Roots and Disturb the Soil Environment

Grade change. This involves either the addition or removal of soil within the drip line. Excavation can sever roots, while the addition of fill soil may suffocate them. Fill soils can also impede water infiltration and soil drainage, leading to drought conditions or waterlogging.

Trenching. Trenches dug for utility or irrigation lines within or across the drip line cut essential roots. This impairs the tree's ability to obtain water and essential elements, which may cause death, die-back, or gradual decline. It can also impede drainage and root development.

Pavement. Impermeable soil coverings such as asphalt or concrete restrict the amount of air, water, and minerals available to the roots. This impairs root growth and function, and can ultimately lead to their death.

Soil compaction. Frequent traffic, both human and livestock, and the operation and parking of heavy vehicles within the drip line, squeeze soil particles together, thus eliminating much of the natural air space. This reduces the infiltration and storage of water and air, inhibiting root growth and the uptake of water and minerals.

Drainage changes. Grade changes that cause water to collect around a tree, especially near the trunk, are harmful. Likewise, a grade change that diverts a source of water that the tree depends on may cause drought stress.

Soil contamination. Avoid storing and discarding harmful chemicals or materials such as, herbicides, petroleum products, building materials, or waste water near oaks.

Herbicides. It is best to avoid using systemic or soil active herbicides under landscape trees. If herbicides are to be used within the root zone follow label recommendations.

Root Loss. The degree to which oaks tolerate root loss depends on species, age, health, climate, soil depth, soil structure, and soil moisture. In general, the damage caused by a 15 to 30 percent loss of roots is negligible to moderate, respectively. A root loss in excess of 50% is considered to be harmful. A single three foot deep trench at the drip line along one side of a tree will remove approximately 15 percent of the roots. A similar trench made midway between the drip-line and the trunk will sever approximately 30 percent of the roots. Trenches made within 10' of large oaks are usually very damaging.

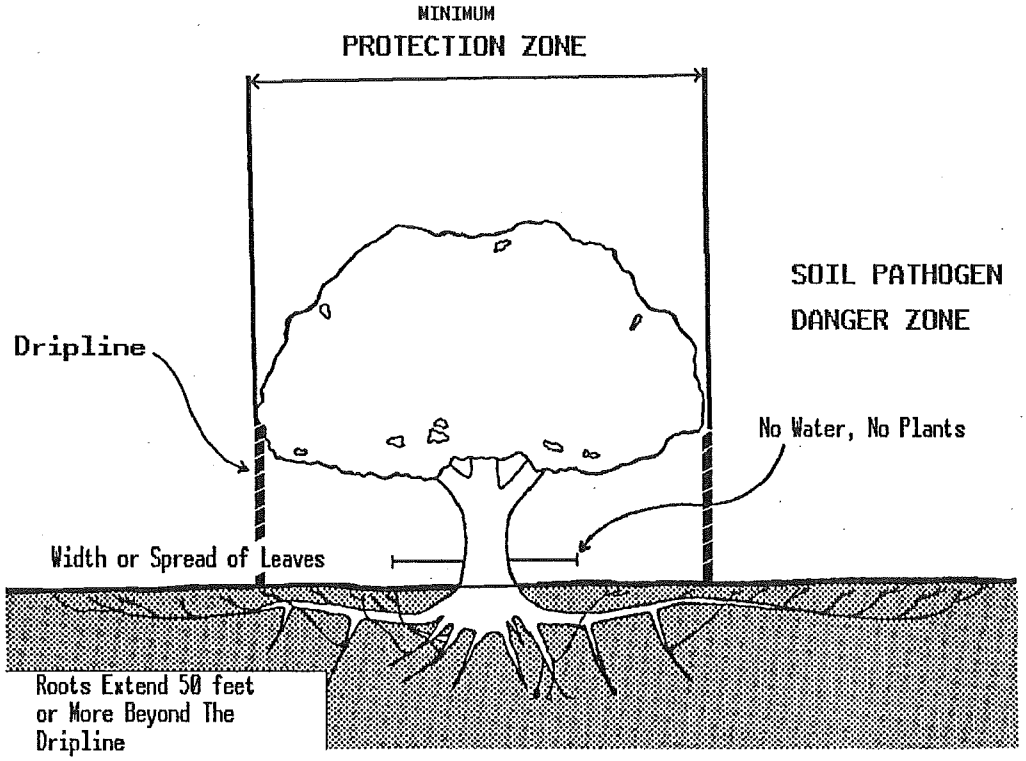


FIGURE 1.

Preventing Problems

Avoid injuring the roots or altering the soil where they grow, particularly within the drip line. Keep this area undisturbed and free of water-demanding ornamental vegetation such as lawns, ground covers, and shrubs like rhododendrons, azaleas, and camellias. Do not remove the leaf mulch unless there is a fire hazard. This organic material conserves water, provides nutrients as it decays, improves soil structure, decreases soil pH, and reduces soil temperature extremes. If turf is present beneath oaks, discontinue watering within the drip zone. If this is impractical, plug, alter or redirect sprinklers to prevent water from hitting the trunk or wetting the soil within 10 feet of the tree's trunk. Although not necessary, you may wish to remove the dying turf. In either case, cover the exposed soil surface or turf with 2 to 4 inches of organic mulch.

Appropriate Landscaping. If ornamental vegetation must be planted under old, established oaks, minimize its use. Keep the area within the drip zone relatively open. Use plants as accents rather than as ground covers. Extensive landscaping will disturb much of the root system and compete for available water and minerals. Select plants that tolerate shade and drought, and plant no closer than 10 feet to the trunk (Figure 1). Avoid all planting under declining oaks. Trees that have sustained construction damage will require several years to recover before landscaping.

Watering. As a general rule, native oaks should not be irrigated. One exception, however, is during drought years. If the winter is unusually dry, supplemental watering in the spring can complement natural rainfall. Water the soil from halfway between the trunk and the drip line to 10-15 feet beyond, allowing water to penetrate the soil to a depth of 18 to 24 inches. It may be necessary to water for 4 to 6 hours to get water to this depth. Keep water at least 10' away from the trunk. The length of time will vary based on the rate of water flow, method of irrigation (soaker hose, sprinkler, etc.), area covered, rate of water penetration, and topography. You

may have to experiment a little to get good water penetration. To check the depth of penetration, dig a small hole in the irrigated area several hours after watering. If the soil is moist at the desired level, the watering time is adequate. Insufficient watering is marked by dry soil, while excessive watering is indicated by standing water. Additional watering can be applied 1-2 times during especially dry summers. Another exception for the occasional watering of oaks is where extensive use of pavement causes natural precipitation to run off rather than penetrate the soil around the trees, causing drought stress. One further reason to irrigate native oaks, is to reduce water stress following moderate to severe root loss.

Plant drought tolerant landscape plants in the fall and winter to ensure their survival. If rain is lacking, water these plants twice a week for several weeks. Use a drip system or slow running hose to wet the root ball and 4-6 inches of surrounding soil. Thereafter, water twice a month until the rain starts. The following season, water 2-3 times during the summer. Wetting the soil to a depth and radius of 12 incles around the plant. By the third season, most of the plants should be well established, requiring no further watering. If turf is to be maintained under an oak, apply the least amount of water which will keep it reasonably green.

Mulching. Keep the soil surface beneath oaks mulched with 2-4 inches of natural leaf litter, wood chips, or gravel. Be careful not to place the mulch directly against the trunk. Organic mulch will improve soil structure and provide minerals upon decay. Avoid the use of impervious plastic tarping which reduces the availability of air and water to the roots.

Fertilizing. Healthy, mature oaks growing under natural conditions do not normally require added fertilizer. However, oaks in landscaped areas where the leaf litter is regularly removed, will benefit from nitrogen fertilization. Young oaks can be fertilized to encourage rapid growth. The ideal time to fertilize is in the spring. Fertilizer is best applied by broadcasting over the tree's root zone. If rain is lacking, lightly water the minerals into the soil, avoiding the area within 10' of the trunk. Use fertilizers high in nitrogen (N) such as calcium nitrate, ammonia sulfate, ammonia nitrate or urea. Complete fertilizers containing nitrogen (N), phosphorous (P) and potassium (K) are more expensive and generally unwarranted.

Pruning. NEVER TOP OAKS. DO NOT LEAVE STUBS. DO NOT MAKE FLUSH CUTS. PROTECT THE BRANCH COLLAR. Try to retain natural shape. Avoid excessive pruning, remove no more than 10-20% of the foliage in any one year. Except for the removal of weak, hazardous, diseased, damaged or dead branches, mature oaks normally require little pruning. Some trees can benefit from light thinning to open the foliage canopy to more sunlight or to lighten heavy branches. Avoid pruning in the spring and early fall. Pruning large trees is dangerous and difficult; it is best left to professionals. Consult an arborist, preferably someone certified by the Western Chapter of the International Society of Arboriculture.

Correcting Soil Problems

Fills - The flared bases (root crowns) and trunks of trees buried during construction should be exposed by careful excavation down to the original soil grade and out to several feet. Moist soil in contact with the bark of the trunk usually leads to decay. Slope the soil away from the tree so that water does not collect near the trunk and try to provide some drainage. A retaining wall may be needed to keep soil away from the root crown and trunk. You can tell that the soil level around your oak has been raised if the trunk does not flare out as it enters the soil.

Compaction - Soil compaction displaces much of the natural air space in the soil, reducing the amount of air (oxygen) available to the roots. Oxygen is critical for the uptake of the water and minerals necessary for tree growth and survival. Oaks growing in compacted soil may benefit from increasing the availability of oxygen to the roots. The best way to do this is to eliminate or curtail activities around the tree which cause compaction, followed by the addition of several inches of organic mulch to the drip zone. This will gradually improve soil structure and aeration, while helping to prevent further compaction. Avoid placing mulch directly against the trunk.

Several methods may be used to temporarily improve soil aeration. One method involves drilling holes 1-3 inches wide, 12 inches deep, and 1-3 feet apart around the tree out to the drip line. Holes may be filled with coarse sand or pea gravel or left open. It may be necessary to repeat every two to three years. Another method involves the injection of air under pressure into holes to fracture and lift the hardened soil, allowing air penetration. Holes can also be made by injecting water under high pressure via a hollow tube into the soil. The water jet loosens and expels soil particles as it is inserted into the ground.

Pavement - Where practical, remove asphalt and concrete pavement within the drip line and replace with permeable materials like organic mulch, gravel, brick, or stone set in sand.

Inspecting Your Tree for Health and Hazard Potential

Signs of Advanced Decline or Decay

- **Thin, sparse foliage**
- **Poor growth**
- **Yellow, undersized leaves**
- **Dead branches and limbs in the upper canopy**
- **Wilted, brown leaves during spring and summer**
- **Many short shoots growing on trunk and branches**
- **Mushrooms at tree base or on the roots in the fall or early winter**
- **Conks - shelf-like mushrooms on trunk**
- **Cavities in trunk**

- **White, fan shaped mats of fungus under the bark at the soil line.**
- **Soft, punky wood**
- **Wet, oozing areas on the bark**

Proper health and hazard inspection is difficult to do. It requires training, experience, and sometimes elaborate procedures to be reliable. A thorough tree inspection may involve exposing the large, supporting roots originating at the base of the trunk (root crown). This requires the careful removal of soil from a distance of 2 - 3 feet around the root crown to a depth of 12-18 inches or to the original grade if fill soil has been placed around the tree. Soil excavation and root-crown inspection are best done by a consulting arborist.

Oaks with extensively decayed roots should be removed for safety; those in the early stages of decay can be treated. Carefully expose infected roots and remove diseased portions. Cut the bark back until healthy wood is found. Dispose of all diseased roots and bark. Allow the exposed roots to dry for several months. You may wish to construct a retaining wall around the perimeter of the excavation to keep the soil away from the exposed roots. Try to provide drainage to keep rainwater from collecting in the well. The soil can be replaced before winter. Otherwise, the roots can be left exposed. Although this is not a cure, it will slow the progress of the disease-producing organisms, prolonging the life of the tree. For this treatment to be helpful, all further watering near the trunk must be stopped.

Successful Development Around Oaks

Successful development around oaks depends on careful planning and construction. For this to happen, everyone involved in the development process must recognize that tree health suffers when roots are destroyed or soil conditions are altered.

When oaks die, property values drop and removal costs are incurred. Prudent development can ensure a more attractive and more valuable setting.

Further Reading

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Harris, Richard W. 1983, Arboriculture - *Care of Trees, Shrubs, and Vines in the Landscaping*. Englewood Cliffs, New Jersey.

Perry, Bob. 1981. *Trees and Shrubs for Dry California Landscapes*. Landscape Design Publication, Pomona, California.

Sanborn, Sherburn. 1989. *Protecting Trees From Construction Impacts*. California Department of Forestry and Fire Protection, Tree Notes, Number: 1, (707) 576-2360.

.....1983. *Success List of Watering Conserving Plants*. Saratoga Horticultural Foundation, 15185 Murphy Avenue, San Martin, California, 95406. (408) 779-2022.

.....1986. *Water Conserving Plants and Landscapes for the Bay Area*. East Bay Municipal Utility District, P. O. Box 937, Alamo, California, 94507. (415) 820-2436.

.....*Care of Native Oaks*. 1989. California Oak Foundation. 909 12th Street, Suite 125, Sacramento, California, 95814.

Other Resources:

Western Chapter International Society America, Certification Committee, P. O. Box 424, St. Helena, CA 94574. (707) 963-7578, for lists of Certified Arborists.

University of California Cooperative Extension, Natural Resources Program, 163 Mulford Hall, Berkeley, California, 94720. (415) 642-2360.

Sherby Sanborn: Editor, Layout and Design
CDF Forest Pest Management (707) 576-2360
Revised, 3/4/91

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT P

Measures That Can Help Offset the Detrimental Effects That Urban Development Has on OakTrees – Footnote 35



Measures That Can Help Offset the Detrimental Effects That Urban Development Has on Oak Trees[1]

Paul A. Rogers[2/]

Abstract: Land development is seriously encroaching upon our southern California oak woodlands. Urban development not only creates an unnatural environment, it also impacts these oak trees. Unless careful corrective measures are taken during construction, the trees ultimately decline and die. The effects that construction has on oak trees with regard to loss of air, water, and nutrients are discussed. The loss of roots and/or top foliage during construction is of major concern. Solutions center on the preservation of driplines during construction, special procedures for grading cuts and fills around oak trees, the use of specialized soil/air drainage systems, and compensatory pruning and fertilization of impacted trees. This paper covers the practices currently used to preserve oak trees in highly developed areas.

All of us appreciate the native oak trees and are familiar with their majestic beauty. But as man continually develops their natural habitats in the coastal valleys and foothills it is inevitable that he will encroach upon them. This encroachment not only creates an unnatural environment for these trees but it often seriously impacts them unless careful corrective measures are taken. This paper will provide an overview of some of these problems and offer some mitigating measures that can help to offset them.

Urban development continually encroaches upon the oak trees' well-being by the construction of homes, roads and utility lines. Additionally, grading changes most seriously impact oak tree roots by both cuts and fills. Ultimately natural drainage courses are changed such that the tree is now forced into an unnatural environment. From this point on, decline is usual, and it is an eternal battle to try to save a tree in this condition. For instance, drainage water from a car-wash rotted the roots of one oak tree so extensively that we were able to pull it straight out of the ground with a crane.

The oak problem in many sites to be developed begins with the army of heavy equipment that is used during grading. This is damaging to the trees, as soil is removed and roots are either severed or filled over and compacted. Additionally, water tables are changed and trees are often neglected during the entire construction period. Compounding this is the dust that accumulates on the leaves. Compaction is often further increased as the trees offer shade to construction workers and their vehicles.

Once grading is completed the construction of buildings also takes its toll on the trees. Utility trenching severs roots and often such trenches are left open for extended periods of time.

Building construction often requires removal of some of a tree's upper structure. Disfiguration by limb breakage is a common occurrence. When pruning is performed, large limbs are often removed or the tree may become somewhat pollarded, which obviously destroys its beauty. Such severe pruning further creates

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1/ Presented at the Symposium on Ecology, Management and Utilization of California Oaks, June 26-28, 1979, Claremont, California.

2/ Landscape Consultant, Ojai, California.

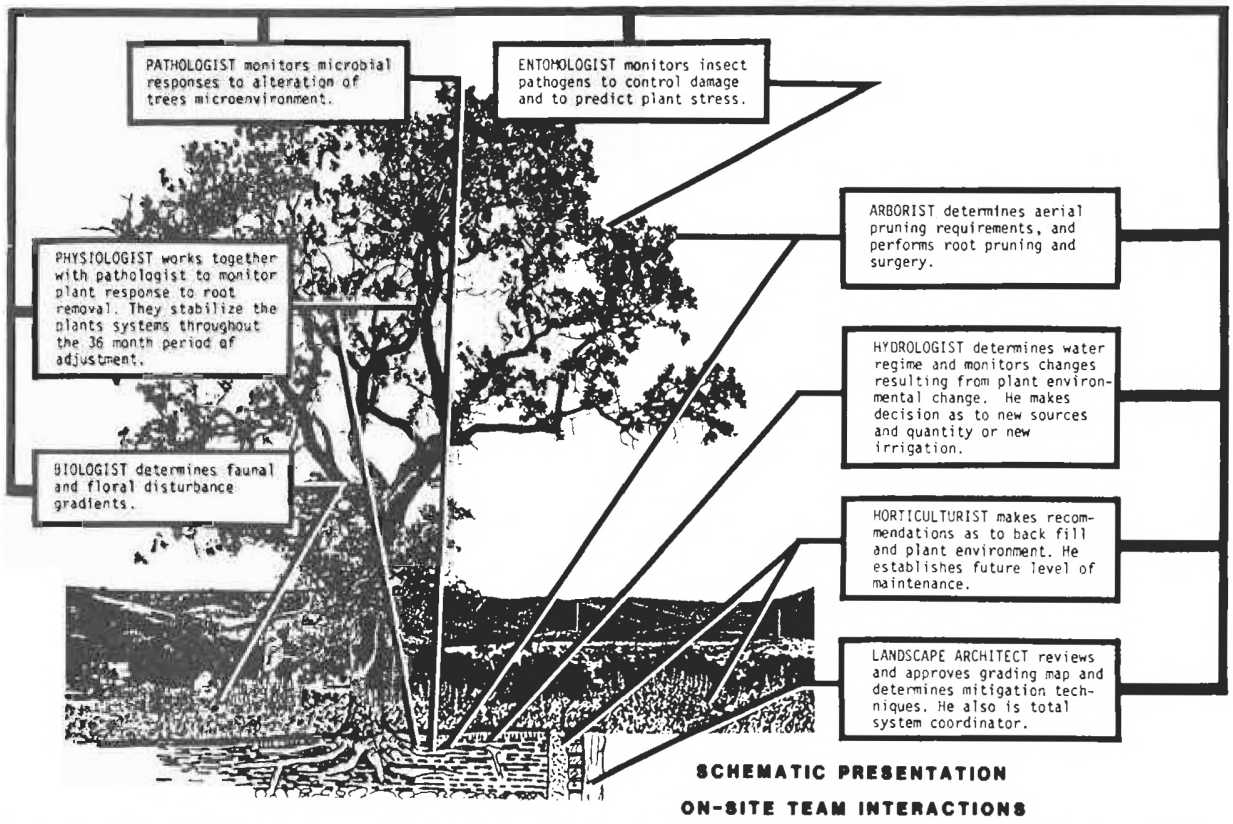


Figure 1--Maintaining healthy oak trees on developed sites requires input from several disciplines.

problems with growth flushes and the subsequent witches broom or powdery mildew diseases.

By far the greatest problem we encounter from development around oak trees are those situations where soil is filled at the trees' bases. This is critical for air and water drainage. Oftimes such fill soil located at the tree's trunk will retain moisture and in time will cause rot and eventually undermine the tree. One declining tree that we investigated had seven feet of fill at its base. After its soil was removed we found that the basal area had already rotted two-thirds around the trunk. It appeared that former construction had damaged the tree trunk and that the presence of soil and its moisture retention had accelerated the demise of this tree.

Once site development is completed the tree problems do not end. This is a critical time for them. Recognize that the trees have been removed from a natural environment, weakened by development and are now located in an artificial environment. Such an environment subjects them to overirrigation, planting at their bases, improper pruning, and perhaps further compaction. In time, it is inevitable that such trees will decline and eventually die.

So, those are the problems -- at least some of them that confront us. It is possible to have successful stands of oak trees in an urban scene. We have many such situations but it does require expertise and money to achieve success. Such an effort encompasses the interfacings of several disciplines (Fig. 1). A discussion of some of these follows.

A good horticultural evaluation of all trees present on a proposed site is most important. Such an evaluation essentially separates the trees into removal and preservation categories. Some times we try to save trees that shouldn't be saved. This is a costly decision because tree removal after construction has been completed is considerably more expensive than earlier removal.

A good horticultural evaluation encompasses an investigation of all tree parts by a knowledgeable person. Upper structure should be examined for cavities, physical

weaknesses and possible pest problems. Such pest problems may have to be identified by a pest control advisor and by pathological testing.

Basal parts of the tree must be inspected in detail. Trunks should be examined for cavities or the presence of excessive amounts of fill soil. Not to be overlooked are the trees' roots. Where are they? Are the trees deeply rooted such that construction may not seriously impact them (Fig. 2)? Are they diseased?

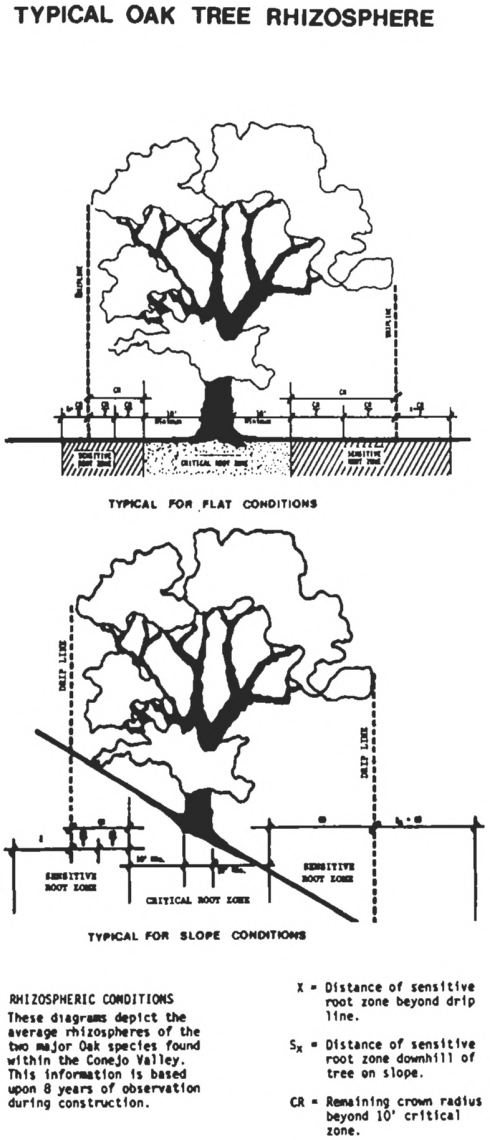


Figure 2--Typical distribution of root zones under the canopy that are "sensitive" or "critical" to the trees' well being.

These examinations must be performed and recorded in order to accumulate as much information as possible on each tree. Such evaluations should include tree sizes relative to height and spread, and root locations so that developers can plan around them to avoid serious impaction.

When evaluating the impact of construction on trees, building and landscape are of key importance. We try to save as many trees as possible and to lessen the impact of construction on them. For example, rather than construct a concrete wall which would disturb a tree's root systems, a wooden fence may suffice, as it would not require trenching for a foundation. Relocation of building pads or utility trenches can also be of great benefit to a tree. Perhaps several utility lines could be placed into one or two trenches -- thereby reducing tree root loss.

Pre-job conferences with all contractors can be of great benefit. Such meetings can enlighten these people about the trees and their care. Also the use of fences placed around oak tree drip lines can assist in assuring that compaction and the dumping of debris is lessened.

Ideally it is best to have all surgical or pruning work done prior to construction. This permits ease of arborcultural work and tree pruning performed often balances the roots lost during construction.

Should special tree wells, watering or feeding be required this is also an excellent time to perform them.

It is important that a knowledgeable person be present or available during all phases of construction. Such a person (usually a horticulturist or arborist) would be monitoring the trees and ensuring that they are properly maintained. Also such a person would have the capability to establish programs for future levels of maintenance.

In summary, then, protecting our oaks is the implementation of a complete program (Fig. 3). Such a program involves pre-site planning, horticultural evaluation and data collection design, and preparation and care of the trees prior to, during, and after construction around them. This program may interface many disciplines such as landscape architects, pathologists, entomologists, horticulturists and others as illustrated. Once these program items have been put into effect, we will be able to have successful oak stands within urban development.

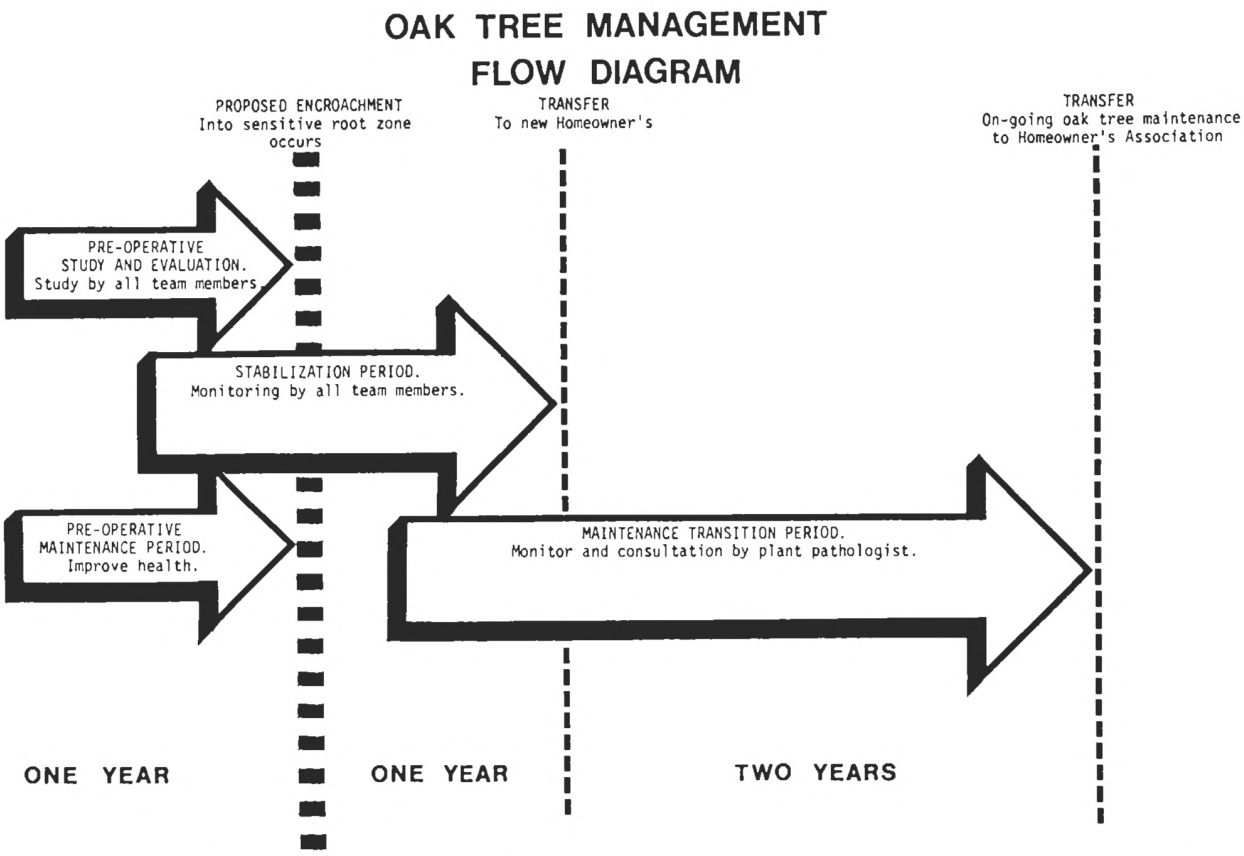


Figure 3--Flow diagram illustrating the critical periods of an oak tree management schedule.

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT Q

File 0.4 ZA-2023-1206 Exhibit A, Sheets E.5-1 and E.5-3 – Footnote 41

PROJECT INFORMATION

LEGAL DESCRIPTION:
LOT 5458, TRACT TR 6170, BLOCK: 70
M.B. 103-31/33 (SHTS 53-55)
MAP SHEET: 165A107
ASSESSOR PARCEL NO. (APN): 2172-023-053
PIN# 165A107 241

ADDRESS: 4230 SALTILLO STREET
LOS ANGELES , CA 91364

OCCUPANCY : R-3 (RESIDENTIAL), U (PRIVATE STORAGE AND GARAGE)
USE : RESIDENCE

ZONING : R1-1 HILLSIDE AREA MULHOLLAND SCENIC PARKWAY (INNER CORRIDOR)
TYPE OF CONSTRUCTION:
TYPE V - B SPRINKLER THROUGHOUT: (NFPA-13D SPRINKLER SYSTEM)

SCOPE OF WORK: NEW 2 STORY SINGLE FAMILY RESIDENCE WITH BASEMENT, ATTACHED GARAGE, NEW RET. WALL AND SHORING FOR THE WALL, NEW POOL. (4) NATIVE PROTECTED REPLACEMENT TREE ON THE SITE PLAN, TO BE (4) 15 GAL NATIVE OAK TREE TO BE PLANTED ON 1037 CASIANO

LOT AREA: 4,653 SF PER SURVEY / 4,670.5 SF PER ZIMAS

HEIGHT LIMIT: 28'-0" ENCROACHMENT PLANE START AT 20' ON FRONT AND SIDES
PROPOSED BUILDING HEIGHT = 28'-0"

PARKING SPACES:
2 REQUIRED, 2 PROVIDED IN ATTACHED GARAGE

SPRINKLER THROUGHOUT:
(NFPA-13D SPRINKLER SYSTEM)
SEPARATE PERMIT IS REQUIRED FOR SPRINKLER SYSTEM
THE SPRINKLER SYSTEM SHALL BE APPROVED BY PLUMBING DIVISION PRIOR TO INSTALLATION

OWNER:
MEHRAN TEBYANI
4230 SALTILLO STREET,
WOODLAND HILLS, CA
Tel: (424) 666-9966
E-mail: MehranTebyani@gmail.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN & NIAZ NAVIDI
1600 SAWTELLE BLVD. # 230
LA., CA. 90025
TEL (818) 200-5005 E-MAIL:
POUYA@LABYRINTH-DS.COM

CONSULTANTS

STRUCTURAL ENGINEER:
AMIR PIRBADIAN, M.S., P.E.
AMIR PIRBADIAN, INC.
5435 BALBOA BLVD., #214
ENCINO, CA 91436
TEL : 818-990-6425
FAX : 818-990-6427
CA LICENSE #: C72413

PROPERTY SURVEYOR:
MOLAI LAND & DESIGN
MOHAMMAD ALI MOLAI
24308 BURBANK BLVD
WOODLAND HILLS, CA 91367
TEL: 818-325-9225
E-mail: MOLAI22@YAHOO.COM

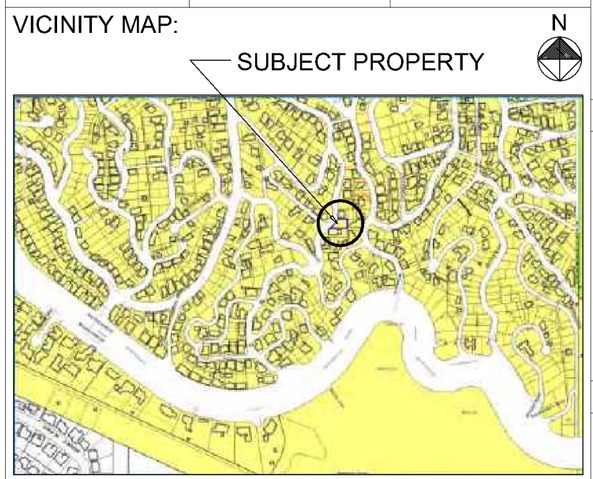
E.M.P. ENGINEER:
PEJMAN TOUFIGHI, P.E President
AC ENGINEERING
22543 Ventura Blvd, Suite# 216
Woodland Hills, CA 91364
Tel: (818) 713-1292
Fax: (818) 456-1811
E-MAIL: aceng@sbcglobal.net

SOILS ENGINEER:
BYER GEOTECHNICAL INC.
ROBERT I. ZWEIGLER
1461 E. CHEVY CHASE DR. #200
GLENDALE, CA 91206
818-549-9959
E-mail: info@byergeo.com

LANDSCAPE ARCHITECT:
YAEL LIR LANDSCAPE ARCHITECTS
1010 SYCAMORE AVE.
SOUTH PASADENA, CA 91030
YAEL LIR
323-258-5222
E-mail: yael@yaellir.com

VICINITY MAP:

N



PROJECT : NEW TWO-STORY SINGLE FAMILY RESIDENCE WITH BASEMENT @

4230 SALTILLO STREET
LOS ANGELES , CA 91364

SUMMARY OF AREA CALCULATION (SEE E-7.5 FOR MORE INFO.)

	Area per Zoning Code	Area per Building Code R3	Area per Building Code U	Area per BHO	Area per School Fee
Basement	573	573	818	0	740
1st Floor	1034	1158	0	1034	1207
2nd Floor	865	1062	0	865	953
Total	2472	2793	818	1899	2900

PROPOSED BUILDING AREA TABULATION

	Area per Zoning Code	Area per Building Code	Residential Floor Area (RFA) per BHO	Area per School Fee
Basement	573	573	0	740
1st Floor	1034	1158	1034	1207
2nd Floor	865	1062	865	953
Area more then 14' H.	0	0	0	0
2nd Floor above 1st Floor	0	0	0	0
Roof above 2nd floor	0	0	0	0
Attached Garage and Storage (Basement)	0	818	0	0
Total	**2472**	**2793**	**1899**	**2900**
Area per Zoning Code for the proposed single family residence	**2472**			

TOTAL PROPOSED RESIDENTIAL FLOOR AREA (RFA) = 1,899 SF

ALLOWED RESIDENTIAL FLOOR AREA (RFA) PER BASELINE HILLSIDE ORDINANCE PER SLOPE ANALYSIS = 1,918 SF

PROPOSED RFA (1,899 SF) < ALLOWED RFA (1,918 SF)

TOTAL AREA PER ZONING CODE FOR THE PROPOSED SINGLE FAMILY RESIDENCE = 2,472 SF

4 GARAGE REQUIRED , 4 GARAGE PROVIDED
LOT ON A STANDARD HILLSIDE STREET REFER TO F-2.1 FOR REFERRAL FORM

LOT COVERAGE VERIFICATION

LOT AREA = 4,670.5 SF PER ZIMAS
TOTAL BUILDING AND STRUCTURES OVER 6' IN HEIGHT = 1,815
LOT COVERAGE = % 38 < % 40

BOND CALCULATION

GRADING	= 1000+(1X726)	= 1,726
PILES	= 20X3000	= 60,000
RETAINING WALL	= 165X8X10	= 13,200
DRAINAGE	=	= 5,000
TOTAL	= 79,926	ROUND UP= 80,000

ESTIMATED EARTHWORK QUANTITIES

SITE FRONTS ON A SUBSTANDARD HILLSIDE STREET REFER TO F-2.1 FOR REFERRAL FORM

MAXIMUM GRADING QUANTITIES ALLOWED

1000+ (10% OF LOT SIZE) = 1000+0.1X4670= 1467 Q.Y.
MAX. "BY-RIGHT" GRADING QUANTITIES FOR R1 LOT PER TABLE 12.21 C.10-6 X 75 % (NON STANDARD STREET) = 750 Q.Y.

MAX. GRADING QUANTITIES ALLOWED = 750 Q.Y.
MAX. GRADING QUANTITIES PROPOSED = 699 < 750 Q.Y.

BUILDING SETBACKS:

BUILDING SET BACK	REQUIRED	PROPOSED
FRONT YARD	5'-0"	6'-3"
SIDE YARD (NORTH)	6'-0"	23'-0"
SIDE YARD (SOUTH)	6'-0"	7'-0"
REAR YARD	15'-0"	15'-6"

CODE

The 2020 LARC, based on the 2019 CRC and the 2018 IBC. AND 2020 L.A. GREEN BUILDING CODE

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S-1.2	WRITTEN NARRATIVE
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S-2.4	PICTURES FROM NEIGHBORHOOD
S-2.5	PICTURES FROM NEIGHBORHOOD
S-2.6	PICTURES FROM NEIGHBORHOOD
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E-3.2	SLOPE BAND ANALYSIS
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E-4	TOPOGRAPHIC ROOF PLAN
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E-5.3	CUT AND FILL CALCULATION
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E-6.1	SITE PLAN / PLOT PLAN
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E-8.4	WEST ELEVATION
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E-10.5	COLORED RENDERING/MATERIAL BOARD
E-10.7	DETAILS
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EXHIBIT "A"
Page No. 1 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

SPECIFIC NOTE

1- THE FOLLOWING ITEMS SHALL BE UNDER SEPARATE PERMIT:
WATERFALL AND OUTDOOR FOUNTAIN, BBQ AND FIRE SPRINKLERE SYSTEM.

2- GENERAL CONTRACTOR MUST PROVIDE SHOP DRAWING FOR THE ARCHITECT'S APPROVAL BEFORE MANUFACTURING OR FABRICATION OF THE FOLLOWING ITEMS:
a: ALL PRECAST ELEMENTS NOTE: ALL PRECAST ELEMENTS SHALL BE FROM SANDSTONE DESIGN INC. TEL: (661) 847-1661
b: DOORS AND WINDOWS
c: SHEET METAL WORK
d: RAILING AND GUARDRAILS
e: STRUCTURAL STEEL ELEMENTS
f: KITCHEN CABINETS
j: GRANITE AND MARBLE WORK

3-DIMENSIONS INDICATED ON PLANS FOR WINDOWS ARE INTENDED AS FINISHED DIMENSIONS. GENERAL CONTRACTOR MUST CHECK ARCHITECTURAL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE START OF WORK.

4-PROVIDE ANTI-GRAFFITI FINISH WITHIN THE FIRST 9 FEET, MEASURED FROM GRADE, AT EXTERIOR WALLS AND DOORS. EXCEPTION: MAINTENANCE OF BUILDING AFFIDAVIT IS RECORDED BY THE OWNER TO COVENANT AND AGREE WITH THE CITY OF LOS ANGELES TO REMOVE ANY GRAFFITI WITHIN 7-DAYS OF THE GRAFFITI BEING APPLIED. (6306)
5- INSULATION TO BE PINK TORCH FIBER GLASS FROM OWENS CORNING OR EQUAL WITH SAME RECYCLE CONTENT. REFER TO A-01.4 FOR REQUIREMENT

LABYRINTH
DESIGN STUDIO INC.
Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

COVER SHEET

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

F-0

1

PLOT DATE 11/2022

APPLICATIONS:

MULHOLLAND SCENIC PARKWAY SPECIFIC PLAN DESIGN REVIEW SUPPLEMENTAL APPLICATION

THIS BOX FOR CITY PLANNING STAFF USE ONLY

Application OK for filing on _____ by _____

Size (total existing) _____ sq. ft. (total proposed) _____ sq. ft.

Demolition _____ sq. ft. Addition _____ sq. ft.

Garage _____ sq. ft. __ Car(s) Attached/Detached

Lot size _____ sq. ft. FAR _____ Height _____ Council District _____

Zone: _____ Baseline Hillside Applies Y/N Girard Tract

Inner / Outer / Institutional Upslope / Downslope Visible / Non-Visible

Application Type:

- ☐ Preliminary Design Review
- ☒ Design Review / Project Permit Compliance
- ☐ Continued Design Review
- ☐ Design Review / Project Permit Compliance Modification
- ☐ Project Permit Adjustment

Project Type:

- ☒ New Construction
- ☐ Addition
- ☐ Remodel
- ☐ Other: _____

Project Address: 4230 Saltillo Street, Los Angeles, CA 91364

Assessor Parcel Number: 2172023053

Proposed Project Description: (describe in detail, including ALL proposed work, dimensions, and calculated Residential Floor Area [RFA] number)

New 2 Story 1,899 S.F. Single Family residence over 573 S.F. basement and an attached 4 car garage in the basement on a 4,653 S.F. vacant lot. 2 new retaining walls and a new swimming pool. 726 Q.Y. of Grading and shoring for the retaining walls. removal of 2 protected trees as specified in the tree report ZAD case for 2 issues: widening Saltillo Street in front of the proposed project. and to the boundary of the hillside

Representative(s)

Name: Labyrinth Design Studio Inc., Pouya Payan
Address: 1600 Sawtelle Blvd, Suite 230, LA 90025
Telephone: 818-200-5005
Email: Pouya@Labyrinth-ds.com

Applicant(s) / Property Owner(s)

Name: Mehran Tebyani
Address: P.O. Box 817, Beverly Hills, CA 90213
Telephone: 424-666-9966
Email: MehranTebyani@gmail.com

1. **Property Description: # of Existing lots:** 1 **# of Proposed lots:** 1 **Total Lot Area:** 4,653 **sq. ft.**
2. **Property Location:** Is the project in the following? (check all that apply)
   - ☐ Inner Corridor
     - ☐ Within 100 feet of Mulholland
     - ☐ Institutional Corridor
   - ☒ Outer Corridor
   - ☒ Girard Tract
   - ☒ Hillside Ordinance
3. **Property Orientation:**
   Building Pad Relative to Street — Upslope x Downslope ___
   Building Pad Relative to elevation of Mulholland Drive — Upslope ___ Downslope x
4. **Project Visibility:** Is the project visible from Mulholland Drive? **Yes** ___ **No** x
5. **Viewshed Penetration:** Does the project penetrate the viewshed? **Yes** ___ **No** x
6. **Access:** Does the project alter access onto the Mulholland Right-of-way? **Yes** ___ **No** x
7. **Improved Street Width:** Improvement required: **Yes** x **No** ___ Dedication required: N/A ft.
8. **Environmental Protection Measures:** Is the project...
   - ☐ On a prominent ridge
   - ☐ Within 50 vertical feet of a prominent ridge
   - ☐ Within 200 feet of a public parkland
   - ☐ Within 100 feet of a stream bank
9. **Project Size:**

a.	**Existing Structure(s) Residential Floor Area**	N/A	sq. ft.
b.	**Existing Garage/Covered Carport:**	N/A	sq. ft.
c.	**Existing Covered Porch/Patio/Breezeway/Balcony area:**	N/A	sq. ft.
d.	**Existing Basement Area:**	N/A	sq. ft.
e.	**Demolition:**	N/A	sq. ft.
f.	**Proposed New Construction Residential Floor Area:**	1,899	sq. ft.
g.	**Proposed Garage/Covered Carport:** AND STORAGE	818	sq. ft.
h.	**Proposed Covered Porch/Patio/Breezeway/Balcony area:**	N/A	sq. ft.
i.	**Proposed Basement Area:**	573	sq. ft.
j.	**Proposed Floor Area, All Structures** (per 12.03):	1,899	sq. ft.
k.	**Proposed Residential Floor Area, All Structures** (per 12.03):	1,899	sq. ft.
l.	**Lot Coverage** (building footprint of all structures divided by lot sq. ft.):	38	%
m.	**Floor Area Ratio (FAR)** (total Residential Floor Area divided by lot sq. ft.):	40	%
n.	**Total Hardscape** (impermeable surfaces):	0	sq. ft.
o.	**Total Lot Coverage** (building footprint and hardscape divided by lot sq. ft.):	40	%

10. **Project Building Height:** Existing structure: N/A ft. Proposed structure: 28 ft.
11. **Average Natural Slope** (per 17.02): Existing site: 25 % Proposed site: 10 %
12. **Grading:**
    Cut: 726 cubic yards **Export:** 726 cubic yards Require Haul Route: **Yes** ___ **No** x
    Fill: 0 cubic yards **Import:** 0 cubic yards
13. **Sustainability:** Do plans reflect the sustainable building measures being used for the project? **Yes** x **No** ___
14. **Existing Trees:** Does the project propose moving or cutting down any Protected Trees (Oak, California Black Walnut, Western Sycamore or California Bay trees) or other Native Trees? **Yes** x **No** ___
    Number of Oak trees to be cut down? 2 To be moved? _____
    Number of other protected trees to be cut down? 1 To be moved? _____

EXHIBIT "A"
Page No. 2 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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DESIGN STUDIO INC.
Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

MULHOLLAND SCENIC PLAN APPLICATION FORM

SCALE:

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

F-1

2

PLOT DATE 11/2022

DEPARTMENT OF BUILDING AND SAFETY/PUBLIC WORKS
PRELMININARY REFERRAL FORM FOR
BASELINE HILLSIDE ORDINANCE NO. 181,624 AND HILLSIDE ORDINANCE No. 174,652

Building and Safety

Address		**District map**	165A107	**APN**	2172023053
Tract	TR 6170	**Block**	70	**Lot**	5458

Public Works:

Street designations: Standard vs., Substandard Hillside Limited (for all the streets, public or private, abutting or adjacent to the lot(s)) **(LAMC 12.21A17(e)(1)) or LAMC 12.21C10(i)(1))**

Street Name (1) SALTILLO ST
R/W width 40 **Roadway width:** <20' **Plan Index** aerial

☐ **Lot fronts on a standard hillside limited street (R/W ≥ 36' AND Rdwy ≥ 28')**
☒ **Lot fronts on a substandard hillside limited street** Dedication required? ☒ No ☐ Yes - width _____

Street Name (2) _____
R/W width _____ **Roadway width:** _____ **Plan Index** _____

☐ **Lot fronts on a standard hillside limited street (R/W ≥ 36' AND Rdwy ≥ 28')**
☐ **Lot fronts on a substandard hillside limited street** Dedication required? ☒ No ☐ Yes - width _____

Street Name (3) _____
R/W width _____ **Roadway width:** _____ **Plan Index** _____

☐ **Lot fronts on a standard hillside limited street (R/W ≥ 36' AND Rdwy ≥ 28')**
☐ **Lot fronts on a substandard hillside limited street** Dedication required? ☐ No ☐ Yes - width _____

Vehicular Access:

1. Is the **Continuous Paved Roadway (CPR)*** at least 28 feet wide from the driveway apron of the subject lot to the boundary of the Hillside Area? ☐ Yes ☒ No
2. Do **any** of the streets listed in the **Street designations section** have a roadway width of less than 20 feet adjacent to the lot(s)? **(LAMC 12.21A17(e)(2) or LAMC 12.21.C10(i)(2))**
   ☒ **Yes– A Zoning Administrator Determination (ZAD) is required per 12.24X21 or 12.24X28** OR the roadway shall be widened to a minimum 20 foot width via a Public Works construction permit**
   ☐ No
3. Is the **CPR** at least **20** feet wide from the driveway apron of the subject lot to the boundary of the Hillside Area? **(LAMC 12.21A17(e)(3) or LAMC 12.21.C10(i)(3))**
   ☐ Yes
   ☒ **No – A Zoning Administrator Determination (ZAD) is required per 12.24X21 or 12.24X28** OR the roadway shall be widened to a minimum 20 foot width throughout via a Public Works construction permit**

*CPR – begins at the driveway apron and must be continuous and without obstacles to the boundary of the Hillside Area

Sewer Connection: (LAMC 12.21.A17(g) or LAMC 12.21.C10(j)

Lot located within 200 feet of available sewer mainline:

☐ Use existing wye and permit
☐ Use existing wye and obtain new permit
☐ Obtain new connection and new permit
☒ Construct mainline (B permit from BOE)

Lot located greater than 200 feet from an available sewer mainline:

☐ Obtain LADBS approval for onsite sewer
☐ Construct mainline (B permit from BOE)

Public Works Employee signing form: **PAGE 1 of 2**

Sign _____ Print name _____

Date: Jon Lin Digitally signed by Jon Lin DN: C=US, E=jon.lin@gmail.com, CN=Jon Lin Location: van nuys Reason: BOE/PW Meter Address Approve Only Contact info: jon.lin@gmail.com Date: 2022.08.12 10:00:21-07'00' Phone _____ Location _____

DEPARTMENT OF BUILDING AND SAFETY/PUBLIC WORKS
PRELMININARY REFERRAL FORM FOR
BASELINE HILLSIDE ORDINANCE NO. 181,624 AND HILLSIDE ORDINANCE No. 174,652

****IMPORTANT**: If a ZAD is required as a result of a CPR having a width of less than 20 feet, typically a BOE investigation and report is not required.

If a ZAD is required for lot(s) that are abutting street(s) with roadway width(s) of less than 20 feet, a formal investigation and engineering report **WILL BE REQUIRED**. The engineering report will be provided after submittal of all documentation and payment of fees. Measurements and statements contained herein may be adjusted in the engineering report.

Applicants subject to a ZAD as listed above are advised to submit the following documents and pay the BOE investigation fee to either the BOE Valley District Office Public Counter at 6262 Van Nuys Blvd. Rm. 251 Van Nuys CA 91401 or BOE Land Development Group Public Counter at 201 N. Figueroa St. Ste. 1150, Los Angeles, CA 90012

1. BOE investigation fee. (check made payable to the City of Los Angeles) (Per LAMC 62.106)
2. Two (2) copies of the Planning Master Land Use Application.
3. Two (2) copies of the project site plan.
4. Two (2) copies of the radius map.
5. Picture of the existing building, sidewalk, curb, and gutter.

Due to the possible implications that dedications and improvements may have on the development of a project, applicants that do not pay the BOE investigation fee for the preparation of a detailed engineering report may have their application placed on hold until such information is provided. Questions and concerns regarding the engineering report may be presented at the hearing.

The typical BOE standard improvement requirement is: Construct a minimum 20 foot wide roadway with a 14 foot half roadway and 4 foot sidewalk adjacent to the property within a minimum 18 foot half right of way. Sidewalk easement may be required to make driveway apron ADA compliant.

Applicants wishing to complete public improvements required in lieu of applying for a ZAD for relief from minimum street access requirements are advised to contact the B permit section of the BOE district in which the property is located to discuss requirements for public street improvements or deviations from the standard improvement requirement.

Central: 201 N Figueroa St, Ste. 770, Los Angeles CA, 90012

Harbor 608 Harbor Blvd 4th floor, San Pedro, CA 90731

Valley 6262 Van Nuys Blvd, Rm. 351, Van Nuys, CA 91401

West LA: 1828 Sawtelle Blvd, 3rd floor, West Los Angeles CA 90025

EXHIBIT "A"
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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:
REFERRAL FORM

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.
F-2.1
3

PLOT DATE 11/2022

Department of Building and Safety / City Planning

Joint Referral Form

Slope Analysis and Maximum Residential Floor Area Verification Form

Single Family Zone Hillside Ordinance No. 181,624 and 184,802

Instructions:

1. This form is used by the Department of Building and Safety and City Planning to determine a permitted maximum Residential Floor Area for a project (new construction or addition to existing construction) in the R1, R1H, RS, RA and RE zones located within the Hillside Area as defined in Section 12.03 of the Code.

2. Proposed construction subject to Hillside Area Requirements will be accepted for Plan Check by the Department of Building and Safety, only if the Slope Analysis Verification Form has been verified and signed by the City Planning staff.

3. Complete Section I, II and III on page 2 and submit this form along with two copies of the Slope Analysis map prepared by a State of California registered Civil Engineer or Licensed Surveyor that includes the following information for the proposed construction site to the Department of City Planning at one of the locations listed below (item No. 4).

   a. A slope Analysis Map based on a survey of the natural/existing topography, prepared, stamped and signed be a State of California registered Civil Engineer or Licensed Land Surveyor. The map shall have a scale of not less than 1 inch to 100 feet and a contour interval of not more than 10 feet with two-foot intermediates. The map shall also indicate the datum, source and scale of topographic data used in the slope analysis, and **shall attest to the fact that the slope analysis has been accurately calculated.**

   b. The Slope Analysis Map shall clearly delineate/identify the Slope Bands (i.e., with contrasting colors or hatching), and shall include a tabulation of the total area in square-feet within each Slope Band, as well as the RFAR and Residential Floor Area value of each corresponding Slope Band as shown on Table 12.21 C.10-2c.

   c. The Slope Analysis Map shall be prepared using CAD-based, or other type of software specifically designed for such purpose.

4. City Planning staff are located at the following locations:

Downtown Office	**Van Nuys Office**	**West LA Office**
City Planning Counter (Station 7)	City Planning Counter	City Planning Counter
201 N. Figueroa St., 4th Floor	6262 Van Nuys Blvd., Suite 251	1828 Sawtelle Blvd., 2nd Floor
Los Angeles, CA 90012	Van Nuys, CA 91401	Los Angeles, CA 90025
(213) 482-7077	(818) 374-5050	(310) 231-2912

Department of Building and Safety / City Planning

Slope Analysis and Maximum Residential Floor Area Verification Form

SECTION I. Name Applicant(s) / Property Owner(s): Pouya Payan

Address: 1600 Sawtelle Blvd #230 Phone Number: 818-200-5005

L.A. 90025

SECTION II. Project Address:

Lot: 5458 Tract: 6170 APN: 2172 - 023 - 053

Proposed Project Description: (describe proposed work in detail)

New 2 Story Single Family Residence over Basement

SECTION III. Circle the Zone of the project site in Table 1 or Table 2 and complete Worksheet 1.

Table 1 Single-Family Zone Hillside Areas Residential Floor Area Ratios (RFAR) [Table 12.21 C.10-2a]

Slope Bands (%)	R1	RS	RE9	RE11	RE15	RE20	RE40	RA
0 - 14.99	0.45	0.45	0.40	0.40	0.35	0.35	0.35	0.25
15 - 29.99	0.45	0.40	0.35	0.35	0.30	0.30	0.30	0.2
30 - 44.99	0.40	0.35	0.30	0.30	0.25	0.25	0.25	0.15
45 - 59.99	0.35	0.30	0.25	0.25	0.20	0.20	0.20	0.10
60 - 99.99	0.30	0.25	0.20	0.20	0.15	0.15	0.15	0.05
100 +	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 2 Single-Family Zone Hillside Areas Residential Floor Area Ratios (RFAR) [Table 12.21 C.10-2b]

Slope Bands (%)	R1H1	R1H2	R1H3	R1H4
0 - 14.99	0.65	0.55	0.45	0.40
15 - 29.99	0.60	0.50	0.45	0.35
30 - 44.99	0.55	0.45	0.40	0.30
45 - 59.99	0.50	0.40	0.35	0.25
60 - 99.99	0.45	0.35	0.30	0.20
100 +	0.00	0.00	0.00	0.00

Worksheet 1 Hillside Area Maximum Residential Area Formula [Table 12.21 C.10-2c]

(A)	(B)		(C)		(D)
Slope Bands (%)	Lot Area within each Slope Band (sq. ft.) From survey/contour map.		FAR From the Zone circled in Table 1 or Table 2		Maximum Residential Floor Area* allowed within each Slope Band
0 - 14.99	1169.14	X	0.45	=	526.113
15 - 29.99	1504.14	X	0.45	=	676.863
30 - 44.99	712.95	X	0.40	=	285.18
45 - 59.99	1036.90	X	0.35	=	362.915
60 - 99.99	223.13	X	0.30	=	66.939
100 +	6.75	X	0.00	=	0
Maximum Residential Floor Area					1918.01

* Residential Floor Area shall be calculated as defined in LAMC Section 12.03.

April 3, 2017

EXHIBIT "A"
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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SLOPE ANALYSIS FORM

SCALE:

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

F-2.2

4

PLOT DATE 11/2022

Department of Building and Safety / City Planning
Slope Analysis and Maximum Residential Floor Area Verification Form

I, Mohamad A. Molai (Print Name), the licensed professional Land Surveyor or Registered Civil Engineer in the State of California (License Number: PLS 9192, Expiration Date: 03-31-2023), Certify that all of the above information is correct.

Signature: _____ Date: 8/16/22

LICENSED LAND SURVEYOR MOHAMAD ALI MOLAI PLS 9192 STATE OF CALIFORNIA

SECTION IV. (To be completed by City Planning Staff)

Approved Maximum Residential Floor Area for the property listed below: 1918.01 (sq. ft.)

Property Information:

Lot: 5458 Tract: 6170

Assessor Parcel number: 2172 023 053

City Planning's Staff:

2 Sets of Slope Analysis Maps Stamped and Signed Yes ☒ No ☐

Name (Please Print): SHASHA YU

Signature: Shasha Yu Date: 08/29/2022

Notes: APPROVED MAX. RESIDENTIAL FLOOR AREA 1,918.01 SF

PLANS REVIEWED
City of Los Angeles
Department of City Planning
LOS ANGELES CITY PLANNING

CASE NO.:
PLANNER: SHASHA YU
DATE: 08/29/2022

EXHIBIT "A"
Page No. 5 of 67
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4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
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Tel: 310-275-6605,
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LOS ANGELES, CA. 90025
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DRAWING TITLE:

SLOPE ANALYSIS FORM

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

F-2.3

5

PLOT DATE 11/2022

APPLICATIONS:

DEPARTMENT OF CITY PLANNING APPLICATION

THIS BOX FOR CITY PLANNING STAFF USE ONLY

Case Number

Env. Case Number

Application Type

Case Filed With (Print Name) Date Filed

Application includes letter requesting:
☐ Waived hearing ☐ Concurrent hearing ☐ Hearing not be scheduled on a specific date (e.g., vacation hold)
Related Case Number(s):

Provide all information requested. Missing, incomplete or inconsistent information will cause delays.

All terms in this document are applicable to the singular as well as the plural forms of such terms.

Refer to the Department of City Planning Application Filing Instructions (CP-7810) for more information.

1. PROJECT LOCATION

Street Address[1] _____ Unit/Space Number _____

Legal Description[2] (Lot, Block, Tract) Lot 5458, Block 70, Tract TR 6170

Assessor Parcel Number 2172023053 Total Lot Area 4,653

2. PROJECT DESCRIPTION

Present Use Vacant Lot

Proposed Use New Single Family Residence

Project Name (if applicable) 4230 Saltillo

Describe in detail the characteristics, scope and/or operation of the proposed project
New 2 Story 1,899 S.F. Modern Single Family residence over 573 S.F. basement and an attached 4 car garage in the basement on a 4,653 S.F. vacant lot. 2 new retaining walls and a new swimming pool.
726 Q.Y. of Grading and shoring for the retaining walls. removal of 2 protected trees as specified in the tree report
ZAD case for Saltillo and for 20 foot roadway to the boundry of hillside area

Additional information attached ☐ YES ☒ NO

Complete and check all that apply:

Existing Site Conditions

☒ Site is undeveloped or unimproved (i.e., vacant)
☐ Site has existing buildings (provide copies of building permits)
☐ Site is/was developed with uses that could release hazardous materials on soil and/or groundwater (e.g., dry cleaning, gas station, auto repair, industrial)
☐ Site is located within 500 feet of a freeway or railroad
☐ Site is located within 500 feet of a sensitive use (e.g., school, park)
☐ Site has special designation (e.g., National Historic Register, Survey LA)

[1] Street Addresses must include all addresses on the subject/application site (as identified in ZIMAS—http://zimas.lacity.org)
[2] Legal Description must include all contiguously owned properties (even if they are not a part of the proposed project site)

Proposed Project Information

(Check all that apply or could apply)

☐ Demolition of existing buildings/structures
☐ Relocation of existing buildings/structures
☒ Removal of any on-site tree
☐ Removal of any street tree
☒ Removal of protected trees onsite / public right-of-way
☒ Grading
☐ Haul Route
☐ New construction: 1,899 + 573 basement= 2472 square feet
☐ Additions to existing buildings
☐ Interior tenant improvement
☐ Exterior renovation or alteration
☐ Change of use and/or hours of operation
☐ Uses or structures in public right-of-way
☐ Phased project

Housing Component Information

Number of Residential Units: Existing 0 – Demolish(ed)[3] 0 + Adding 1 = Total 1
Number of Affordable Units[4] Existing 0 – Demolish(ed) 0 + Adding 0 = Total 0
Number of Market Rate Units Existing 0 – Demolish(ed) 0 + Adding 0 = Total 0
Mixed Use Projects, Amount of Non-Residential Floor Area: N/A square feet

Public Right-of-Way Information

Have you submitted the Planning Case Referral Form to BOE? (required) ☒ YES ☐ NO
Is your project required to dedicate land to the public right-of-way? ☐ YES ☒ NO
If so, what is/are your dedication requirement(s)? N/A ft.
If you have dedication requirements on multiple streets, please indicate: 4230 Saltillo Street, Los Angeles, CA 91364

3. ACTION(S) REQUESTED

Provide the Los Angeles Municipal Code (LAMC) Section that authorizes the request and (if applicable) the LAMC Section or the Specific Plan/Overlay Section from which relief is sought; follow with a description of the requested action.

Does the project include Multiple Approval Requests per LAMC 12.36? ☒ YES ☐ NO

Authorizing Code Section 12.24x21 C.10 (1) (3)
Code Section from which relief is requested (if any): Zoning Administrator Determination (ZAD)
Action Requested, Narrative: Roadway width in front of the property is proposed to be widended to a minimum 16 foot due to protected trees and extensive height of retaininhg wall in Public right of way if desired to get 20 feet roadway width, widening the streets leading to the boundary of Hillside is not possible so we are requesting for a re leaf on both ZADs

Authorizing Code Section Mulholland Scenic Parkway (Inner Corridor)
Code Section from which relief is requested (if any):
Action Requested, Narrative:

Additional Requests Attached ☐ YES ☒ NO

4. RELATED DEPARTMENT OF CITY PLANNING CASES

Are there previous or pending cases/decisions/environmental clearances on the project site? ☐ YES ☒ NO
If YES, list all case number(s)

[3] Number of units to be demolished and/or which have been demolished within the last five (5) years.
[4] As determined by the Housing and Community Investment Department

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REVISIONS

No.	Date

PROJECT:
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LOS ANGELES , CA 91364

OWNER:
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Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

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1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

DEPARTMENT OF CITY PLANNING APPLICATION

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

F-3.1

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PLOT DATE 11/2022

If the application/project is directly related to one of the above cases, list the pertinent case numbers below and complete/check all that apply (provide copy).

Case No. _____ Ordinance No.: _____

- ☐ Condition Compliance Review
- ☐ Modification of Conditions
- ☐ Revision of Approved Plans
- ☐ Renewal of Entitlement
- ☐ Plan Approval subsequent to Main Conditional Use
- ☐ Clarification of Q (Qualified) Condition
- ☐ Clarification of D (Development) Limitation
- ☐ Amendment to T (Tentative) Classification

For purposes of environmental (CEQA) analysis, is there intent to develop a larger project? ☐ YES ☒ NO

Have you filed, or is there intent to file, a Subdivision with this project? ☐ YES ☒ NO

If YES, to either of the above, describe the other parts of the projects or the larger project below, whether or not currently filed with the City: _____

5. RELATED DOCUMENTS / REFERRALS

To help assigned staff coordinate with other Departments that may have a role in the proposed project, please provide a copy of any applicable form and reference number if known.

Specialized Requirement Form _____

Geographic Project Planning Referral attached in package

Case Consultation Referral Form _____

Redevelopment Project Area – Administrative Review and Referral Form _____

HPOZ Authorization Form _____

Affordable Housing Referral Form _____

Transit Oriented Communities Referral Form _____

Preliminary Zoning Assessment Referral Form (Plan Check #) _____

Housing Development Project determination (PZA Sec. II) _____

Optional HCA Vesting Preliminary Application _____

Unpermitted Dwelling Unit (UDU) Inter-Agency Referral Form _____

Mello Form _____

Citywide Design Guidelines Compliance Review Form _____

GPA Initiation Request Form _____

Expedite Fee Agreement _____

Department of Transportation (DOT) Referral Form _____

Bureau of Engineering (BOE) Planning Case Referral Form (PCRF) See attached

Hillside Referral Form (BOE) See attached

Building Permits and Certificates of Occupancy _____

Order to Comply _____

Low Impact Development (LID) Referral Form (Stormwater Mitigation) _____

Replacement Unit Determination (LAHD) _____

Are there any recorded Covenants, affidavits or easements on this property? ☐ YES (provide copy) ☒ NO

PROJECT TEAM INFORMATION (Complete all applicable fields)

Applicant[5] name Pouya Payan

Company/Firm Labyrinth Design Studio Inc.

Address: 1600 Sawtelle Blvd, Suite 230, LA, CA 90025 Unit/Space Number _____

City Los Angeles State California Zip Code: 90025

Telephone 818-200-5005 E-mail: Pouya@Labyrinth-ds.com

Are you in escrow to purchase the subject property? ☐ YES ☒ NO

Property Owner of Record ☐ Same as applicant ☒ Different from applicant

Name (if different from applicant) Mehran Tebyani

Address P.O. Box 817 Unit/Space Number _____

City Beverly Hills State CA Zip Code: 90213

Telephone 1-424-666-9966 E-mail: mehrantebyani@gmail.com

Agent/Representative name Same as Applicant

Company/Firm _____

Address: _____ Unit/Space Number _____

City _____ State _____ Zip: _____

Telephone _____ E-mail: _____

Other (Specify Architect, Engineer, CEQA Consultant etc.) _____

Name _____

Company/Firm _____

Address: _____ Unit/Space Number _____

City _____ State _____ Zip Code: _____

Telephone _____ E-mail: _____

Primary Contact for Project Information *(select only one)*

☐ Owner ☒ Applicant

☐ Agent/Representative ☐ Other _____

To ensure notification of any public hearing as well as decisions on the project, make sure to include an individual mailing label for each member of the project team in both the Property Owners List and the Abutting Property Owners List.

[5] An applicant is a person with a lasting interest in the completed project such as the property owner or a lessee/user of a project. An applicant is not someone filing the case on behalf of a client (i.e. usually not the agent/repres

EXHIBIT "A"
Page No. 7 of 67
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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

DEPARTMENT OF CITY PLANNING APPLICATION

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

F-3.2

7

PLOT DATE 11/2022

PROPERTY OWNER

7. **PROPERTY OWNER AFFIDAVIT.** Before the application can be accepted, the owner of each property involved must provide a notarized signature to verify the application is being filed with their knowledge. Staff will confirm ownership based on the records of the City Engineer or County Assessor. In the case of partnerships, corporations, LLCs or trusts an officer of the ownership entity so authorized may sign as stipulated below.

   - **Ownership Disclosure.** If the property is owned by a partnership, corporation, LLC, or trust, a disclosure identifying an officer of the ownership entity must be submitted. The disclosure must list the names and addresses of the principal owners (25% interest or greater). The signatory must appear in this list of names. A letter of authorization, as described below, may be submitted provided the signatory of the letter is included in the Ownership Disclosure. Include a copy of the current partnership agreement, corporate articles, or trust document as applicable.
   - **Letter of Authorization (LOA).** A LOA from a property owner granting someone else permission to sign the application form may be provided if the property is owned by a partnership, corporation, LLC, or trust or in rare circumstances when an individual property owner is unable to sign the application form. To be considered for acceptance, the LOA must indicate the name of the person being authorized the file, their relationship to the owner or project, the site address, a general description of the type of application being filed and must also include the language in items A-D below. In the case of partnerships, corporations, LLCs or trusts the LOA must be signed and notarized by the authorized signatory as shown on the Ownership Disclosure or in the case of private ownership by the property owner. Proof of Ownership for the signatory of the LOA must be submitted with said letter.
   - **Grant Deed.** Provide a Copy of the Grant Deed If the ownership of the property does not match City Records and/or if the application is for a Coastal Development Permit. The Deed must correspond exactly with the ownership listed on the application.
   - **Multiple Owners.** If the property is owned by more than one individual (e.g., John and Jane Doe or Mary Smith and Mark Jones) notarized signatures are required of all owners.

   a. I hereby certify that I am the owner of record of the herein previously described property located in the City of Los Angeles which is involved in this application or have been empowered to sign as the owner on behalf of a partnership, corporation, LLC, or trust as evidenced by the documents attached hereto.

   b. I hereby consent to the filing of this application on my property for processing by the Department of City Planning.

   c. I understand if the application is approved, as a part of the process the City will apply conditions of approval which may be my responsibility to satisfy including, but not limited to, recording the decision and all conditions in the County Deed Records for the property.

   d. By my signature below, I declare under penalty of perjury under the laws of the State of California that the foregoing statements are true and correct.

Property Owner's signatures must be signed/notarized in the presence of a Notary Public.
The City requires an original signature from the property owner with the "wet" notary stamp.
A Notary Acknowledgement is available for your convenience on following page.

Signature _____ Date 8/19/2022

Print Name Mehran Tebyani

Signature _____ Date _____

Print Name _____

Space Below for Notary's Use

California All-Purpose Acknowledgement **Civil Code ' 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document, to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Los Angeles

On August 19th 2022 before me, J. Tetgen, Notary Public
(Insert Name of Notary Public and Title)

personally appeared Mehran Tebyani, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf on which the person(~~s~~) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

J. TEITGEN
Notary Public - California
Los Angeles County
Commission # 2371530
My Comm. Expires Aug 19, 2025

EXHIBIT "A"
Page No. 8 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

DEPARTMENT OF CITY PLANNING APPLICATION

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

F-3.3

8

PLOT DATE 11/2022

APPLICANT

8. **APPLICANT DECLARATION.** A separate signature from the applicant, whether they are the property owner or not, attesting to the following, is required before the application can be accepted.

   a. I hereby certify that the information provided in this application, including plans and other attachments, is accurate and correct to the best of my knowledge. Furthermore, should the stated information be found false or insufficient to fulfill the requirements of the Department of City Planning, I agree to revise the information as appropriate.

   b. I hereby certify that I have fully informed the City of the nature of the project for purposes of the California Environmental Quality Act (CEQA) and have not submitted this application with the intention of segmenting a larger project in violation of CEQA. I understand that should the City determine that the project is part of a larger project for purposes of CEQA, the City may revoke any approvals and/or stay any subsequent entitlements or permits (including certificates of occupancy) until a full and complete CEQA analysis is reviewed and appropriate CEQA clearance is adopted or certified.

   c. I understand that the environmental review associated with this application is preliminary, and that after further evaluation, additional reports, studies, applications and/or fees may be required.

   d. I understand and agree that any report, study, map or other information submitted to the City in furtherance of this application will be treated by the City as public records which may be reviewed by any person and if requested, that a copy will be provided by the City to any person upon the payment of its direct costs of duplication.

   e. I understand that the burden of proof to substantiate the request is the responsibility of the applicant. Additionally, I understand that planning staff are not permitted to assist the applicant or opponents of the project in preparing arguments for or against a request.

   f. I understand that there is no guarantee, expressed or implied, that any permit or application will be granted. I understand that each matter must be carefully evaluated and that the resulting recommendation or decision may be contrary to a position taken or implied in any preliminary discussions.

   g. I understand that if this application is denied, there is no refund of fees paid.

   i. I understand and agree to defend, indemnify, and hold harmless, the City, its officers, agents, employees, and volunteers (collectively "City"), from any and all legal actions, claims, or proceedings (including administrative or alternative dispute resolution (collectively "actions"), arising out of any City process or approval prompted by this Action, either in whole or in part. Such actions include but are not limited to actions to attack, set aside, void, or otherwise modify, an entitlement approval, environmental review, or subsequent permit decision; actions for personal or property damage; actions based on an allegation of an unlawful pattern and practice; inverse condemnation actions; and civil rights or an action based on the protected status of the petitioner or claimant under state or federal law (e.g. ADA or Unruh Act). I understand and agree to reimburse the City for any and all costs incurred in defense of such actions. This includes, but it not limited to, the payment of all court costs and attorneys' fees, all judgments or awards, damages, and settlement costs. The indemnity language in this paragraph is intended to be interpreted to the broadest extent permitted by law and shall be in addition to any other indemnification language agreed to by the applicant.

   i. By my signature below, I declare under penalty of perjury, under the laws of the State of California, that all statements contained in this application and any accompanying documents are true and correct, with full knowledge that all statements made in this application are subject to investigation and that any false or dishonest answer to any question may be grounds for denial or subsequent revocation of license or permit.

The City requires an original signature from the applicant. The applicant's signature below does not need to be notarized.

Signature: _____ Date: 8/19/2022

Print Name: Mehran Tebyani

OPTIONAL
NEIGHBORHOOD CONTACT SHEET

9. **SIGNATURES** of adjoining or neighboring property owners in support of the request are not required but are helpful, especially for projects in single-family residential areas. Signatures may be provided below (attach additional sheets if necessary).

NAME (PRINT)	SIGNATURE	ADDRESS	KEY # ON MAP

REVIEW of the project by the applicable Neighborhood Council is not required but is helpful. If applicable, describe, below or separately, any contact you have had with the Neighborhood Council or other community groups, business associations and/or officials in the area surrounding the project site (attach additional sheets if necessary).

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Page No. 9 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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DESIGN STUDIO INC.
Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

DEPARTMENT OF CITY PLANNING APPLICATION

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

F-3.4

9

PLOT DATE 11/2022

PROTECTED TREE REPORT

4230 Saltillo St.
Woodland Hills, CA 91364

SUMMARY

PROJECT OVERVIEW	
Site Address	**4230 Saltillo St.,Woodland Hills, CA 91364**
Location and/or Specific Plan	**Woodland Hills**
Project Description	**New Single Family Residence**
Number of Protected Trees on Site	**9**
Number of Recommended Removals	**2**

This Tree Report was prepared at the request of the property owner, Mehran Tebyani, who is preparing to build a single family residence on this property. The subject property is an empty 4,653 square foot lot and is located in the Woodland Hills area of Los Angeles. The proposed new residence will have a footprint of 1865 square feet.

PROTECTED TREES, URBAN FORESTRY DIVISION

This property is under the jurisdiction of the City of Los Angeles and guided by the Native Tree Protection Ordinance No. 186873. **Protected Trees** are defined by this ordinance as oaks (*Quercus* sp) indigenous to California but excluding the scrub oak (*Quercus dumosa*); Southern California black walnut (*Juglans californica var. californica*); Western sycamore (*Platanus racemosa*) and California bay laurel (*Umbellularia californica*) trees with a diameter at breast height (DBH) of four inches (4") or greater. **Protected Shrubs** are defined as Mexican elderberry (*Sambucus mexicana*); Toyon (*Heteromeles arbutifolia*) which measure four inches or more in cumulative diameter, four and one-half feet above the ground level at the base of the shrub.

At this time, I observed nine (9) coast live oak (*Quercus agrifolia*) trees on the property. Two oaks are recommended for removal and replacement and seven (7) oaks will be retained and protected in place.

The Tree Resource ®

September 2022

NEIGHBOR TREES

There are two (2) coast live oak trees on the neighboring property that will not be impacted by construction. This tree will be retained and protected in place.

CITY OF LOS ANGELES STREET TREES, URBAN FORESTRY DIVISION

At this time, I observed one **City of Los Angeles Street Tree** in the parkway perimeter of the property. This tree is recommended for removal.

NON-PROTECTED SIGNIFICANT TREES, DEPARTMENT OF CITY PLANNING

The Department of City Planning requires the identification of the location, size, type and condition of all existing trees on the site with a DBH of 8 inches (8") or greater. These trees will be identified as **Non-Protected Significant Trees.**

At this time, I observed no **Non-Protected Significant Tree** on the property.

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4230 Saltillo St.

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LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1800 SAWTELLE BLVD. #230
LOS ANGELES, CA, 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

TREE REPORT SUMMARY

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

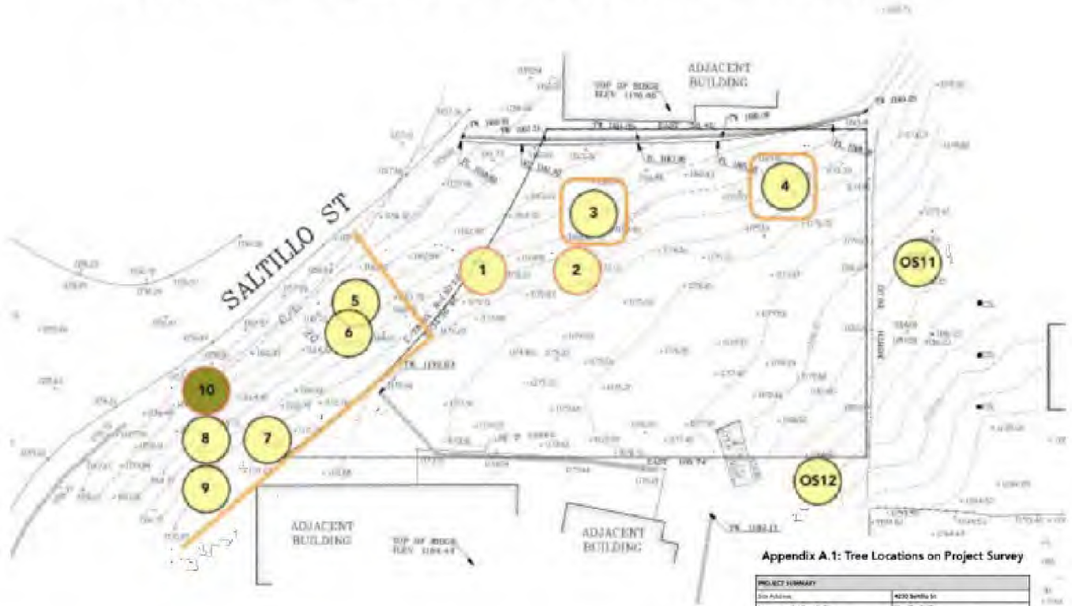
Drawing No.

F-4.1

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PLOT DATE 11/2022

APPENDIX A.1 - TREE LOCATION - SURVEY MAP, REDUCED



Appendix A.1: Tree Locations on Project Survey

PROJECT SUMMARY	
Site Address	4230 Saltillo St
Location and/or Specific Plan	Woodland Hills
Project Description	New Single Family Home
Proposed Home Area - Lot Size (Net)	4 SF - 6,693 SF
Number of Protected Trees on Site	9
Number of Recommended Removals	2

KEY

Protected Native Oak Tree
Street Tree
Protective Fencing
Tree Not Removed

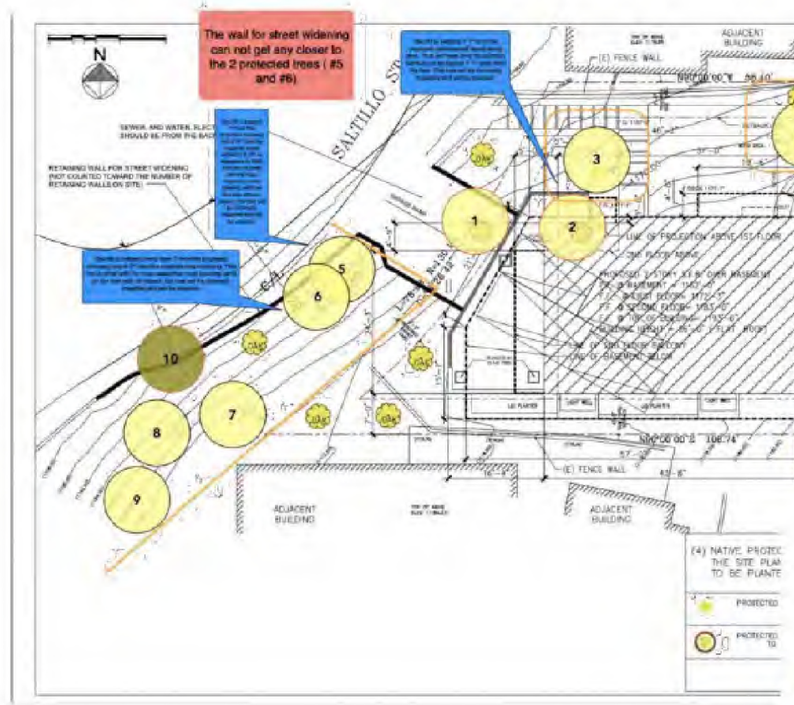
SUMMARY OF FIELD INSPECTION

Tree #	Species	Status	DBH (")	Condition	Retain or Remove
1	Coast Live Oak Quercus agrifolia	Protected	18.1	C	Remove
2	Coast Live Oak Quercus agrifolia	Protected	19.1	C	Remove
3	Coast Live Oak Quercus agrifolia	Protected	22.1	C	Retain
4	Coast Live Oak Quercus agrifolia	Protected	27.3	C	Retain
5	Coast Live Oak Quercus agrifolia	Protected	6, 8	C	Retain
6	Coast Live Oak Quercus agrifolia	Protected	5	C	Retain
7	Coast Live Oak Quercus agrifolia	Protected	5, 6	C	Retain
8	Coast Live Oak Quercus agrifolia	Protected	7	C	Retain
9	Coast Live Oak Quercus agrifolia	Protected	5	C	Retain
10	Lemon Scented Gum Corymbia citriodora	Street	14	C	Remove
OS11	Coast Live Oak Quercus agrifolia	Protected	21	C	Retain
OS12	Coast Live Oak Quercus agrifolia	Protected	108+	C	Retain

SUMMARY OF REPLACEMENT TREES

	Existing Trees to Be Removed	Replacement Trees
STREET TREES Required (1:1)	1	2
PROTECTED TREES REPLACED AT MINIMUM 24" BOX SIZE	2	4

APPENDIX A.2 - TREE REPLACEMENT MAP, SITE PLAN REDUCED



Appendix A.2: Tree Locations on Project Site Plan

PROJECT SUMMARY	
Site Address	4230 Saltillo St
Location and/or Specific Plan	Woodland Hills
Project Description	New Single Family Home
Proposed Home Area - Lot Size (Net)	4 SF - 6,693 SF
Number of Protected Trees on Site	9
Number of Recommended Removals	2

KEY

Protected Native Oak Tree
Street Tree
Protective Fencing
Tree Not Removed

SUMMARY OF FIELD INSPECTION

Tree #	Species	Status	DBH (")	Condition	Retain or Remove
1	Coast Live Oak Quercus agrifolia	Protected	18.1	C	Remove
2	Coast Live Oak Quercus agrifolia	Protected	19.1	C	Remove
3	Coast Live Oak Quercus agrifolia	Protected	22.1	C	Retain
4	Coast Live Oak Quercus agrifolia	Protected	27.3	C	Retain
5	Coast Live Oak Quercus agrifolia	Protected	6, 8	C	Retain
6	Coast Live Oak Quercus agrifolia	Protected	5	C	Retain
7	Coast Live Oak Quercus agrifolia	Protected	5, 6	C	Retain
8	Coast Live Oak Quercus agrifolia	Protected	7	C	Retain
9	Coast Live Oak Quercus agrifolia	Protected	5	C	Retain
10	Lemon Scented Gum Corymbia citriodora	Street	14	C	Remove
OS11	Coast Live Oak Quercus agrifolia	Protected	21	C	Retain
OS12	Coast Live Oak Quercus agrifolia	Protected	108+	C	Retain

SUMMARY OF REPLACEMENT TREES

	Existing Trees to Be Removed	Replacement Trees
STREET TREES Required (1:1)	1	2
PROTECTED TREES REPLACED AT MINIMUM 24" BOX SIZE	2	4

EXHIBIT "A"
Page No. 11 of 67
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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
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Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
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POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

TREE REPORT SUMMARY

SCALE:

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

F-4.2

11

PLOT DATE 11/2022

DESIGN STUDIO INC.
Tel: 818.200.5005

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REVISIONS

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LOS ANGELES , CA 91364

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Los Angeles, CA 90210
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LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

DESIGN REVIEW BOARD RECOMMENDATIONS

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-1.1

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PLOT DATE 11/2022

1 DESIGN REVIEW BOARD RECOMMENDATIONS

Narrative

Our project is located at 4230 Saltillo Street in Woodland Hills, CA 91364. The proposed project is to build a 2472 S.F. (including 573 S.F. of basement) single family residential home on a 4,670.5 SF vacant lot. The single story home will have a basement. The home will be 28 feet in height. The width of the house will be 30 feet and the length will be 43 feet and 8 inches. The proposed house is on a mild slope (see topo map for reference). The client will only need remove two protected trees in order to build the proposed house. see attached tree report prepared by arborist. Although the property is located in the Mulholland Scenic Corridor, it is not visible from Mulholland Drive.

The building design to have a setback in majority of its facade to enhance the building look. The Architectural style selected for the residence is Contemporary Modern. The project has been articulated and the mass was Designed to archive the selected style elements. Exterior materials are Smooth Stucco, Sheet Metal, Stained Wood Siding, Glass Railing to reinforce the architectural style. Currently there is no Substantial style trend in the neighborhood and the proposed project is Consistence with the neighboring properties as far as building square footage.

the paved street in front of the property is about 13' wide. the street will be widened to minimum 20' via building an approximate 6' high retaining wall in the public right of way and street widening. this retaining wall is not considered as an on site retaining wall because its sole purpose is to widen the street and is not located within the property.
the streets leading to the boundry of the hill side also have locations on which they dont have the minimum 20' wide street, it is requested for a ZAD case for those locations as it is not possible to do such improvement

The proposed landscape design would be native plants and meeting the Mulholland scenic parkway specific plans. Based on tree report attached.There are 9 protected trees on the site. 2 of them will be removed (see tree report for reference).

The project will reduce its energy usage and water consumption by using Efficient envelope design, sustainable energy use, high efficiency heating And cooling system, shading , high efficient windows, drip irrigation and Native planting and low water consumption plumbing fixtures. We have Proposed bio planters to collect rain water from not permeable surfaces And to implement best management practices. Also the project will use Renewable materials and material to meet the recyclable content value . All roofs and paving's to be of cool roof very small reflecting factor and of earth tone color with less heat island effect.

We look forward to your comments and inputs to improve the project.
Respectfully submitted by

Pouya Payan

1	WRITTEN NARRATIVE

LABYRINTH
DESIGN STUDIO INC.
Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

WRITTEN NARRATIVE

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-1.2

PLOT DATE 11/2022



3 BIRD EYE VIEW



4 BIRD EYE VIEW



1 BIRD EYE VIEW



2 BIRD EYE VIEW

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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SITE CONTEXT

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-2.1

14

PLOT DATE 11/2022



SATELLITE VIEW / KEY



3 STREET VIEW



1 STREET VIEW



2 STREET VIEW

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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SITE CONTEXT

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

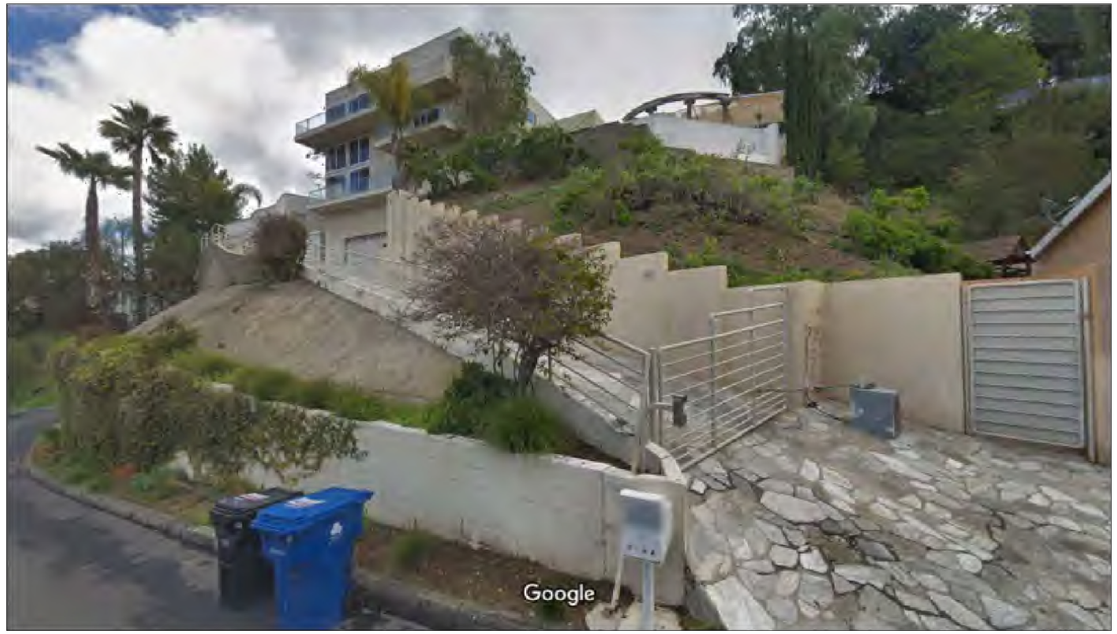
S-2.2

15

PLOT DATE 11/2022



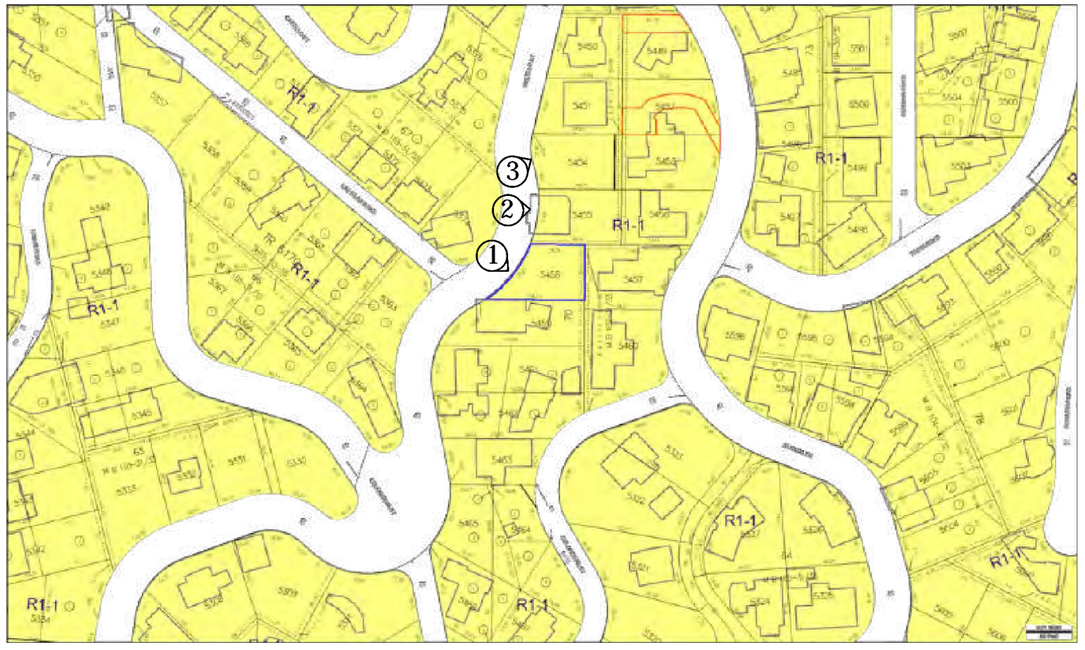
1 4230 N SALTILLO ST (PROJECT SITE)



3 4242 N SALTILLO ST



2 4238 N SALTILLO ST



KEY PLAN

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DESIGN STUDIO INC.
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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SITE CONTEXT

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-2.3

16

PLOT DATE 11/2022



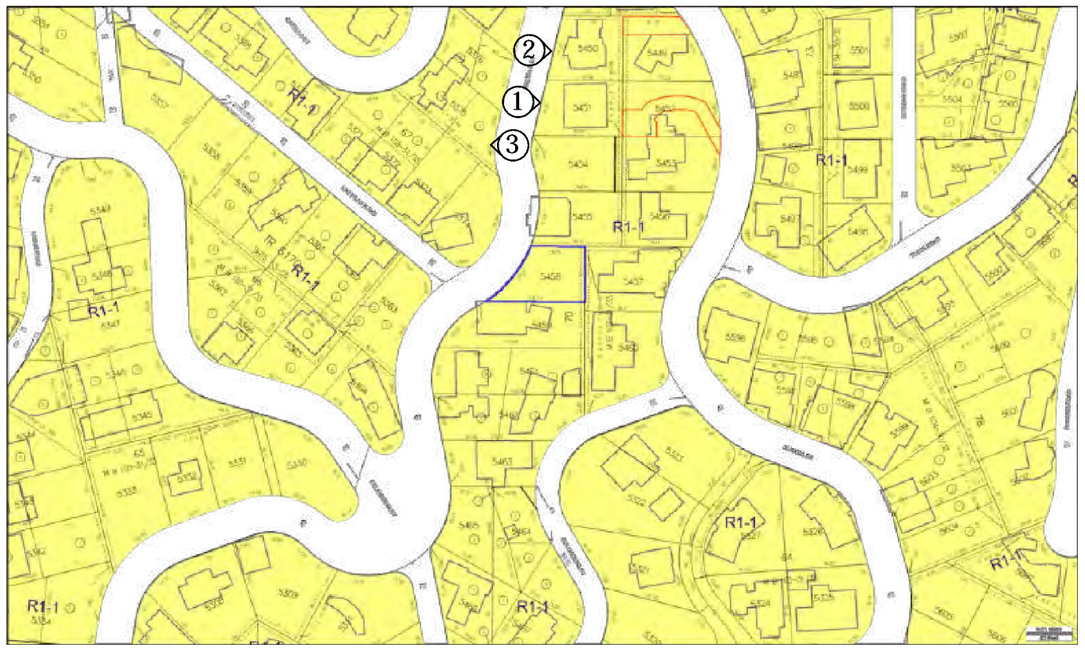
1 4246 N SALTILLO ST



2 4250 N SALTILLO ST



3 VACANT LAND APN 2172029056



KEY PLAN

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LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SITE CONTEXT

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-2.4

17

PLOT DATE 11/2022



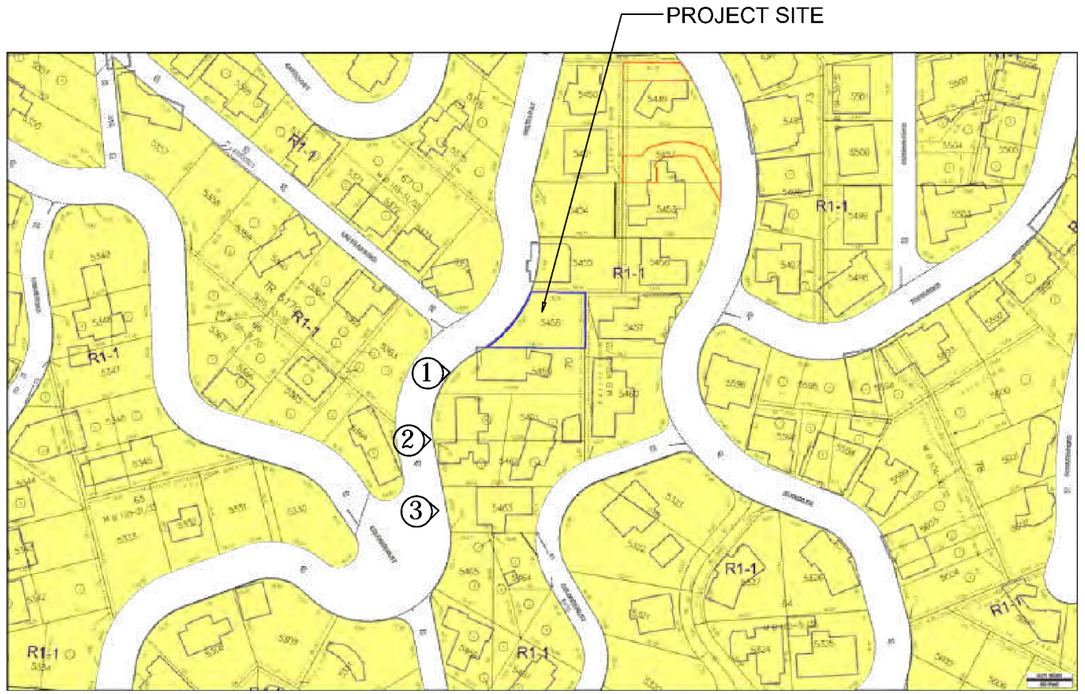
2 4222 N SALTILLO ST



3 4204 N SALTILLO ST



1 4224 N SALTILLO ST



KEY PLAN

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LOS ANGELES, CA, 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SITE CONTEXT

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-2.5

18

PLOT DATE 11/2022



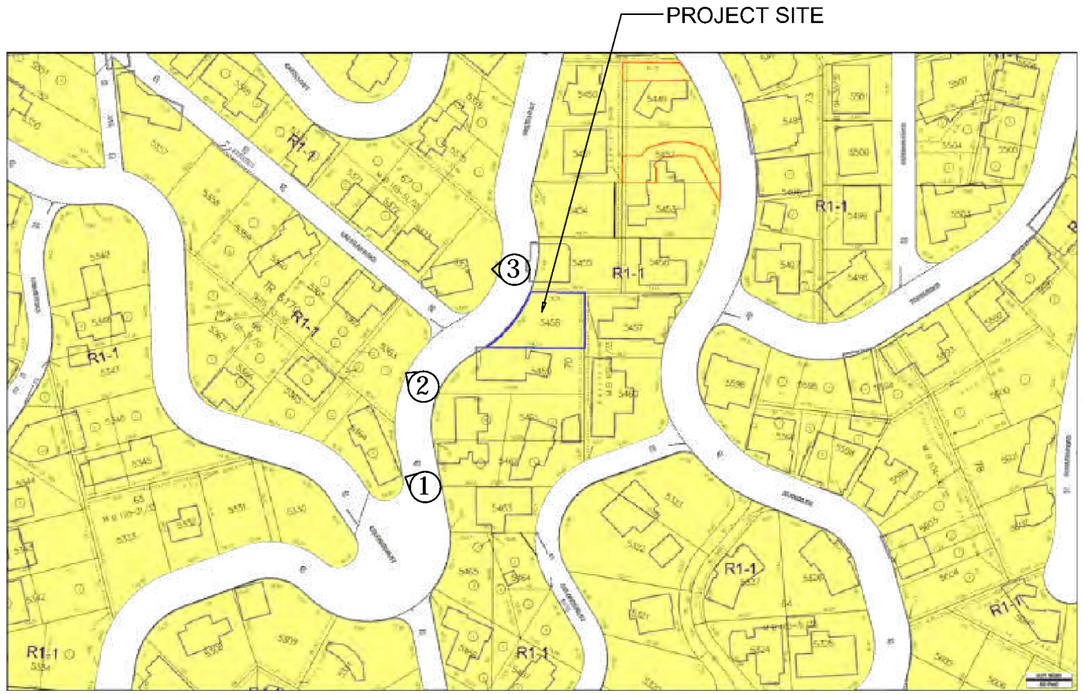
1 4215 N SALTILLO ST



2 VACANT LAND APN: 2172029063



3 21305 W LAS PILAS ROAD



KEY PLAN

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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SITE CONTEXT

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-2.6

PLOT DATE 11/2022



1 NOT VISIBLE DUE TO HILL AND TREES IN FRONT



2 NOT VISIBLE DUE TO TREES IN FRONT



3 NOT VISIBLE DUE TO TREES IN FRONT



SATELLITE VIEW / KEY

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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

VISIBILITY STUDY
FROM
MULHOLLAND DRIVE

SCALE:

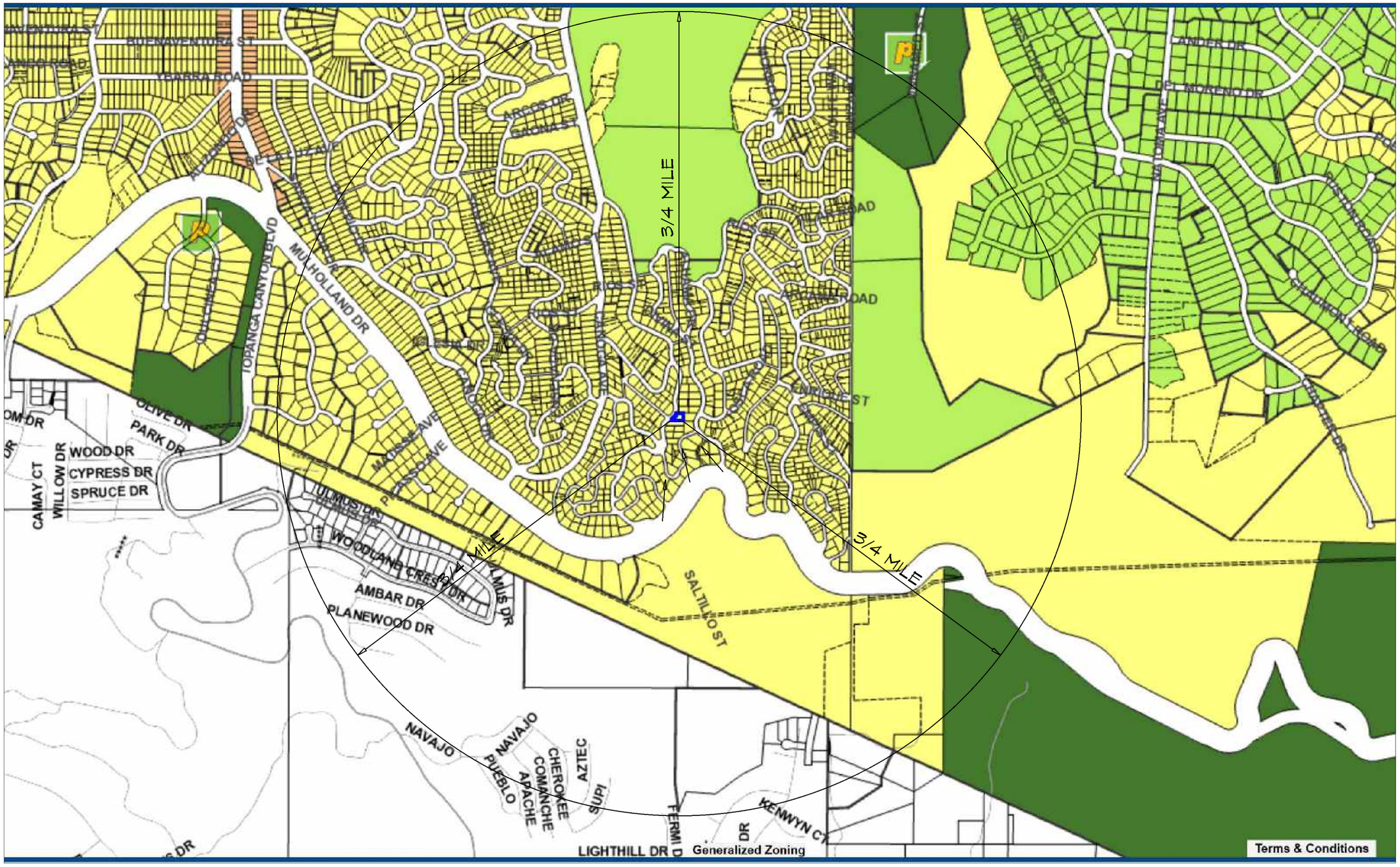
Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-3.1

20

PLOT DATE 11/2022



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DRAWING TITLE:

VISIBILITY STUDY
FROM
MULHOLLAND DRIVE

SCALE:

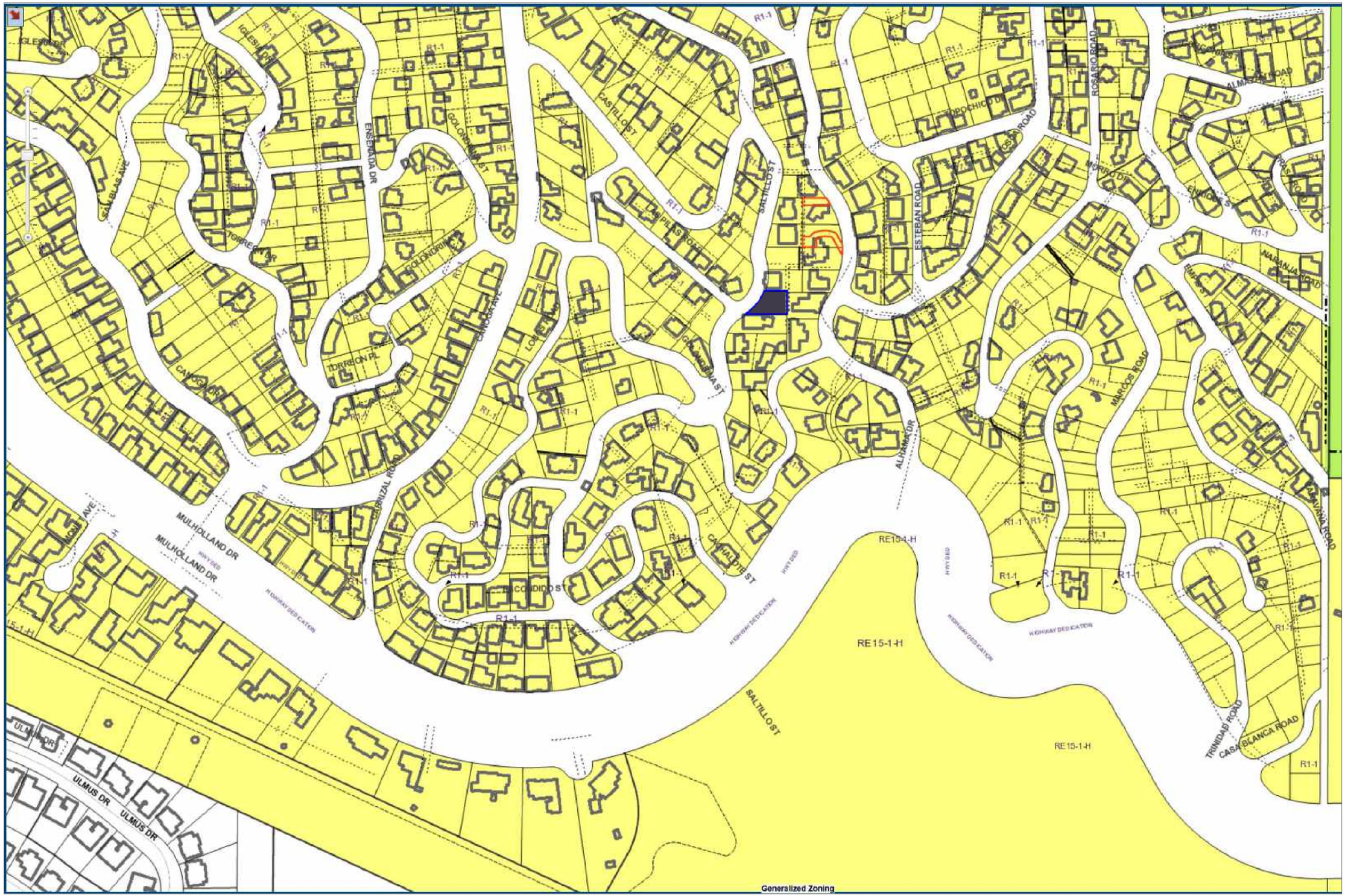
Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-3.2

21

PLOT DATE 11/2022



VICINITY MAP

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DESIGN STUDIO INC.
Tel: 818.200.5005

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TEL (818) 200-5005
1620 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

VICINITY MAP

SCALE:

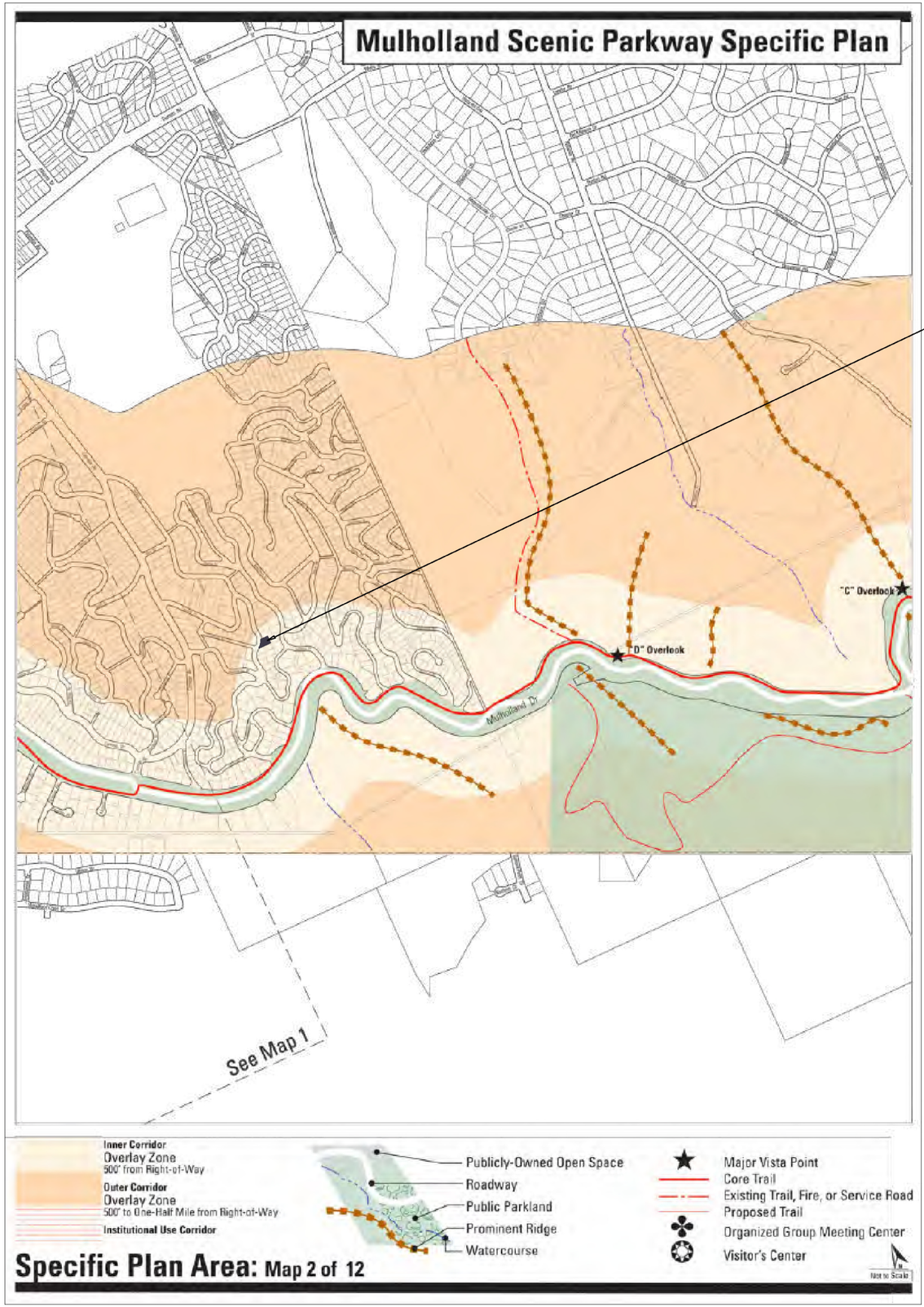
Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-4.1

22

PLOT DATE 11/2022



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1800 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

MULHOLLAND
MAPS

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-4.2

23

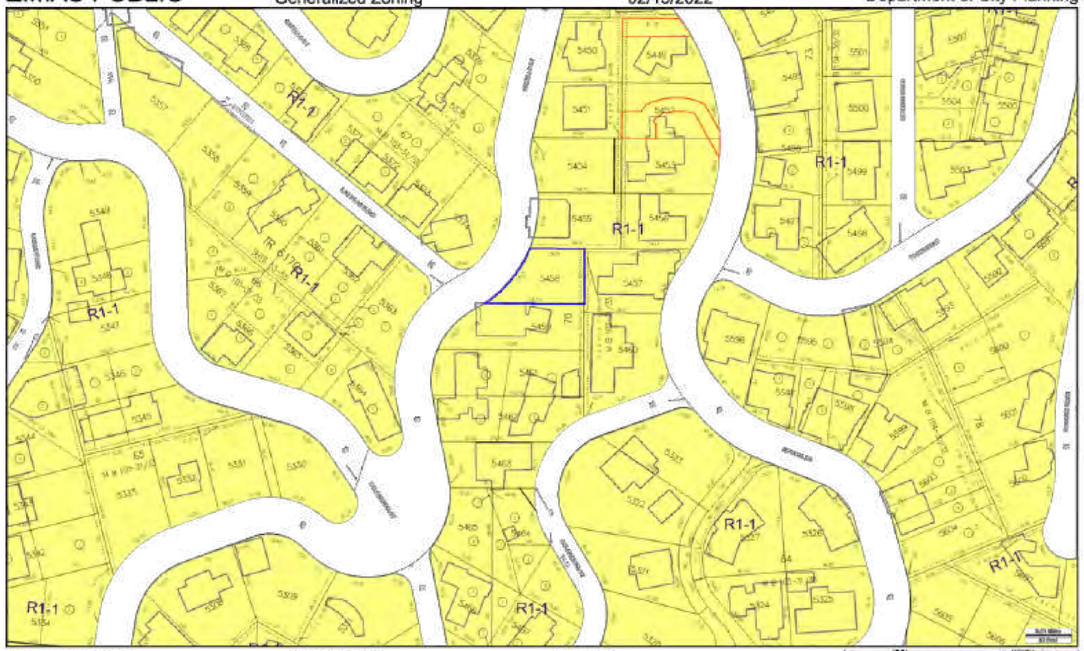
PLOT DATE 11/2022

ZIMAS PUBLIC

Generalized Zoning

02/15/2022

City of Los Angeles
Department of City Planning


R1-1
R1-1
R1-1

RIO: River Implementation Overlay	No
SN: Sign District	No
Streetscape	No
Adaptive Reuse Incentive Area	None
Affordable Housing Linkage Fee	
Residential Market Area	Medium
Non-Residential Market Area	Medium
Transit Oriented Communities (TOC)	Not Eligible
RPA: Redevelopment Project Area	None
Central City Parking	No
Downtown Parking	No
Building Line	None
500 Ft School Zone	No
500 Ft Park Zone	No

Assessor Information

Assessor Parcel No. (APN)	2172023053
APN Area (Co. Public Works)*	0.107 (ac)
Use Code	010V - Residential - Single Family Residence - Vacant Land
Assessed Land Val.	$51,500
Assessed Improvement Val.	$0
Last Owner Change	06/23/2021
Last Sale Amount	$73,000
Tax Rate Area	37
Deed Ref No. (City Clerk)	58644
	3302
	3-152
	1914707
	1148746
	0988504
Building 1	No data for building 1
Building 2	No data for building 2
Building 3	No data for building 3
Building 4	No data for building 4
Building 5	No data for building 5
Rent Stabilization Ordinance (RSO)	No [APN: 2172023053]

Additional Information

Airport Hazard	None
Coastal Zone	None
Farmland	Urban and Built-up Land
Urban Agriculture Incentive Zone	No
Very High Fire Hazard Severity Zone	Yes
Fire District No. 1	No
Flood Zone	Outside Flood Zone
Watercourse	No
Hazardous Waste / Border Zone Properties	No
Methane Hazard Site	None
High Wind Velocity Areas	No
Special Grading Area (BOE Basic Grid Map A-13372)	Yes
Wells	None

Seismic Hazards

Active Fault Near-Source Zone	
Nearest Fault (Distance in km)	9.3777816
Nearest Fault (Name)	Malibu Coast Fault
Region	Transverse Ranges and Los Angeles Basin
Fault Type	B
Slip Rate (mm/year)	0.30000000
Slip Geometry	Left Lateral - Reverse - Oblique
Slip Type	Poorly Constrained
Down Dip Width (km)	13.00000000
Rupture Top	0.00000000
Rupture Bottom	13.00000000
Dip Angle (degrees)	75.00000000
Maximum Magnitude	6.70000000
Alquist-Priolo Fault Zone	No
Landslide	No
Liquefaction	No
Preliminary Fault Rupture Study Area	No
Tsunami Inundation Zone	No

Economic Development Areas

Business Improvement District	None
Hubzone	Not Qualified
Opportunity Zone	No
Promise Zone	None
State Enterprise Zone	None

Housing

Direct all Inquiries to	Los Angeles Housing Department
Telephone	(866) 557-7368
Website	https://housing.lacity.org
Rent Stabilization Ordinance (RSO)	No [APN: 2172023053]
Ellis Act Property	No
AB 1482: Tenant Protection Act	See Notes
Assessor Parcel No. (APN)	2172023053
Use Code	010V - Residential - Single Family Residence - Vacant Land
Notes	The property is subject to AB 1482 only if the owner is a corporation, limited liability company, or a real estate investment trust.

Public Safety

Police Information	
Bureau	Valley
Division / Station	Topanga
Reporting District	2196
Fire Information	
Bureau	Valley
Batallion	17
District / Fire Station	84
Red Flag Restricted Parking	No

This report is subject to the terms and conditions as set forth on the website. For more details, please refer to the terms and conditions at zimas.lacity.org
(*) - APN Area is provided "as is" from the Los Angeles County's Public Works, Flood Control, Benefit Assessment.

zimas.lacity.org | planning.lacity.org

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1 ZIMAS PARCEL PROFILE REPORT

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REVISIONS

No.	Date

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LOS ANGELES , CA 91364

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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

ZIMAS MAP AND PARCEL PROFILE REPORT

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-5.2

PLOT DATE 11/2022

SEITER TECHNOLOGY CORPORATION

BTC

LOS ANGELES
201 N. LOS ANGELES ST., STE. 13A,
LOS ANGELES, CA 90012
TEL: (213)617-9600, FAX: (213)617-9643

VAN NUYS
14540 SYLVAN ST.
VAN NUYS, CA 91411
TEL: (818) 779-8866, FAX: (818) 779-8870

CONTRACT

CASE NUMBER: BTCID: V022-527
REFERENCE: - DATE: 11/3/2022
SITE ADDRESS: 4230 SALTILLO ST
AUTHORIZED BY: – GONZALO

DESCRIPTION OF SERVICES AND FEES:			
Reinstatement Fee		x 10.00 %	
Color Fold Over Labels and Mailing	0	x $2.65	
Color Fold Over Mailing Only	9	x $2.25	$20.25
Appeals – Number	0	x $2.65	
Posting of Site – Number of signs	0	x $85.00 (1st)	
	0	x $70.00 (addt.)	
Research/Add'l N.C. and Council Notification			$14.00
All Weather Posting (optional)	0	x $20.00	
Removal of Signs (optional)	0	x $50.00	
Credit Card fee		x 0.00 %	$0.00
		TOTAL DUE:	$34.25

A COPY OF THIS FORM MUST BE PRESENTED TO THE PLANNING DEPARTMENT AT THE TIME OF FILING TO HAVE YOUR APPLICATION DEEMED "COMPLETE"

Note: If applicant/map maker is retaining labels for addition of case number, labels must be returned to BTC within 7 days from the date of this invoice, or BTC will be forced to produce labels and charge the applicant/map maker. If bill is not paid, further processing of your other cases will stop. For cases requiring immediate mailing, labels must be submitted on the day of payment or BTC will produce labels and charge applicant/map maker. x MM

The City of LA usually generates a determination letter comprising of one(1) to three(3) pages which requires 1st Class postage. If your project requires a determination letter that exceeds three pages, you will be billed for excess postage and material costs that are due on receipt of bill. A $ 50.00 fee will be charged if you want a copy of the BTC file(s). x MM

REFUNDS AND CREDITS ONLY VALID 120 DAYS FROM THE ORIGINAL FILING DATE. Cancellations and changes are subject to a 20% or $50.00 handling fee, whichever is greater. Returned checks subject to a $200.00 fee. If the check is fraudulent, the City will be notified that the invoice is null and void. A fee of 10% will be charged to re-activate all null and void invoices. x MM

If instructed by the city that your case has gone to appeal or plum, we will immediately mail out per city instructions. The cost of mail and processing of $2.65/label, (price may change without notice if postage increases) is immediately due to us from you. It is to be paid within 10 days. If we do not receive payment within 10-days, a 10% a month (starting after 10 days) fee will be charged and due. x MM

Signature: Maria Mucciteli
Telephone: (818) 787 1663
Print Name: MEHRAN TEBYANI(OWNER/APP) POUYA PAYAN(REP) CMS(22-8259)

PAID 1018

CONTINENTAL MAPPING SERVICE

21220 DEVONSHIRE ST #205 CHATSWORTH CA 91311
(818) 787-1663

PENALTY OF PERJURY STATEMENT

I hereby certify that to the best of my knowledge the attached radius map correctly depicts the required data obtained from the records of the City Engineer, City Clerk, and/or the Los Angeles Department of City Planning and, where appropriate, the State Division of Highways.

I further hereby declare that to the best of my knowledge, and under the penalty of perjury, the attached ownership list correctly shows the latest current owner addresses on the City Engineer's land records as of the following date of preparation: 11-3-22.
In certain circumstances, such as in annexation proceedings, where there may be no City Engineer, the records of the County Assessor's Office may be accepted by the City Planning Commission.

The attached Ownership List is an: ☒ Original Mailing List or ☐ Updated Mailing List

MARIA MUCCITELLI (Print or Type) Maria Mucciteli (Signature)

I hereby certify that to the best of my knowledge and under the penalty of perjury, the attached occupants list correctly indicates addresses of the required occupants that fall within the radius as of the following date of preparation: 11-3-22.

The attached Occupants List is an: ☒ Original Mailing List or ☐ Updated Mailing List

MARIA MUCCITELLI (Print or Type) Maria Mucciteli (Signature)

In certain instances, I may have been unable to verify all occupants, therefore the following indicates which occupants I was not able to identify. I understand that the Department of City Planning will determine if reasonable attempts were made to secure these addresses from the information provided below.

Ownership #	Reason Unable to Verify*	Attempts Made to Verify**	Additional Information

* (1) Secured Building
(2) Gated Yard
(3) Refused Access
(4) Other: Specify

** (1) Returned to building on three separate occasions
(2) Efforts to contact owner or manager without success
(3) Contact made with owner or manager, who refused to provide the information
(4) Returned to building on three separate occasions

Address 4230 SALTILLO ST.
Number of Labels 9
Work Order # 22-8259

LABYRINTH
DESIGN STUDIO INC.
Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

REQUIRED PROJECT NOTIFICATION MATERIALS

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

S-6.1

PLOT DATE 11/2022

REPRESENTATIVE
POUYA PAYAN
1600 SAWTELLE BLVD #230
LOS ANGELES CA 90025

1 **OWNER / APPLICANT**
MEHRAN TEBYANI
269 S BEVERLY DR # 282
BEVERLY HILLS CA 90212

2
PETER GHAZISAEED & ZELDA NIKKA
4238 SALTILLO ST
WOODLAND HILLS CA 91364

11
OCCUPANT
21305 LAS PILAS RD
WOODLAND HILLS CA 91364

3
MARICEL ZABEL & DIEGO MEJIA
4153 ALHAMA DR
WOODLAND HILLS CA 91364

4
ERICH & MICHELLE RANDOLPH
4224 SALTILLO ST
WOODLAND HILLS CA 91364

5
PLUEMJIT WILSON & WILSON TRUST
21311 LAS PILAS RD
WOODLAND HILLS CA 91364

6
JOAN MCMAHON & MCMAHON EXEMPTION TRUST
PO BOX 9130
CANOGA PARK CA 91309

CMS 22-8259
21220 DEVONSHIRE ST #205
CHATSWORTH CA 91311

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PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

REQUIRED PROJECT NOTIFICATION MATERIALS

SCALE:

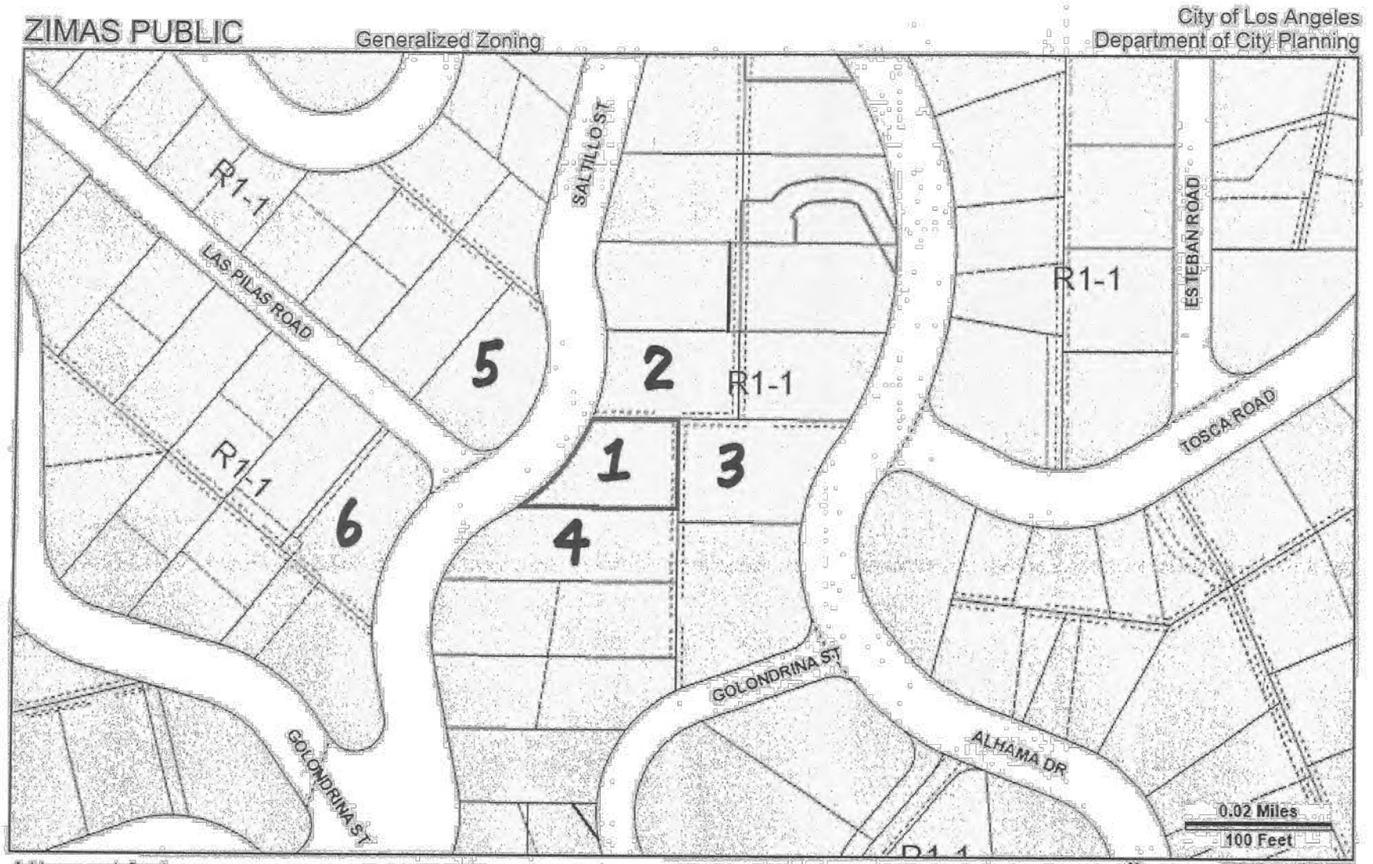
Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

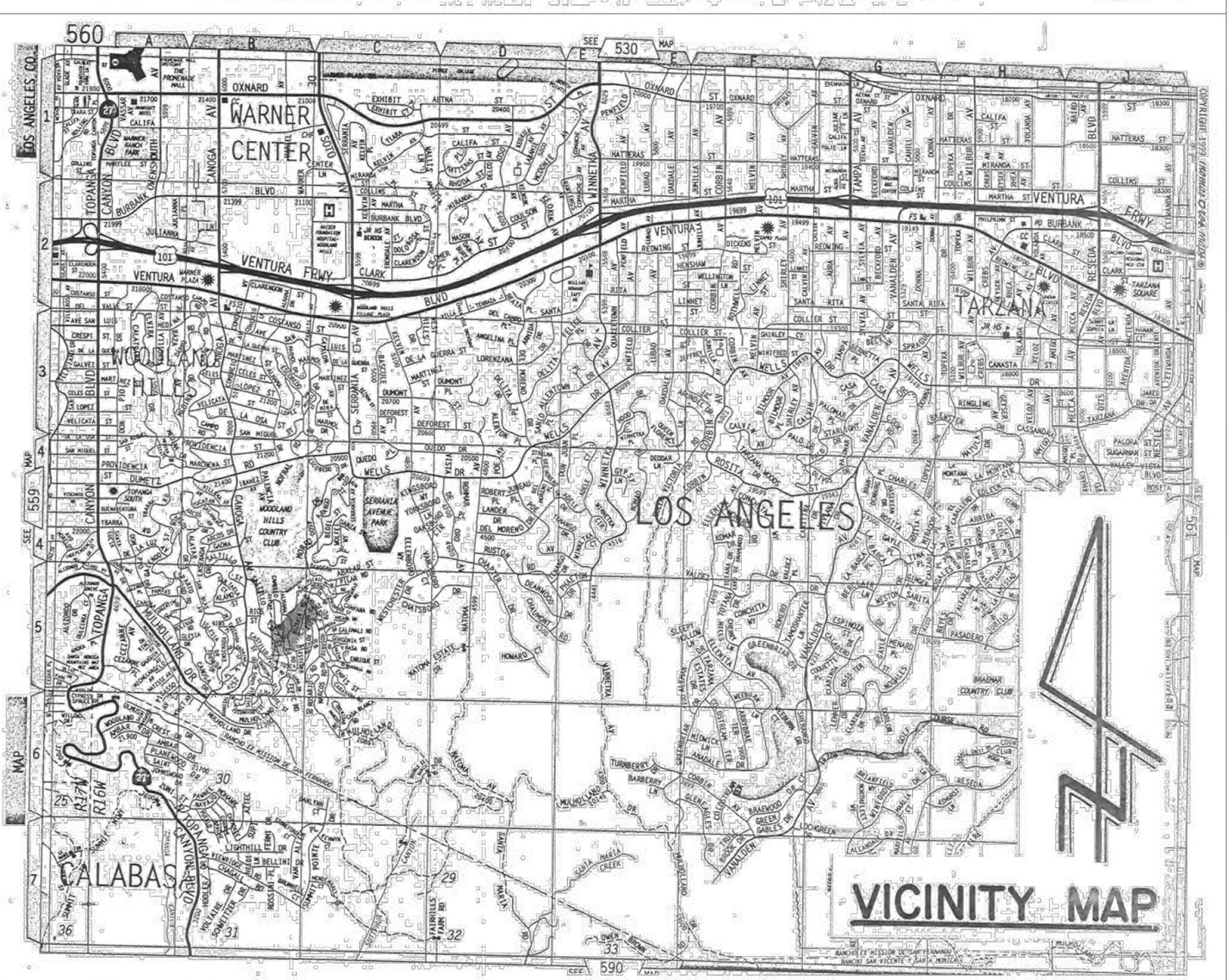
Drawing No.

S-6.2

27.1

PLOT DATE 11/2022





PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
4230 Saltillo St.
Los Angeles, CA 90210
Tel: 310-275-6605
E-mail:michelefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL: (818) 200-5005
1605 SAWTELLE BLVD. #230
LOS ANGELES, CA 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

REQUIRED PROJECT NOTIFICATION MATERIALS

SCALE:

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

S-6.3

27.2

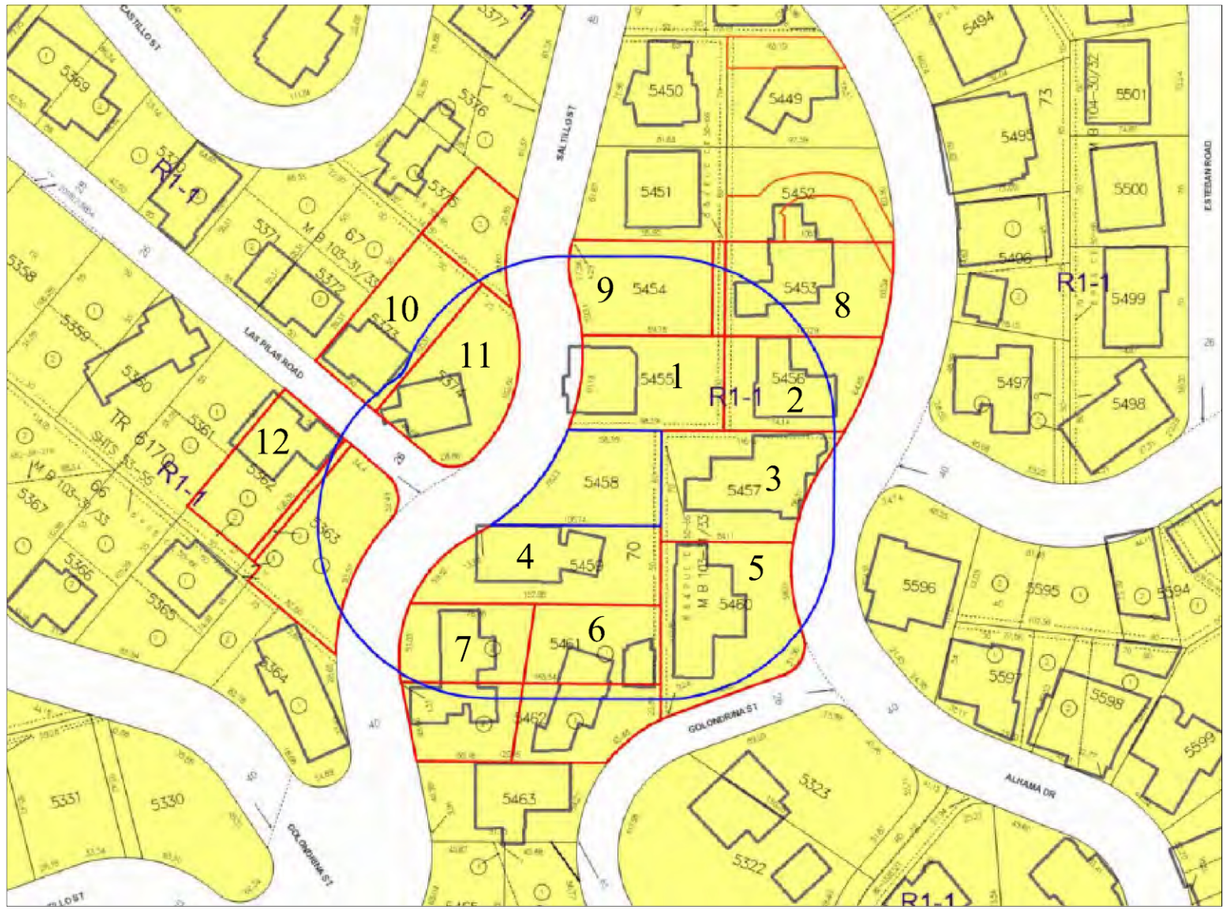
PLOT DATE 11/2022

REVISIONS

No.	Date

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DESIGN STUDIO INC.
Tel: 818.200.5005



INDIVIDUAL PROPERTIES

PREFERENCE#	PROPERTY ADDRESS	NUMBER OF UNITS	BUILDING SQUARE FOOTAGE	LOT SIZE (LOT SQUARE FOOTAGE)	FLOOR AREA RATIO
1	4238 N SALTILLO ST	1	1,613	5,520.50	29%
2	4201 N ALHAMA DR	1	2,049	5,390.50	38%
3	4153 N ALHAMA DR	1	3,234	6,772	48%
4	4224 N SALTILLO ST	1	1,173	6,962	17%
5	21205 W GOLONDRINA ST	1	1,555	8,325	19%
6	21213 W GOLONDRINA ST	1	1,768	8,112	22%
7	4220 N SALTILLO ST	1	2,068	7,462	28%
8	4207 N ALHAMA DR	1	3,228	6,181	52%
9	4242 N SALTILLO ST	1	3,979	10,611	37%
10	21311 W LAS PILAS ROAD	1	1,997	5,265	38%
11	21305 W LAS PILAS ROAD	1	768	6,036	13%
12	21308 W LAS PILAS ROAD	1	2,164	7,567	29%

# OF BUILDING INCLUDED IN THE ANALYSIS			AVERAGE BUILDING SQUARE FOOTAGE	AVERAGE LOT SIZE	AVARAGE FAR (USE THE LOT COVERAGE VALUES ABOVE, NOT THE AVARAGE FOR EACH PROPERTY TO FIND THE AVERAGE FOR THE NEIGHBOURHOOD)
12			2133.00	7017.02	31%
PROPOSED PROJECT	4230 N SALTILLO ST	1	1,899	4,671	**40.66%**

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

NEIGHBORHOOD COMPATIBILITY

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-1

28

PLOT DATE 11/2022

CITY LA DBS DEPARTMENT OF BUILDING AND SAFETY

2020 Los Angeles Green Building Code

FORM GRN 4

MANDATORY REQUIREMENTS CHECKLIST
NEWLY CONSTRUCTED RESIDENTIAL BUILDINGS
(COMPLETE AND INCORPORATE THIS FORM INTO THE PLANS)

Permit # _____ - _____ - _____ Date: SEP. 2022

ITEM #	CODE SECTION	REQUIREMENTS	REFERENCE SHEET (Sheet # or N/A)	COMMENTS (e.g. note #, detail # or reason for N/A
		PLANNING AND DESIGN		
1	4.106.2	Storm water drainage and retention during construction	E-5.1	
2	4.106.3	Grading and paving	E-5.1	
3	4.106.4	Electric vehicle (EV) charging	E-7.2	
4	4.106.5	Cool roof for reduction of heat island effect	E-7.4	
5	4.106.7	Reduction of heat island effect for non-roof areas	E-5.2	OLSEN PAVEMENT
		ENERGY EFFICIENCY		
6	4.211.4	Solar ready buildings	E-7.4	
		WATER EFFICIENCY & CONSERVATION		
7	4.303.1	Water conserving plumbing fixtures and fittings	E-2.2	GRN 18R
8	4.303.1.3.2	Multiple showerheads serving one shower	E-2.2	GRN 18R
9	4.303.3	Water submeters	E-2.2	GRN 18R
10	4.303.4	Water use reduction	E-2.2	GRN 18R
11	4.304.1	Outdoor water use in landscape areas	E-2.2	GRN 18R
12	4.304.2	Irrigation controllers	LANDSCAPE PLANS	
13	4.304.3	Metering outdoor water use	LANDSCAPE PLANS	
14	4.304.4	Exterior faucets	LANDSCAPE PLANS	
15	4.304.5	Swimming pool covers	E-2.2	GRN 18R
16	4.305.1	Graywater ready	E-2.2	GRN 18R
17	4.305.2	Recycled water supply to fixtures	E-2.2	GRN 18R
18	4.305.3.1	Cooling towers (buildings ≤ 25 stories)	N/A	
19	4.305.3.2	Cooling towers (buildings > 25 stories)	N/A	
20	4.305.4	Groundwater discharge	E-2.2	GRN 18R
		MATERIAL CONSERVATION & RESOURCE EFFICIENCY		
21	4.406.1	Rodent proofing	E-2.2	GRN 14
22	4.407.3	Flashing details	X	

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.

CITY LA DBS DEPARTMENT OF BUILDING AND SAFETY

2020 Los Angeles Green Building Code

FORM GRN 4

ITEM #	CODE SECTION	REQUIREMENTS	REFERENCE SHEET (Sheet # or N/A)	COMMENTS (e.g. note #, detail # or reason for N/A
23	4.407.4	Material protection	E-2.2	GRN 14
24	4.408.1	Construction waste reduction	E-2.2	GRN 14
25	4.410.1	Operation and maintenance manual	E-2.2	GRN 14
		ENVIRONMENTAL QUALITY		
26	4.503.1	Fireplaces and woodstoves	E-2.2	GRN 14
27	4.504.1	Covering of duct openings and protection of mechanical equipment during construction	E-2.2	GRN 14
28	4.504.2	Finish material pollutant control	E-2.2	GRN 14
29	4.504.2.1	– Adhesives, sealants, caulks	E-2.2	GRN 14
30	4.504.2.2	– Paints and coatings		
31	4.504.2.3	– Aerosol paints and coatings		
32	4.504.2.4	– Verification	E-2.2	GRN 14
33	4.504.3	Carpet systems	E-2.2	GRN 14
34	4.504.3.1	Carpet cushion	E-2.2	GRN 14
35	4.504.4	Resilient flooring systems	E-2.2	GRN 14
36	4.504.5	Composite wood products	E-2.2	GRN 14
37	4.504.6	Filters	E-2.2	GRN 14
38	4.505.2.1	Capillary break	STRUCTURAL PLANS	
39	4.505.3	Moisture content of building materials	E-2.2	GRN 14
40	4.506.1	Bathroom exhaust fans	E-2.2	GRN 14
41	4.507.2	Heating and air-conditioning system design	E-2.2	GRN 14

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
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Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SUSTAINABILITY CHECKLIST

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-2.1

29

PLOT DATE 11/2022

LA DBS DEPARTMENT OF BUILDING AND SAFETY

STORM WATER POLLUTION CONTROL
(2020 Los Angeles Green Building Code)

FORM GRN 1

Storm Water Pollution Control Requirements for Construction Activities
Minimum Water Quality Protection Requirements for All Construction Projects

The following notes shall be incorporated in the approved set of construction/grading plans and represents the minimum standards of good housekeeping which must be implemented on all construction projects.

Construction means constructing, clearing, grading or excavation that result in soil disturbance. Construction includes structure teardown (demolition). It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work. (Order No. 01-182, NPDES Permit No. CAS004001 – Part 5: Definitions)

1. Eroded sediments and pollutants shall be retained on site and shall not be transported from the site via sheet flow, swales, area drains, natural drainage or wind.
2. Stockpiles of earth and other construction-related materials shall be covered and/or protected from being transported from the site by wind or water.
3. Fuels, oils, solvents and other toxic materials must be stored in accordance with their listing and shall not contaminate the soil nor the surface waters. All approved toxic storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of properly and shall not be washed into the drainage system.
4. Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained on the project site.
5. Excess or waste concrete may not be washed into the public way or any drainage system. Provisions shall be made to retain concrete waste on-site until it can be appropriately disposed of or recycled.
6. Trash and construction –related solid wastes must be deposited into a covered receptacle to prevent contamination of storm water and dispersal by wind.
7. Sediments and other materials shall not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the street/public ways. Accidental depositions must be swept up immediately and may not be washed down by rain or by any other means.
8. Retention basins of sufficient size shall be provided to retain storm water runoff on-site and shall be properly located to collect all tributary site runoff.
9. Where retention of storm water runoff on-site is not feasible due to site constraints, runoff may be conveyed to the street and the storm drain system provided that an approved filtering system is installed and maintained on-site during the construction duration.

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.

LA DBS DEPARTMENT OF BUILDING AND SAFETY

2020 Los Angeles Green Building Code

FORM GRN 14

GREEN BUILDING CODE PLAN CHECK NOTES
RESIDENTIAL BUILDINGS

1. For each new dwelling and townhouse, provide a listed raceway that can accommodate a dedicated 208/240 volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter), shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. The panel or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE". (4.106.4.1)
2. For common parking area serving R-occupancies, the electrical system shall have sufficient capacity to simultaneously charge all designated EV spaces at the full rated amperage of the Electric Vehicle Supply Equipment (EVSE). Design shall be based upon a 40-ampere minimum branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter), shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the Los Angeles Electrical Code. (4.106.4.2)
3. Roofs with slopes <2:12 shall have a 3-year aged SRI value of at least 75 or both a 3-year aged solar reflectance of at least 0.63 and a thermal emittance of at least 0.75. Roofs with slopes ≥ 2:12 shall have an aged SRI value of at least 16 or both a 3-year solar reflectance of at least 0.20 and a thermal emittance of at least 0.75. (4.106.5)
4. The required hardscape used to reduce heat island effects shall have a solar reflectance value of at least 0.30 as determined per ASTM E1918 or ASTM C1549. (4.106.7)
5. The flow rates for all plumbing fixtures shall comply with the maximum flow rates in Section 4.303.1. (4.303.1)
6. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads controlled by a single valve shall not exceed 2.0 gallons per minute at 80psi, or the shower shall be designed to only allow one showerhead to be in operation at a time. (4.303.1.3.2)
7. Installed automatic irrigation system controllers shall be weather- or soil-based controllers. (MWELO, § 492.7)
8. For projects that include landscape work, the *Landscape Certification*, Form GRN 12, shall be completed prior to final inspection approval. (State Assembly Bill No. 1881)
9. Annular spaces around pipes, electric cables, conduits, or other openings in the building's envelope at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry, or metal plates. Piping prone to corrosion shall be protected in accordance with Section 313.0 of the Los Angeles Plumbing Code. (4.406.1)
10. Materials delivered to the construction site shall be protected from rain or other sources of moisture. (4.407.4)
11. Only a City of Los Angeles permitted hauler will be used for hauling of construction waste. (4.408.1)
12. For all new equipment, an Operation and Maintenance Manual including, at a minimum, the items listed in Section 4.410.1, shall be completed and placed in the building at the time of final inspection. (4.410.1)
13. All new gas fireplaces must be direct-vent, sealed combustion type. Wood burning fireplaces are prohibited per AQMD Rule 445. (4.503.1, AQMD Rule 445)
14. All duct and other related air distribution component openings shall be covered with tape, plastic, or sheet metal until the final startup of the heating, cooling and ventilating equipment. (4.504.1)
15. Paints and coatings, adhesives, caulks and sealants shall comply with the Volatile Organic Compound (VOC) limits listed in Tables 4.504.1-4.504.3.
16. The *VOC Content Verification Checklist*, Form GRN 2, shall be completed and verified prior to final inspection approval. The manufacturer's specifications showing VOC content for all applicable products shall be readily available at the job site and be provided to the field inspector for verification. (4.504.2.4)
17. All new carpet and carpet cushions installed in the building interior shall meet the testing and product requirements of one of the following (4.504.3):
    a. Carpet and Rug Institute's Green Label Plus Program
    b. California Department of Public Health's Specification 01350
    c. NSF/ANSI 140 at the Gold level
    d. Scientific Certifications Systems Indoor Advantage℠ Gold
18. 80% of the total area receiving resilient flooring shall comply with one or more of the following (4.504.4):
    a. VOC emission limits defined in the CHPS High Performance Products Database
    b. Certified under UL GREENGUARD Gold
    c. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program
    d. Meet the California Department of Public Health's Specification 01350
19. New hardwood plywood, particle board, and medium density fiberboard composite wood products used in the building shall meet the formaldehyde limits listed in Table 4.504.5. (4.504.5)
20. The *Formaldehyde Emissions Verification Checklist*, Form GRN 3, shall be completed prior to final inspection approval. (4.504.5)
21. Mechanically ventilated buildings shall provide regularly occupied areas of the building with a MERV 13 filter for outside and return air. Filters shall be installed prior to occupancy and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual. (4.504.6)
22. A 4-inch thick base of ¾ inch or larger clean aggregate shall be provided for proposed slab on grade construction. A vapor barrier shall be provided in direct contact with concrete for proposed slab on grade construction. (4.505.2.1)
23. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed until it is inspected and found to be satisfactory. (4.505.3)
24. Newly installed bathroom exhaust fans shall be ENERGY STAR compliant and be ducted to terminate to the outside of the building. Fans must be controlled by a humidistat which shall be readily accessible. Provide the manufacturer's cut sheet for verification. (4.506.1)
25. A copy of the construction documents or a comparable document indicating the information from Energy Code Sections 110.10(b) through 110.10(c) shall be provided to the occupant." (Energy Code §110.10(d))
26. The heating and air-conditioning systems shall be sized and designed using ANSI/ACCA Manual J-2004, ANSI/ACCA 29-D-2009 or ASHRAE handbooks and have their equipment selected in accordance with ANSI/ACCA 36-S Manual S-2004. (4.507.2)

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.

LA DBS DEPARTMENT OF BUILDING AND SAFETY

2020 Los Angeles Green Building Code

FORM GRN 18R

WATER CONSERVATION NOTES - ORDINANCE #184248
RESIDENTIAL BUILDINGS

PLUMBING SYSTEM

1. Multi-family dwellings not exceeding three stories and containing 50 units or less shall install a separate meter or submeter within common areas and within each individual dwelling unit. (4.303.3)
2. Water use reduction shall be met by complying with one of the following:
    A. Provide a 20% reduction in the overall potable water use within the building. The reduction shall be based on the maximum allowable water use for plumbing fixtures and fittings as required by the Los Angeles Plumbing Code. Calculations demonstrating a 20% reduction in the building "water use baseline", as established in Table 4.303.4.1, shall be provided; or
    B. New fixtures and fittings shall comply with the maximum flow rates shown in Table 4.303.4.2, or
    C. Plumbing fixtures shall use recycled water.
    Exception: Fixture replacements (4.303.4)
3. New building on a site with 500 square feet or more of cumulative landscape area shall have separate meters or submeters for outdoor water use. (4.304.3)
4. Additions and alterations on a site with 500 square feet or more of cumulative landscape area and where the entire potable water system is replaced, shall have separate meters or submeters for outdoor water use. (4.304.3)
5. In other than single family dwellings, leaks shall be installed on all publicly accessible exterior faucets and hose bibs. (4.304.4)
6. Provide a cover having a manual or power-operated reel system in any permanently installed outdoor in-ground swimming pool or spa in one- and two-family dwellings. For irregular-shaped pools where it is infeasible to cover 100% of the pool due to its irregular shape, a minimum of 80% of the pool shall be covered. (4.304.5)
7. Except as provided in this section, for sites with over 500 square feet of landscape area, alternate waste piping shall be installed to permit discharge from the clothes washer, bathtub, showers, and bathroom/restrooms wash basins to be used for a future graywater irrigation system. (4.305.1)
8. Except as provided in this section, where City-recycled water is available within 200 feet of the property line, water closets, urinals, floor drains, and process cooling and heating in the building shall be supplied from recycled water and shall be installed in accordance with the Los Angeles Plumbing Code. (4.305.2)
9. In new buildings of 25 stories or less, the cooling towers shall comply with one of the following:
    A. Shall have a minimum of 6 cycles of concentration (blowdown); or
    B. A minimum of 50% of the makeup water supply to the cooling towers shall come from non-potable water sources, including treated backwash. (4.305.3.1)
10. In new buildings over 25 stories, the cooling towers shall comply with all of the following:
    A. Shall have a minimum of 6 cycles of concentration (blowdown); and
    B. 100% of the makeup water supply to the cooling towers shall come from non-potable water sources, including treated backwash. (4.305.3.2)
11. Where groundwater is being extracted and discharged, develop and construct a system for onsite reuse of the groundwater. Alternatively, the groundwater may be discharged to the sewer. (4.305.4)
12. Provide a hot water system complying with one of the following (Los Angeles Plumbing Code Section 610.4.1):
    A. The hot water system shall not allow more than 0.6 gallons of water to be delivered to any fixture before hot water arrives.
    B. Where a hot water recirculation or electric resistance heat trace wire system is installed, the branch from the recirculating loop or electric resistance heat trace wire to the fixture shall contain a maximum of 0.6 gallons.
    C. Residential units having individual water heaters shall have a compact hot water system that meets all of the following:
        a. The hot water supply piping from the water heater to the fixtures shall take the most direct path.
        b. The total developed length of pipe from the water heater to farthest fixture shall not exceed the distances specified in Table 3.6.5 of the California Energy Code Residential Appendix.
        c. The hot water supply piping shall be installed and insulated in accordance with Section RA3.6.2 of the California Energy Code Residential Appendix.

IRRIGATION SYSTEM

12. A water budget for landscape irrigation use that conforms to the California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO) is required for new landscape areas of 500 sq. ft. or more. The following methods to reduce potable water use in landscape areas include, but are not limited to, use of captured rainwater, recycled water, graywater, or water treated for irrigation purposes and conveyed by a water district or public entity. (4.304.1)

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Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1800 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SUSTAINABILITY CHECKLIST

SCALE:

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

E-2.2

30

PLOT DATE 11/2022

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

LOT 5468, TRACT 6170, IN THE CITY OF LOS ANGELES, BOOK 103, PAGES 31-33 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER. APN: 2172-023-053

LEGEND			
CF	CURB FACE		BOUNDARY LINE
SMH	SEWER MANHOLE		CONC. BLOCK WALL
C/L	CENTER LINE		CHAINLINK FENCE
FH	FIRE HYDRANT		BUILDING LINE
	TREE	+	SPOT ELEVATION
SR	STAIRS		WOOD PATTERN
COL	COLUMN		ASPHALT

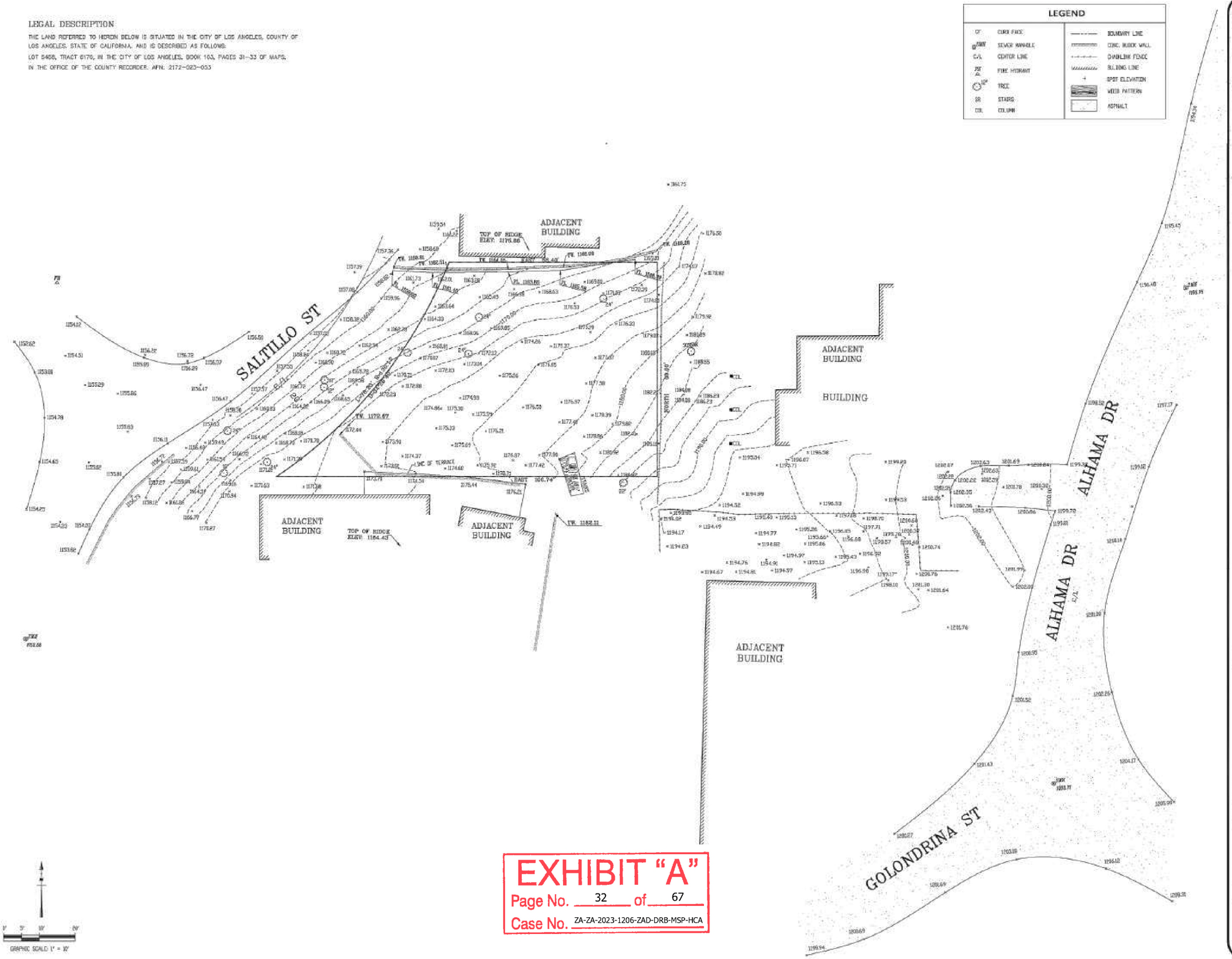


EXHIBIT "A"
Page No. 32 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

GRAPHIC SCALE 1" = 10'

TOPOGRAPHIC SURVEY

PREPARED FOR:

MEHRAN TEBYANI
424-666-9966

NOTES:

1. THE LEGAL DESCRIPTION, BOUNDARIES AND EASEMENT SHOWN HEREON ARE PER RECORD DATA
2. MISC. DATA
   TOTAL PROPERTY AREA: 4033 SQ.FT.
3. EASEMENTS ARE NOT PLOTTED.

BENCH MARK

STRUCTURE ID: 43906151
ELEVATION=1140.48
FD SMH @ SALTILLO ST & GOLONDRINA PL

No.	Revision/Issue	Date

Firm Name and Address

MELAT LAND & DESIGN
24838 ROSEBANK BLVD
WOODLAND HILLS, CA 91367
818-325-9825
MELAT@RYAN-DELOCK

PLS NO. 9102

Project Name and Address

4236 SALTILLO STREET
WOODLAND HILLS, CA. 91364

Project	2203
Date	04-27-2022
Scale	1" = 10'
Sheet	E-3.1
	31

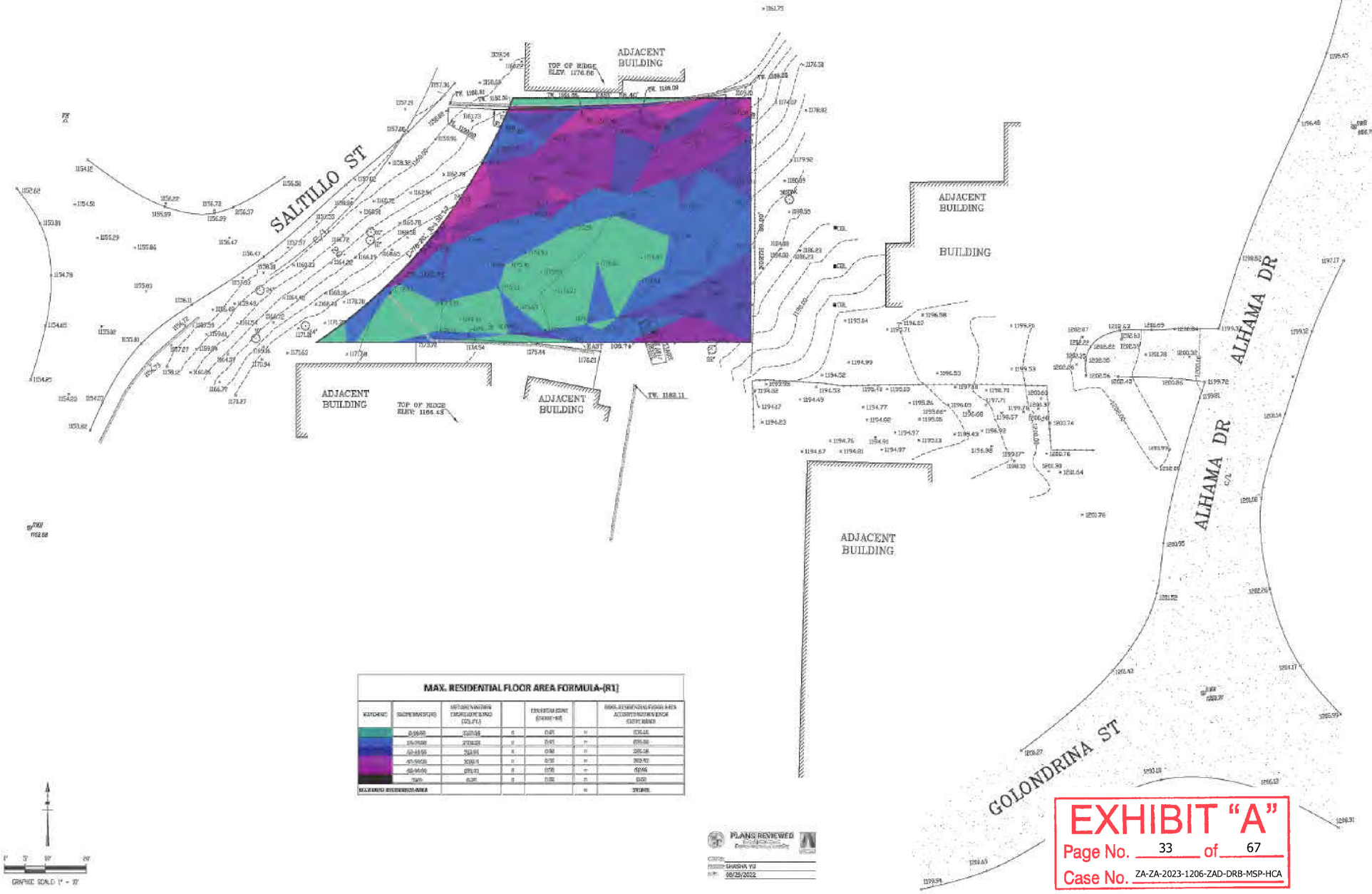
LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

LOT 5468, TRACT 6170, IN THE CITY OF LOS ANGELES, BOOK 103, PAGES 31-33 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER. APN: 2172-023-053

LEGEND

CF	CURB FACE		BOUNDARY LINE
SMH	SEWER MANHOLE		CONC. BLOCK WALL
CAL	CENTER LINE		CHAINLINK FENCE
FH	FIRE HYDRANT		BUILDING LINE
	TREE	+	SPOT ELEVATION
SR	STAIRS		WOOD PATTERN
COL	COLUMN		ASPHALT



MAX. RESIDENTIAL FLOOR AREA FORMULA-(R1)

KEY/CHART						

GRAPHIC SCALE 1" = 10'

PLANS REVIEWED
SHASHA YU
08/25/2022

EXHIBIT "A"
Page No. 33 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

TOPOGRAPHIC SURVEY

PREPARED FOR:
MEHRAN TEBYANI
424-666-9966

NOTES:
1. THE LEGAL DESCRIPTION, BOUNDARIES AND EASEMENT SHOWN HEREON ARE PER RECORD DATA
2. MISC. DATA
TOTAL PROPERTY AREA: 4659 SQ.FT.
3. EASEMENTS ARE NOT PLOTTED.

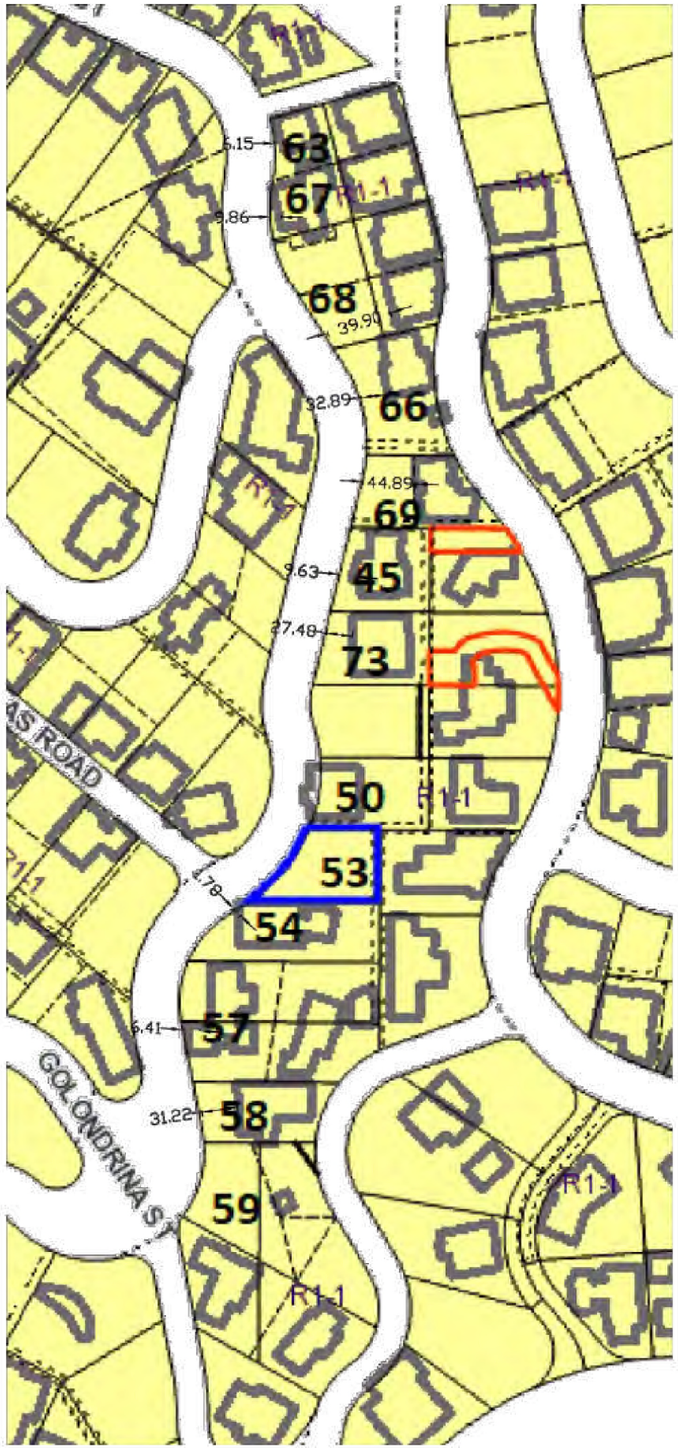
BENCH MARK
STRUCTURE ID: 43505151
ELEVATION=1160.40
FD.SMH @ SALTILLO ST & GOLONDRINA PL

No.	Revision/Issue	Date

Firm Name and Address
MOLAI LAND & DESIGN
24300 BURBANK BLVD
WOODLAND HILLS, CA 91367
818-365-9825
MOLAIDESIGN@GMAIL.COM
PLS NO. 9192

Project Name and Address
4230 SALTILLO STREET
WOODLAND HILLS, CA 91364

Project 5303
Date 04-27-2022
Scale 1" = 10'
Sheet E-3.2
32



Lot	Frontage (ft)	Setback (ft)
63	52.10	6.15
67	53.45	9.86
68	103.74	39.90
66	93.91	32.89
69	61.39	44.89
45	71.95	9.63
73	95.27	27.48
50	61.18	0.00
53	78.23	
54	73.20	1.78
57	102.00	6.41
58	50.89	31.22
59	65.04	

Results

Number of lots: 13

Prevailing Setback: 5.64 ft

Calculation

Total no of lots entered: 13
Total frontage entered: 962.35 ft
40% from total frontage entered: 384.94 ft
No of lots used in the calculation: 6
Setback range used: 0.00 ft - 9.86 ft
Total frontage used in the calculation: 413.88 ft

Lots Used

Lot	Frontage (ft)	Setback (ft)
45	71.95	9.63
50	61.18	0.00
54	73.20	1.78
57	102.00	6.41
63	52.10	6.15
67	53.45	9.86

Calculation Details

Setback Range Used (ft)	No Lots Used	Lots Designation	Frontages Used (ft)	Total Frontage (ft)	Setbacks Used (ft)	Total Setback (ft)
0.00 - 9.86	6	45, 50, 54, 57, 63, 67	71.95, 61.18, 73.20, 102.00, 52.10, 53.45	413.88	9.63, 0.00, 1.78, 6.41, 6.15, 9.86	33.83

EXHIBIT "A"
Page No. 34 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

PREVAILING SETBACK SURVEY

PREPARED FOR:

MEHRAN TEBYANI
424-666-9966

No.	Revision/Issue	Date

Firm Name and Address

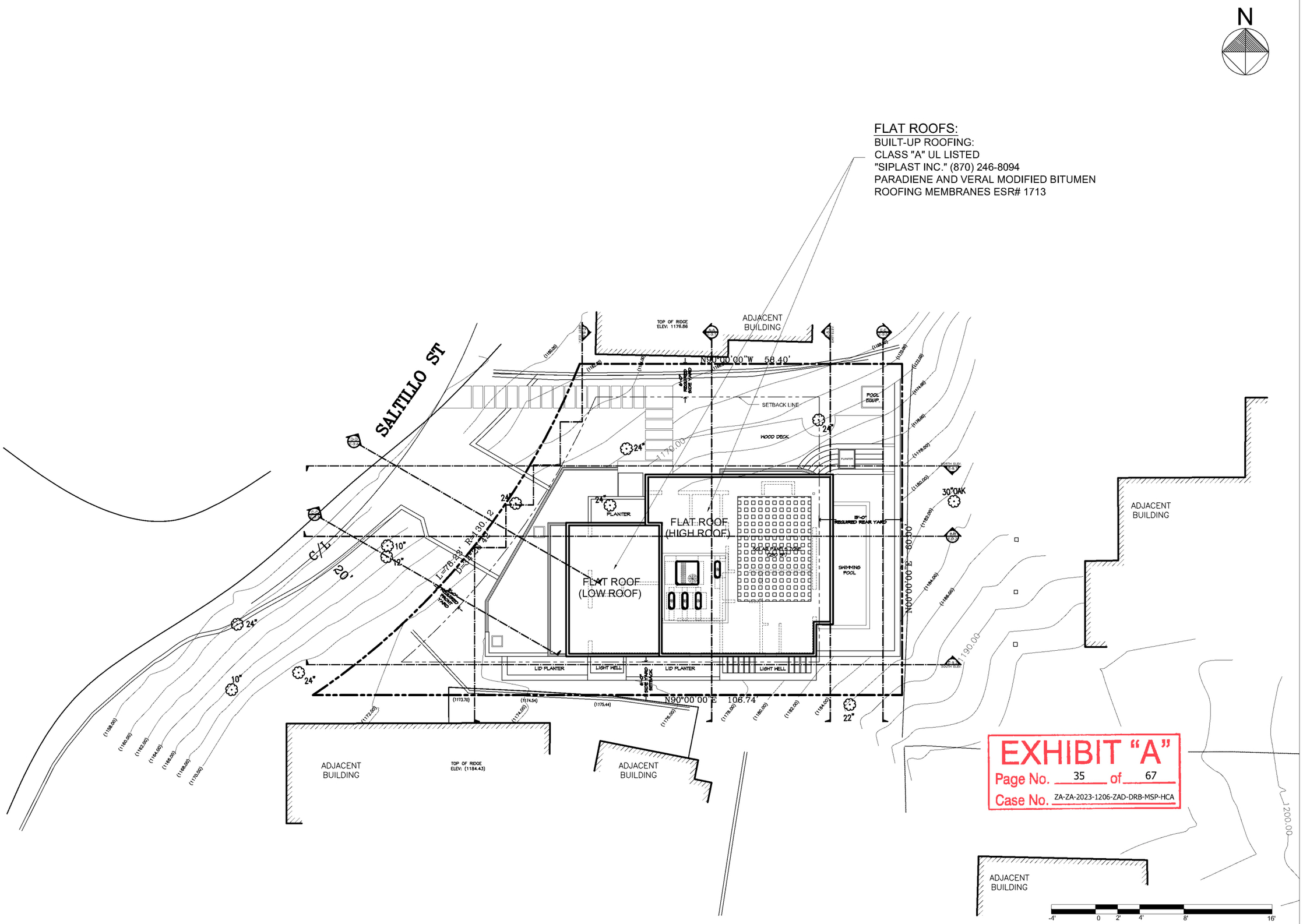
MOLAI LAND & DESIGN
24308 BURBANK BLVD
WOODLAND HILLS, CA 91367
818-325-9225
MOLAI228@YAHOO.COM

PROFESSIONAL LAND SURVEYOR
MOHAMMAD ALI MOLAI
P.L.S. NO. 9192
STATE OF CALIFORNIA

Project Name and Address

4230 SALTILLO STREET
WOODLAND HILLS, CA. 91364

Project: 5103
Date: 07-20-2022
Scale: N.T.S
Sheet: E-3.3
33



FH

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

TOPOGRAPHIC ROOF PLAN

SCALE: 1/16"=1'-0"

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-4

34

PLOT DATE 11/2022

LOW IMPACT DEVELOPMENT

STORM WATER POLLUTION CONTROL

	ROOF SURFACE AREA:	1464 S.F.
	IMPERVIOUS SURFACE: UNCOVERED BALCONY	401 S.F.
	PERMEABLE PAVEMENT:	217 S.F.
	PERMEABLE WOOD DECK	520 S.F.
	PLANTER AREA:	110 S.F.
	LANDSCAPE AREA:	1786 S.F.
	POOL:	155 S.F.
→	TOTAL PERMEABLE SURFACE:	1,865 S.F.
→	TOTAL IMPERVIOUS SURFACE:	2788 S.F.
	TOTAL	4653 S.F.

→ TOTAL HARDSCAPE SURFACE= PERMEABLE HARDSCAPE: 737 S.F.

REQUIRED PLANTER AREA:

TOTAL IMPERVIOUS SURFACE AREA:
1,865 S.F. X 0.05 = 93.25 S.F.

TOTAL PLANTER AREA REQUIRED:	93.25 S.F.
TOTAL PLANTER AREA PROVIDED:	48+62 = 110 S.F.

NOTES FOR PLANTER BOXES:

1. RATIO (SURFACE AREA OF PLANTER) / (TRIBUTARY IMPERVIOUS AREA) MIN. 0.04.
2. PLANTER IS INSTALLED LEVEL
3. OVERFLOW ADEQUATE TO MEET MUNICIPAL DRAINAGE REQUIREMENTS
4. MINIMUM 12" DEEP RESERVOIR AT TOP OF PLANTER
5. 21" DEEP SANDY LOAM WITH MINIMUM INFILTRATION RATE OF 5"/HOUR.
6. 12" DEEP PEA GRAVEL OR CRUSHED ROCK.
7. FILTER FABRIC BETWEEN SOIL AND GRAVEL LAYERS
8. PERFORATED PIPE UNDER DRAIN WITH CLEANOUTS AND CONNECTION TO STORM DRAIN OR DISCHARGE POINT.
9. ADEQUATE HEAD FROM UNDER DRAIN TO STORM DRAIN OR DISCHARGE POINT.
10. WATERPROOFING AS REQUIRED TO PROTECT GROUNDWATER OR BUILDING FOUNDATIONS AND GARAGE AND LOBBY AND ALL RESIDENTIAL STRUCTURE.
11. SPLASH BLOCKS OR COBBLES AT DOWNSPOUTS AND INLET PIPES
12. PLANTS SELECTED FOR VIABILITY AND TO MINIMIZE NEED FOR FERTILIZERS AND PESTICIDES.
13. IRRIGATION SYSTEM WITH CONNECTION TO WATER SUPPLY.
14. NO TREES TO BE PLANTED IN PLANTER BOX.

NOTES:

ALL ROOF DRAIN SHALL BE DIRECTED TO PLANTER BOX
AD = AREA DRAIN
DS = DOWN SPOT (SEE ARCHITECTURAL PLAN)

N

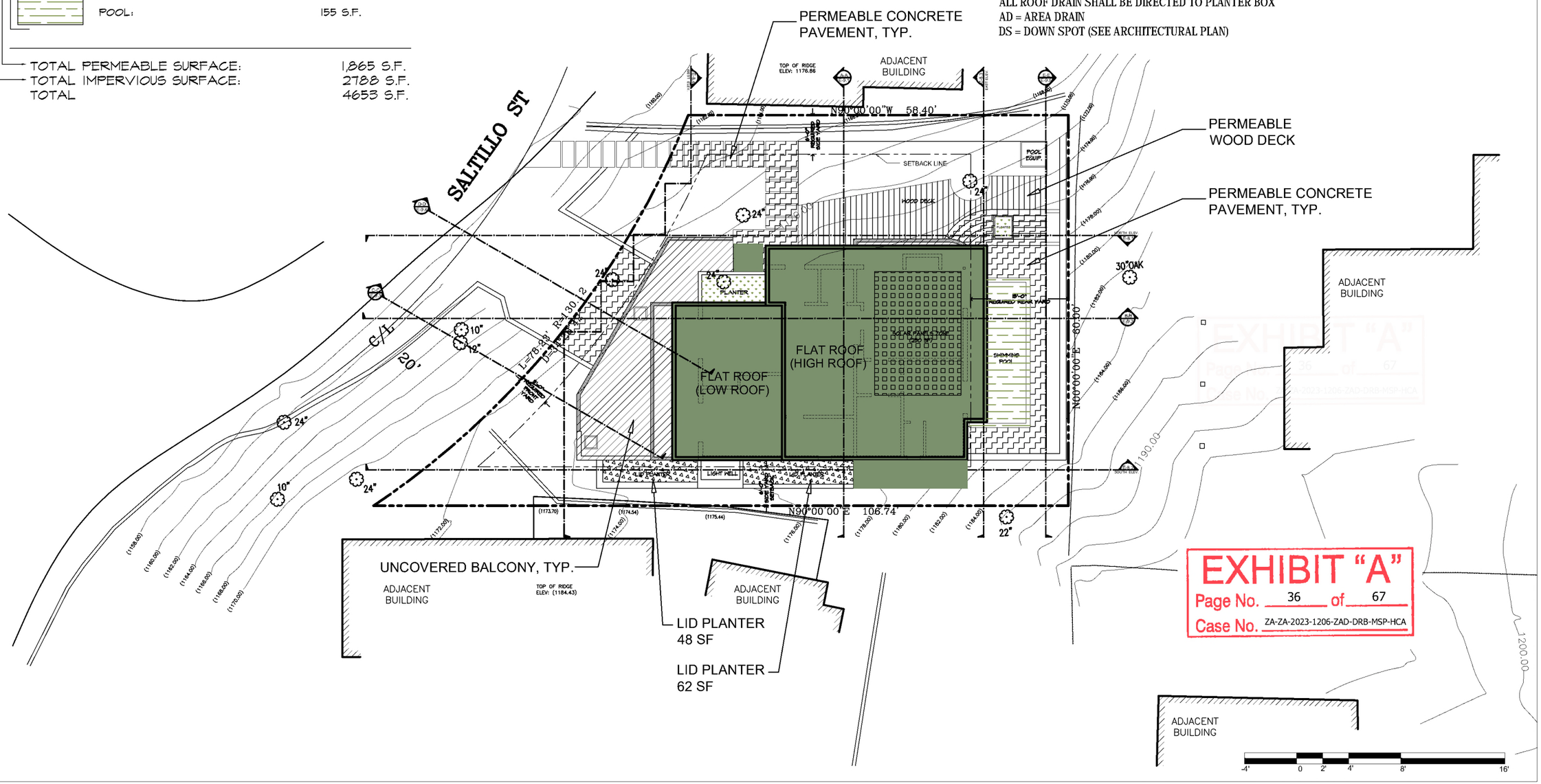


EXHIBIT "A"
Page No. 36 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

GRADING AND DRAINAGE PLAN

SCALE: 1/16"=1'-0"

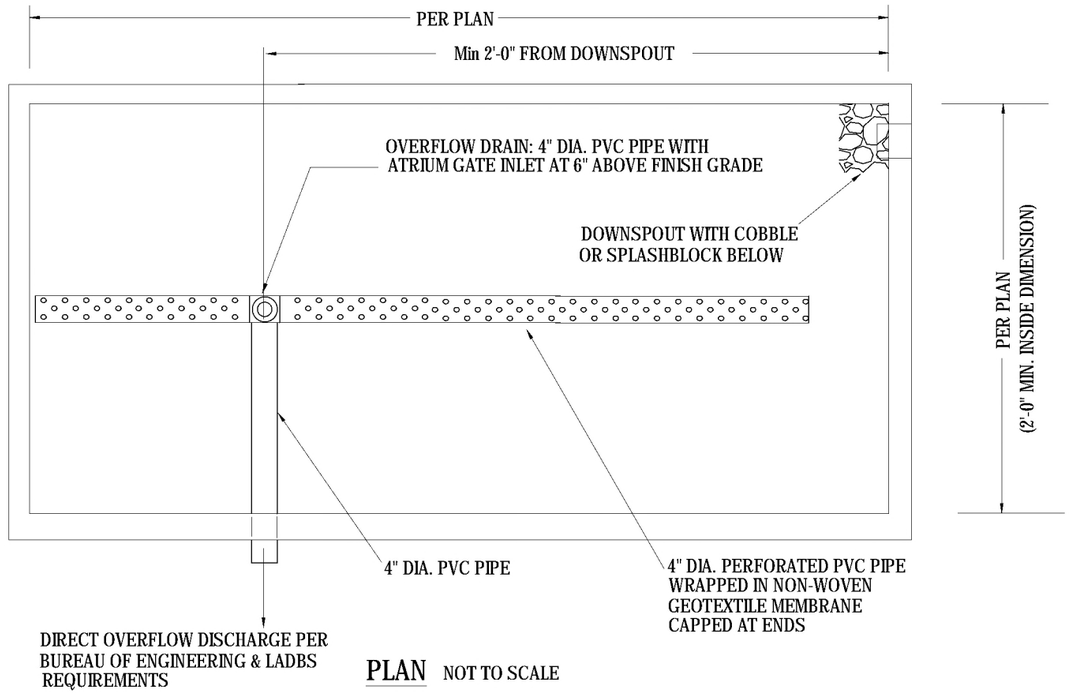
Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

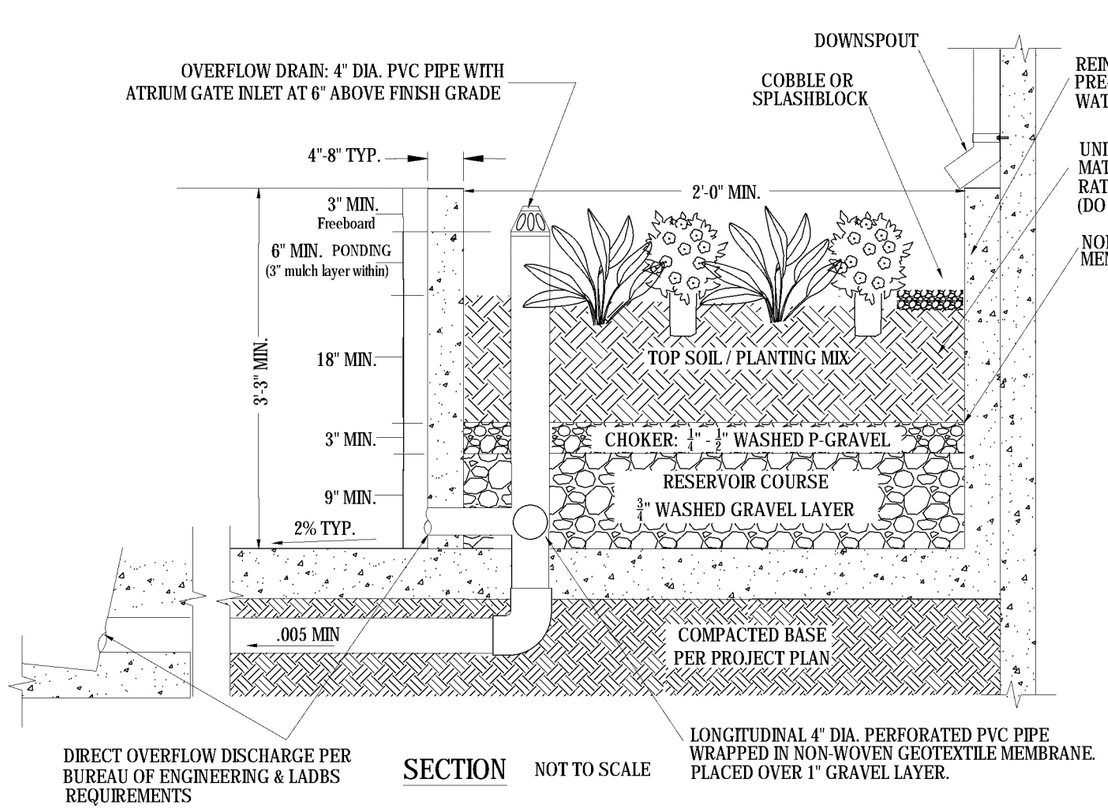
E-5.1

35

PLOT DATE 11/2022



PLAN NOT TO SCALE



SECTION NOT TO SCALE

NOTES:

1. AT LEAST 9 INCHES SHALL BE PROVIDED BETWEEN THE PLANTING SURFACE AND THE CREST OF EACH PLANTER
2. PLANTERS SHALL NOT BE LOCATED ON UNEVEN OR SLOPED SURFACES.
3. TOP SOIL/PLANTING MIX IS AT LEAST 18" DEEP.
4. TOP SOIL CONTAINS NO MORE THAN 30% COMPOST.
5. MINIMUM GRAVEL LAYER SHALL BE 12" DEEP.
6. DIRECT OVERFLOW DISCHARGE PER BUREAU OF ENGINEERING AND BUILDING AND SAFETY REQUIREMENTS.
7. PLANTING IS REQUIRED. CONSULT LANDSCAPE ARCHITECT FOR SPECIFIC PLANT TYPES.

EXHIBIT "A"
Page No. 37 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

PLANTER BOX FOR SMALL SCALE RESIDENTIAL

REVISED 5/10/16

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DESIGN STUDIO INC.
Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

PLANTER BOX DETAIL

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-5.2

PLOT DATE 11/2022

CUT 1: 54 C.Y.
CUT 2: 61 C.Y.
CUT 3: 469 C.Y.
CUT 4: 29 C.Y.
CUT 5: 31 C.Y.
CUT 6: 12 C.Y.
CUT 7: 43 C.Y. foundation and piles for retaining walls

TOTAL NON EXEMPTED CUT =699 C.Y

CUT 9: 27 C.Y. Exempted grading generated from building foundations

TOTAL CUT =726 C.Y

MAXIMUM GRADING QUANTITIES ALLOWED

1000+ (10% OF LOT SIZE) = 1000+0.1X4670= 1467 Q.Y.
MAX. "BY-RIGHT" GRADING QUANTITIES FOR R1 LOT PER TABLE 12.21 C.10-6 X 75 % (NON STANDARD STREET) = 750 Q.Y.

MAX. GRADING QUANTITIES ALLOWED = 750 Q.Y.
MAX. GRADING QUANTITIES PROPOSED = 699 < 750 Q.Y.

ESTIMATED EARTHWORK QUANTITIES

SITE FRONTS ON A NON STANDARD HILLSIDE STREET REFER TO F-2.1 FOR REFERRAL FORM

TOTAL NON EXEMPTED CUT = 699 C.Y.
TOTAL NON EXEMPTED FILL= 0 C.Y. TOTAL EXEMPTED FILL = 0 C.Y.

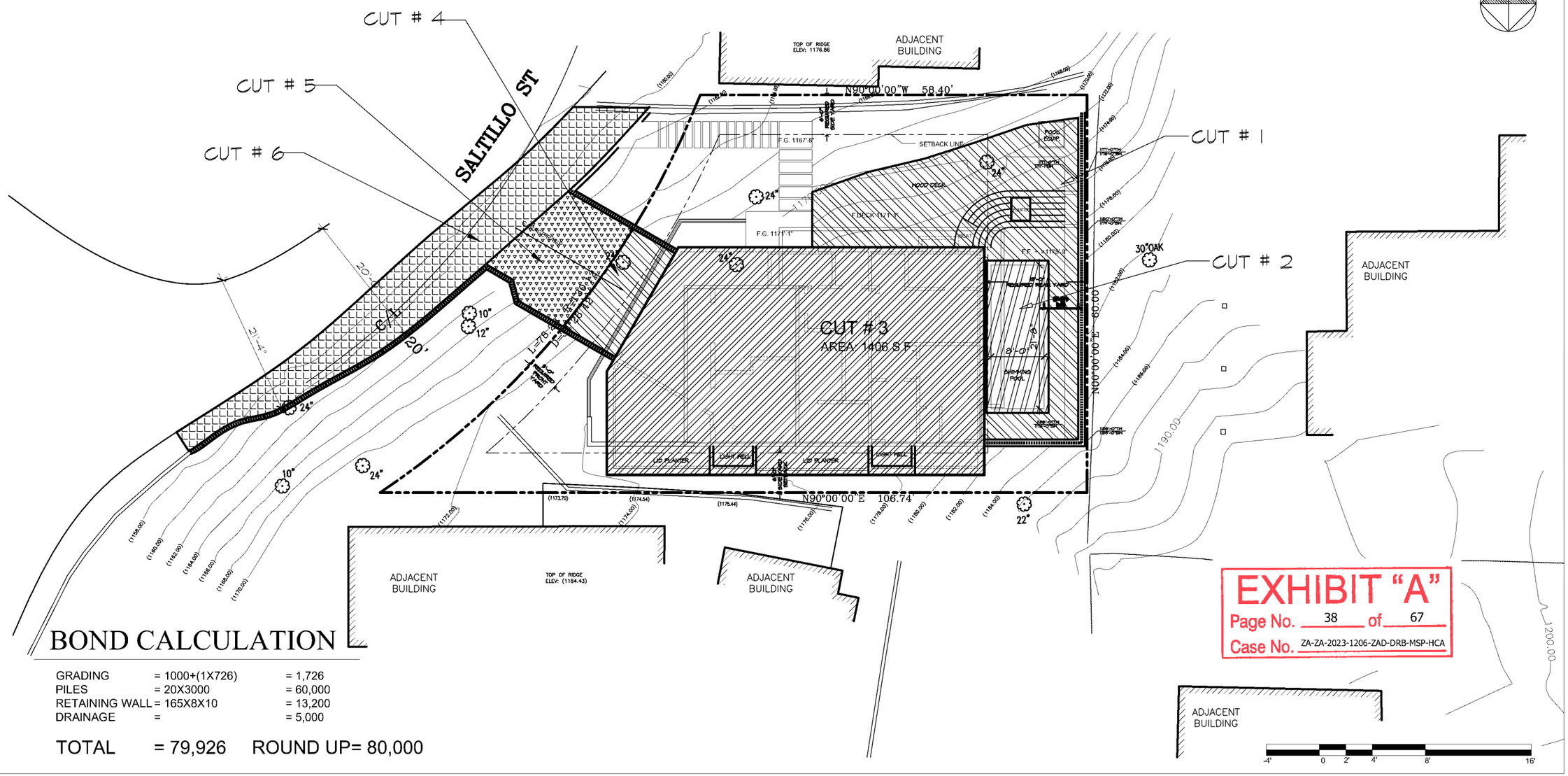
TOTAL CUT = 726 C.Y.
TOTAL FILL = 0 C.Y.
TOTAL EXPORT = 726 C.Y.

TOTAL GRADING QUANTITY= 726+0 = 726 C.Y.

TOTAL NON-EXEMPTED GRADING = 699 C.Y. < 750 C.Y.

TOTAL EXEMPTED EXPORT = 27 C.Y. (BUILDING FOUNDATIONS)

REFER TO EARTH WORK CALCULATION PLAN SHEET E-5.3



BOND CALCULATION

GRADING	= 1000+(1X726)	= 1,726
PILES	= 20X3000	= 60,000
RETAINING WALL	= 165X8X10	= 13,200
DRAINAGE	=	= 5,000
TOTAL	= 79,926	ROUND UP= 80,000

EXHIBIT "A"
Page No. 38 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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DESIGN STUDIO INC.
Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
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Los Angeles, CA 90210
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E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

CUT AND FILL CALCULATION

SCALE: 1/16"=1'-0"

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

E-5.3

37

PLOT DATE 11/2022

STORM WATER POLLUTION PREVENTION (EROSION CONTROL) PLAN NOTES

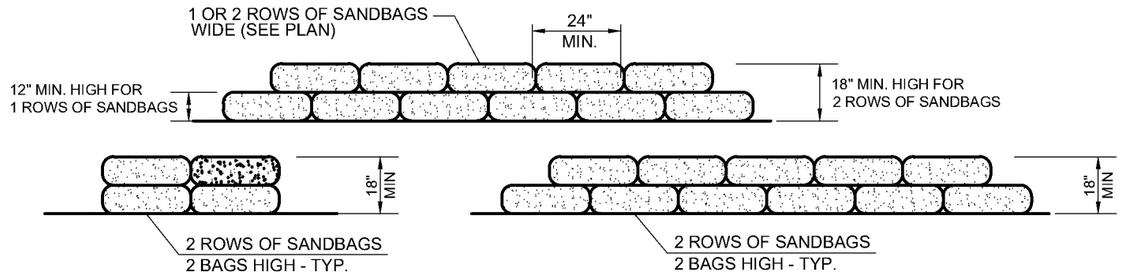
1. IN CASE OF EMERGENCY CALL MAVCO INVESTMENT, LLC AT _____.
2. A STAND-BY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (NOVEMBER 1 TO APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE ONSITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF EMERGENCY DEVICES WHEN RAIN IS IMMINENT.
3. EROSION CONTROL DEVICES SHOWN ON THIS PLAN MAY BE REMOVED WHEN APPROVED BY THE GRADING INSPECTOR, IF THE GRADING OPERATION HAS PROGRESSED TO THE POINT WHERE THEY ARE NO LONGER REQUIRED.
4. GRADED AREAS ADJACENT TO FILL SLOPES LOCATED AT THE SITE PERIMETER MUST DRAIN AWAY FROM THE TOP OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
5. ALL SILT AND DEBRIS SHALL BE REMOVED FROM ALL DEVICES WITHIN 24 HOURS AFTER EACH RAINSTORM AND BE DISPOSED OF PROPERLY.
6. A GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN ANY DEVICE EXCEEDS TWO FEET. THE DEVICE SHALL BE DRAINED OR PUMPED DRY WITHIN 24 HOURS AFTER EACH RAINSTORM.
7. EXCEPT AS OTHERWISE APPROVED BY THE GRADING INSPECTOR, ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY OR ON WEEKENDS WHEN THE FIVE DAY RAIN PROBABILITY FORECAST EXCEEDS 40%.
8. ALL LOOSE SOIL AND DEBRIS WHICH MAY CREATE A POTENTIAL HAZARD TO OFFSITE PROPERTY SHALL BE REMOVED FROM THE SITE AS DIRECTED BY THE GRADING INSPECTOR.
9. THE PLACEMENT OF ADDITIONAL DEVICES TO REDUCE EROSION DAMAGE WITHIN THE SITE IS LEFT TO THE DISCRETION OF THE FIELD ENGINEER.
10. DESILTING BASINS MAY NOT BE REMOVED OR MADE INOPERABLE BETWEEN NOVEMBER 1 AND APRIL 15 OF THE FOLLOWING YEAR, WITHOUT THE APPROVAL OF THE GRADING INSPECTOR.
11. EROSION CONTROL DEVICES ARE TO BE MODIFIED AS NEEDED AS THE PROJECT PROGRESSES AND PLANS OF THESE CHANGES MUST BE SUBMITTED FOR APPROVAL AS REQUIRED.
12. ADD THE FOLLOWING NOTES (OR SIMILAR) TO THE PLANS TO DEFINE THE CURRENT STATE OF CONSTRUCTION.

A. STORM DRAINS AND CATCH BASIN ARE NOT CONSTRUCTED.
B. STREETS ARE PAVED, EXCEPT AS NOTED ON THE EROSION CONTROL PLAN.
C. DRAINAGE DEVICES ARE NOT CONSTRUCTED, EXCEPT AS NOTED ON PLANS.

13. STORM WATER POLLUTION CONTROL REQUIREMENTS MUST BE INTEGRATED INTO THE EROSION CONTROL PLANS PER TITLE 26, SECTION 7010 OF THE COUNTY CODE FOR ANY CONSTRUCTION BETWEEN OCTOBER 1 AND APRIL 15.
14. THERE ARE NO AREAS WHERE TOXIC MATERIALS OR CONTAMINATED SOILS ARE KNOWN TO HAVE BEEN TREATED, STORED, DISPOSED OF, SPILLED OR LEAKED ONTO THE SITE.
15. THE SITE IS PRESENTLY (PRIOR TO CONSTRUCTION) COVERED BY LOW-LYING VEGETATION (GRASSES AND SHRUBS) ALL OF WHICH WILL BE REMOVED DURING CONSTRUCTION ACTIVITIES. AS A RESULT, THERE WILL BE NO AREAS OF VEGETATIVE SOIL COVER OR NATIVE VEGETATION THAT WILL REMAIN UNDISTURBED BY THE CONSTRUCTION PROJECT.
16. BY NECESSITY, THE ONSITE LOCATIONS OF CONSTRUCTION MATERIAL LOADING, UNLOADING AND ACCESS; CONSTRUCTION VEHICLE AND EQUIPMENT STORAGE, CLEANING AND MAINTENANCE; AND, TO A LESSER EXTENT WASTE STORAGE, WILL CHANGE FROM TIME TO TIME AS WORK PROGRESSES FROM ONE AREA OF THE SITE TO ANOTHER. THIS IS ACCEPTABLE BUT ONLY IF THE FOLLOWING CONDITIONS ARE MET: A. THE CHANGING OF SUCH LOCATIONS IS MINIMIZED TO THE EXTENT POSSIBLE, AND; B. THE APPLICABLE BEST MANAGEMENT PRACTICES SPECIFIED FOR THIS PROJECT IN SECTIONS 6 AND 9 IN THE STORM WATER POLLUTION PREVENTION PLAN AND ON THE EROSION CONTROL PLAN ARE FOLLOWED AT EACH SUCH LOCATION. AS A RESULT OF THAT NOTED ABOVE, IT IS NOT PRACTICAL TO SPECIFY LOCATIONS FOR THE ABOVE DESCRIBED CONSTRUCTION ACTIVITIES ON THE ENCLOSED PLANS.
17. AT LEAST A PORTION OF THE CONSTRUCTION ACTIVITIES WILL OCCUR DURING THE RAINY SEASON. SECTION 6 AND 9 OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE EROSION CONTROL PLANS SHOW THE BEST MANAGEMENT PRACTICES NECESSARY TO CONTROL STORM WATER RUNOFF DURING THIS PERIOD (AS WELL AS FOR THE REST OF THE YEAR).
18. THE EROSION CONTROL PLANS SHOW AREAS OF SOIL DISTURBANCE, CUT OR FILL. SECTION 9 OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE EROSION CONTROL PLANS SHOW THE BEST MANAGEMENT PRACTICES NECESSARY TO CONTROL STORM WATER RUNOFF FROM ANY SUCH AREAS.
19. THE EROSION CONTROL PLANS AND GRADING PLANS SHOW THE DRAINAGE PATTERN ACCROSS SITE (AND IF APPLICABLE RELEVANT OFFSITE DRAINAGE AREAS) INCLUDING DRAINAGE PATTERN AND SLOPES ANTICIPATED AFTER MAJOR GRADING ACTIVITIES AND (IF APPLICABLE) MEASURES NECESSARY TO DIVERT ONSITE STORM WATER RUN-ON FROM OFFSITE PROPERTIES.
20. THE EROSION CONTROL PLANS AND GRADING PLANS SHOW THE CONSTRUCTION PROJECT INCLUDING EXISTING AND PLANNED PAVED AREAS, ROADWAYS AND BUILDINGS, SITE TOPOGRAPHY (BEFORE AND AFTER CONSTRUCTION), PROPOSED STORM WATER COLLECTION AND DISCHARGE POINTS INCLUDING DRAINAGE AREA AND PATTERN FOR EACH STORM WATER INLET POINT AND THE BEST MANAGEMENT PRACTICES NECESSARY TO PROTECT SUCH INLETS FROM CONTAMINATED DISCHARGES.
21. SECTION 6 AND 9 OF THE STORM WATER POLLUTION PREVENTION PLAN SPECIFY BEST MANAGEMENT PRACTICES TO CONTROL NON-STORM WATER DISCHARGE FROM THE SITE.
22. SECTION 10 OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE GRADING PLANS SHOW POST-CONSTRUCTION MEASURES TO CONTROL STORM WATER RUNOFF. THE FOLLOWING NOTES AND BMP'S AS OUTLINED IN, BUT NOT LIMITED TO, THE BEST MANAGEMENT PRACTICE HANDBOOK, CALIFORNIA STORMWATER QUALITY TASK FORCE, SACRAMENTO, CALIFORNIA 1993, OR THE LATEST REVISED EDITION, MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY COUNTY INSPECTORS):

A. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ONSITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEETFLOW, SWALES, AREA ATTACHMENT A NOTES DRAINS, NATURAL DRAINAGE COURSES OR WIND.
B. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
C. FUELS, OILS, SOLVENTS AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND NOT CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
D. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
E. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
F. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
G. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.

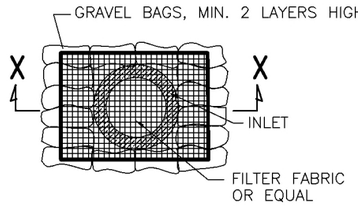
DETAILS



SECTION
NOT TO SCALE

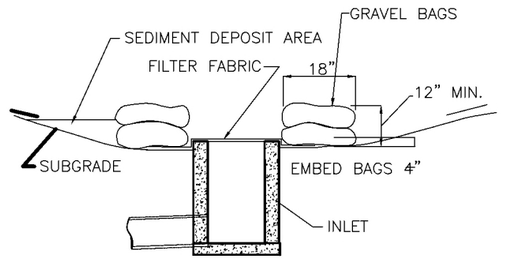
ELEVATION
NOT TO SCALE

SAND BAGS 1
NOT TO SCALE



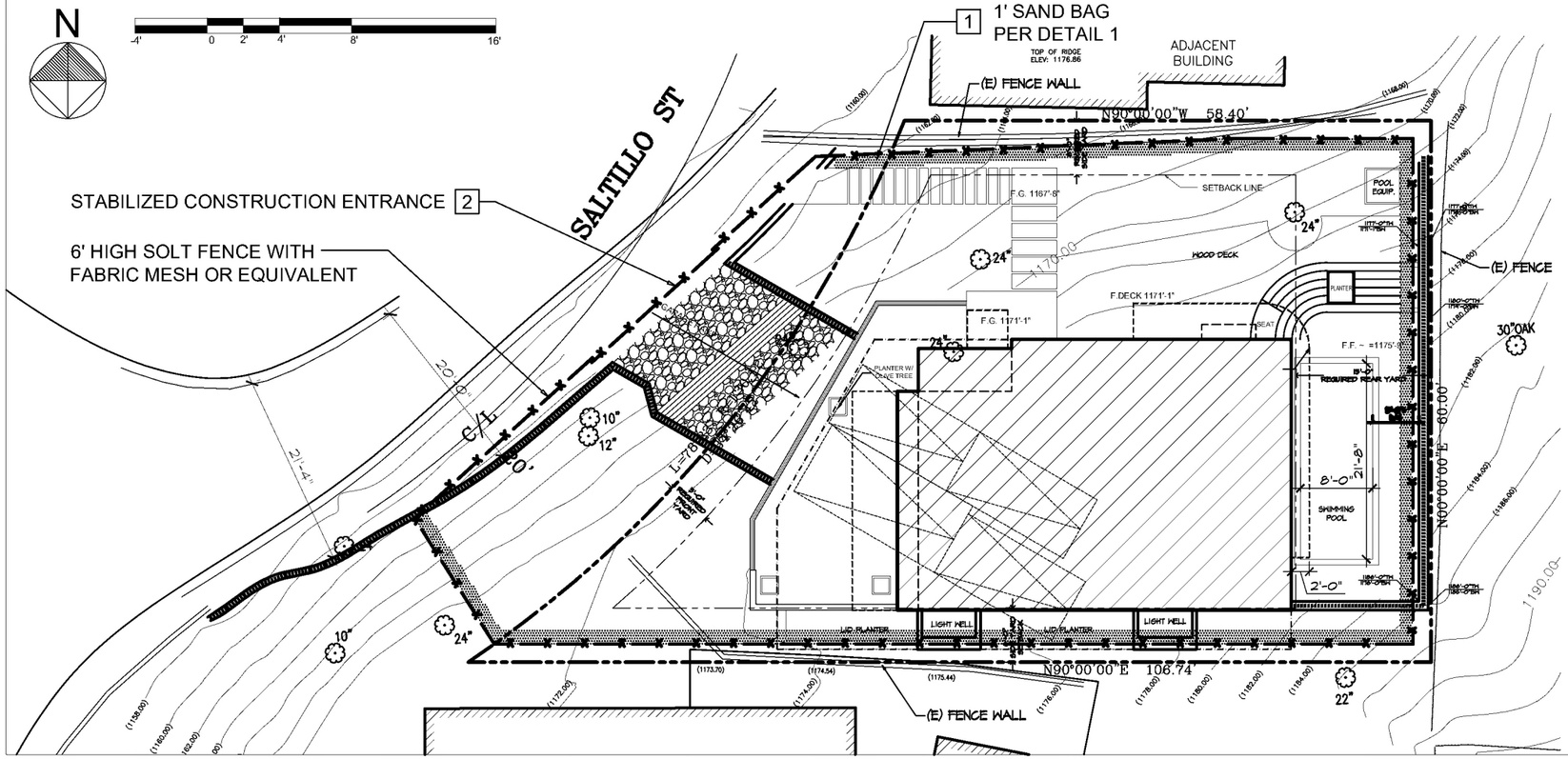
TEMPORARY INLET FILTER

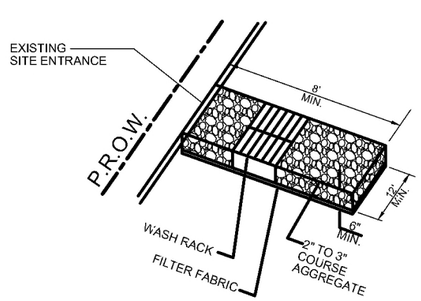
PLAN VIEW
N.T.S.



TEMPORARY INLET FILTER

SECTION X – X
N.T.S.





2 STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

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Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

SYMBOL	
	1' SAND BAG PER DETAIL 1 ON THIS SHEET
	6' HIGH SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE PER DETAIL 2

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Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

EROSION CONTROL PLAN

SCALE: 1/16"=1'-0"

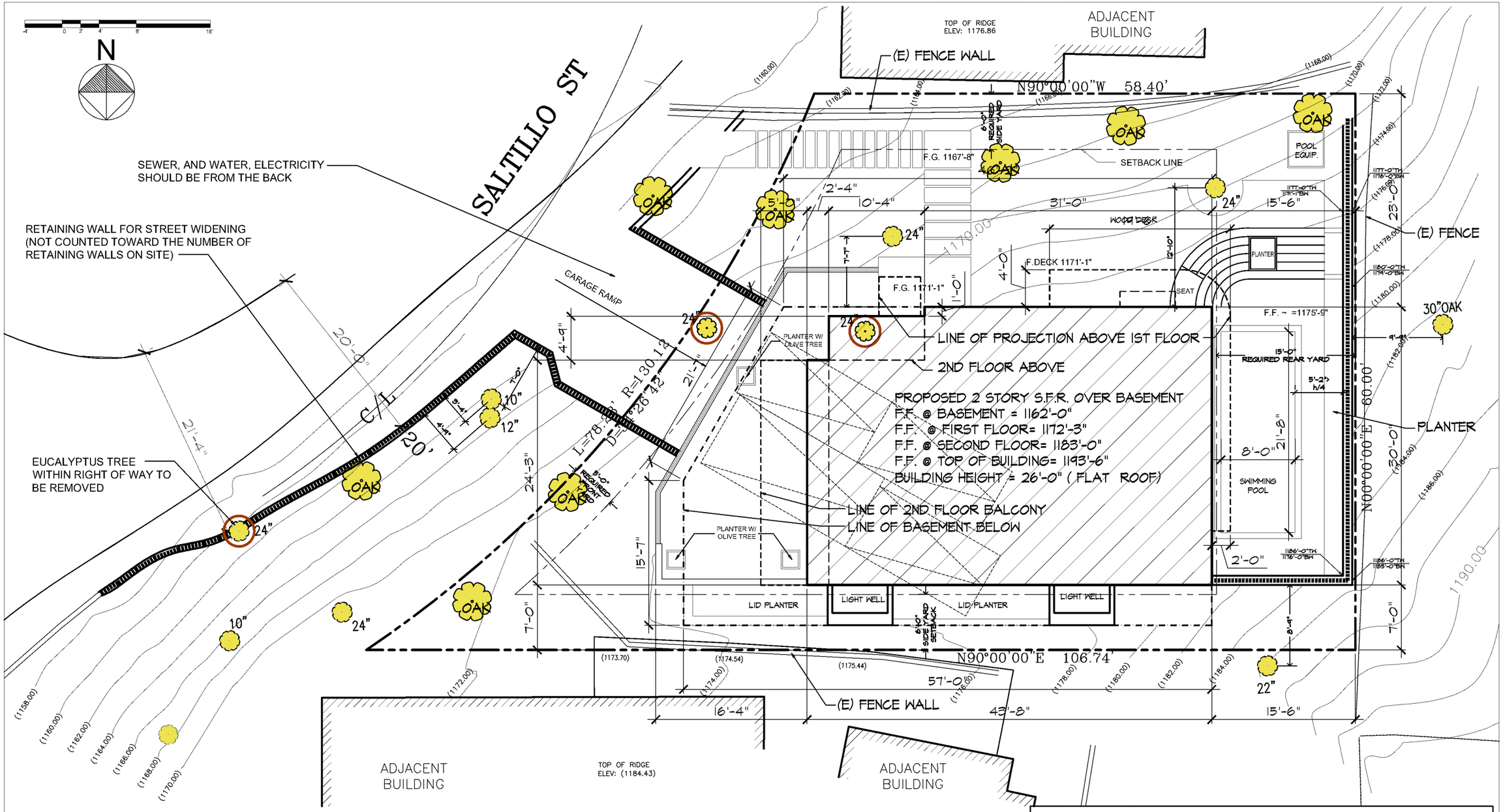
Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-5.4

38

PLOT DATE 11/2022



(4) NATIVE PROTECTED REPLACEMENT TREE INDICATED ON THE SITE PLAN, TO BE (4) 15 GAL NATIVE OAK TREE TO BE PLANTED ON 1037 CASIANO

	PROTECTED NATIVE TREE TO REMAIN	OAK	REPLACEMENT PROTECTED NATIVE OAK TO BE PLANTED
	PROTECTED NATIVE TREE TO BE REMOVED		

EXHIBIT "A"
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Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SITE PLAN / PLOT PLAN

SCALE: 3/32"=1'-0"

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-6.1

39

PLOT DATE 11/2022

-4' 0 2' 4' 8' 16'

N

SALTILLO ST

TOP OF RIDGE
ELEV: 1176.86

ADJACENT
BUILDING

A-A
E-9.1

E-8.4
WEST ELEV.

E-8.3
EAST ELEV.

E-E
E-9.5

D-D
E-9.4

C-C
E-9.3

N90°00'00"W 58.40'

6'-0" REQUIRED SIDE YARD

SETBACK LINE

(1160.00) (1162.00) (1164.00) (1166.00) (1168.00) (1170.00) (1172.00) (1174.00) (1176.00) (1178.00) (1180.00) (1182.00) (1184.00) (1186.00)

24" 24" 24" 10" 12" 30"OAK 22"

GARAGE RAMP

TRASH BINS

46'-2"
13'-6" 10'-2" 5'-0" 6'-0" 11'-6"
2'-8" 11'-4" 11'-4" 3'-10" 6" 6"

TUB 24" MIN. ELEVATOR SAUNA W.I.C.L.

20 MIN FIRE RATED
SELF CLOSING DOOR
1.5" MAX DROP

15'-0" REQUIRED REAR YARD

NORTH ELEV.
E-8.1

B-B
E-9.2

E-8.2
SOUTH ELEV.

C/L

R=130.12'
D=36°45'42"
L=78.32'

20'

5'-0" REQUIRED FRONT YARD

4 CAR GARAGE

F.F. @ BASEMENT =1162'-0"

MULTI PURPOSE
ROOM /
BEDROOM # 1

11" x 125" R AND 10 1

STORAGE

1.5" MAX DROP

COVERED WITH 1ST FLOOR

LIGHT WELL

TRELLIS

LIGHT WELL

6'-0" SIDE YARD SETBACK

N00°00'00"E 60.00'

N90°00'00"E 106.74'

(1173.70) (1174.54) (1175.44) (1172.00) (1174.00) (1176.00) (1178.00) (1180.00) (1182.00) (1184.00)

EXHIBIT "A"
Page No. 41 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

BASEMENT
FLOOR PLAN

SCALE: 1/8"=1'-0"

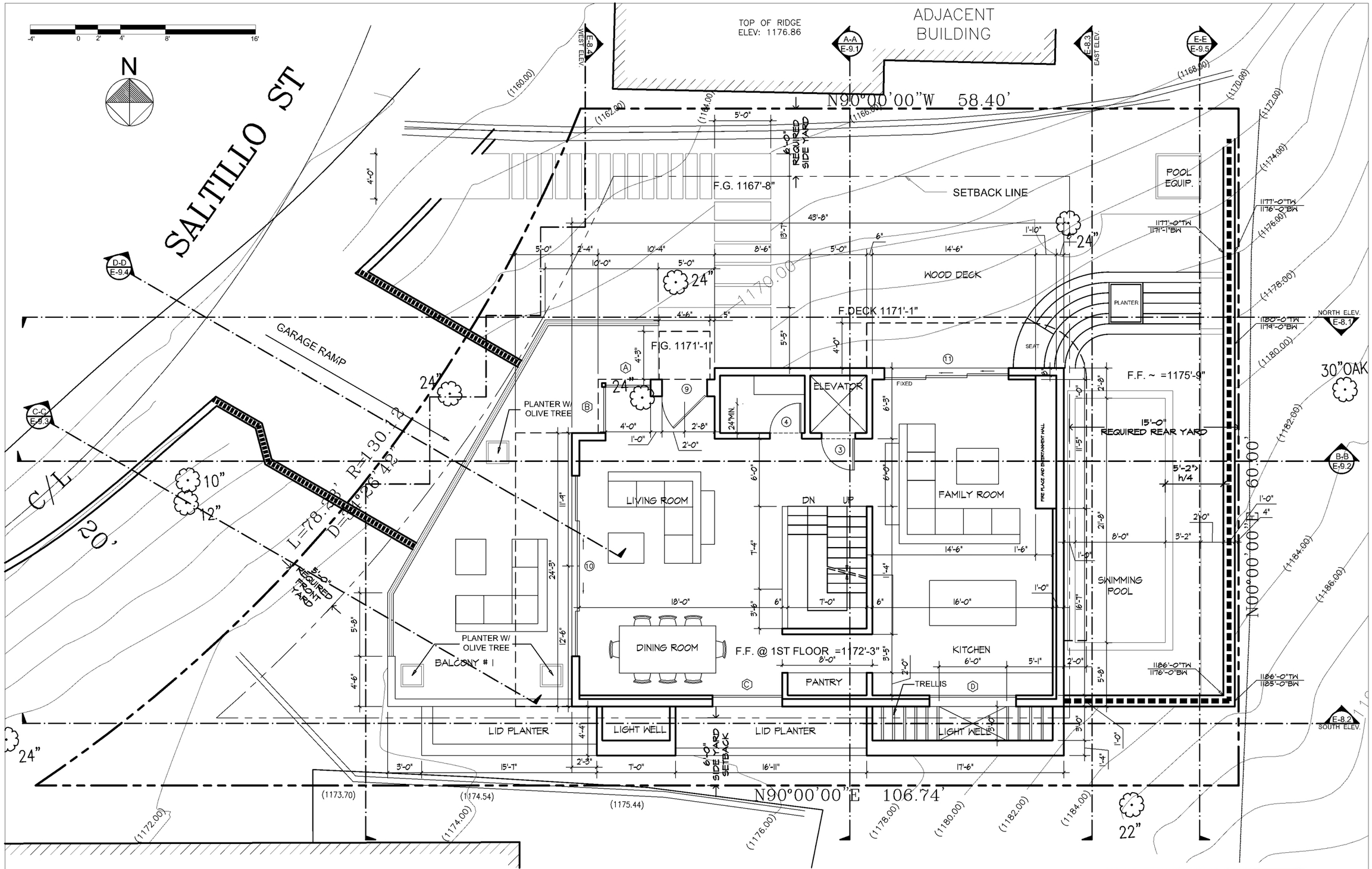
Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

E-7.1

40

PLOT DATE 11/2022



GREEN CODE NOTE:
FOR EACH NEW DWELLING AND TOWNHOUSE, PROVIDE A LISTED RACEWAY THAT CAN ACCOMMODATE A DEDICATED 208/240 VOLT BRANCH CIRCUIT. THE RACEWAY SHALL NOT BE LESS THAN TRADE SIZE 1 (NOMINAL 1-INCH INSIDE DIAMETER), SHALL ORIGINATE AT THE MAIN SERVICE OR SUBPANEL AND SHALL TERMINATE INTO A LISTED CABINET, BOX OR OTHER ENCLOSURE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF AN EV CHARGER. THE PANEL OR SUBPANEL SHALL PROVIDE CAPACITY TO INSTALL A 40-AMPERE MINIMUM DEDICATED BRANCH CIRCUIT AND SPACE(S) RESERVED TO PERMIT INSTALLATION OF A BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE. THE SERVICE PANEL OR SUBPANEL CIRCUIT DIRECTORY SHALL IDENTIFY THE OVERCURRENT PROTECTIVE DEVICE SPACE(S) RESERVED FOR FUTURE EV CHARGING AS "EV CAPABLE". THE RACEWAY TERMINATION LOCATION SHALL BE PERMANENTLY AND VISIBLY MARKED AS "EV CAPABLE". (4.106.4.1)
GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTION FOR ALL 125 VOLT, SINGLE PHASE, 15 & 20-AMPERE RECEPTACLES INSTALLED IN & GARAGE, OUTDOORS , BATHROOMS COUNTERTOP RECEPTACLES WITHIN 6' OF THE KITCHEN SINK OR WET BAR.

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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

1ST FLOOR
PLAN

SCALE: 1/8"=1'-0"

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

E-7.2

41

PLOT DATE 11/2022

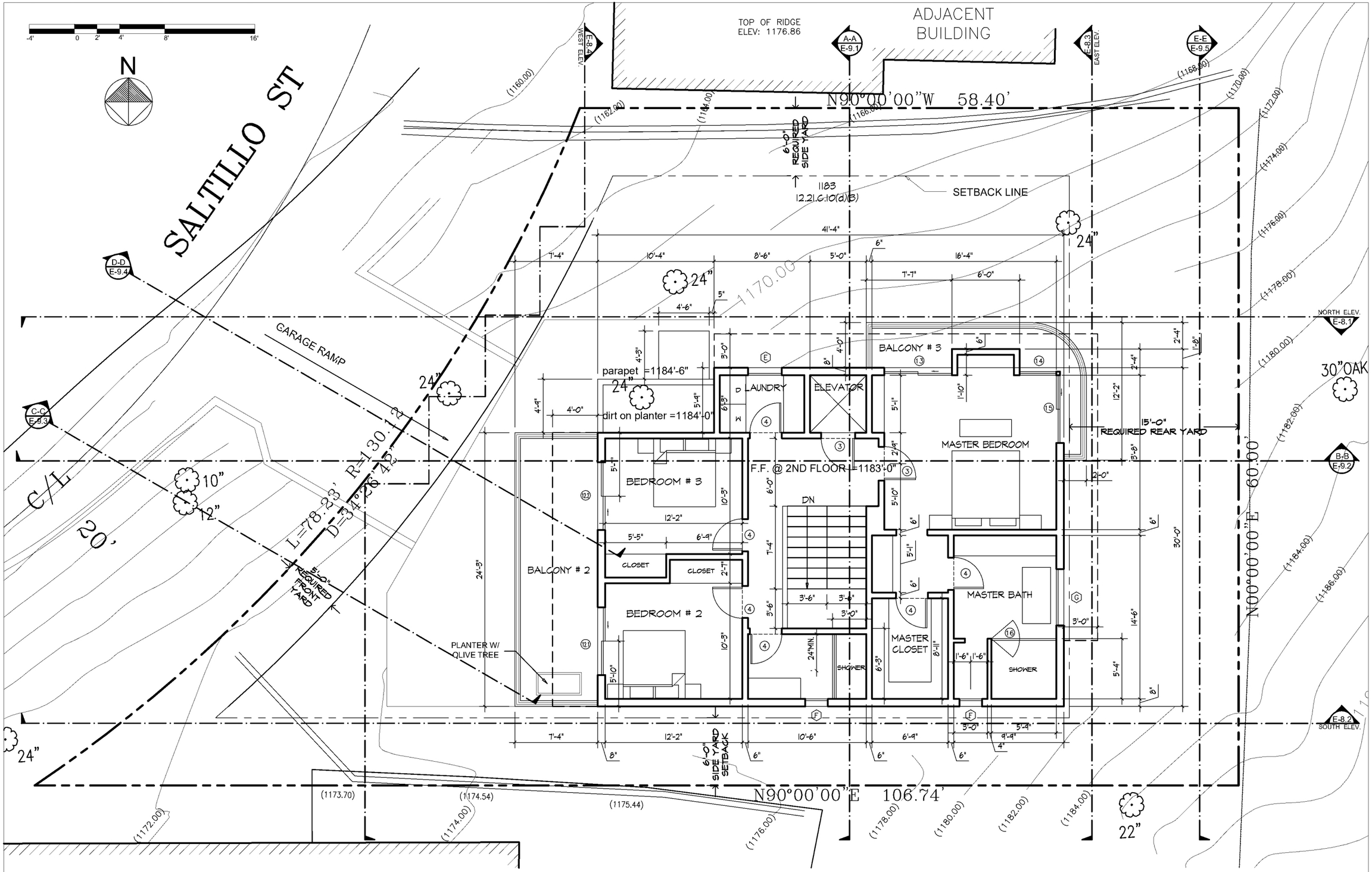


EXHIBIT "A"
Page No. 43 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

2ND FLOOR PLAN

SCALE: 1/8"=1'-0"

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

E-7.3

PLOT DATE 11/2022

ROOF PLAN GENERAL NOTES

1.0- ALL ROOF WATER & DRAINAGE TO BE DIVERTED PER GRADING & DRAINAGE PLAN

2.0- MIN. SLOPE FOR FLAT STYLE ROOF TO BE 1/4" PER 12" MIN SLOPE FOR A SHINGLE STYLE ROOF TO BE 4:12

3.0- ALL ROOF SHEATHING TO BE 5/8" THK.CDX (PANEL INDEX 15/32) MIN.

4.0- ALL ROOFING MATERIAL TO BE "CLASS-A" OR "CLASS-B" FIRE RATED.

5.0- MIN. LAP FOR GALV. IRON FLASHING TO BE 4" .

6.0- ALL HIPS & RIDGES TO HAVE A 9" WIDE STRIP OF #30 LB FELT MIN. OVER EACH SIDE.

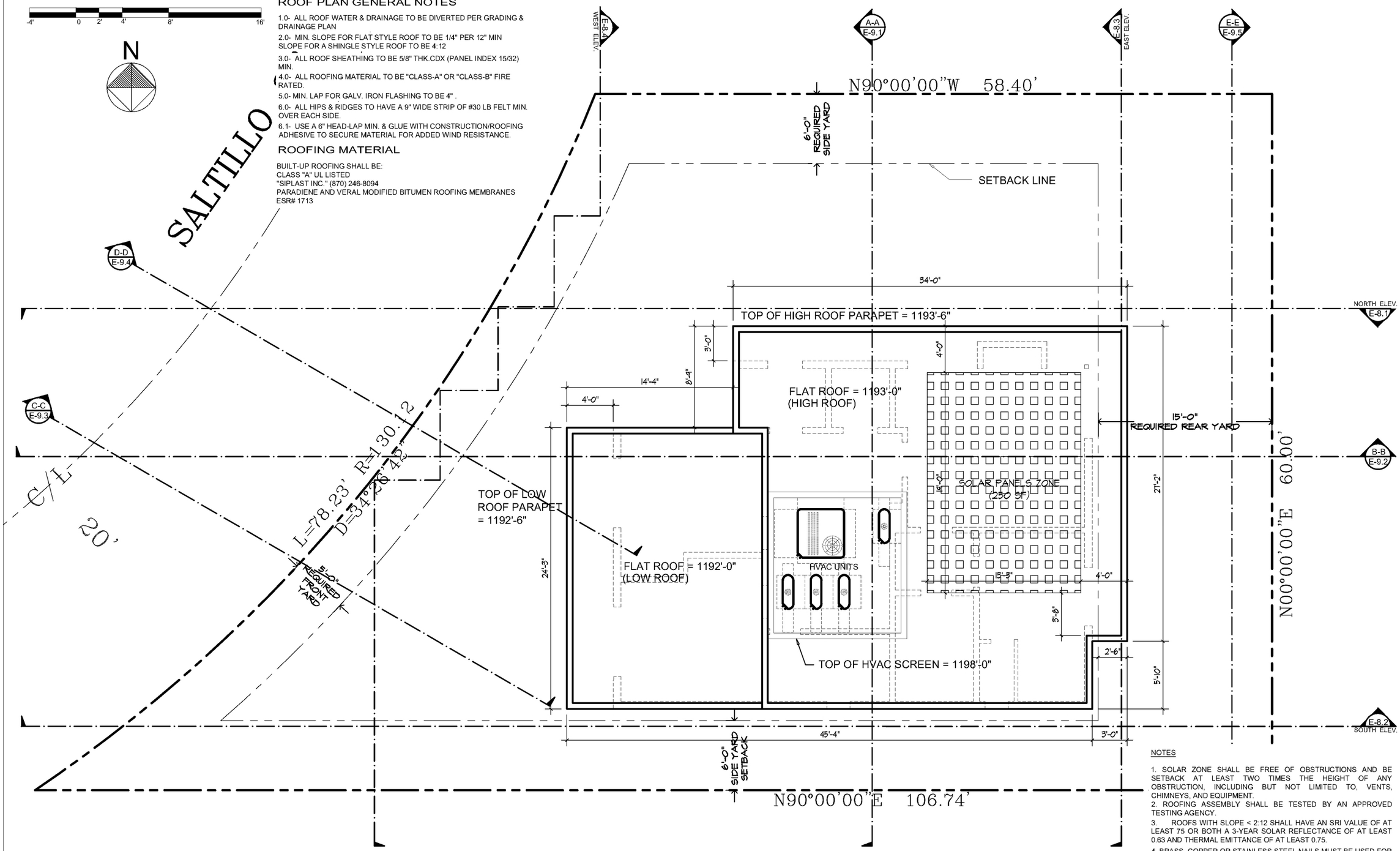
6.1- USE A 6" HEAD-LAP MIN. & GLUE WITH CONSTRUCTION/ROOFING ADHESIVE TO SECURE MATERIAL FOR ADDED WIND RESISTANCE.

ROOFING MATERIAL

BUILT-UP ROOFING SHALL BE:
CLASS "A" UL LISTED
"SIPLAST INC." (870) 246-8094
PARADIENE AND VERAL MODIFIED BITUMEN ROOFING MEMBRANES
ESR# 1713

-4' 0 2' 4' 8' 16'

N



CRRC PROD. ID	MANUFACTURER	BRAND AND MODEL	PRODUCT TYPE	COLOR	SOLAR REFLECTANCE		THERMAL EMITTANCE		SRI		MORE INFO
					INITIAL	3 YEAR	INITIAL	3 YEAR	INITIAL	3 YEAR	
0616-0014	Polyglass USA, Inc.	Polyglass PolyBrite 95 Silicone	Coating	Bright White	0.85	0.66	0.85	0.90	106	80	

SRI 80 > 75

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Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

NOTES

1. SOLAR ZONE SHALL BE FREE OF OBSTRUCTIONS AND BE SETBACK AT LEAST TWO TIMES THE HEIGHT OF ANY OBSTRUCTION, INCLUDING BUT NOT LIMITED TO, VENTS, CHIMNEYS, AND EQUIPMENT.
2. ROOFING ASSEMBLY SHALL BE TESTED BY AN APPROVED TESTING AGENCY.
3. ROOFS WITH SLOPE < 2:12 SHALL HAVE AN SRI VALUE OF AT LEAST 75 OR BOTH A 3-YEAR SOLAR REFLECTANCE OF AT LEAST 0.63 AND THERMAL EMITTANCE OF AT LEAST 0.75.
4. BRASS, COPPER OR STAINLESS STEEL NAILS MUST BE USED FOR THE INSTALLATION OF ROOF TILES.
5. WATERPROOFING AND ROOFING MATERIALS MAY BE SUBSTITUTED BY EQUAL PRODUCTS SUBJECT TO THE ARCHITECTS REVIEW AND APPROVAL.
6. ALL ROOF AND AREA DRAIN MUST BE DIRECTED TO STORM-WATER LID PLANTER AND THE OVER FLOW MUST BE DISCHARGE TO STREET CURB.
7. GLASS OR PLASTIC SKYLIGHT TO BE MOUNTED AT LEAST 4"CURB ABOVE THE ROOF WHEN THE ROOF SLOPES LESS THAN 3:12. (2405.4; 2610.2) GLASS SKYLIGHT SHALL COMPLY WITH SECTION 2405. PLASTIC SKYLIGHT SHALL COMPLY WITH SECTION 2610
8. ALL ROOF RUNOFF TO DRAIN TO PROPOSED BMP.

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DESIGN STUDIO INC.
Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

ROOF PLAN

SCALE: 1/8"=1'-0"

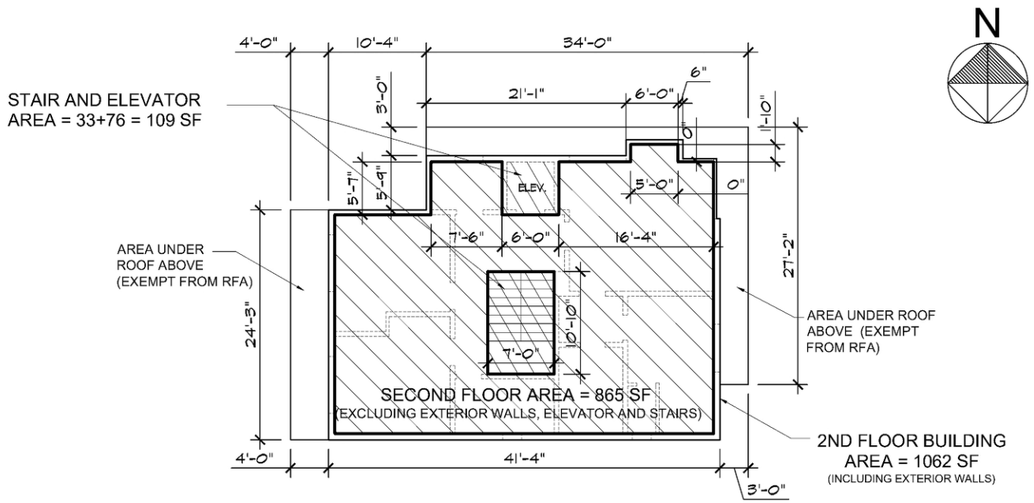
Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

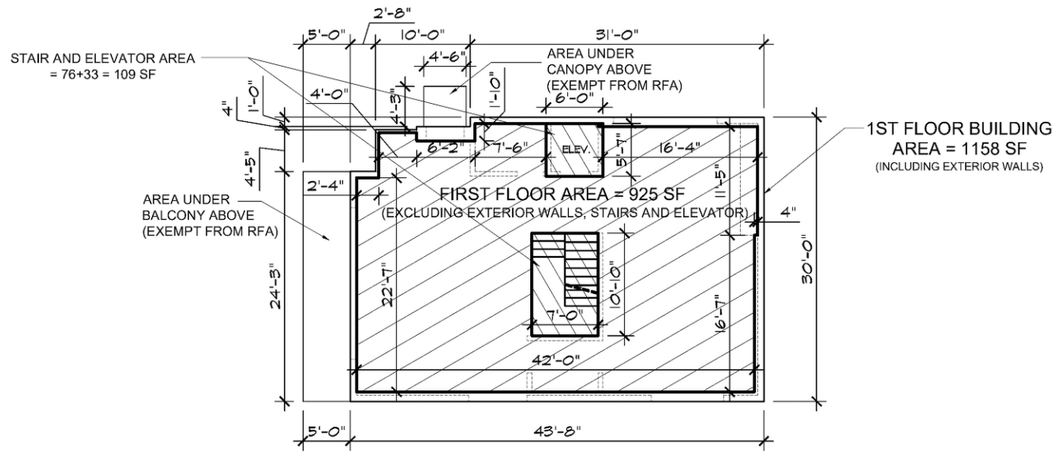
E-7.4

43

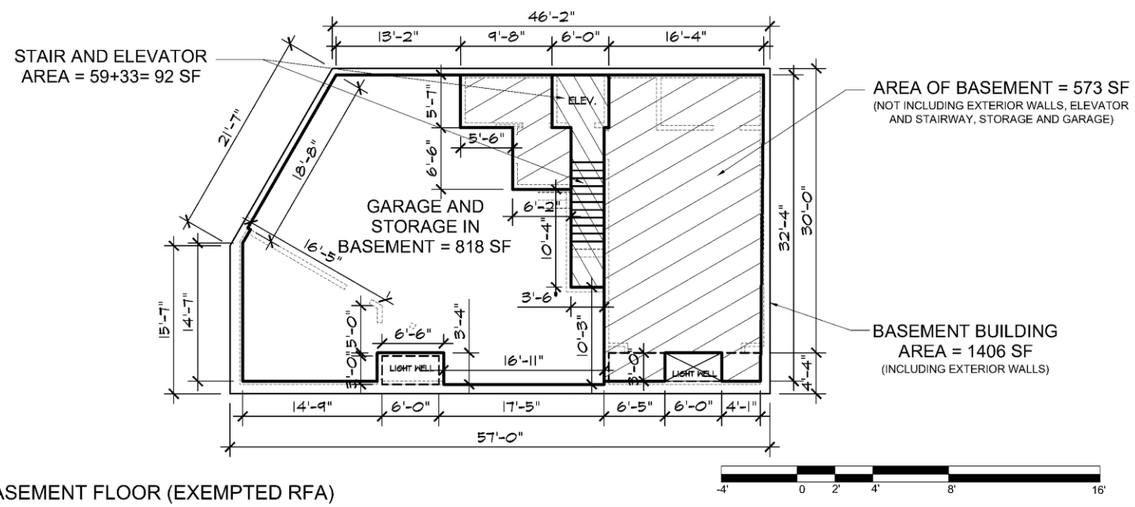
PLOT DATE 11/2022



2ND FLOOR



1ST FLOOR



BASEMENT FLOOR (EXEMPTED RFA)

SUMMARY OF AREA CALCULATION

	Area per Zoning Code	Area per Building Code		Area per BHO	Area per School Fee
		R3	U		
Basement	573	573	818	0	740
1st Floor	1034	1158	0	1034	1207
2nd Floor	865	1062	0	865	953
Total	2472	2793	818	1899	2900

PROPOSED BUILDING AREA TABULATION

	Area per Zoning Code	Area per Building Code	Residential Floor Area (RFA) per BHO	Area per School Fee
Basement	573	573	0	740
1st Floor	1034	1158	1034	1207
2nd Floor	865	1062	865	953
Area more then 14' H.	0	0	0	0
2nd Floor above 1st Floor	0	0	0	0
Roof above 2nd floor	0	0	0	0
Attached Garage and Storage (Basement)	0	818	0	0
Total	**2472**	**2793**	**1899**	**2900**

Area per Zoning Code for the proposed single family residence	**2472**

TOTAL PROPOSED RESIDENTIAL FLOOR AREA (RFA) = 1,899 SF

ALLOWED RESIDENTIAL FLOOR AREA (RFA) PER BASELINE HILLSIDE ORDINANCE PER SLOPE ANALYSIS = 1,918 SF

PROPOSED RFA (1,899 SF) < ALLOWED RFA (1,918 SF)

TOTAL AREA PER ZONING CODE FOR THE PROPOSED SINGLE FAMILY RESIDENCE = 2,472 SF

EXHIBIT "A"
Page No. 45 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

PROPOSED ZONING COMPLIANCE SHEET

SCALE: 1/16"=1'-0"

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-7.5

44

PLOT DATE 11/2022

EXTERIOR MATERIAL & FINISHES :

(1)	7/8" SMOOTH FIN. EXT. LIGHT PLASTER
(2)	WOOD FRONT DOOR, STAINED
(3)	LIME STONE
(4)	WIDE FRAME FACTORY PAINTED CLAD, CASEMENT, SLIDING OR FIXED DUAL GLAZED WINDOWS/DOORS BY ANDERSON WINDOWS. OR EQUAL COLOR CODE: DARK ASH
(5)	WOOD TRELLIS, STAINED
(6)	SHEET METAL
(7)	NONE-GLARED GLASS RAILING WITH SHOE
(8)	IPA WOOD
(9)	3/8" METAL REVEAL PAINTED TO MATCH STUCCO
(10)	EXTERIOR SHEET METAL DOWN SPOUT
(11)	INTERIOR 3" PIPE DOWN SPOUT
(12)	FIRE PLACE CHIMNEY VENT
(13)	RECESSED DOWN LIGHT EXTERIOR LIGHTING
(14)	CEDAR WOOD STAINED

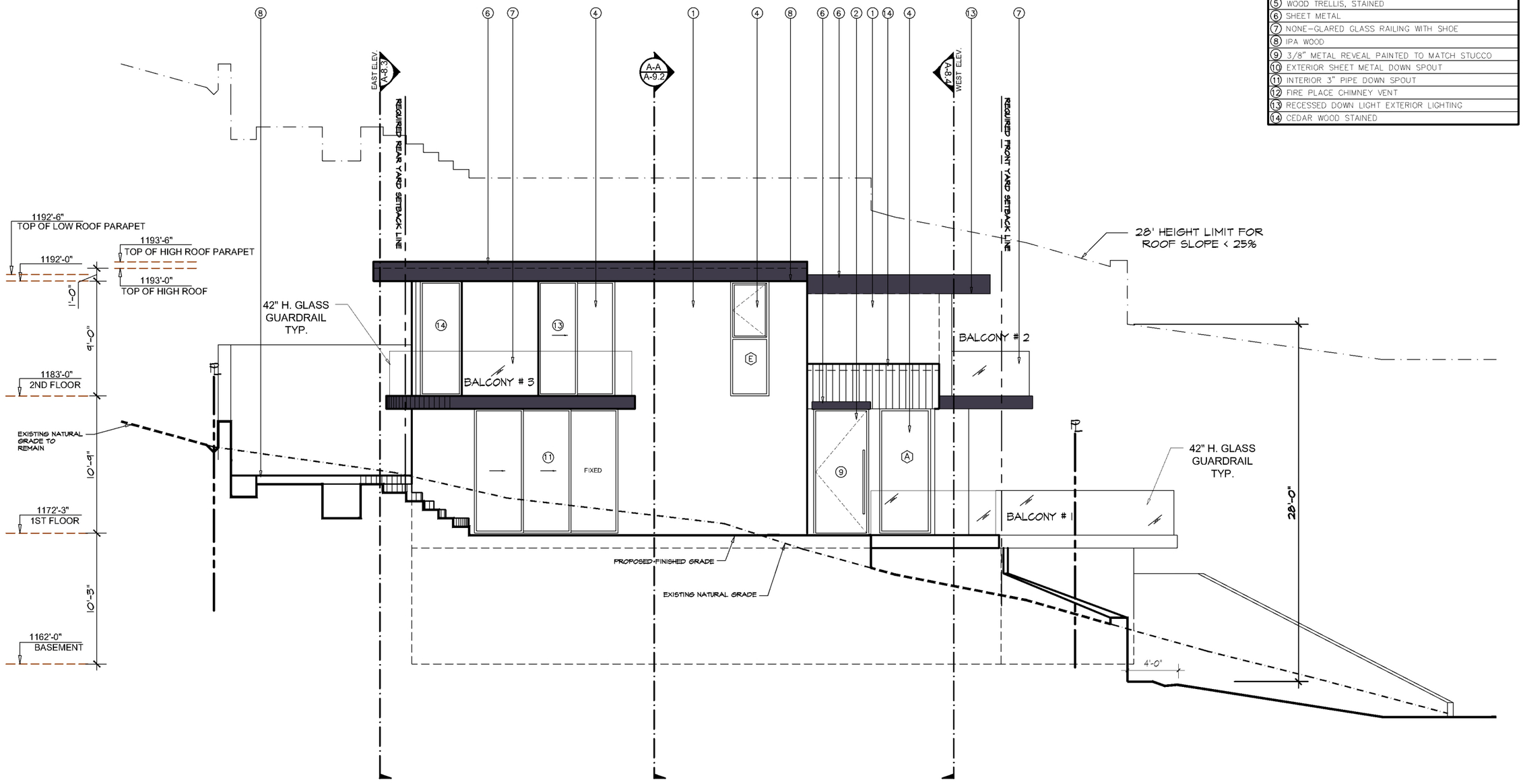


EXHIBIT "A"
Page No. 46 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

-4' 0 2' 4' 8' 16'

NORTH ELEVATION

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LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

NORTH ELEVATION

SCALE: 1/8"=1'-0"

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

E-8.1

PLOT DATE 11/2022

EXTERIOR MATERIAL & FINISHES :

1	7/8" SMOOTH FIN. EXT. LIGHT PLASTER
2	WOOD FRONT DOOR, STAINED
3	LIME STONE
4	WIDE FRAME FACTORY PAINTED CLAD, CASEMENT, SLIDING OR FIXED DUAL GLAZED WINDOWS/DOORS BY ANDERSON WINDOWS. OR EQUAL COLOR CODE: DARK ASH
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11	INTERIOR 3" PIPE DOWN SPOUT
12	FIRE PLACE CHIMNEY VENT
13	RECESSED DOWN LIGHT EXTERIOR LIGHTING
14	CEDAR WOOD STAINED

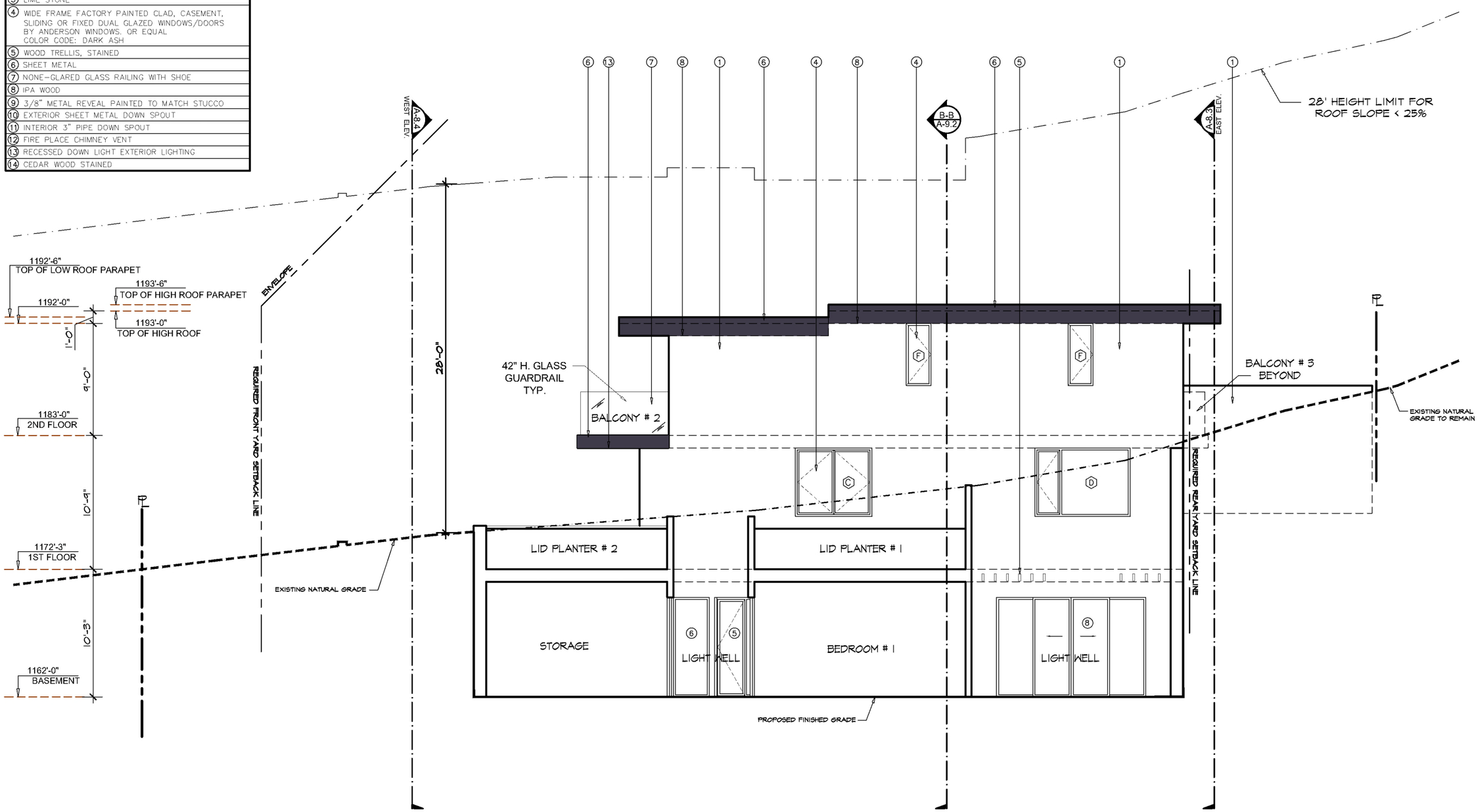


EXHIBIT "A"
Page No. 47 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

-4' 0 2' 4' 8' 16'

SOUTH ELEVATION

LABYRINTH
DESIGN STUDIO INC.
Tel: 818.200.5005

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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SOUTH ELEVATION

SCALE: 1/8"=1'-0"

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-8.2

46

PLOT DATE 11/2022

EXTERIOR MATERIAL & FINISHES :

1	7/8" SMOOTH FIN. EXT. LIGHT PLASTER
2	WOOD FRONT DOOR, STAINED
3	LIME STONE
4	WIDE FRAME FACTORY PAINTED CLAD, CASEMENT, SLIDING OR FIXED DUAL GLAZED WINDOWS/DOORS BY ANDERSON WINDOWS. OR EQUAL COLOR CODE: DARK ASH
5	WOOD TRELLIS, STAINED
6	SHEET METAL
7	NONE-GLARED GLASS RAILING WITH SHOE
8	IPA WOOD
9	3/8" METAL REVEAL PAINTED TO MATCH STUCCO
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11	INTERIOR 3" PIPE DOWN SPOUT
12	FIRE PLACE CHIMNEY VENT
13	RECESSED DOWN LIGHT EXTERIOR LIGHTING
14	CEDAR WOOD STAINED

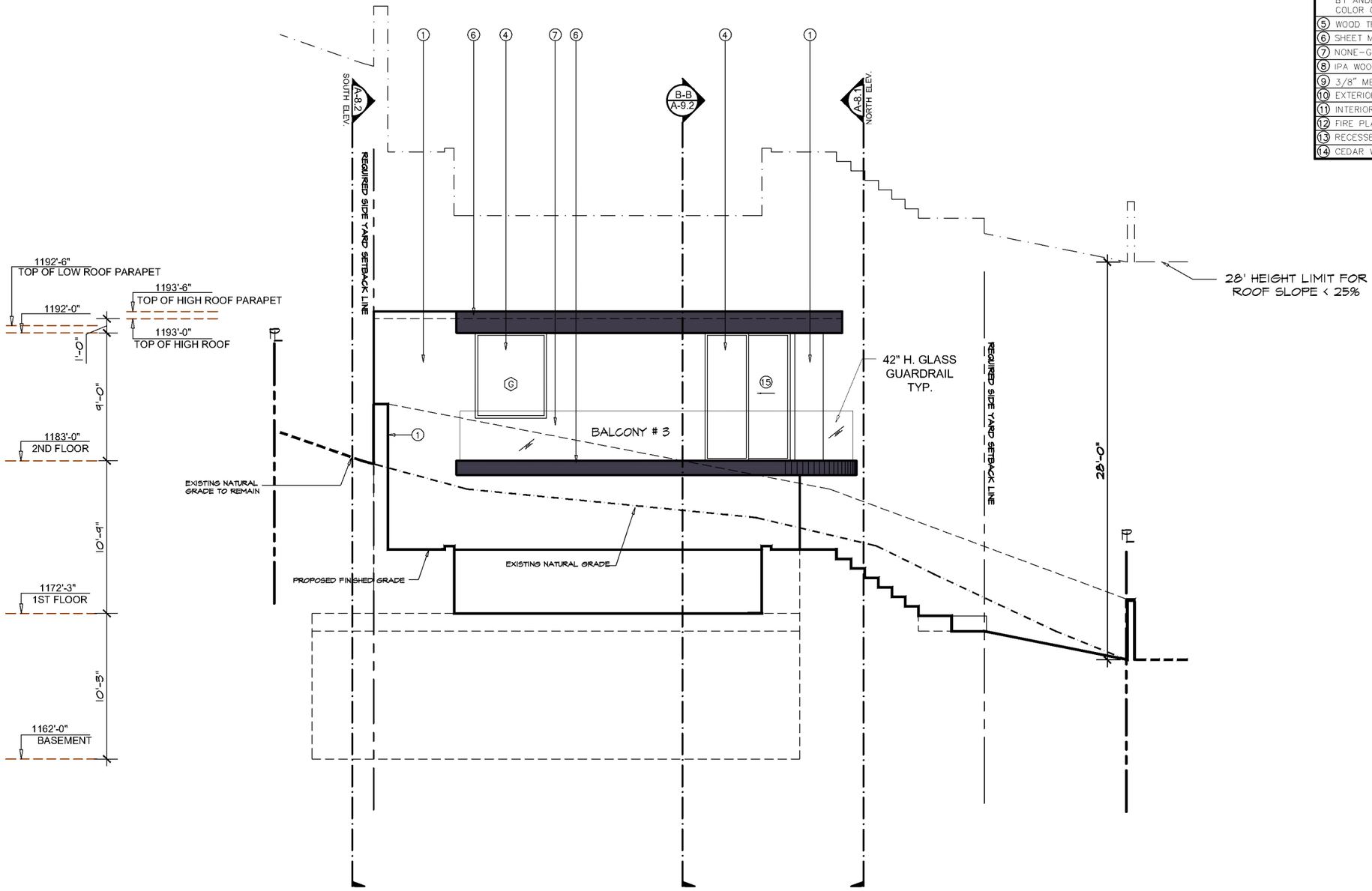


EXHIBIT "A"
Page No. 48 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

-4' 0 2' 4' 8' 16'

EAST ELEVATION

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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

EAST ELEVATION

SCALE: 1/8"=1'-0"

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

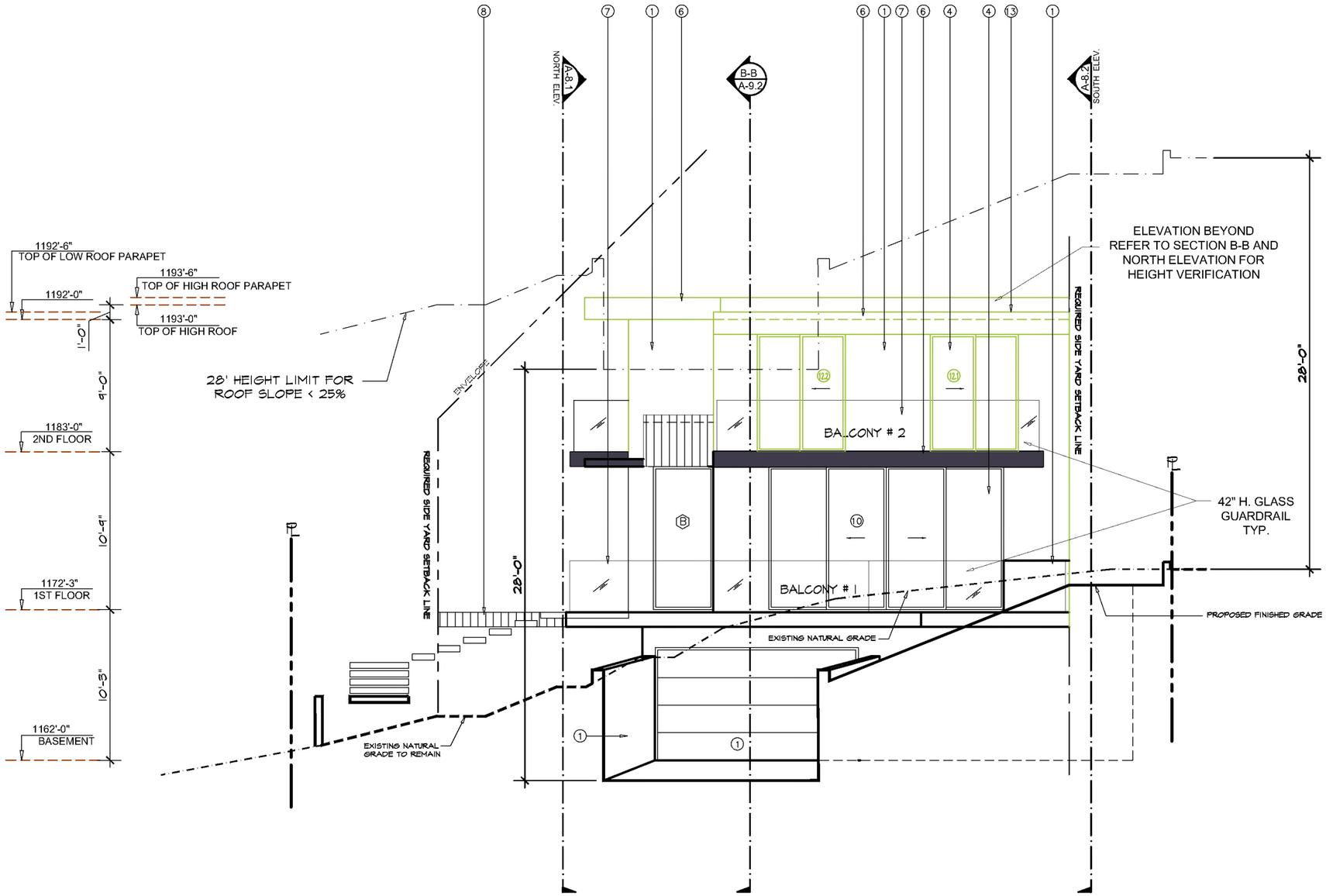
E-8.3

47

PLOT DATE 11/2022

EXTERIOR MATERIAL & FINISHES :

1	7/8" SMOOTH FIN. EXT. LIGHT PLASTER
2	WOOD FRONT DOOR, STAINED
3	LIME STONE
4	WIDE FRAME FACTORY PAINTED CLAD, CASEMENT, SLIDING OR FIXED DUAL GLAZED WINDOWS/DOORS BY ANDERSON WINDOWS. OR EQUAL COLOR CODE: DARK ASH
5	WOOD TRELLIS, STAINED
6	SHEET METAL
7	NONE-GLARED GLASS RAILING WITH SHOE
8	IPA WOOD
9	3/8" METAL REVEAL PAINTED TO MATCH STUCCO
10	EXTERIOR SHEET METAL DOWN SPOUT
11	INTERIOR 3" PIPE DOWN SPOUT
12	FIRE PLACE CHIMNEY VENT
13	RECESSED DOWN LIGHT EXTERIOR LIGHTING
14	CEDAR WOOD STAINED



-4' 0 2' 4' 8' 16'

WEST ELEVATION

EXHIBIT "A"
Page No. 49 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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1600 SAWTELLE BLVD. #230
LOS ANGELES, CA 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

WEST
ELEVATION

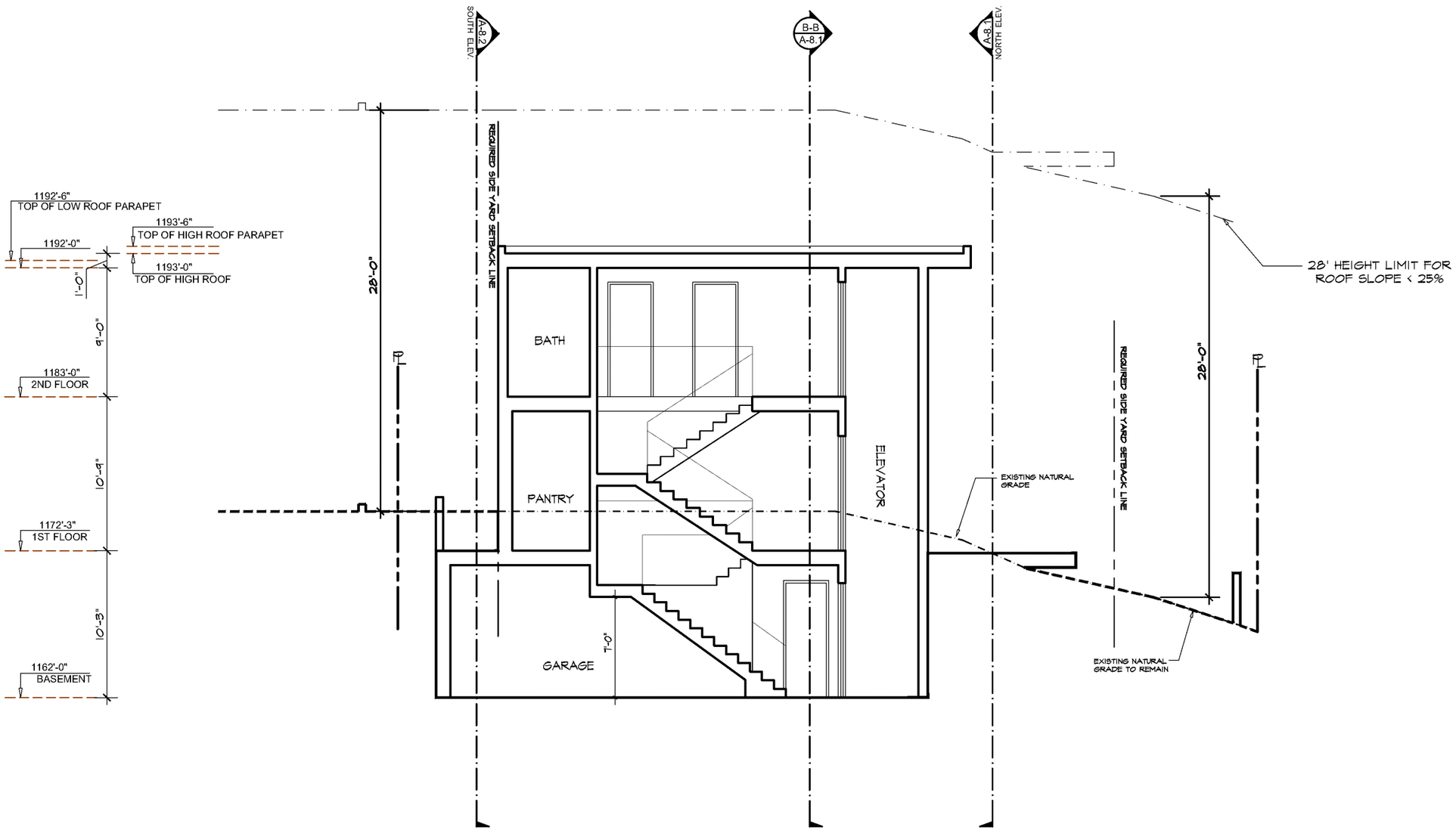
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Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

E-8.4

PLOT DATE 11/2022



SECTION A-A

EXHIBIT "A"
Page No. 50 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SECTION A-A

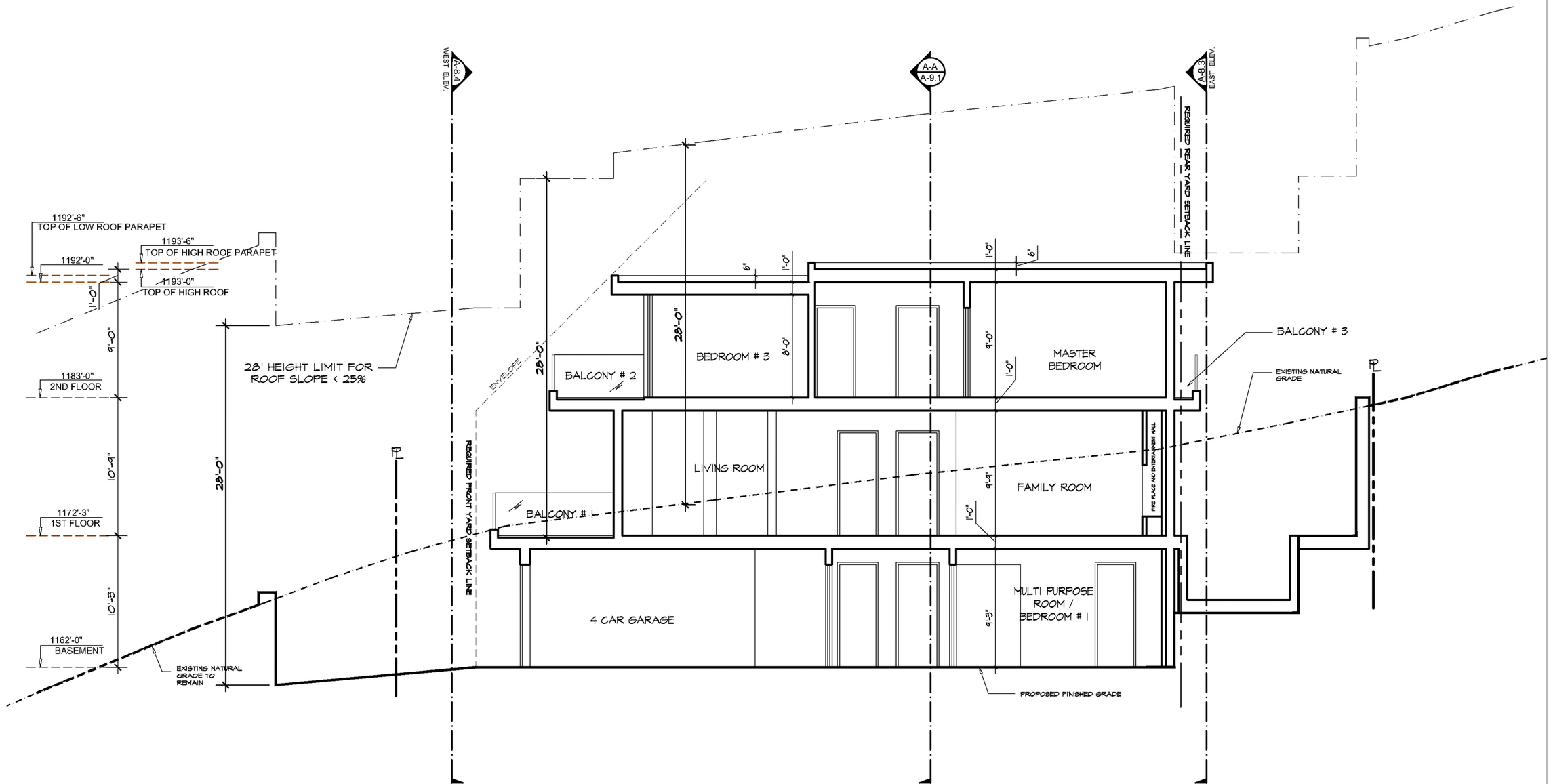
SCALE: 1/8"=1'-0"

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

E-9.1

PLOT DATE 11/2022



-4' 0 2' 4' 8' 16'

SECTION B-B

EXHIBIT "A"
Page No. 51 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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E-mail:michellefarhadi@yahoo.com

DESIGNER:
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1800 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SECTION B-B

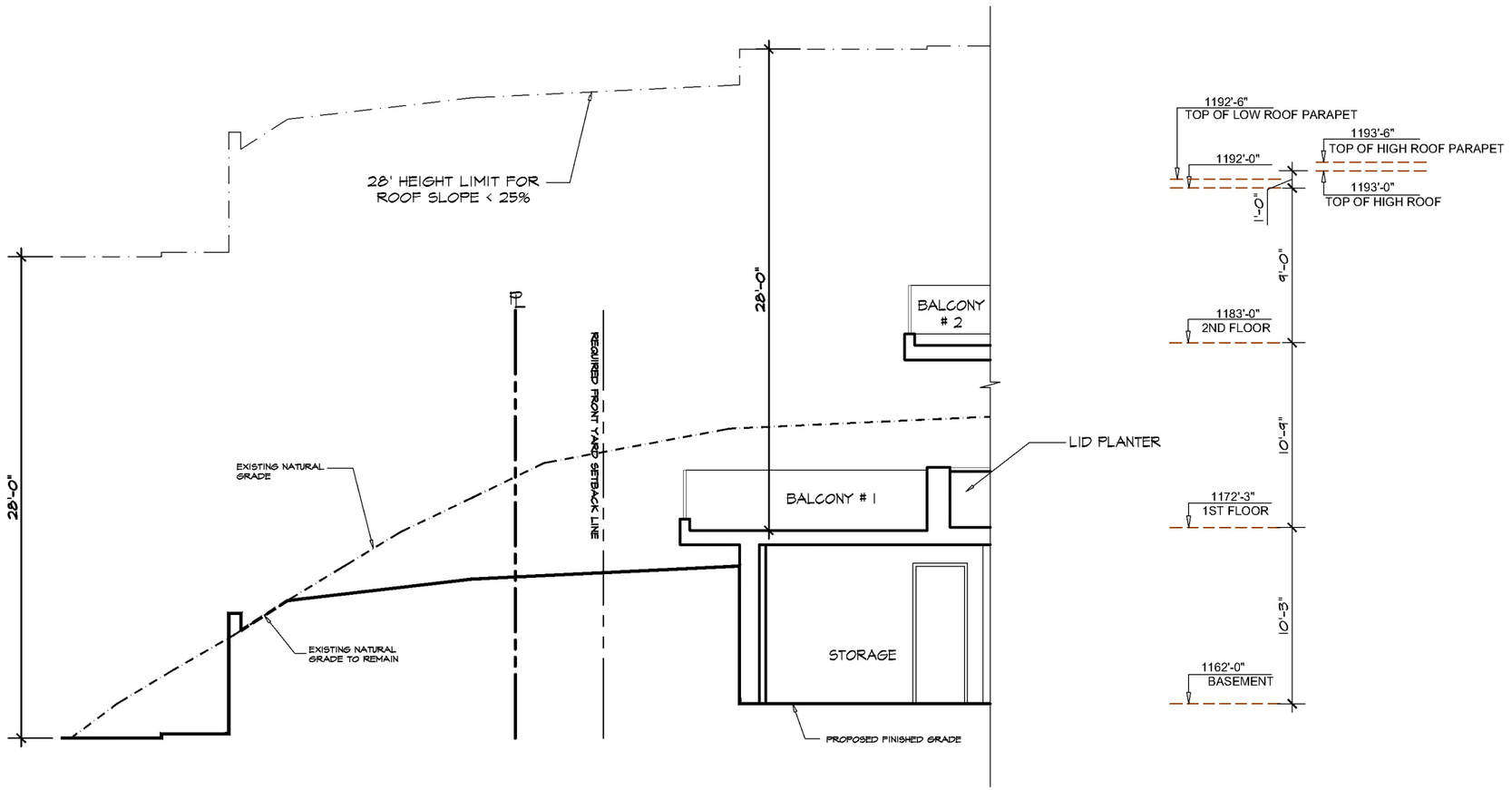
SCALE: 1/8"=1'-0"

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

Drawing No.

E-9.2

PLOT DATE 11/2022



-4' 0 2' 4' 8' 16'

SECTION D-D

EXHIBIT "A"
Page No. 52 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SCALE:

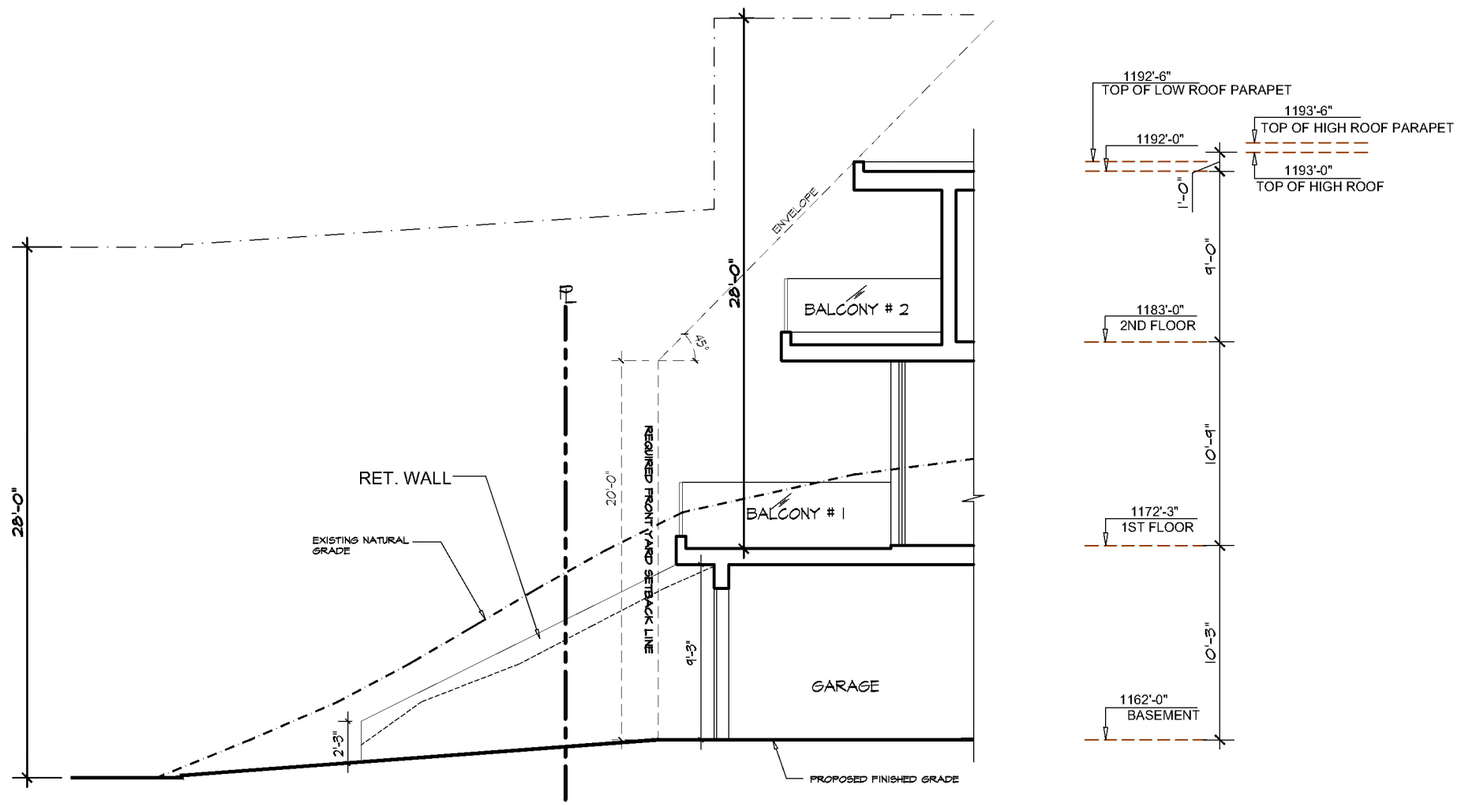
Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-9.3

51

PLOT DATE 11/2022



-4' 0 2' 4' 8' 16'

SECTION E-E

EXHIBIT "A"
Page No. 53 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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DRAWING TITLE:

SCALE:

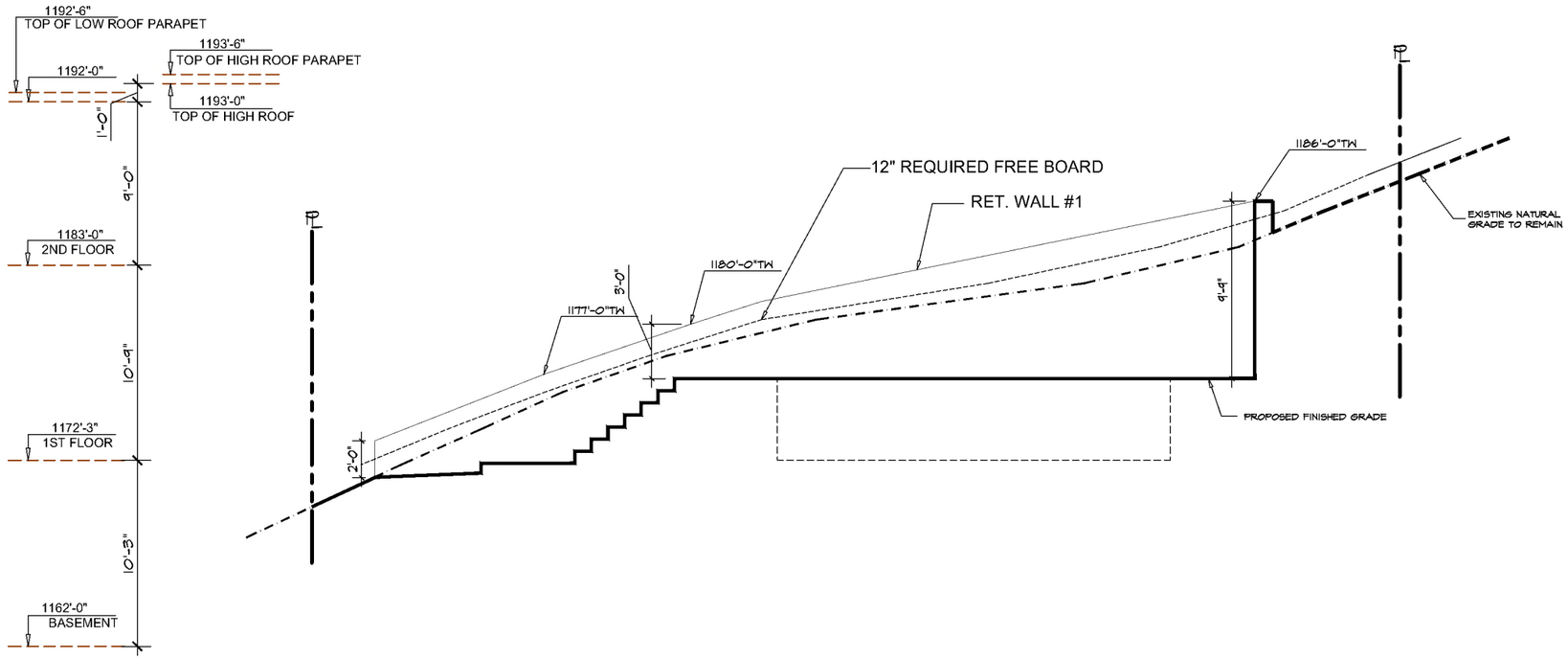
Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-9.4

52

PLOT DATE 11/2022



-4' 0 2' 4' 8' 16'

SECTION F-F

EXHIBIT "A"
Page No. 54 of 67
Case No. ZA-ZA-2023-1206-ZAD-DRB-MSP-HCA

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LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-9.5

53

PLOT DATE 11/2022



DESIGN STUDIO INC.
Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
Michelle and Mehran Farhadi
9023 Alto Cedro Drive,
Los Angeles, CA 90210
Tel: 310-275-6605,
E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
TEL (818) 200-5005
1800 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

COLORED RENDERING

SCALE:

Date:	2022
Job No:	4230 SALTILLO
Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-10.1

PLOT DATE 11/2022



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DRAWING TITLE:

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SCALE:

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Drawing No.

E-10.2

55

PLOT DATE 11/2022



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DRAWING TITLE:

COLORED
RENDERING

SCALE:

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Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-10.3

PLOT DATE 11/2022



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DRAWING TITLE:

COLORED
RENDERING

SCALE:

Date:	2022
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Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

E-10.4

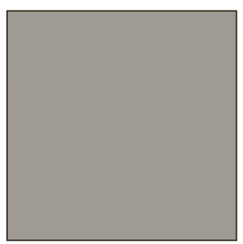
PLOT DATE 11/2022



1

FACADE PLASTER

7/8" SMOOTH FIN. EXT. PLASTER
LAHABRA EGG SHELL 73 (76)
BASE 100



2

WOOD SIDING

$\frac{3}{4}$" THICK, TOUNGE AND GROVE, STAINED, BRAZILLIAN TEAK (CAMARU) WOOD.
MECHANICALLY INSTALLED



3

SHEET METAL FASCIA

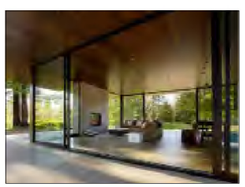
16 GAGE BLACK SHEET METAL



4

ALUMINUM CLAD DOORS & WINDOWS

MANUFACTURER: FLEET WOOD
COLOR: DARK ANODIZE



5

EXTERIOR RECESSED LIGHT

RECESSED DAMP PROOF DOWN LIGHT



6

GLASS RAILING WITH SHOE

INVISBLE SHOE PER DETAIL FROM CRL LAURANCE
SEE DETAIL 3 / A11.1



7

FRONT DOOR
SOLID WOOD AND STEEL

MEHTA CUSTOME ENTRY DOOR
FROM Pivot Door Company
1260 Valley St.
Colorado Springs, CO 80915
(719) 425-4289



8

RAMP ENTRY SURFACE

WASHED AGGREGATE CONC. WITH STRIPES OF ARTIFICIAL GRASS



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DRAWING TITLE:

COLORED RENDERING / MATERIAL BOARD

SCALE:

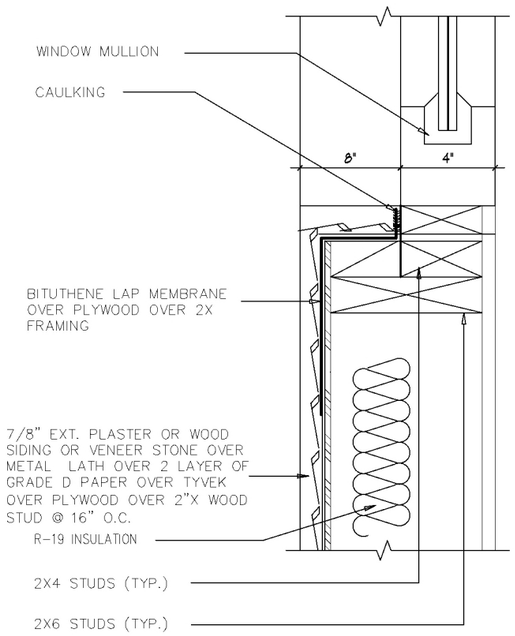
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Drawn By:	N.N.
Checked By:	P.P.

Drawing No.

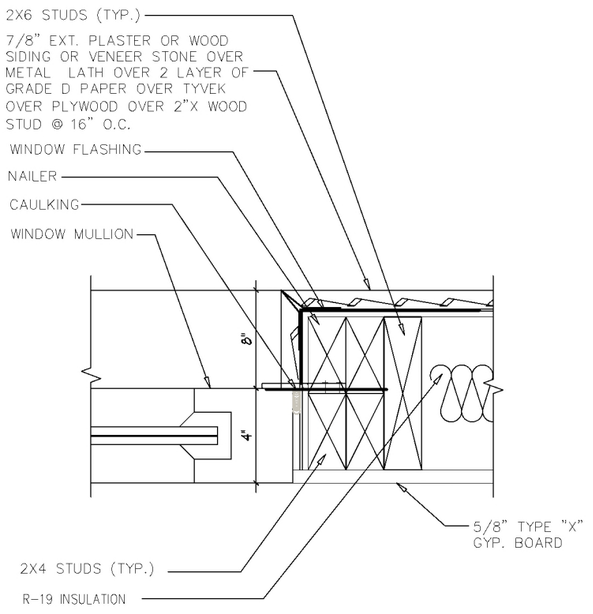
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58

PLOT DATE 11/2022

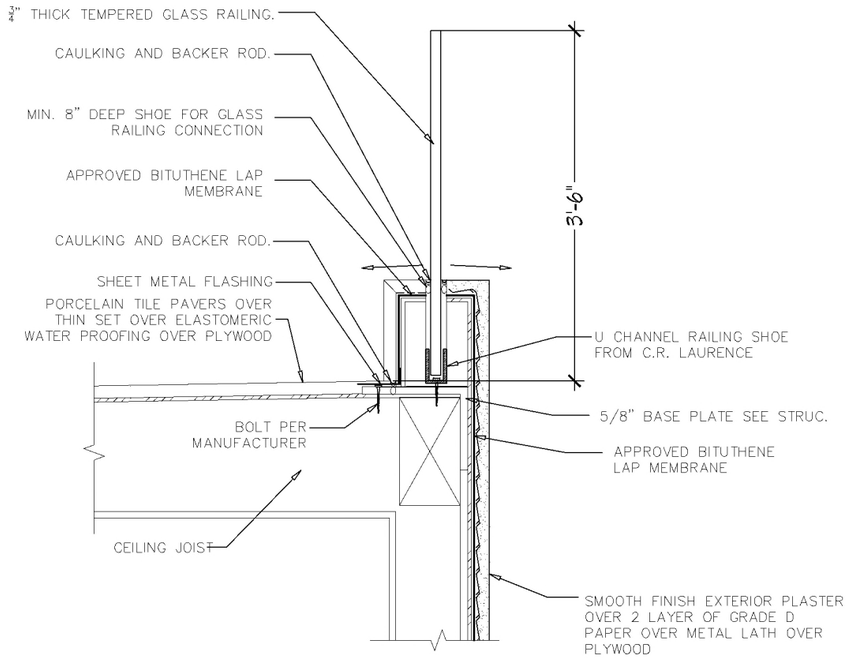


SILL DETAIL



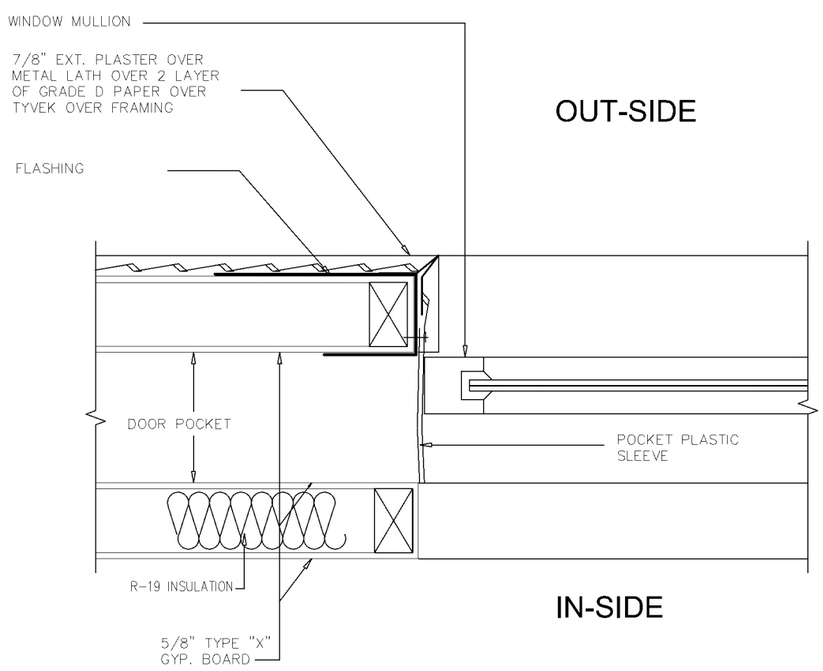
JAMB DETAIL

1 RECESSED WINDOW AND DOOR DETAIL @ FRONT ELEVATION

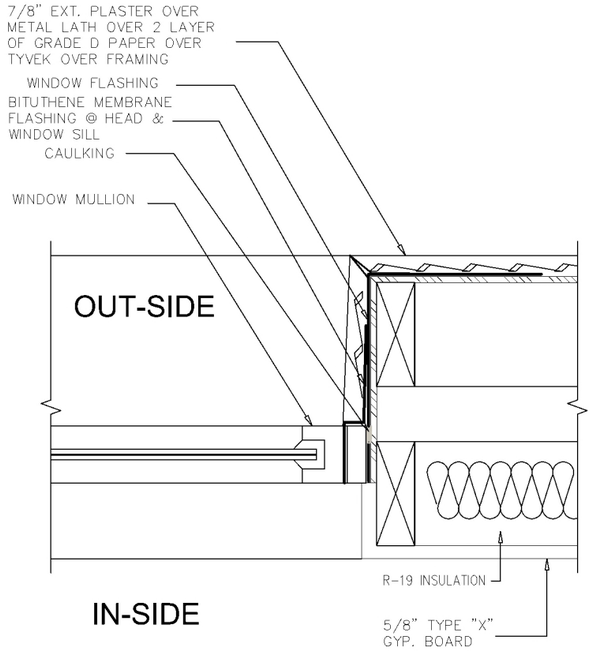


NOTE: GLASS RAILING (ESR#3842)

2 RAILING @ BALCONY



JAMB DETAIL ON POCKET SIDE



JAMB DETAIL ON WALL SIDE

NOTE: FOR SILL DETAIL SEE WEILAND LIFTSLIDE DRAINAGE TRACK DETAILS

3 RECESSED POCKET DOOR DETAIL @ FAMILY ROOM

-4' 0 2' 4' 8' 16'

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DRAWING TITLE:

DETAILS

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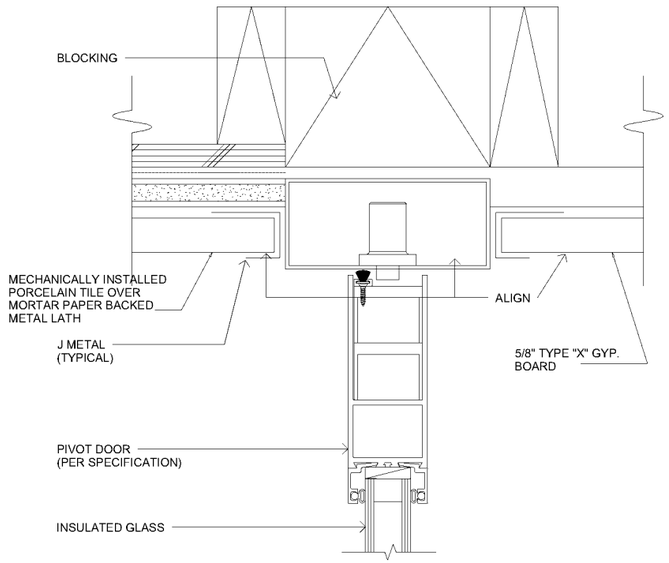
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Checked By:	P.P.

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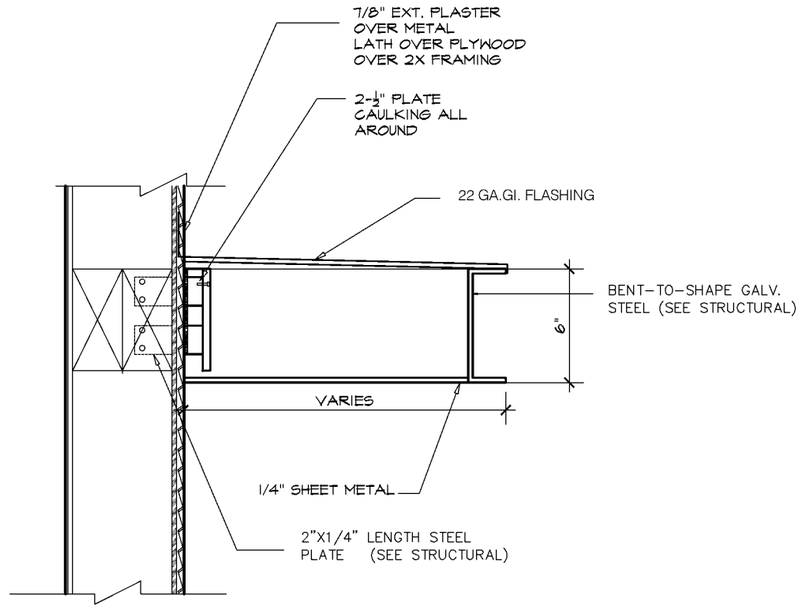
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59

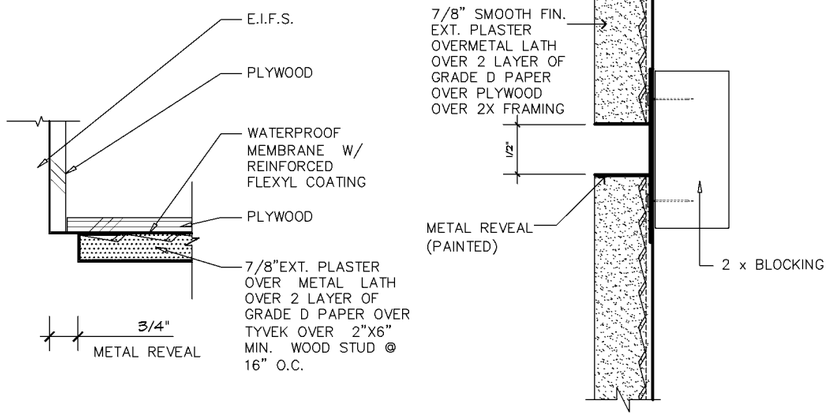
PLOT DATE 11/2022



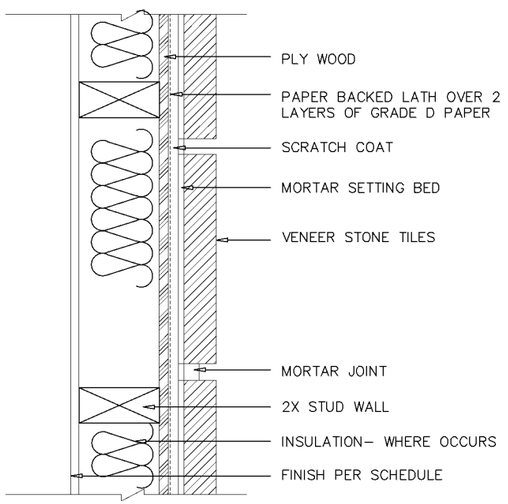
1 ENTRY PIVOT DOOR HEAD DETAIL



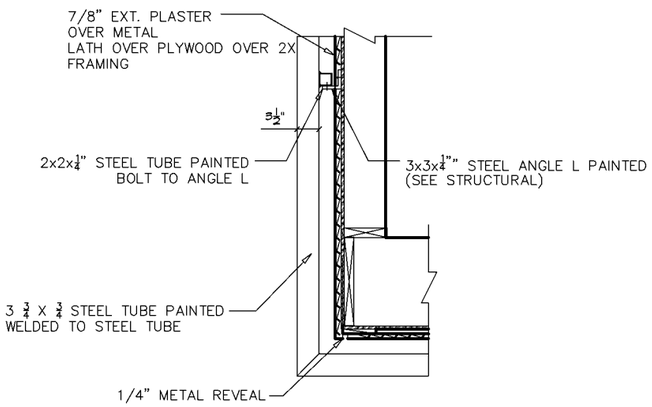
2 METAL AWNING DETAIL



3 METAL REVEAL DETAIL



4 STONE INSTALLATION DETAIL



5 METAL SCREEN WALL DETAIL

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DRAWING TITLE:

DETAILS

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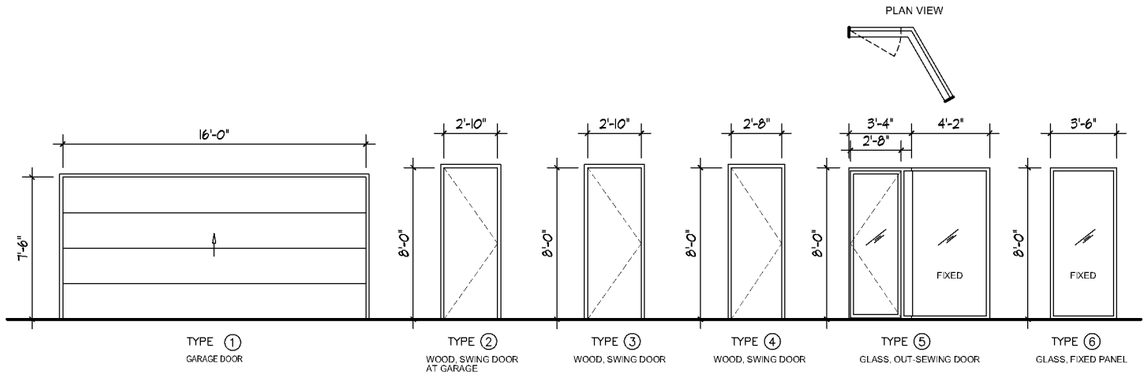
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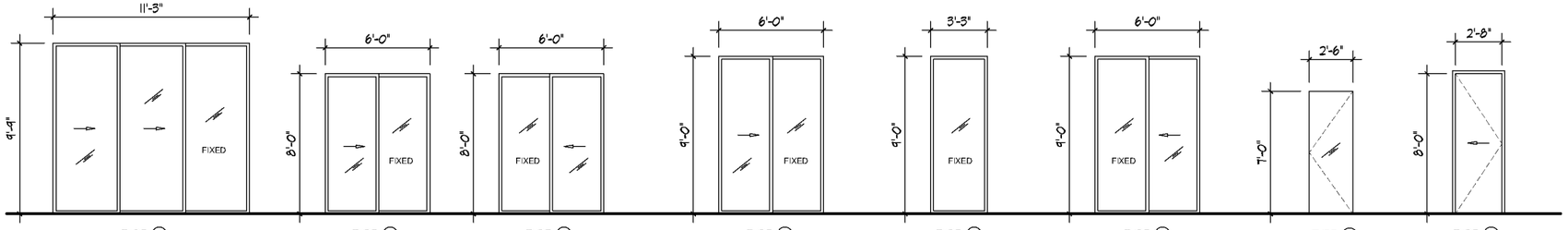
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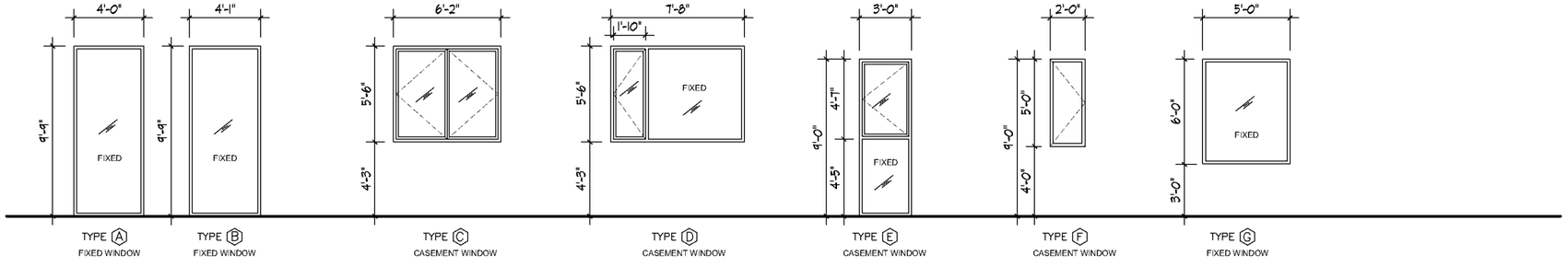
E-10.7

60

PLOT DATE 11/2022







-4' 0 2' 4' 8' 16'

*NO SUBSTITUTION WITHOUT PRIOR DESIGN REVIEW APPROVAL.

DOOR SCHEDULE

TYP.	MAT.	FRAME MAT.	FINISHING	DBL. GLZ	SELF CLOSING	REMARK	TEMP. GL.
1	WD	WD	STAIN			ROLL-UP GARAGE DOOR	
2	WD	WD	STAIN			SWING DOOR	
3	WD	WD	STAIN			SWING DOOR	
4	WD	WD	STAIN			SWING DOOR	
5	AL& GL.	AL	FACTORY PAINT	•		SWING DOOR	•
6	AL& GL.	AL	FACTORY PAINT	•		FIXED GLASS PANEL	•
7	AL& GL.	AL	FACTORY PAINT	•		GLASS SLIDING DOOR	•
8	AL& GL.	AL	FACTORY PAINT	•		GLASS SLIDING DOOR	•
9	WS	WD	STAIN			PIVOT ENTRY DOOR	
10	AL& GL.	AL	FACTORY PAINT	•		GLASS SLIDING DOOR	•
11	AL& GL.	AL	FACTORY PAINT	•		GLASS SLIDING DOOR	•
12	AL& GL.	AL	FACTORY PAINT	•		GLASS SLIDING DOOR	•
12.2	AL& GL.	AL	FACTORY PAINT	•		GLASS SLIDING DOOR	•
13	AL& GL.	AL	FACTORY PAINT	•		GLASS SLIDING DOOR	•
14	AL& GL.	AL	FACTORY PAINT	•		FIXED GLASS PANEL	•
15	AL& GL.	AL	FACTORY PAINT	•		GLASS SLIDING POCKET DOOR	•
16	AL& GL.	AL	FACTORY PAINT	•		SWING SHOWER DOOR	•
17	WD	WD	STAIN	•		POCKET DOOR	

WINDOW SCHEDULE

TYP.	MAT.	FRAME MAT.	FINISHING	DBL. GLZ	TEMP. GL.
ALL	AL.& WD.	AL	FACTORY PAINT	•	•

NOTE: ALL OPENINGS TO HAVE SECURITY ALARM SYSTEM

AL : ALUMINUM WD: WOOD GL: GLASS WS: SOLID WOOD AND STEEL

ALL GLAZING IN DOORS MUST BE TEMPERED GLASS (TYP.)
ALL DOORS AND WINDOWS ARE ALUMINUM CLAD WITH INTERIOR WOOD FINISH

HERS FEATURE SUMMARY

THE FOLLOWING IS A SUMMARY OF THE FEATURES THAT MUST BE FIELD-VERIFIED BY A CERTIFIED HERS RATER AS A CONDITION FOR MEETING THE MODELED ENERGY PERFORMANCE FOR THIS COMPUTER ANALYSIS. ADDITIONAL DETAIL IS PROVIDED IN THE BUILDING COMPONENTS TABLES BELOW.

NOTE:

1-DOOR MUST OPEN OVER A LANDING NOT MORE THAN 1" BELOW THE THRESHOLD. EXEPTION: PROVIDING THE DOOR DOES NOT SWING OVER THE LANDING, LANDING SHALL BE NOT MORE THAN 8" BELOW THE THRESHOLD.
2-ALL WOOD EXTERIOR SWING DOOR ARE SOLID CORE 1.75" THICK MIN.(SMMC 8.48.120.b) MIN. THICKNESS OF WOOD: 9/16", ALUMINUM: 0.0215", FIBERGLASS MIN. DENSITY: 6 OZ/SQ.FT. (SMMC 8.48.120.C),ALL EXTERIOR GLASS PANELS MIN.9/16" THICK (SMMC 8.48.120.d).THE THICKNESS OF THE LARGE GLASS PANELS AND DOORS AND FRAMING SUPPORT MEMBERS AND CONNECTIONS SHALL COMPLY WITH CBC 2010 CHAPTER 24 AND ASCE 7-05 CHAPTER 13.
3-EXTERIOR DOOR ASSEMBLIES SHALL CONFORM TO THE PERFORMANCE REQUIREMENTS OF STANDARD SFM 12-7A-1 OR SHALL BE APPROVED NONCOMBUSTIBLE CONSTRUCTION, OR SOLID CORE WOOD HAVING STILES AND RAILS NOT LESS THAN 1 3/8 INCHES THICK WITH INTERIOR FIELD PANEL THICKNESS NO LESS THAN 1 1/4 INCHES THICK, OR SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 20 MINUTES WHEN TESTED ACCORDING TO ASTM E 2074. (EXEPTION: NONCOMBUSTIBLE OR EXTERIOR FIRE-RETARDANT TREATED WOOD VEHICLE ACCESS DOORS) (704A.3.2.3)
4- GLAZING IN HAZARDOUS LOCATION SHALL BE TEMPERED 2406.3
a. INGRESS AND EGRESS DOORS.
b. PANELS IN SLIDING OR SWINGING DOORS.
c. DOORS AND ENCLOSURE FOR HOT TUB, BATHTUB, SHOWERS (ALSO GLAZING IN WALL ENCLOSING THESE COMPARTMENTS WITHIN 5' OF STANDING SURFACE)
d. IF WITHIN 2' OF VERTICAL EDGE OF CLOSED DOOR AND LESS THAN 5' OF WALKING SURFACE.
e. IN WALL ENCLOSING STAIRWAY LANDING.
f. GUARDS AND HANDRAILS
5- PRE STAINED AND PRE FINISHED DOOR AND WINDOWS SHALL BE PROVIDED
6- DOORS AND WINDOWS ARE FROM FLEETWOOD AND ANY SUBSTITUTION REQUIRES PRIOR DESIGN REVIEW APPROVAL.

SECURITY REQUIREMENT NOTES:

1. ALL ENTRY DOORS TO DWELLING UNITS OR GUEST ROOMS SHALL BE ARRANGED SO THAT THE OCCUPANT HAS A VIEW OF THE AREA IMMEDIATELY OUTSIDE THE DOOR WITHOUT OPENING THE DOOR. SUCH VIEW MAY BE PROVIDED BY A DOOR VIEWER, THROUGH WINDOWS LOCATED IN THE VICINITY OF THE DOOR OR THROUGH VIEW PORTS IN THE DOOR OR ADJOINING WALL. (6706)
2. SCREENS, BARRICADES, OR FENCES MADE OF A MATERIAL WHICH WOULD PRECLUDE HUMAN CLIMBING SHALL BE PROVIDED AT EVERY PORTION OF EVERY ROOF, BALCONY, OR SIMILAR SURFACE WHICH IS WITHIN 8 FT. OF THE UTILITY POLE OR SIMILAR STRUCTURES. (6707)
3. WOOD FLUSH-TYPE DOORS SHALL BE 1 3/8" THICK MINIMUM WITH SOLID CORE CONSTRUCTION. 91.6709.1 – DOOR STOPS OF IN-SWINGING DOORS SHALL BE OF ONE-PIECE CONSTRUCTION WITH THE JAMB OR JOINED BY RABBET TO THE JAMB. (6709.4)
4. EVERY DOOR IN A SECURITY OPENING FOR AN APARTMENT HOUSE SHALL BE PROVIDED WITH A LIGHT BULB (60 WATT MIN.) AT A MAXIMUM HEIGHT OF 8 FEET ON THE EXTERIOR. (6708)
5. ALL PIN-TYPE DOOR HINGES ACCESSIBLE FROM OUTSIDE SHALL HAVE NON-REMOVABLE HINGE PINS. HINGES SHALL HAVE MIN. 1/4" DIA. STEEL JAMB STUD WITH 1/4" MIN. PROTECTION. THE STRIKE PLATE FOR LATCHES AND HOLDING DEVICE FOR PROJECTING DEAD BOLTS IN WOOD CONSTRUCTION SHALL BE SECURED TO THE JAMB AND THE WALL FRAMING WITH SCREWS NO LESS THAN 2-1/2" LONG. (91.6709.5, 6709.7)
6. PROVIDE DEAD BOLTS WITH HARDENED INSERTS; DEADLOCKING LATCH WITH KEY-OPERATED LOCKS ON EXTERIOR. DOORS MUST BE OPERABLE FROM THE INSIDE WITHOUT A KEY, SPECIAL KNOWLEDGE, OR SPECIAL EFFORT (LATCH NOT REQUIRED IN B, F, AND S OCCUPANCIES). (6709.2)
7. STRAIGHT DEAD BOLTS SHALL HAVE A MIN. THROW OF 1" AND AN EMBEDMENT OF NOT LESS THAN 5/8", AND A HOOK-SHAPED OR AN EXPANDING-LUG DEADBOLT SHALL HAVE A MINIMUM THROW OF 3/4". (6709.2)
8. THE USE OF A LOCKING SYSTEM WHICH CONSISTS OF A DEADLOCKING LATCH OPERATED BY A DOORKNOB AND A DEADBOLT OPERATED BY A NON REMOVABLE THUMB TURN WHICH IS INDEPENDENT OF THE DEADLOCKING LATCH AND WHICH MUST BE SEPARATELY OPERATED, SHALL NOT BE CONSIDERED AS A SYSTEM WHICH REQUIRES SPECIAL KNOWLEDGE OR EFFORT WHEN USED IN DWELLING UNITS. THE DOOR KNOB AND THE THUMB TURN WHICH OPERATES THE DEADBOLT SHALL NOT BE SEPARATED BY MORE THAN 8 INCHES.
9. WOOD PANEL TYPE DOORS MUST HAVE PANELS AT LEAST 9/16 IN. THICK WITH SHAPED PORTIONS NOT LESS THAN 1/4 IN. THICK AND INDIVIDUAL PANELS MUST BE NO MORE THAN 300 SQ. IN. IN AREA. MULLIONS SHALL BE CONSIDERED A PART OF ADJACENT PANELS EXCEPT MULLIONS NOT OVER 18 INCHES LONG MAY HAVE AN OVERALL WIDTH OF NOT LESS THAN 2 INCHES. STILES AND RAILS SHALL BE OF SOLID LUMBER IN THICKNESS WITH OVERALL DIMENSIONS OF NOT LESS THAN 1 3/8 INCHES AND 3 INCHES IN WIDTH. (91.6709.1 ITEM 2)
10. SLIDING DOORS SHALL BE PROVIDED WITH A DEVICE IN THE UPPER CHANNEL OF THE MOVING PANEL TO PROHIBIT RAISING AND REMOVING OF THE MOVING PANEL IN THE CLOSED OR PARTIALLY OPEN POSITION. (6710)
11. SLIDING GLASS DOORS SHALL BE EQUIPPED WITH LOCKING DEVICES AND SHALL BE SO CONSTRUCTED AND INSTALLED THAT THEY REMAIN INTACT AND ENGAGED WHEN SUBJECTED TO THE TESTS SPECIFIED IN SEC. 6717.1
12. METAL OR WOODEN OVERHEAD OR SLIDING DOORS SHALL BE SECURED WITH A CYLINDER LOCK, PADLOCK WITH A MIN. 9/32" DIAMETER HARDENED STEEL SHACKLE AND BOLTED, HARDENED STEEL HASPS, METAL SLIDE BOARD, BOLT OR EQUIVALENT DEVICE UNLESS SECURED ELECTRICALLY OPERATED. (6711)
13. PROVIDE METAL GUIDES AT TOP AND BOTTOM OF METAL ACCORDION GRATE OR GRILLE-TYPE DOORS AND CYLINDER LOCKS OR PADLOCKS. CYLINDER GUARDS SHALL BE INSTALLED ON ALL CYLINDER LOCKS WHENEVER THE CYLINDER PROJECTS BEYOND THE FACE OF THE DOOR OR IS OTHERWISE ACCESSIBLE TO GRIPPING TOOLS. (6712)
14. IN B, F, M, AND S OCCUPANCIES, PANES OF GLAZING WITH AT LEAST ONE DIMENSION GREATER THAN 5 IN. BUT LESS THAN 48 IN. SHALL BE CONSTRUCTED OF TEMPERED OR APPROVED BURGLARY-RESISTANT MATERIAL OR PROTECTED WITH METAL BARS OR GRILLES (6714)
15. GLAZED OPENINGS WITHIN 40" OF THE DOOR LOCK WHEN THE DOOR IS IN THE CLOSED POSITION, SHALL BE FULLY TEMPERED GLASS OR APPROVED BURGLARY RESISTANT MATERIAL, OR SHALL BE PROTECTED BY METAL BARS, SCREENS OR GRILLS HAVING A MAXIMUM OPENING OF 2". THE PROVISIONS OF THIS SECTION SHALL NOT APPLY TO VIEW PORTS OR WINDOWS WHICH DO NOT EXCEED 2" IN THEIR GREATEST DIMENSIONS. (6713)
16. LOUVERED WINDOWS SHALL BE PROTECTED BY METAL BARS OR GRILLS WITH OPENINGS THAT HAVE AT LEAST ONE DIMENSION OF 6" OR LESS, WHICH ARE CONSTRUCTED TO PRECLUDE HUMAN ENTRY. (6715.3)
17. OTHER OPEN ABLE WINDOWS SHALL BE PROVIDED WITH SUBSTANTIAL LOCKING DEVICES. IN B, F, M AND S OCCUPANCIES, SUCH DEVICES SHALL BE GLIDE BARS, BOLTS, CROSS-BARS, AND/OR PADLOCKS WITH MINIMUM 9/32" HARDENED STEEL SHACKLES AND BOLTED, HARDENED STEEL HASPS. (6715.2)
18. SLIDING WINDOWS SHALL BE PROVIDED WITH A DEVICE IN THE UPPER CHANNEL OF THE MOVING PANEL TO PROHIBIT RAISING AND REMOVING OF THE MOVING PANEL IN THE CLOSED OR PARTIALLY OPEN POSITION. 6715.1
19. SLIDING WINDOWS SHALL BE EQUIPPED WITH LOCKING DEVICES AND SHALL BE SO CONSTRUCTED AND INSTALLED THAT THEY REMAIN INTACT AND ENGAGED WHEN SUBJECTED TO THE TESTS SPECIFIED IN SEC. 6717.2.
20. ANY RELEASE FOR METAL BARS, GRILLS, GRATES OR SIMILAR DEVICES CONSTRUCTED TO PRECLUDE HUMAN ENTRY THAT ARE INSTALLED SHALL BE LOCATED ON THE INSIDE OF THE ADJACENT ROOM AND AT LEAST 24 INCHES FROM THE CLOSEST OPENING THROUGH SUCH METAL BARS, GRILLS, GRATES OR SIMILAR DEVICES THAT EXCEEDS TWO INCHES IN ANY DIMENSION. (91.6715.4)
21 ALL OTHER OPENINGS MUST BE PROTECTED BY METAL BARS OR GRILLES WITH OPENINGS OF NOT LESS THAN 6 INCHES IN ONE DIMENSION. (91.6716)

LABYRINTH
DESIGN STUDIO INC.
Tel: 818.200.5005

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REVISIONS

No.	Date

PROJECT:
4230 SALTILLO STREET
LOS ANGELES , CA 91364

OWNER:
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9023 Alto Cedro Drive,
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E-mail:michellefarhadi@yahoo.com

DESIGNER:
LABYRINTH DESIGN STUDIO
POUYA PAYAN
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1600 SAWTELLE BLVD. #230
LOS ANGELES, CA. 90025
e-mail: pouya@labyrinth-ds.com

DRAWING TITLE:

DOORS AND WINDOWS SCHEDULE

SCALE: 1/8"=1'-0"

Date: 2022
Job No: 4230 SALTILLO
Drawn By: N.N.
Checked By: P.P.

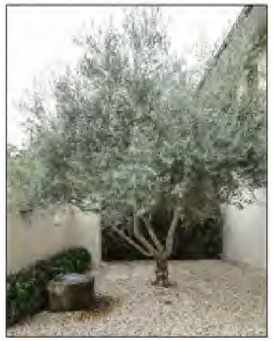
Drawing No.

W-1

61

PLOT DATE 11/2022


Laurus nobilis / Sweet Bay


Olea europea / Olive


Quercus agrifolia / Coast Live Oak


Bulbine frutescens


Clematis Passiflora / Blue Passion Flower


Dianella r. 'Little Rev' / Flax Lilly


Heuchera maxima / Island Alum Root


Muhlenbergia rigens / Deer Grass


Ceanothus horizantalis / Wild Lilac


Ribes viburnifolium / Evergreen Current


Salvia spathacea / Hummingbird Sage


Thymus vulgaris / Common Thyme


Tradescantia zebrina 'Purpusii' / Wandering Jew


Woodwardia fimbriata / Giant Chain Fern


Baccharis p. 'Pigeon Point' / Dwarf Coyote Brush


Phormium hyb. 'Yellow Wave' / New Zealand Flax


Tradescantia pallida

TREE LEGEND

SYM.	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	REMARKS	WUCOLS	SIZE AT MATURITY	YEARS
	* Laurus nobilis	Sweet Bay	15-gal	2	low branching	low 0.3	10'x20'	5
	* Olea europea	Olive	15-gal	2	fruitless	low 0.3	25'x20'	5
	* Quercus agrifolia	Coast Live Oak	24"box	8		low 0.3	25'x40'	15

SHRUBS AND GROUND COVER LEGEND

SYM.	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	REMARKS	WUCOLS	SIZE AT MATURITY	YEARS
	Baccharis p. 'Pigeon Point'	Dwarf Coyote Brush	5-gal	36"oc		low 0.3	will cover	3
	* Bulbine frutescens		5-gal	17		low 0.3	24"x24"	3
	Ceanothus horizantalis	Wild Lilac	5-gal	5'oc		low 0.3	will cover	3
	* Clematis Passiflora	Blue Passion Flower	5-gal	9	train to wall	low 0.3	will cover	3
	* Dianella r. 'Little Rev'	Flax Lilly	5-gal	11		low 0.3	24"x30"	3
	Heuchera maxima	Island Alum Root	1-gal	24"oc		low 0.3	12"x24"	3
	* Muhlenbergia rigens	Deer Grass	5-gal	16		low 0.3	48"x48"	3
	* Phormium hyb. 'Yellow Wave'	New Zealand Flax	5-gal	1		low 0.3	48"x48"	3
	* Ribes viburnifolium	Evergreen Current	5-gal	11		low 0.3	48"x60"	3
	Salvia spathacea	Hummingbird Sage	5-gal	48"oc		low 0.3	18"x48"	3
	Thymus vulgaris	Common Thyme	flats	10"oc		low 0.3	6"x24"	3
	Tradescantia pallida		1-gal	6"oc		low 0.3	12"x36"	3
	Tradescantia zebrina 'Purpusii'	Wandering Jew	1-gal	6"oc		low 0.3	12"x36"	3
	* Woodwardia fimbriata	Giant Chain Fern	5-gal	7		low 0.3	48"x48"	3

* Points claimed for low water use plants

LANDSCAPE AREA: 2,532 SF
IRRIGATION WATER SUPPLY TYPE: POTABLE WATER SUPPLY

RECIRCULATING WATER SYSTEMS SHALL BE USED FOR WATER FEATURES

A MINIMUM 3" LAYER OF MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT TURF AREAS, CREEPING OR ROOTING GROUNDCOVERS, OR DIRECT SEEDING APPLICATIONS WHERE MULCH IS CONTRAINDICATED

FOR SOILS LESS THAN 6% ORGANIC MATTER IN THE TOP 6" OF SOIL, COMPOST AT A RATE OF A MINIMUM OF 4 CUBIC YARDS PER 1,000 SF OF PERMEABLE AREA SHALL BE INCORPORATED TO A DEPTH OF 6" INTO SOIL.

NOTE:
All groundcover areas where plants are 3'oc or greater to have geotextile fabric installed 3" below finished grade w/ 3" shredded bark above to eliminate weed growth.

Waterproofing and drains in planters by others.

All trees to be planted with commercial root barriers.

3" deep shredded Cedar bark to spread between plants.

REVISIONS DATE
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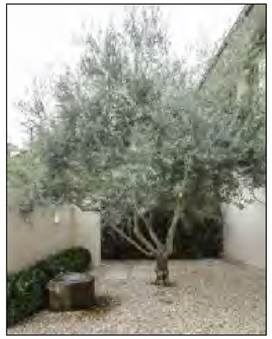
PLANTING PLAN

LICENSED LANDSCAPE ARCHITECT YAEL LIR 3171 Signature 12-31-23 Renewal Date Date STATE OF CALIFORNIA

DATE: OCT. 19, 2022
SCALE: 1/16"=1'-0"
JOB NUMBER: 230922
DRAWN BY:

L-1


Laurus nobilis / Sweet Bay


Olea europea / Olive


Quercus agrifolia / Coast Live Oak


Bulbine frutescens


Clematis Passiflora / Blue Passion Flower


Dianella r. 'Little Rev' / Flax Lilly


Heuchera maxima / Island Alum Root


Muhlenbergia rigens / Deer Grass


Ceanothus horizantalis / Wild Lilac


Ribes viburnifolium / Evergreen Current


Salvia spathacea / Hummingbird Sage


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3" deep shredded Cedar bark to spread between plants.

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yael@yaellir.com

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PLANTING PLAN

LICENSED LANDSCAPE ARCHITECT YAEL LIR 3171 Signature 12-31-23 Renewal Date Date STATE OF CALIFORNIA

DATE: OCT. 19, 2022
SCALE: 1/16"=1'-0"
JOB NUMBER: 230922
DRAWN BY:

L-1 63

ALL IRRIGATION IS SUB-SURFACE DRIP SYSTEM

IRRIGATION LEGEND

DESCRIPTION	SYM.	P.S.I.	RAD.	G.P.M.	
'RAINBIRD' RWS-B-1402		10	–	.50	
'SUPERIOR' BRASS CONTROL VALVES, #950					
'NIBCO' GATE VALVE T-113					
'CHRISTY' CONCRETE VALVE BOX					
'RAINBIRD' QUICK COUPLER 44 LRC 1"					
'SUPERIOR' 3100 series MASTER VALVE		1"			
'HUNTER' FLOW SENSOR FCT-150 FLOW		1"			
'WILKINS' REGULATOR MODEL 500		1"			
'WILKINS' BACKFLOW PREVENTER 375		W/WYE STRAINER IN CAGE (BFP TO BE PAINTED DARK GREEN)			
'HUNTER' ACC2		LOCATION BY OWNER			
'HUNTER' SOLAR SYNC WIRELESS		LOCATION BY OWNER			
SLEEVING SCH. 40 P.V.C.		TWICE LINE SIZE (MIN.)			
PRESSURE LINE SCH. 40 P.V.C.		1"			
NON-PRESSURE LINE SCH. 40 P.V.C.		SEE PLAN FOR SIZE			
IRRIGATION METER	M	1.5"			
POINT OF CONNECTION	P.O.C.	VERIFY LOCATION ON SITE			

NETAFIM LEGEND

'NETAFIM' LVCZ10075-LF		CONTROL VALVE, TECHFILTER & PRESSURE REGULATOR.
'NETAFIM' LINE FLUSH VALVE	LF	
'NETAFIM' TECHLINE CV TLCV4-18025		BURIED 3" BELOW GRADE
NON-PRESSURE 1" SCH. 40 PVC HEADER		

SIZE / NO. / H — GPM / HYDROZONE

LANDSCAPE AREA:	2,532 SF
IRRIGATION WATER SUPPLY TYPE:	POTABLE WATER SUPPLY

"I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLANS"

"I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND SUBMIT A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE"

10/20/2022

PRESSURE REGULATING DEVICES ARE REQUIRED IF WATER PRESSURE IS BELOW OR EXCEEDS THE RECOMMENDED PRESSURE OF THE SPECIFIED IRRIGATION DEVICE.

A DIAGRAM OF THE IRRIGATION PLAN SHOWING THE HYDROZONES SHALL BE KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSE

CHECK VALVES OR ANTI-DRAIN VALVES ARE REQUIRED ON ALL SPRINKLER HEADS WHERE LOW POINT DRAINAGE COULD OCCUR

A CERTIFICATE OF COMPLETION SHALL BE FILLED OUT AND CERTIFIED BY EITHER THE DESIGNER OF THE LANDSCAPE PLANS, IRRIGATION PLANS OR A LICENSED LANDSCAPE CONTRACTOR FOR THE PROJECT

AN IRRIGATION AUDIT REPORT SHALL BE COMPLETED AT THE TIME OF FINAL INSPECTION.

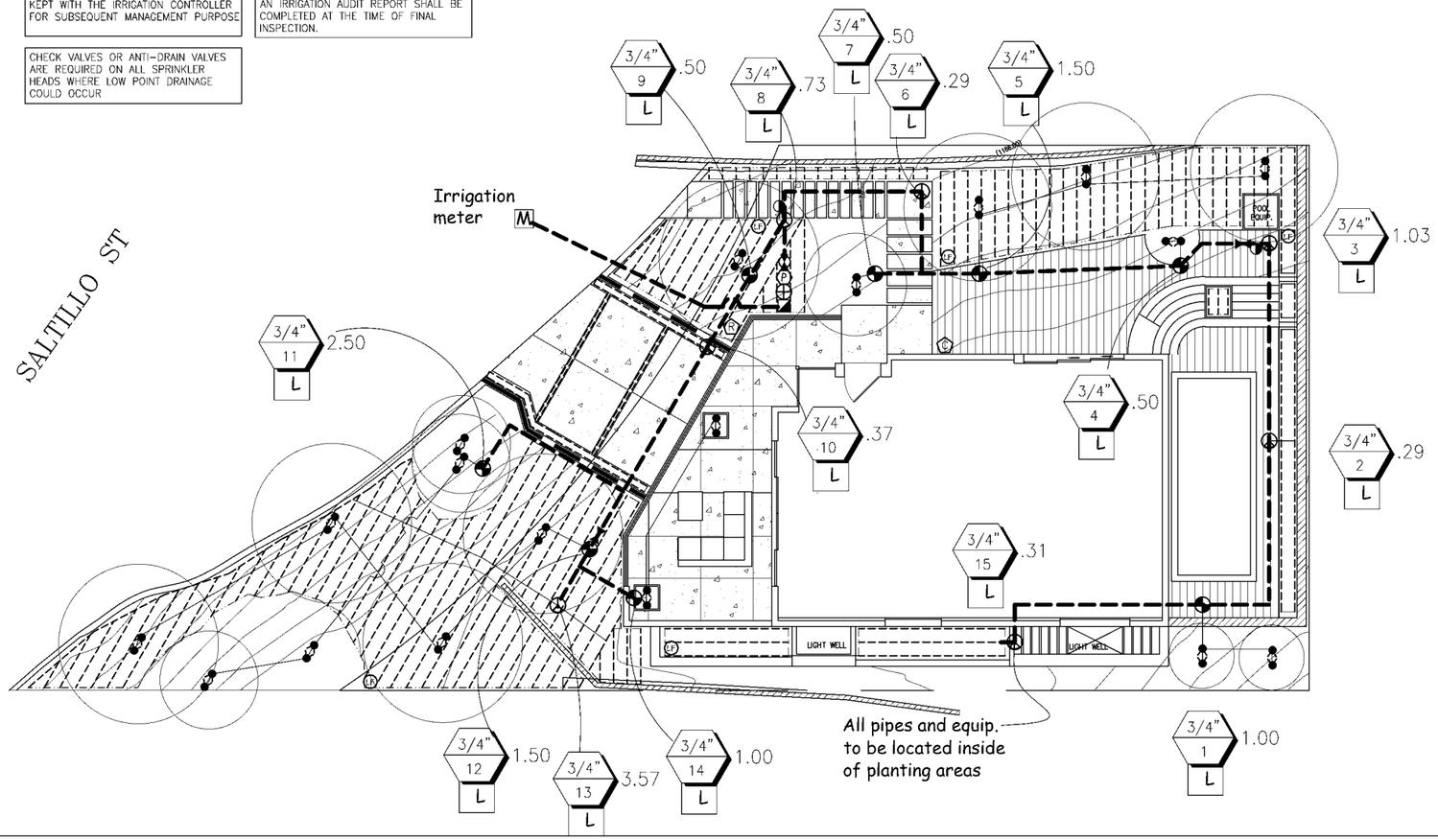
WATER EFFICIENT LANDSCAPE WORKSHEET

REFERENCE EVAPOTRANSPIRATION (ETo): 50.1

HYDROZONE / PLANTING DESCRIPTION	PLANT FACTOR (PF)	IRRIGATION METHOD	IRRIGATION EFFICIENCY	ETAF (PF/IE)	LANDSCAPE AREA	ETAF x AREA	ESTIMATED TOTAL WATER USE
1 / water use plants	.3	DRIP	.81	.37	20	7.4	229
2 / water use plants	.3	DRIP	.81	.37	85	31.45	976
3 / water use plants	.3	DRIP	.81	.37	350	129.5	4022
4 / water use plants	.3	DRIP	.81	.37	10	3.7	114
5 / water use plants	.3	DRIP	.81	.37	30	11.1	344
6 / water use plants	.3	DRIP	.81	.37	55	20.35	632
7 / water use plants	.3	DRIP	.81	.37	10	3.7	114
8 / water use plants	.3	DRIP	.81	.37	246	91.02	2827
9 / water use plants	.3	DRIP	.81	.37	20	7.4	229
10 / water use plants	.3	DRIP	.81	.37	124	45.88	1425
11 / water use plants	.3	DRIP	.81	.37	50	18.5	574
12 / water use plants	.3	DRIP	.81	.37	30	11.1	344
13 / water use plants	.3	DRIP	.81	.37	1204	445.48	13837
14 / water use plants	.3	DRIP	.81	.37	20	7.4	229
15 / water use plants	.3	DRIP	.81	.37	105	38.85	1206
POOL	1.0	-	-	1.0	173	173	5373
				SUM	**2,532**	**1,045.83**	
ESTIMATED TOTAL WATER USE (ETWU)							**32,475**
MAXIMUM APPLIED WATER ALLOWANCE (MAWA)							**43,256**

ETAF CALCULATION

ETAF x AREA	**1,045.83**
TOTAL AREA	**2,532**
AVERAGE ETAF	**.41**



IRRIGATION NOTES

1. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE.
2. SET ALL VALVES AND QUICK COUPLERS NEXT TO WALKS OR PAVED SURFACES.
3. ALL SPRINKLER HEADS ARE TO HAVE TRIPLE SWING JOINTS (EXCEPT WHERE NOTED ON PLANS).
4. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT THE TIME OF THE SAID REJECTION.
5. FINAL LOCATION OF THE AUTOMATIC CONTROLLER SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER.
6. 120VAC ELECTRICAL POWER SOURCE AT CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS.
7. BEFORE COMMENCING ANY EXCAVATION, THE CONTRACTOR SHALL OBTAIN AN UNDERGROUND SERVICE ALERT I.D. NUMBER BY CALLING 1-800-422-4133. TWO (2) WORKING DAYS SHALL BE ALLOWED AFTER THE I.D.NUMBER IS OBTAINED AND BEFORE THE EXCAVATION WORK IS STARTED SO THAT UTILITY OWNERS CAN BE NOTIFIED.
8. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.
9. THE CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS AND VALVES FOR OPTIMUM COVERAGE WITH MINIMAL OVER SPRAY ONTO WALKS, STREETS, ETC.
10. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH THE GRADE DIFFERENCES, LOCATION OF WALLS, AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED BY HIS WORK. HE SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS UNDER ROADWAYS AND PAVING, ETC.
11. THE SPRINKLER SYSTEM DESIGN IS BASED ON A MINIMUM OPERATING PRESSURE OF 80 P.S.I. AND A MAXIMUM FLOW DEMAND OF 25 G.P.M. THE CONTRACTOR SHALL VERIFY WATER PRESSURES PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE ARCHITECT.
12. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT THERE ARE UNKNOWN OBSTRUCTIONS OR GRADE DIFFERENCES IN THE AREA. DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. IN THE EVENT THAT THIS NOTIFICATION IS NOT GIVEN, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY REVISIONS.
13. ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
14. THE INTENT OF THE CONTRACTOR IS TO PROVIDE 100% COVERAGE TO ALL PLANTING AREAS. AS PART OF THE SCOPE OF WORK, PROVIDE ANY ADDITIONAL HEADS, SPECIAL NOZZLES, OR PATTERNS TO ACHIEVE PROPER COVERAGE WITH A MINIMUM OF OVER SPRAY AT NO ADDITIONAL COST TO THE OWNER.
15. INSTALLATION FOR THE CONTROL WIRES SHALL FOLLOW MAINLINE ROUTING.
16. PROVIDE SLEEVES AS SHOWN ON DRAWING OR AS NEEDED. USE SIZE DIAMETER MIN. SCH. 80 P.V.C. MIN. DEPTH TO TOP OF LINE.
17. LOCATE VALVE CHART IN CONTROLLER - REDUCE AND ENCASE IN PLASTIC (AS BUILT).
18. GUARANTEE: THE INSTALLED SPRINKLER SYSTEM SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE OF THE WORK. SHOULD ANY TROUBLE DEVELOP WITHIN THE TIME SPECIFIED DUE TO INFERIOR OR FAULTY MATERIAL OR WORKMANSHIP, THE TROUBLE SHALL BE CORRECTED BY THE CONTRACTOR WITHOUT EXPENSE TO THE OWNER.
19. REFER TO GENERAL NOTES FOR ADDITIONAL INFORMATION REGARDING THIS SECTION OF WORK.

REVISIONS	DATE
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YAEL Lir

ASLA
Yael Lir Landscape Architects
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Fax 323.258.5333
yael@yaellir.com

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LOS ANGELES, CA 91364

IRRIGATION PLAN

LICENSED LANDSCAPE ARCHITECT
REG. LIC. 3171
Signature
12-31-23
Renewal Date
Date
STATE OF CALIFORNIA

DATE:	OCT. 19, 2022
SCALE:	1/16"=1'-0"
JOB NUMBER:	230922
DRAWN BY:	

L-2 64



North Elevation



West Elevation



South Elevation



East Elevation

REVISIONS DATE

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ASLA
Yael Lir Landscape Architects

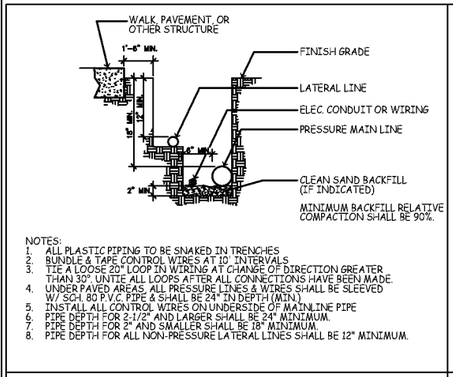
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ELEVATION

LICENSED LANDSCAPE ARCHITECT YAEL LIR 3777 12-31-23 RENEWAL DATE STATE OF CALIFORNIA

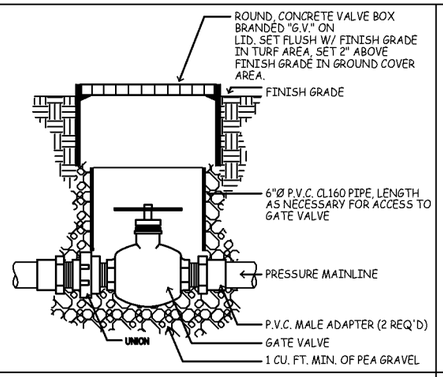
DATE: OCT. 19, 2022
SCALE: 1/16"=1'-0"
JOB NUMBER: 230922
DRAWN BY:



NOTES:
1. ALL PLASTIC PIPING TO BE SNAKED IN TRENCHES
2. BUNDLE & TAPE CONTROL WIRES AT 10' INTERVALS
3. TIE A LOOSE 20" LOOP IN WIRING AT CHANGE OF DIRECTION GREATER THAN 30°. UNTIE ALL LOOPS AFTER ALL CONNECTIONS HAVE BEEN MADE.
4. UNDER PAVED AREAS, ALL PRESSURE LINES & WIRES SHALL BE SLEEVED W/ SCH. 80 P.V.C. PIPE & SHALL BE 24" IN DEPTH (MIN.).
5. INSTALL ALL CONTROL WIRES ON UNDERSIDE OF MAINLINE PIPE
6. PIPE DEPTH FOR 2-1/2" AND LARGER SHALL BE 24" MINIMUM.
7. PIPE DEPTH FOR 2" AND SMALLER SHALL BE 18" MINIMUM.
8. PIPE DEPTH FOR ALL NON-PRESSURE LATERAL LINES SHALL BE 12" MINIMUM.

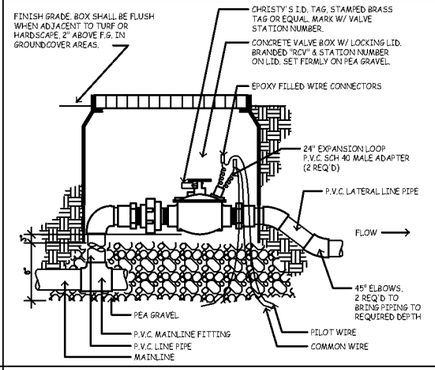
TRENCHING DETAIL

SCALE: N.T.S.
FILE: D_IRR002



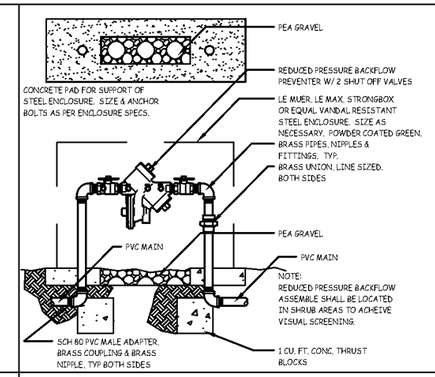
GATE VALVE

SCALE: N.T.S.
FILE: D_IRR003



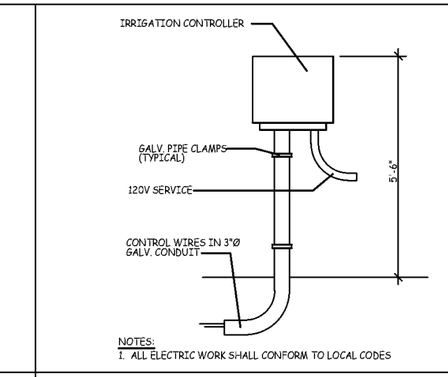
CONTROL VALVE

SCALE: N.T.S.
FILE: D_IRR004



BACKFLOW PREVENTER

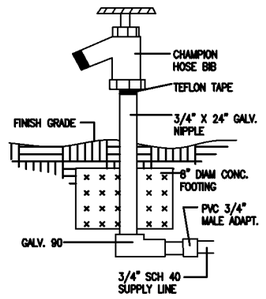
SCALE: N.T.S.
FILE: D_IRR006



NOTES:
1. ALL ELECTRIC WORK SHALL CONFORM TO LOCAL CODES

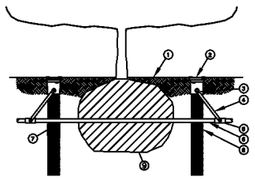
WALL MOUNT CONTROLLER

SCALE: N.T.S.
FILE: D_IRR008



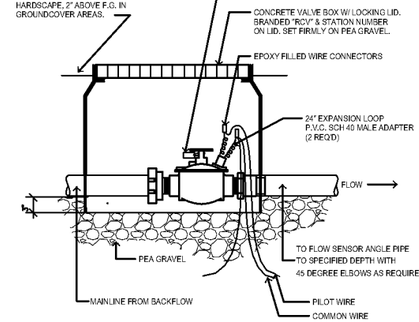
HOSE BIB

SCALE: NTS
FILE: FILENAME



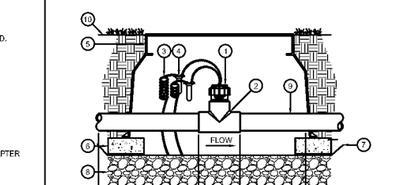
TREE ROOT WATER SYSTEM

SCALE: NTS
FILE: FILENAME



MASTER VALVE

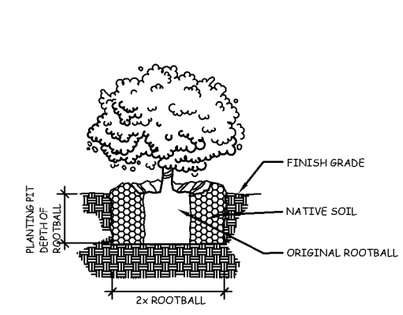
SCALE: N.T.S.
FILE: D_IRR004



DETAIL LEGEND:
1. FLOW SENSOR PER PLAN (HFS)
2. RECEPTACLE TEE (FCT), SIZE PER PLAN
3. MIN. 18/2 WIRE PER PLAN TO CONTROLLER SENSOR TERMINALS MAXIMUM WIRE DISTANCE RUN OF 1,000'
4. DBRY-6 WIRE SPLICE
5. RECTANGULAR VALVE BOX PER PLAN
6. BRICK SUPPORTS AT EACH CORNER (4)
7. FILTER FABRIC
8. GRAVEL BASE, DEPTH PER PLAN
9. MAIN LINE AND SOIL COVER PER PLAN
10. FINISHED GRADE

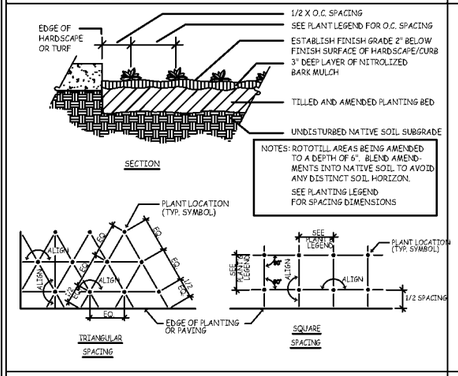
FLOW SENSOR

SCALE: SCALE
FILE: FILENAME



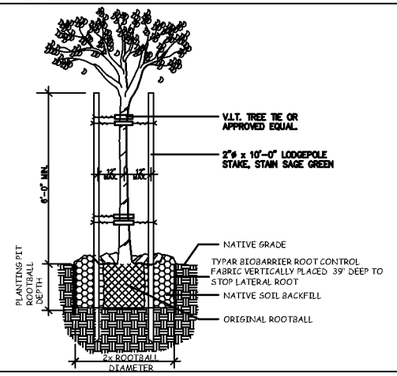
SHRUB PLANTING

SCALE: N.T.S.
FILE: D_PLA001



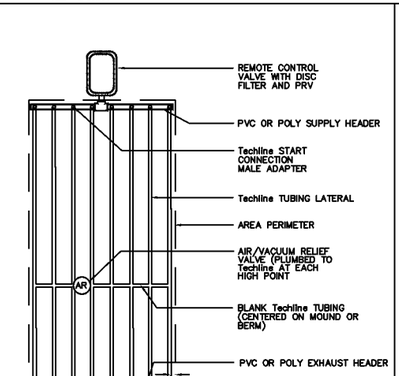
GROUNDCOVER PLANTING

SCALE: N.T.S.
FILE: D_PLA002

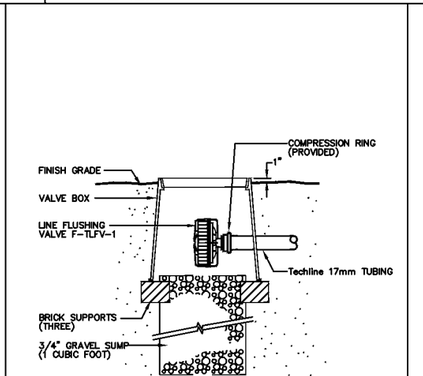


TREE PLANTING & STAKING

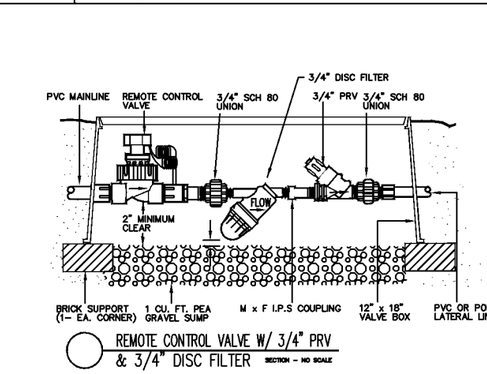
SCALE: NTS
FILE: PLA_003



Techline END FEED LAYOUT
DETAIL - NO SCALE



Techline LINE FLUSHING VALVE (PLUMBED TO Techline)
SECTION - NO SCALE



REMOTE CONTROL VALVE W/ 3/4" PRV & 3/4" DISC FILTER
SECTION - NO SCALE

REVISIONS	DATE
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	

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4230 SALTILLO ST.
LOS ANGELES, CA 91364

DETAIL SHEET

LICENSED LANDSCAPE ARCHITECT
YAEL LIR 3171
Signature
12-31-23
Renewal Date
Date
STATE OF CALIFORNIA

DATE:	OCT. 19, 2022
SCALE:	1/16"=1'-0"
JOB NUMBER:	230922
DRAWN BY:	

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT R

Forest Remnants: Conserving and Observing Bird Diversity in Urban Settings – Footnote 65

UF | IFAS Extension
UNIVERSITY of FLORIDA

WEC298

Forest Remnants: Conserving and Observing Bird Diversity in Urban Settings[1]

Dan Dawson and Mark Hostetler[2]

Introduction

The human environment is usually dominated by the trappings of urban life: buildings, roads, cars, lights, signs, and of course, people, all of which are surrounded by a cacophony of noises. Within this environment of concrete, metal and glass, wildlife have little habitat (food, water, space, shelter) unless they can tolerate and/or prefer the high levels of disturbance. It is no wonder, then, that when we consider urban birds, usually the most visible wildlife, most people generally think of non-native, conspicuous, and abundant species like the Rock Dove (*Columba livia*), House Sparrow (*Passer domesticus*) and the Common Starling (*Sturnus vulgaris*). The notion that bird diversity is limited to few species in urban areas might discourage people from attempting to conserve or observe wildlife in these settings. Interest in bird-watching and wildlife observation is increasing nationwide, and the urban environment is an overlooked, convenient place for bird-watchers and nature enthusiasts. Forest remnants within the urban environment are important wildlife habitat with the potential to conserve a high diversity of native birds. In order to create and maintain such urban bird habitats, one needs to understand more about urban forest remnant design and management. Below, we discuss urban forest remnant design and management as it relates to bird conservation.

Urban Forest Remnants

Urban forest remnants are diverse in shape, size, and composition, and take the form of parks, wooded buffers, greenways and conservation-oriented natural areas. Due to their locations and competition with building space, many remnants tend to be small, and have high edge to interior ratios; that is, they are longer than they are wide with more edge than interior space (Figure 1). Compared to interior habitats, edge habitats generally experience higher levels of disturbance from wind, greater exposure to sunlight, and higher temperatures. In Florida, this often leaves under- and mid-story remnants dominated by hardy, fast growing vines and shrubs such as greenbriar (*Smilax* sp.) and blackberry (*Rubus* sp.), and saplings of a few overstory tree species. Depending on the forest remnant, edge characteristics can extend into a patch more than 300 feet. Because forest remnants are generally fragments of the forest habitats that previously dominated the area, the overstories of urban remnants often contain large, mature trees (e.g. live oak, or *Quercus virginiaus* and sweet gum, or *Liquidambar stryaciflua*). Remnants are often home to many introduced invasive plant species such as air potato (*Dioscorea bulbifera*), coral ardesia (*Ardesia crenata*), and various species of non-indigenous privet (*Ligustrum* sp.). A typical urban forest remnant edge in north Florida is seen in Figure 2.

1. This document is WEC298, one of a series of the Wildlife Ecology and Conservation Department, UF/IFAS Extension. Original publication date September 2010. Revised July 2013 and March 2020. Visit the EDIS website at http://edis.ifas.ufl.edu for the currently supported version of this publication.

2. Dan Dawson, Extension assistant, Institute of Renewable Natural Resources; and Mark Hostetler, professor and Extension specialist, Department of Wildlife Ecology and Conservation; UF/IFAS Extension, Gainesville, FL 32611.

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Reviewed: 11/2024

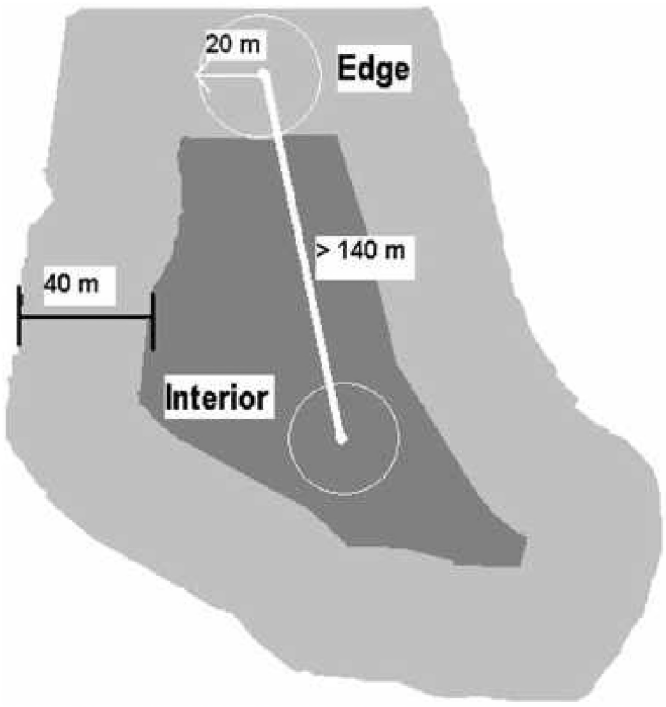


Figure 1. Illustration of edge and interior areas within a forest remnant in Gainesville, Florida. Edge was defined as the habitat less than 40 meters from the remnant boundary. Interior was defined as all habitat more than 40 meters from the remnant boundary. The circles represent point count surveys that were done for birds in the forest remnant. (Illustration Credit: Dan Dawson)



Figure 2. The edge of an urban forest remnant on the University of Florida campus. Note the densely vegetated understory with seedlings of mature overstory species (largely water oak, *Quercus nigra*, and vines). (Photo Credit: Dan Dawson)

Wetlands can also make up significant portions of urban forest remnants. These urban wetlands may provide natural drainage areas for the surrounding development. Wetland areas generally are more difficult to develop than upland areas because of many local regulations. Though often small, these wetlands can contribute to the overall plant and animal diversity of a remnant.

Even though their sizes, shapes and locations often mean that forest remnants do not contain a functional "interior" habitat, the remaining habitat in such remnants may still provide cover from predators, foraging and breeding opportunities, and migration stop-over habitat. Moreover, such habitat can also act as a refuge from human disturbance for a variety of bird species. Remnants provide wonderful opportunities for observing a diverse variety of bird species in the urban environment. Urban birdwatchers should bear in mind that the occupation of urban forest remnants by birds depends upon remnant characteristics and the time of year.

Forest Remnant Characteristics that Influence Bird Diversity

Remnant Size: Generally, larger remnants tend to have more bird species than small remnants. This is because there is a higher diversity of habitat types (vegetation) within larger remnants.

Habitat diversity: Generally, greater diversity of vegetation structure will have more bird species due to more available niches than non-diverse patches. Niches are areas that contain food, water, and shelter in sufficient quantity to house a particular species.

Connectivity: Remnants that are closer to other remnants or larger intact habitats tend to have more species then remnants that are more isolated. This is due to the ability of birds from source habitats to find nearby patches of habitat.

Shape: Generally, remnants that are longer than they are wide tend to have fewer species than areas that are as long as they are wide. This is because many birds that are specialists, have narrower habitat niches and are generally more sensitive to human activity, and thus require more interior habitat. Generalists, such as northern cardinals (*Cardinalis cardinalis*), do well in edge habitat, whereas many neo-tropical warblers (e.g. hooded warblers *Wilsonia citrine)* avoid edge habitats for foraging or nesting.

The Influence of Season on Bird Diversity

Besides the physical and vegetative characteristics of remnants, season is the most significant factor influencing the presence of birds. Three main periods of the year, summer, winter, and fall and spring migration periods, influence the diversity of birds in urban areas. With each season, new combinations of bird species make use of

urban forest remnants. Table 1 shows the species noted during each season of a year-long survey of birds conducted from 2004–2005 within 6 urban forests on the University of Florida campus in Gainesville, Florida. These remnants ranged from approximately 2 to 20 hectares in size.

Summer

During summer, most birds are engaging in courtship, breeding, nesting, and brooding activities. Many species have specific habitat requirements during breeding season. Most species that court and breed in urban forest remnants are generalists. They prefer edges or are edge-indifferent, and are generally area-insensitive (i.e., they can nest successfully in small or large forest patches). Such species are also tolerant of urban activities, including traffic noise.

Species that nest in urban forest remnants must deal with a range of impacts, including nest predation (from raccoons, feral cats, etc.), disturbance from humans, and the environmental challenges of edge-dominated habitat (higher temperatures, more wind, etc.). Some examples of breeding urban birds are northern cardinal (*Cardinalis cardinalis*) (Figure 3), northern mockingbird (*Mimus polyglottis*), and Carolina wren (*Thryothorus ludovicianus*). Because of the lack of suitable breeding and nesting habitats available for other, non-generalist species, the summer is usually the season of lowest bird diversity in urban forest remnants. In our point count surveys of forest remnants at the University of Florida, only 30 species were observed during the summer, out of a total of 66 for the year (Table 1).



Figure 3. Northern Cardinal (*Cardinalis cardinalis*), a common summer resident of urban forest remnants. (Photo credit: Elizabeth Farley-Dawson)

Winter

Winter bird communities are made up of year-round residents and winter residents. Winter residents are birds that are present during the winter months, but then migrate to their northern breeding grounds during the spring. Depending on the species, they arrive throughout the fall and early winter, and leave throughout the spring and early summer. During the winter months, overwintering birds are primarily seeking food resources and safety from predators. Many birds join single- or mixed-species flocks for these purposes. In north Florida, mixed flocks containing winter residence species, such as ruby-crowned kinglet (*Regulus calendula*) and palm warbler (*Dendroica palmarum),* are commonly found in urban forest remnants. Large flocks of American robins (*Turdus migratorius*) and cedar waxwings (*Bombycilla cedrorum*) can be seen foraging together within forest remnants. Unlike the breeding season, in winter many bird species have much more flexible habitat use patterns, and birds that will not breed in urban forest remnants might use them to forage or roost in during the winter. For example, in our surveys of UF forest remnants, ovenbirds (*Seiurus aurocapillus*) were found using the edge of a small urban patch during the winter. Ovenbirds are area sensitive and usually breed in mature, large patches of forests. In our UF survey, 43 of 66 detected species were observed in forested patches during the winter season (Table 1).

Fall/Spring Migration

During the fall/spring migration, the bird community includes year-round residents, winter residents that are either preparing to leave (in the spring, mostly March–April) or arriving (in the fall, mostly September–October), and various species of neotropical migrants (birds that winter in tropical America and breed in temperate America). These migrating species utilize urban forest remnants as stop-over habitat on their way to or from breeding and wintering grounds. They can only be seen in Florida for several weeks during the fall and spring. The priorities of many birds during migration periods are finding food and safety from predators as they move to or from their breeding grounds, though year-round residents are also beginning their breeding activities during the spring. During the spring and fall, a variety of migrants may be found within an urban remnant, depending on the migration route a particular species takes. For instance, blackpoll warblers (*Dendroica striata*) use the Florida peninsula more in the spring migration than in the fall, and magnolia warblers (*Dendroica magnolia*) follow the opposite pattern. Species such as prairie warbler (*Dendroica discolor*) and American redstart (*Setophaga ruticilla*) are commonly seen in urban forest

areas in north Florida during both the fall and the spring. The timing of migration of stop-over and winter migrants varies, with different species arriving and leaving at different times. All this means that the spring and fall migration seasons are often the best times to observe urban birds, as the chances of observing new, different, and uncommon migrant species are greater. The birding experience during the spring and fall will change every day. In the UF survey, an overall sum of 55 species was detected during the spring and fall migration periods, with 39 species in the spring and 42 species in the fall (Table 1).

A Note on Stop-Over Migrants

The extent to which stop-over neo-tropical migrants use urban forest remnants in Florida is largely unknown, though two previous studies in Gainesville have shown that a few species are sighted in urban remnants (Dawson and Hostetler 2010; Hostetler et al. 2005). However, due to declining available habitat because of human development, urban forest remnants may be increasingly important stop-over habitats for a variety of birds.

Conclusion

Urban forest remnants can contain habitat for birds and can be likely places in which to view a variety of bird species. For developers and planners, taking into account the characteristics of forest remnants that influence the diversity of birds (as well as other taxa) can potentially result in more urban bird habitat. For wildlife observers and "birders," urban forests can be good spots in which to view and enjoy a variety of bird life. Urban forests should not be considered "unimportant" bird habitat; instead they should be valued and conserved for future generations of both birds and humans.

Additional Resources

Books and Scientific Publications

Dawson, D., and M. Hostetler. 2010. Edge avoidance by birds within urban forest remnants. *Florida Scientist*. (IN PRESS).

Hostetler, M., D. Scot, and J. Paul. 2005. Post-construction effects on an urban development on migrating, resident, and wintering birds. *Southeast. Nat.* 4:421–434.

Chace, J. F., and J. J. Walsh. 2006. Urban effects on native avifauna: a review. *Landscape and Urban Planning*. 74:46–69.

Online

Hostetler, M. E., G. Klowden, S. Webb, S. W. Miller, and K. N. Youngentob. 2003. Landscaping backyards for wildlife: top ten tips for success. http://edis.ifas.ufl.edu/UW175

Florida Fish and Wildlife Conservation Commission—Planting a Refuge for Wildlife: http://myfwc.com/viewing/habitat/refuge/

Living Green: http://www.livinggreen.ifas.ufl.edu

Program for Resource Efficient Communities: http://edis.ifas.ufl.edu/uw247

For more information: http://www.buildgreen.ufl.edu/

Table 1. Species, residency status, presence for all bird species observed per season during point count surveys conducted on Conservation Areas of the University of Florida campus from 2004–2005. Residency codes: WM=winter migrant, SM=summer migrant, SO = stopover migrants and YR=year-round residents. "X" indicates it was present during that season.

Species	Status	Winter	Spring	Summer	Fall
Acadian flycatcher	SO				X
American crow	YR	X	X	X	X
American goldfinch	WM	X	X		
American redstart	SO		X	X	X
American robin	WM	X	X		
Baltimore oriole	WM	X	X		X
Black and white warbler	WM	X	X		X
Barred owl	YR				X
Belted kingfisher	YR			X	
Blue-gray gnatcatcher	YR	X			X
Brown-headed cowbird	YR	X	X	X	X
Blue-headed vireo	WM	X	X		
Blue jay	YR	X	X	X	X
Blackpoll warbler	SO		X		
Brown thrasher	YR	X	X	X	X
Boat-tailed grackle	YR	X			
Carolina chickadee	YR	X	X	X	X
Carolina wren	YR	X	X	X	X
Cedar waxwing	WM	X	X		
Chimney swift	SM		X		
Common grackle	YR		X	X	X
Common yellowthroat	YR		X		X
Downy woodpecker	YR	X	X	X	X
Eastern phoebe	WM	X			X
Eurasian-collared dove	YR				X
Eastern tufted titmouse	YR	X	X	X	X
Fish crow	YR	X	X	X	X
Great blue heron	YR	X			
Great crested flycatcher	SM		X	X	
Gray catbird	WM	X	X	X	X
Hermit thrush	WM	X		X	
Indigo bunting	SM		X		
Loggerhead shrike	YR			X	
Magnolia warbler	SO				X
Mourning dove	YR	X	X	X	X
Northern cardinal	YR	X	X	X	X
Northern flicker	YR	X			X
Northern mockingbird	YR	X	X	X	X
Northern parula	SM	X	X	X	X
Orange crowned warbler	WM		X		
Osprey	YR	X	X	X	
Ovenbird	WM	X			X
Palm warbler	WM	X		X	X

Species	Status	Winter	Spring	Summer	Fall
Pine warbler	YR	X		X	
Pileated woodpecker	YR	X	X	X	X
Prairie warbler	SO		X		X
Red-bellied woodpecker	YR	X	X	X	X
Ruby-crowned kinglet	WM	X	X		X
Red-eyed vireo	SM	X	X		X
Red-headed woodpecker	YR				X
Rock dove	YR	X			
Red-shouldered hawk	YR	X		X	X
Red-tailed hawk	YR			X	X
Red-winged blackbird	YR	X			
Summer tanager	SM			X	X
Swainson's thrush	SO				X
Tree swallow	WM		X		
White-eyed vireo	YR	X	X	X	X
Wild turkey	YR	X			
Wood thrush	SM				X
Yellow-breasted chat	SO	X			
Yellow-billed cuckoo	SM				X
Yellow-bellied sapsucker	WM	X	X	X	
Yellow-rumped warbler	WM	X	X		
Yellow-throated warbler	YR	X	X		X

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT S

LA Mun. Code § 17.05 Design Standards – Footnote 69

A. **Street Standards Committee.** There is hereby created a Street Standards Committee (Committee) to be composed of the Director of Planning, as Chair, the City Engineer and the General Manager of the Department of Transportation, or their designees.

This Committee shall:

1. Recommend to the Commission minimum width and improvement standards for all classes of public and private streets and alleys. The Commission shall adopt such minimum width and improvement standards as it determines are necessary for the safe and adequate movement of pedestrians, bicyclists, transit service and vehicular traffic, the increased retention and detention of stormwater, the installation of necessary utilities and for reasonable and proper access to abutting properties. Such standards shall not be applicable to any street or alley for which the City Council, by ordinance, adopts specific standards.

2. Modify the Complete Street Design Guide (CSDG) on an as-needed basis to align the CSDG with current and innovative street design practice.

B. **Adoption of Standards.** A public hearing shall be conducted by the Commission prior to the approval of any change in the standards, pursuant to the procedures in Sec. 13B.1.5. (Policy Action) of Chapter 1A of this Code.

C. **Conformance to General Plan.** Each Tentative Map shall be designed in compliance with the zoning applying to the property or approved by the City Council for change or shall be subject to a condition requiring compliance with such zoning prior to the recordation of the final map.

In addition, where a Tentative Map involves land for which a General Plan including dwelling unit densities has been adopted by the Council, and said land is also in an "H" Hillside or Mountainous Area established by Article 2 (Specific Planning – Zoning Comprehensive Zoning Plan) of this Chapter, the number of lots on said map shall be limited so that the number of dwelling units permitted by the applicable zoning regulations shall not substantially exceed the dwelling unit densities shown on said plan.

Each Tentative Map shall substantially conform to all other elements of the General Plan. In computing the number of dwelling units, only the area being designated for residential use and land that is being dedicated for public uses shall be considered, excepting, however, land set aside for street purposes, or land required to be dedicated for park and recreation purposes pursuant to Ordinance 141,422. However, in the Greater Downtown Housing Incentive Area, the area used for computing the allowable floor area of a residential (including Apartment Hotel or mixed-use) building shall be the lot area including any land to be set aside for street purposes.

In Hillside Grading Areas, as defined in Section 17.05 (Definitions) of this Article, which are designated in the Minimum Density housing category by the applicable element of the General Plan adopted by the City Council, the dwelling unit density shall not exceed that allowed by the following formula:

$$D = \frac{50 - S}{35}$$

Where: D = the maximum number of dwelling units per gross acre allowable, and
S = the average natural slope of the land in percent.

Where the total allowable number of dwelling units per parcel map or tentative tract map calculated under the above formulas results in a number other than a whole number, it shall be rounded to the nearest whole number as follows: where the fractional portion of the total allowable number of dwelling units equals .5 or more, the total number of allowable dwelling units shall be rounded to the next larger whole number; where the fractional portion of the total allowable number of dwelling units equals less than .5, the total number of allowable dwelling units shall be rounded to the next smaller whole number.

In no case shall the permitted density be less than 0.05 dwelling units per gross acre. Where the total allowable number of dwelling units per tentative tract map calculated under the above formula results in a number less than one, it shall be rounded up to allow one dwelling unit per tentative tract map. Where previous grading on a site makes it difficult to determine average natural slope using the above formula, the Director of Planning shall determine the average natural slope in a manner to carry out the purpose and intent of this Subsection.

D. **Streets.**

1. **Right-of-Way and Roadway Widths.** All streets and alleys shall be designed to conform with the Commission's adopted standards. The requirements and exceptions set forth in Section 12.37 (Highway and Collector Street Dedication and Improvement), however, shall apply.

2. **Street Grades.** Grades of all streets shall be as flat as consistent with adequate surface drainage requirements and the approved development of the proposed subdivision. The minimum grade permitted shall be four-tenths of one percent, except in extremely flat areas where a grade of two-tenths of one percent may be used. The maximum grade permitted for major and secondary highways shall be six percent, except where a grade not to exceed ten percent will eliminate excessive curvature, fill or excavation. The maximum grade permitted for collector streets shall be ten percent and for local streets shall be 15 percent. Variations from these requirements may be granted by the Advisory Agency upon recommendation by the City Engineer in individual cases in accordance with the provisions of Section 17.11.

Changes in grade greater than four-tenths of one percent shall be connected by vertical curves. The length of vertical curves shall conform to standards for sight distance and riding qualities established by the City Engineer.

3. **Future Streets.** In the event certain streets or alleys in a subdivision are to be reserved for future public use and they have been approved as to location and width, they shall be indicated on the Final Map and offered for dedication as future streets or future alleys. Certificates providing that the City may accept the offer to dedicate such easement at any time shall be shown on the Final Map.

4. **Corner Cut-Off.** At all block corners the property line shall be rounded. On all major and secondary highways, the corner shall have a 20-foot radius curve and on all other streets, a 15-foot radius curve; provided, however, that where commercial development is permitted, a diagonal cutoff of 15-feet × 15-feet in lieu of a 20-foot radius curve and a 10-foot × 10-foot cutoff in lieu of a 15-foot radius curve may be used. In industrial zones the curves shall have a minimum radius of at least 40 feet.

5. **Curves – Horizontal.** The center line radii of curves shall be as large as possible, consistent with conditions. All curves shall have sufficient length to avoid the appearance of an angle point. Reversing curves shall be connected by tangents of length approved by the City Engineer as sufficient to safely reverse the unbalanced centrifugal force. In any case, horizontal curves shall have the following minimum center line radii:

Major and Secondary Highways 1,000 feet
Collector Streets 500 feet
Local Streets, Not Hillside 300 feet
Local Streets, Hillside Area 125 feet

6. **Intersections.** Street intersections shall be at as near to a right angle as possible. No jogs shall be allowed in the continuity of an arterial street. Jogs in a non-arterial street where crossing an arterial street shall be held to a minimum. Multiple intersections of more than four approaches should be avoided. In hillside areas special conditions may be required.

7. **Cul-de-sac Streets.** Cul-de-sac streets should be avoided except in locations where physical constraints prohibit the continuation of the street (such as where a river or railroad infrastructure is present) or where made necessary by historical development patterns. Where cul-de-sac streets are approved, they shall be terminated by a turning area conforming to the latest standards approved by the Commission. Where feasible, existing cul-de-sacs should be modified and new cul-de-sacs should be designed to include a passageway for bicycles and pedestrians to access the surrounding area.

8. **General.** All streets within and/or immediately adjacent to the subdivision shall be improved with curbs and gutters, unless not required by the Advisory Agency upon recommendation of the City Engineer.

Streets within and/or immediately adjacent to the subdivision shall be improved with sidewalks, except that in mountainous, hillside or rural areas, sidewalks may be omitted or may be provided on only one side of the street with the approval of the Advisory Agency.

E. **Alleys.**

1. Alleys shall be not less than 20 feet in width. Alleys serving industrial zones shall be 30 feet wide, unless otherwise approved by the Advisory Agency. All dead-end alleys shall be constructed with adequate turning areas. Whenever practicable, alleys shall be required at the rear of all lots that are in residential zones and that front an arterial street. Alleys may also be required at the rear of lots in commercial and industrial zones.

2. Alley Intersections. Where two alleys intersect, a triangular corner cut-off of not less than 10 feet along each alley line shall be provided.

F. **Pedestrian Walks.** If the Advisory Agency determines that inner-block pedestrian walks are necessary for the public health, safety or welfare, they shall be dedicated to a width of not less than 12 feet. The Advisory Agency, however, shall only impose such a dedication requirement after finding that the dedication bears an essential nexus and rough proportionality to a project impact.

G. **Blocks.** Blocks in residentially and industrially zoned areas shall not exceed 1,700 feet in length, except in hilly areas. Commercial blocks shall not exceed 800 feet in length except in locations where the prevailing block length (within 1/2 mile) is less than 800 feet. In such instance, the new block shall not exceed the average prevailing block length.

H. **Lot Size.** Every lot shall have a minimum width and area to comply with the requirements as specified in Article 2 (Specific Planning – Zoning Comprehensive Zoning Plan) of this Chapter for the zone in which the lot is located, provided, however, that every lot located in a "C" Commercial Zone and for which no minimum width is specified in said article shall have a minimum width of 40 feet. All lots in a residential planned development shall comply with the standard residential conditions of Sec. 13.04 ("RPD" Residential Planned Development Districts) of this Code, and the conditions of approval of the development.

1. When the Advisory Agency determines that traffic access, topography, and drainage conditions will safely allow lot averaging, and when the subdivider has demonstrated to the satisfaction of the Advisory Agency in a written report that such averaging is consistent with proper subdivision design, and in addition will produce, one or more of the following benefits: require less grading than would a subdivision of conventional design not utilizing lot averaging; result in improved lot design; or produce

other environmental benefits; the Advisory agency may permit the width and area of not more than 20 percent of the lots in a subdivision located in the "H" Hillside or Mountainous Area to be reduced as specified below, provided that the average area of all lots in said subdivision is not less than the following requirements:

[LOT AREA IN SQUARE FEET]

[Zone]	Minimum to Which Lot Width May Be Reduced	Minimum to Which Area May Be Reduced	Average Requirement
RA-H	63 feet	14,000	17,500
RE40-H	No Reduction	32,000	40,000
RE20-H	72 feet	16,000	20,000
RE15-H	72 feet	12,000	15,000
RE11-H	63 feet	8,800	11,000
RE9-H	60 feet	7,200	9,000

In computing such average, that portion of any lot exceeding 150 percent of the average requirement shall not be included, provided however, that in the RA Zone the maximum area of any lot that may be used in computing the average shall be 24,500 square feet.

In a tract wherein one or more lots have less than the average requirement for the zone, no lot shall be rearranged or divided unless: (1) the average requirement for the original Final Map is maintained, and (2) such rearrangement or division is accomplished by recording a new Final Map or a Parcel Map, or by securing determination that said proposed rearrangement or division is exempt from the Parcel Map procedure as provided for in Section 17.50 B.3.(c) (Parcel Maps General Provisions; Scope).

2. Where it finds it necessary in order to promote the general welfare, the Advisory Agency may require that lots which are contiguous or nearby to existing lots on the same street may be increased in size so as to be compatible with the size of such existing lots. However, in no case may the Advisory Agency require such lots to contain an area of over 50 percent more than that required by the applicable provisions of Article 2 (Specific Planning – Zoning Comprehensive Zoning Plan) of this Chapter.

3. Property in commercial or industrial zones need not be divided into more than one lot where such property is to be operated as a unit.

4. Each portion of the lot which is platted so as to be divided by a City or County boundary line shall be given a separate letter or number on the recorded tract map.

5. The side lines of lots shall be approximately at right angles to the streets, or radial to the street on curved streets, except where topography or other conditions make this impracticable.

6. Where it finds that there will be no material increase in the dwelling unit density permitted by the zone, and that the public health, safety or welfare and good subdivision design would be promoted by the dedication of public streets to a width in excess of the approved standards provided for in this section, or the dedication of service roads, or the dedication or reservation of land for public parks, public uses or other open areas, the Advisory Agency may permit the required area of one or more of the lots in a subdivision in an RA, RE, or RS Zone to be reduced to the extent of such dedication or reservation. Provided however, that in no event shall such a reduction exceed 15%; and, no lot in a RA-H or RE-H Zone shall be permitted to be reduced below the minimum area specified therefor in Subdivision 1. of this Subsection.

7. Where the Advisory Agency finds the project is consistent with the dwelling unit density permitted by the General Plan, and that the public health, safety or welfare and good subdivision design will be promoted by the preservation of protected trees, the Advisory Agency may permit the required area of one or more of the lots in a subdivision in an "RA", "RE", "RS" or "R1" Zone to be reduced by an amount sufficient to provide for protected tree preservation in accordance with Subsection P. (Protected Tree Regulations) of this Section. Provided, however, that in no event shall the reduction exceed 50 percent of the required lot area; no "RA" or "RE" lot shall be reduced below 50 feet in width; no "RS" or "R1" lot shall be reduced below 40 feet in width; and no lot in a designated "K" Horsekeeping District shall be reduced below 17,500 square feet.

8. Notwithstanding any other provision of this Chapter, where the Advisory Agency finds that there will be no increase in density and that the density provisions of the General Plan will not be exceeded, it may approve subdivisions in the R2, RD, R3, R4 and R5 zones, meeting the requirements of Section 12.22 C.25. (Exceptions; Area; Zero Side and Rear Yard Development in Multiple Residential Zones) of this Chapter. The minimum lot area of lots in any such subdivision shall be 2,500 square feet.

9. In calculating the density of a subdivision proposed to be developed with residences permitted by Sections 12.08.3 B.1. (RZ Residential Zero Side Yard Zone; Use) and 12.22 C.25. (Exceptions; Area; Zero Side and Rear Yard Development in Multiple Residential Zones) of this Chapter, the area contained within public streets shall be deducted from the gross area of the subdivision; however, the area contained within private streets, public alleys and driveways shall not be deducted from the gross area of the subdivision.

10. In calculating the allowable floor area of a subdivision proposed to be developed as a residential (including Apartment Hotel or mixed use) building in the Greater Downtown Housing Incentive Area, any land required to be dedicated for street purposes shall be included as part of the lot area of the subdivision.

I. **Easements.** Easements for public utilities, water system, sewers, street lights, storm drains or flood control channels, and slope rights shall be provided wherever determined necessary by the Advisory Agency upon recommendations of the City Engineer.

Wherever it is determined that future easements are necessary, a certificate shall be placed on the Final Map indicating that the City may accept such easements at any time.

J. **Hillside Grading Areas.** Design requirements for subdivisions in Hillside Grading Areas shall meet the grading standards established by the Board of Public Work and the grading regulations established by Article 1 (Building Code) of Chapter 9 (Building Regulations) of this Code. Such requirements may also include providing soil reports prepared by a Registered Civil Engineer specializing in Soil Mechanics and/or reports on geological investigations.

K. **Problem Areas.** Areas designated by resolution of the Board of Public Works as problem areas shall not be subdivided except when approved by the Advisory Agency upon recommendation of the Superintendent of Building and the City Engineer.

L. **Grading Plans.** The Advisory Agency may require a proposed grading plan with the Tentative Map of any subdivision. Upon recommendation of the Superintendent of Building or the City Engineer, or where it appears that cuts and fills will occur in the grading of the property which may be contrary to the objectives of this Article, the Advisory Agency shall require the subdivider to submit grading plans for all or part of the tract before action on the Tentative Map will be taken. Any grading plan submitted shall contain thereon a statement of the quantities (in cubic yards) of cut and fill and quantities of export or import material involved. If the amount of earth material to be imported to or exported from a subdivision site is 1,000 cubic yards or more, statements of the following shall also be included: the proposed borrow or disposal site; the proposed haul route;

the total gross weight with load of the proposed haul vehicles; as well as other pertinent data which the Advisory Agency may require.

Failure to furnish such a grading plan (where necessary to complete the investigation of the Tentative Map within the time specified in the written notice requesting its submission) shall be cause for the disapproval of the Tentative Map unless an extension of the time for acting on said map is mutually agreed upon between the subdivider and the Advisory Agency.

If changes in the design of the lots or street system can be made to correct the conditions set forth in Subsection J. of this section, either by increased lot sizes or changes in grades, such modifications shall be made.

M. **Storm Drains.** Storm drains shall be designed in conformance with standards approved by the City Engineer. Storm drain facilities to intercept and convey all runoff to a suitable point of disposal shall be required when runoff from the entire area tributary to and including the subdivision exceeds the limiting depth of street flow as determined by the City Engineer. These storm drain requirements shall also include the following:

1. In areas without sumps, storm drains shall be designed to remove all runoff from a storm of 10-year frequency.

2. In sump areas, storm drains shall be designed to remove all runoff from a storm of 50-year frequency.

3. Storm drains shall be of sufficient capacity in all cases to prevent flooding of building sites from a storm of 50-year frequency.

4. On sidehill streets, the maximum depth of water as determined by the City Engineer shall be based on a storm of 50-year frequency.

N. **Installation of Utilities.** Utility lines, including but not limited to those required for electricity, communication, street lighting and cable television services necessary for the general use of the lot owners in the subdivision, shall be installed or guaranteed to be installed in the same manner as other required improvements.

In all portions of a Tract Map area classified in the A, R or C zones, all such utility lines shall be installed underground, provided, however, that incidental, appurtenant equipment such as transformers, terminal boxes and meter cabinets may be placed above ground but shall conform with regard to placement and height with those standards adopted by the Commission as it determines are necessary to safeguard the public against hazards created by said equipment and to further the purposes of this article. The Subdivision Committee shall make its report and recommendation of the Commission prior to the adoption of said standards.

The subdivider shall make the necessary Cost and other arrangements for such underground installation and for relocation of existing facilities with each of the persons, firms, or corporations furnishing utility services involved.

O. **Sites for Models.** Not more than 15% of the lots and in no case more than 20 lots at any one time in a subdivision may be designated as sites for the construction of models, and, with respect to multiple unit structures, not more than 15% of the units and in no case more than 20 units at any one time in a proposed building designated as a model site, may be designated as models.

Each of the sites shall be located in a manner as to not adversely affect existing developed residential properties. Further, each of the sites shall be easily accessible and provision for the accessibility shall be assured at the time that the tentative map is conditionally approved.

P. **Park and Recreation Sites.** Park and recreation sites to serve the future inhabitants of each new subdivision shall be provided and located in conformance with the standards contained in the Recreation Element of the General Plan.

Q. **Where Subdivision Includes Land Within Drainage District.** Whenever a Subdivision or a portion thereof includes land which is within a Local Drainage District, the provisions and requirements of the ordinance establishing such District shall be complied with.

R. **Protected Tree Regulations.** No protected tree may be relocated or removed except as provided in this Article or Article 6 (Preservation of Protected Trees) of Chapter 4 (Public Welfare) of this Code. The term "removed" or "removal" shall include any act that will cause a protected tree to die, including but not limited to acts that inflict damage upon the root system or other parts of the tree by fire, application of toxic substances, operation of equipment or machinery, or by changing the natural grade of land by excavation or filling the drip line area around the trunk.

1. **Required Determinations.** Subject to historical preservation requirements set forth in Subdivision 3. of this Subsection, when a protected tree exists within a proposed subdivision, the tree may be relocated or removed if the Advisory Agency, in consultation with the City's Chief Forester, determines the existence of either (a) or (b) below:

(a) There has been prior applicable government action in which:

(i) The removal of the tree had been approved by the Advisory Agency; or

(ii) The property upon which the protected tree is located has been the subject of a determination by the City Planning Commission, the City Council, a Zoning Administrator, or an Area Planning Commission, the appeal period established by this Code with respect to the determination has expired, the determination is still in effect, and pursuant to the determination, the protected tree's removal would be permissible; or

(iii) A building permit has been issued for the property upon which the protected tree is located, the permit is still in effect, and the removal or relocation is not prohibited by the permit.

(b) The removal of the protected tree would not result in an undesirable, irreversible soil erosion through diversion or increased flow of surface waters that cannot be mitigated to the satisfaction of the City's Chief Forester, and the physical condition or location of the tree is such that:

(i) Its continued presence in its existing location prevents the reasonable development of the property; or

(ii) According to a report required pursuant to Section 17.06 C. (Protected Tree Report for Tentative Tract Maps), acceptable to the Advisory Agency and prepared by a tree expert, there is a substantial decline from a condition of normal health and vigor of the tree, and its restoration through appropriate and economically reasonable preservation procedures and practices is not advisable; or

(iii) It is in danger of falling due to an existing and irreversible condition.

(iv) Its continued presence at its existing location interferes with proposed utility services or roadways within or without the subject property, and the only reasonable alternative to the interference is the removal of the tree; or

(v) It has no apparent aesthetic value, which will contribute to the appearance and design of the proposed subdivision; or it is not located with reference to other trees or monuments in such a way as to acquire a distinctive significance at the location.

2. **Supplemental Authority.** In the event the Advisory Agency, in consultation with the City's Chief Forester, determines pursuant to Subdivision 1.(b) above, that a protected tree may be removed or relocated, the Advisory Agency may:

(a) Require relocation elsewhere on the same property where a protected tree has been approved for removal, and where the relocation is economically reasonable and favorable to the survival of the tree. Relocation to a site other than upon the same property may be permitted where there is no available or appropriate location on the property and the owner of the proposed off-site relocation site consents to the placement of a tree. In the event of relocation, the Advisory Agency may designate measures to be taken to mitigate adverse effects on the tree.

(b) Permit protected trees of a lesser size, or trees of a different species, to be planted as replacement trees for protected trees permitted by this Code to be removed or relocated, if replacement trees required pursuant to this Code are not available. In that event, the Advisory Agency may require a greater number of replacement trees.

3. **Historical Monuments.** The Advisory Agency, except as to Subdivision 1.(b)(iii) above, shall require retention of a protected tree at its existing location, if the tree is officially designated as an Historical Monument or as part of an Historic Preservation Overlay Zone.

4. **Requirements.** In the event the Advisory Agency, in consultation with the City's Chief Forester, determines pursuant to Subdivision 1.(b) above that a protected tree may be removed or relocated, the Advisory Agency shall require that:

(a) The protected tree is replaced within the property by at least two trees of a protected variety included within the definition set forth in Section 17.02 (Definitions) of this Article, except where the protected tree is relocated pursuant to Subdivision 2.(a) above. The size of each replacement tree shall be a 15-gallon, or larger, specimen, measuring one inch or more in diameter at a point one foot above the base, and not less than seven feet in height, measured from the base. The size and number of replacement trees shall approximate the value of the tree to be replaced.

(b) The subdivider record those covenants and agreements approved by the Advisory Agency necessary to assure compliance with conditions imposed by the Advisory Agency and to assure protected tree preservation.

(c) The subdivider provide protected tree maintenance information to purchasers of lots within the proposed subdivision.

(d) The subdivider post a bond or other assurance acceptable to the City Engineer to guarantee the survival of trees required to be replaced or permitted or required to be relocated, in a manner to assure the existence of continuously living trees at the approved replacement or relocation site for three years from the date that the trees are replaced or relocated. The City Engineer shall use the provisions of Section 17.08 G. (Improvements; Guarantees) of this Article as its procedural guide in satisfaction of the bond requirements and processing. Any bond required shall be in a sum estimated by the City Engineer to be equal to the dollar value of the replacement tree or of the tree that is to be relocated. In determining value for these purposes, the City Engineer shall consult with the Advisory Agency, the City's Chief Forester, the evaluation of trees guidelines approved and adopted for professional planters by the International Society of Arboriculture, the American Society of Consulting Arborists, the National Arborists Association and the American Association of Nurserymen, and other available, local information or guidelines.

5. **Grading.** The Advisory Agency is authorized to prohibit grading or other construction activity within the drip line of a protected tree.

S. **Mulholland Scenic Parkway.** Notwithstanding the street standards adopted by the City Planning Commission pursuant to this section, the width and improvement standards for the Mulholland Scenic Parkway shall be substantially as follows: two travel lanes, one in each direction, each 15 feet wide; passing lane segments and turn pockets where necessary to facilitate movement of traffic; substantial conformance to existing roadway alignment; no median strip except to facilitate turning movements; hard surfaced shoulders but with a natural look, separated from the roadway by a painted line where the shoulder is utilized for bikeway purposes; minimum street and driveway access to the Parkway; reasonable protection of a scenic corridor 500 feet more or less, depending on topography, from each side of the existing right-of-way, to preserve the scenic quality and for the development of parks, vista points, parking facilities, and continuous bicycle, equestrian and hiking trails; all utilities to be underground; all necessary signs and road related fixtures to be of a special design to blend with the scenic character of the Parkway; grading to be kept to an absolute minimum; all necessary grading to be gently contoured and fully landscaped with fire-resistant plants to present a natural appearance.

It shall be the duty of the Advisory Agency to interpret and apply these standards in conformance with the spirit and intent of the Report of the Citizens' Advisory Committee on the Mulholland Scenic Parkway as adopted as City policy by the City Council on March 26, 1973, under Council File No. 70-5000, or with such Parkway plans as may subsequently be adopted.

Said standards are applicable to any subdivision or parcel map within 500 feet of the right-of-way of Mulholland Drive between the Hollywood Freeway on the west and Mulholland Highway on the west and along Mulholland Highway to the southerly city boundary, as shown on the City Engineer's official cadastral or district maps.

T. **Valley Circle Boulevard – Plummer Street Scenic Corridor.** Notwithstanding the street standards adopted by the City Planning Commission pursuant to this section, the width and improvement standards for Valley Circle Boulevard from Roscoe Boulevard to Plummer Street and for Plummer Street from Valley Circle Boulevard to Topanga Canyon Boulevard shall be substantially as follows:

1. Two travel lanes, one in each direction;

2. Left turn pockets as needed;

3. 48 feet of paved roadway, including 2-foot wide concrete gutters and curbs;

4. No continuous raised median strip;

5. Wide shoulders to accommodate recreation trails;

6. Minimum street and driveway access to the roadway;

7. All utilities to be underground;

8. Lighting only at intersections and parking areas, and kept to a minimum useful Intensity;

9. Fire Hydrants and light standards located away from the roadway for increased safety;

10. Picnic areas, drinking fountains, restrooms facilities, watering troughs, hitching rails and simple shade structures provided at suitable locations;

11. The general design and development of the roadway, trails, turnouts, and all appurtenant fixtures, facilities and amenities to be rustic, natural and in keeping with the scenic character of the corridor;

12. Reasonable protection of a scenic corridor, 1,500 feet more or less depending on topography, from each side of the existing rights-of-way, to preserve the scenic quality, protect long-distance views, and for the development of parks, vista points, parking facilities, and continuous trails;

13. Specific dimension standards for a 100-foot- wide right-of-way, the preferred width, shall be a 14-foot-wide two-way bicycle path, a hiking trail meandering in a 10-foot-wide landscaped parkway, a 16-foot-wide equestrian trail bordered by bolted wood fences and a 12-foot-wide parkway on the opposite side of the roadway;

14. The dimension standards for an 86-foot- wide right-of-way shall be a 12-foot-wide two-way bicycle path, hiking trail meandering in an 8-foot-wide landscaped parkway, a 12-foot-wide equestrian trail bordered by bolted wood fences and a 6-foot-wide parkway on the opposite side of the roadway;

15. Trails to be built prior to or concurrently with the roadway, and to have suitable crossings and access to areas of interest;

16. Attractively designed masonry walls and/or screening landscaping along the edges of private developments adjacent to the scenic corridor;

17. Maximum preservation of natural terrain and vegetation;

18. Grading to be kept to an absolute minimum; all necessary grading to be gently contoured and fully landscaped with native, low-water-need, fire-resistant plants to present a natural appearance;

19. All buildings in the corridor to be placed so as to preserve a clear line of sight from the roadway to the visible mountain crest;

20. Off-site advertising signs to be prohibited within the corridor;

21. On-site advertising, traffic, informational and regulatory signs to be kept to a minimum number and size, and to be of special rustic design.

It shall be the duty of the Advisory Agency to interpret and apply these standards in conformance with the spirit and intent of the Valley Circle Boulevard Plummer Street Scenic Corridor Study adopted as City policy by the City Council on March 28, 1977, under Council File No. 77-82, or with such parkway plans as may subsequently be adopted.

The standards stated herein are applicable to any subdivision or parcel map within 1500 feet of the right-of- way of Valley Circle Boulevard from Roscoe Boulevard to Plummer Street and of Plummer Street from Valley Circle Boulevard to Topanga Canyon Boulevard as shown on the City Engineer's official cadastral or district maps.

U. **Preliminary Soils Report.** A preliminary soils report, prepared by a civil engineer registered in California, and based upon adequate test borings is required with the Tentative Map of any subdivision. Provided that the Advisory Agency may waive the preliminary soils report upon its determination that no preliminary analysis is necessary due to its knowledge of the soils qualities of the soils of the subdivision.

If the preliminary soils report indicates the presence of critically expansive soils or other soils problems which, if not corrected, would lead to structural defects, a soils investigation of each lot in the subdivision may be required. Such soils investigation shall be done by a civil engineer registered in California, who shall recommend the corrective action which is likely to prevent structural damage to each structure proposed to be

constructed in the area where such soils problem exists. The Advisory Agency may approve the subdivision or a portion thereof where such soils problems exist if it determines that the recommended corrective action is likely to prevent structural damage to each structure to be constructed, and as a condition to the issuance of any building permit may require that the approved recommended action be incorporated in the construction of each structure.

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT T

Proceedings of the Symposium on Ecology, Management, and Utilization of California Oaks – Footnote 70

United States
Department of
Agriculture

Forest Service

**Pacific Southwest
Forest and Range
Experiment Station**

P.O. Box 245
Berkeley
California 94701

General Technical
Report PSW-44

Proceedings of the Symposium on the

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June 26-28, 1979, Claremont, California



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Timothy R. Plumb
Technical Coordinator

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EXHIBIT U

Patterns of Structural Failures in Urban Trees – Coast Live Oak (*Quercus Agrifolia)* – Footnote 70

PATTERNS OF STRUCTURAL FAILURES IN URBAN TREES: COAST LIVE OAK *(QUERCUS AGRIFOLIA)*

by Roger Edberg[1] and Alison Berry[2]

Abstract. Data from the California Tree Failure Report Program (CTFRP) were analyzed to develop a profile of the structural failure characteristics for coast live oak (*Quercus agrifolia*). The most common pattern of structural failure for coast live oak reported in the CTFRP is a root or low trunk failure of a naturally occurring tree growing in a residential site. Decay, site grade changes, and low wind speeds are significantly more frequently associated with coast live oak failures than with other hardwoods, conifers, or eucalyptus. Decay of roots and lower trunk was a major contributing factor to failure of coast live oak (83%). Saturated soil conditions associated with root failure were also more frequent for coast live oak than for other species groups. Careful attention to controlling excess soil moisture, avoiding or correcting grade change and compaction, and monitoring decay are essential to maintain the health of coast live oak.

This paper presents a failure profile for coast live oak (*Quercus agrifolia*) derived from the California Tree Failure Report Program (CTFRP) data. The value of a database approach to tree failure analysis and the purpose of the CTFRP have been discussed earlier (Costello and Berry 1991). A failure profile for a given tree species consists of analysis of factors—environmental or structural—that are associated with failure. Factors considered in the CTFRP report form are failure location (at the trunk, on a branch, or at the root), tree size, tree stand information (natural, planted), observable structural defects, cultural practices, site and weather conditions, and decay. In analyzing the CTFRP data, the factors are summarized as frequencies and/or crosstabulation matrices (e.g., failure location versus wind speed or precipitation).

Failures of coast live oak are the most frequently reported of hardwood species in the CTFRP database and are the third most frequently reported of all species, representing 9% of the total number of reports (122 of 1,467 cases, June 1995). A failure profile for Monterey pine has been published (Edberg et al. 1994)—the most frequently occurring species in the database (15% of failure reports). Coast live oak failures may be expected to differ greatly from those of Monterey pine in that the oaks are typically native trees that have become part of the urban landscape through development rather than having been planted into the landscape.

Coast live oak is an evergreen oak native to California, growing up to 21 m (70 ft) in height, with a spreading, round-headed, often multi-stemmed crown. The trees are commonly found in the coastal ranges of central California, most abundantly in open valleys and lower slopes as part of the California Foothill Woodland Community. In the northern reaches of its range, coast live oak is usually found below 915 m (3,000 ft) elevation, while in the south it may be found at elevations as high as 1,525 m (5,000 ft). At the borders of its range, it hybridizes with interior live oak (*Q. wislizenii*) (Griffin and Critchfield 1972).

Failure reports in the CTFRP for coast live oak have come mainly from coastal counties, where oak woodlands and grasslands have been developed into densely populated major urban and suburban areas. San Mateo County contributed 22% of all coast live oak CTFRP failure reports; Santa Clara County contributed 20%; Ventura, 12%; Contra Costa, 9%; and Santa Barbara, 8%.

METHODS

The California Tree Failure Report Program survey form and the data categories have been described previously (Costello and Berry 1991). Standardized report forms are completed by tree workers, arborists, or consultants encountering a structural tree failure and are submitted to the CTFRP. The data were compiled with dBaseIV database software. Coast live oak failure reports were analyzed using the dBStats (Ashton-Tate) statistical package. Custom applications were written for dBStats to perform repeated comparisons between species based on various data fields, logical tests for the creation of screened fields, and

field and value labeling for printout readability. Data from selected tree failure report form fields were grouped into categories to facilitate specific comparisons. For example, a new field was created by the software application to divide data from the "location of failure" field into the general categories "above ground" (trunk failures above ground level) and "at or below ground level" (trunk failures at ground level and root failures) to compare soil-level problems to above-ground-level problems. Missing information was screened from individual fields and removed from statistical analysis.

For general data descriptions, frequency tables (percentage of population) were used directly or in combination with sorting features to establish additional categories (such as height classes or "other oaks"). Crosstabulation of fields (i.e., tree group vs. failure location) was analyzed using the χ^2 test on 2×2 or 2×3 contingency or crosstabulation tables (Geng and Hills 1989), where P indicates the probability that compared groups share the same distribution of values. Where data for tree age are used, it should be noted that in most cases age was estimated to the best of the ability of the reporter and that accurate age estimation is often difficult due to species and site variability.

Comparisons with 5 other major groups in the CTFRP database were useful in defining the characteristic failure patterns of coast live oak. For the purpose of comparison, a group may be defined as a single species, such as valley oak (*Q. lobata*); as a grouping by genus (*Eucalyptus*); or as a larger grouping of many genera, for example, all hardwoods or all conifers. Such defined groups are most useful if they are reported frequently in the database, as is the case for valley oak (5% of the total), and eucalyptus (12.6% of the total). We have separated eucalyptus from the hardwood category because it exhibits failure characteristics more similar to conifers than to other hardwoods.

RESULTS

Coast live oaks and other oaks in general are typically trees indigenous to the site (80% of coast live oak reported). In contrast, approximately 90% of other hardwood species, eucalyptus, and conifers in the database are planted trees. Coast live oak failures were reported most frequently (57%) from residential sites. Eucalyptus and conifer failures were commonly reported from parks (39% and 56%, respectively). Failures of "other hardwoods" were reported most often from residential (36%) and street tree (28%) sites.

Coast live oaks, valley oaks, and "other oaks" (the remainder of species excluding *Q. agrifolia* and *Q. lobata* grouped together) failed at a significantly higher reported age (110, 110, and 156 years mean, respectively) than other hardwoods, eucalyptus, or conifers (33, 40, and 60, respectively). The mean reported age of valley oak (156 years) was significantly higher than all other tree groups. When comparing mean dbh (diameter at breast height), coast live oaks (88 cm [35 in.]), other oaks (80 cm [32 in.]), conifers (88 cm), and valley oaks (108 cm [45 in.]) were significantly larger than other hardwoods and eucalyptus (50 and 65 cm [20 and 26 in.], respectively). Valley oak was significantly larger than all other tree groups.

Location of Failure

The most general structural characteristic of any tree failure is where it occurs on the tree, whether on the trunk, branches, or at the roots. In Table 1, the relative distribution of failure locations is compared among the 6 tree groups. These distributions were tested for significant differences by pairs of groups in a 2 (tree group) $\times$ 3 (location of failure) cell matrix using the χ^2 test. Coast live oak failed most frequently at the root system (45% of reports). However, the χ^2 probability was not significant between coast live oak and other hardwoods (0.13), valley oak (0.16), or other oaks (0.36), even though these groups had a relatively more uniform distribution of location of failure. Eucalyptus and conifer species shared a common distributional pattern for location of failure (χ^2 $P = 0.44$) with a high percentage of branch failures. Both eucalyptus and conifer location of failure distributions were significantly different from the hardwood group and from coast live oak (χ^2 $P < 0.001$).

Another way of looking at the location of failure is to group failures into those occurring at the ground level or below (including ground level trunk failures and root failures) and those occurring above ground level (trunk failures occurring above ground level and branch failures). Using these groupings

Table 1. Frequency of location of failure (%) by tree group. Failure location percentage also divided into failures occurring at ground level (trunk) plus below (root) and failures occurring above ground (trunk above ground level and branch).

Location of failure	*Q. agrifolia*	Hardwoods	Eucalyptus	Conifers	*Q. lobata*	Other oaks
Trunk (%)	28.9	30.6	28.1	23.6	33.8	31.3
Branch (%)	26.4	34.2	53.0	55.0	35.1	33.8
Root (%)	44.6	35.2	18.9	21.4	31.1	35.0
Ground level and below (%)	54.0	45.0	24.0	25.0	35.0	45.0
Above ground level (%)	46.0	55.0	76.0	75.0	65.0	55.0

Table 2. Location of failure vs. percentage (of group total) associated with decay (all decay types combined).

Decay	*Q. agrifolia*	Hardwoods	Eucalyptus	Conifers	*Q. lobata*	Other oaks
Trunk (%)	97	65	50	40	71	79
Branch (%)	73	33	28	13	62	80
Root (%)	78	69	51	37	91	96
All locations (%)	83	55	39	24	75	86

Table 3. Chi² probabilities from 32 individual 2 × 2 matrices. Decay (presence or absence) by tree group (pairwise).

Decay	Qa × HW	Qa × Ql	Qa × Q other	Qa × euc	AllOak × HW	HW × con	HW × euc	Euc × con
Trunk	< 0.001	0.01	0.07	< 0.001	< 0.001	< 0.001	0.09	NSD
Branch	< 0.001	NSD	NSD	< 0.001	< 0.001	< 0.001	NSD	< 0.001
Root	NSD	NSD	0.07	0.02	< 0.001	< 0.001	0.06	NSD
All locations	< 0.001	NSD	NSD	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Qa = *Q. agrifolia*, Ql = *Q. lobata*, Q other = *Quercus* other, euc = eucalyptus, con = conifer, HW = hardwood.

(Table 1), the failure pattern of coast live oak (46% above ground level, 54% at or below) is significantly different than that of hardwoods (χ^2 $P = 0.07$), and valley oak (χ^2 $P = 0.02$).

Decay

Coast live oak, like other oaks in the database, had a higher incidence of decay associated with failure compared with the remaining hardwoods in the database, with conifers, or with eucalyptus. Table 2 shows the frequency of decay associated with failure for these tree groups, separated by failure location. "Decay" combines together all decay types (heart, sap, etc.) reported as associated with failure under "decay type" on the tree failure report. Chi² probabilities are assembled in Table 3 for 2 × 2 matrix comparisons between pairs of tree groups from Table 2 and the decay index (presence or absence). The "all oak" group pools all oak species.

Decay was associated with failure in oak more frequently than in other hardwoods (e.g., 83% of all failures for coast live oak). Individually, there appear to be differences among the oaks. Coast live oak had significantly higher association of decay with failure than other hardwoods except at the root. Coast live oak had a lower association of decay with failure at the root than other oaks. Coast live oak had a significantly higher decay associated with trunk failure than *Q. lobata*.

Structural Defects

Tree structural defects are potentially important factors contributing to a failure. The California Tree Failure Report Program includes a category for re-

Table 4. Structural defects most frequently associated with failure. Percentage is of the total number of failures for each tree group.

Top three	*Q. agrifolia*	Hardwoods	Eucalyptus	Conifers	*Q. lobata*	Other oaks
1	Failed portion dead (root) 11.2%	Heavy lateral limbs (branch) 9.2%	Heavy lateral limbs (branch) 18.5%	Heavy lateral limbs (branch) 36.5%	Heavy lateral limbs (branch) 9.6%	Heavy lateral limbs (branch) 17.7%
2	Multiple trunks/ codominant stems (trunk) 8.6%	Multiple trunks/ codominant stems (trunk) 8.7%	None (branch) 9.8%	Multiple trunks/ codominant stems (trunk) 6.3%	Failed portion dead (root) 8.2%	Failed portion dead (trunk) 11.4%
3	Failed portion dead (trunk) 7.8%	Failed portion dead (trunk) 6.5%	Multiple branches one point (branch) 8.7%	Multiple trunks/ codominant stems (branch) 6.3%	Heavy lateral limb (trunk) 5.5%	None (root) 8.9%

cording structural defects, such as multiple trunks/ codominant stems, dense crown, leaning trunk, cracks/splits, kinked or girdling roots, and others. Table 4 includes the defects that had the 3 highest values for percentages of failure within each of the 6 tree groups. The most frequently occurring structural defect/failure location combination for coast live oak was "failed portion dead" at the root. The most frequently occurring structural defect/location combination for all tree groups other than coast live oak was a branch failure associated with heavy lateral limbs. For conifers, branch failure was an exceptionally high percentage (36.5% of all failures); for eucalyptus and "other oaks" it was a high percentage (about 18%), and for hardwoods and valley oaks it was about 10%, slightly higher than the next most frequent failure combinations.

The structural defect "failed portion dead" was commonly associated with both root and trunk failure of coast live oak, together accounting for 19% of reported failures. It did not show up as a major factor for eucalyptus or conifer failures. Hardwoods, other oaks, and valley oaks also had a lesser percentage of failures associated with dead portions of trunk or roots (6.5%, 11.4%, and 8.2%, respectively).

Environmental Conditions at Time of Failure

Environmental conditions occurring at the time of a tree structural failure may be a contributing factor to that failure or may indicate threshold conditions for a particular species or tree group. The CTFRP report form has fields for reporting wind speed and direction, precipitation, temperature, soil condition, and site topography at the time of failure.

Precipitation. The failure report form contains several data fields related to precipitation, including rain, fog, or snow. Table 5 lists the percentage of failures involving some type of precipitation by location of failure for each of the comparison tree groups. One consistent association we observed was that root failures for all tree groups frequently occurred in association with precipitation (e.g., 73% of *Q. agrifolia* failures occurring with precipitation). For coast live oak, trunk and branch failures were not commonly associated with precipitation. For the comparison in Table 5, all positive responses were grouped and compared to failures occurring in the absence of precipitation.

Chi^2 probabilities were calculated for 36 individual 2 × 2 crosstabulation tables comparing pairs of tree groups by precipitation at each location of failure and at all failure locations combined. Root failure was frequently associated with precipitation for all groups except conifers. There were no significant differences for failures at the root in relation to precipitation except between coast live oak and conifers. There was no significant difference between coast live oak and valley oak at any location, but there was between coast live oak and other oaks at all locations but root failures. There was significant

difference between coast live oaks and conifers at all locations.

Wind speed. Table 6 lists failures associated with wind speed by location of failure and tree group. By contrast, for most tree groups other than oaks, failure events are often associated with wind (overall more than 75%). Coast live oak failures at all locations occurred more frequently (49%) at low wind speeds (less than 5 mph [8 kph]) than was the case for other groups, except valley oak.

Chi^2 analysis showed a significant difference in wind speed associated with failure at all locations between coast live oak and "other hardwoods," between coast live oak and eucalyptus, and between coast live oak and conifers. Eucalyptus, conifers, and "other hardwoods" showed no (or slight) significant differences among themselves, as did the oak categories among themselves.

Soil. Soil condition at the time of tree failure or previous to the failure may be one causal factor. Table 7 lists the association of saturated soil with failure location for the tree groups. Coast live oak seems to have a high association of saturated soil with root failure (30% overall). In terms of χ^2 probabilities, coast live oak had significantly higher association of saturated soil with root failure than all other tree groups except for the hardwood category.

Site topography. The "site topography" field on the CTFRP report form contains 6 choices: excavation, grade change (cut, grade change, fill), streambank erosion, slope erosion, or not applicable. Observation of the data shows a high frequency of grade change (cut or fill) associated with coast live oak (29.6% overall) and other oak failures (Table 8). To assemble crosstabulation tables into meaningful comparisons that may be tested statistically, both grade change choices were grouped together and compared to the remaining choices for the field. Failures in coast live oak, valley oak, and the "other oak" group were frequently associated with grade change. The oaks did not show significant differences among themselves.

Table 5. Percentage of failures associated with precipitation for each location of failure (root, trunk, or branch) and for all locations grouped (all failure locations). Rain, fog, and snow are combined.

Location of failure	*Q. agrifolia*	Hardwoods	Eucalyptus	Conifers	*Q. lobata*	Other oaks
Trunk (%)	18	37	39	57	9	59
Branch (%)	10	17	43	60	26	48
Root (%)	73	66	73	57	65	69
All locations (%)	40	40	48	59	34	59

Table 6. Percentage of failures for each location of failure and for all locations grouped by wind speeds *less than* or equal to 5 mph (8 kph).

Location of failure	*Q. agrifolia*	Hardwoods	Eucalyptus	Conifers	*Q. lobata*	Other oaks
Trunk (%)	52	17	28	24	73	59
Branch (%)	63	32	28	28	52	53
Root (%)	36	8	12	17	46	17
All locations (%)	49	19	25	25	57	36

Table 7. Percentage of failures associated with saturated soil, by failure location.

Location of failure	*Q. agrifolia*	Hardwoods	Eucalyptus	Conifers	*Q. lobata*	Other oaks
Trunk (%)	2	4	4	5	4	4
Branch (%)	1	2	5	11	3	5
Root (%)	27	19	5	7	11	12
All locations (%)	30	25	14	23	18	21

Table 8. Grade change—cut or fill versus other choices combined from the report form field "site topography." Percentage of failures at each location associated with a grade change.

Location of failure	*Q. agrifolia*	Hardwoods	Eucalyptus	Conifers	*Q. lobata*	Other oaks
Trunk (%)	7.6	1.6	1.8	1.1	5.8	5.5
Branch (%)	7.6	1.0	1.0	2.5	8.7	5.5
Root (%)	14.4	1.6	1.8	2.3	11.6	9.6
All locations (%)	29.6	4.2	4.6	5.9	26.1	20.6

DISCUSSION

Overall, the most common combined pattern of structural failure for coast live oaks reported in the CTFRP was a root or low trunk failure of a naturally occurring tree growing in a residential site (Figure 1). Coast live oaks reported in the CTFRP failed most often at the root (45% of *Q. agrifolia*). When trunk failures at ground level were combined with root failures, coast live oak had a significantly higher frequency for ground-level and below-ground failures than other tree groups (Table 1). This places the major failure problem area for coast live oak at the soil level and below, suggesting that human site and soil modification can have a negative impact on the health of these remnant trees of native origin. Site grade changes, both cutting and filling, were frequently associated with the failures of native oaks. Coast live oak in particular has the highest frequency of grade change associated with failure (18% fill and 12% cut). Reduced gas exchange under compacted soil or fill conditions has been shown to correlate with decline symptoms in oaks (MacDonald et al. 1993). Low oxygen conditions reduce root growth and increase disease severity in oaks (Jacobs et al. 1997a, 1997b). Cut roots as a result of grade modification operations may also expose entry avenues for disease organisms.

Saturated soil conditions associated with root failure were also more frequent for coast live oak failure than for other tree groups. Soil saturation also reduces soil gas exchange and may thus lead to root decline, although it is not known how long the soil was saturated for each individual failure. Saturated soil conditions impart less soil structural stability as

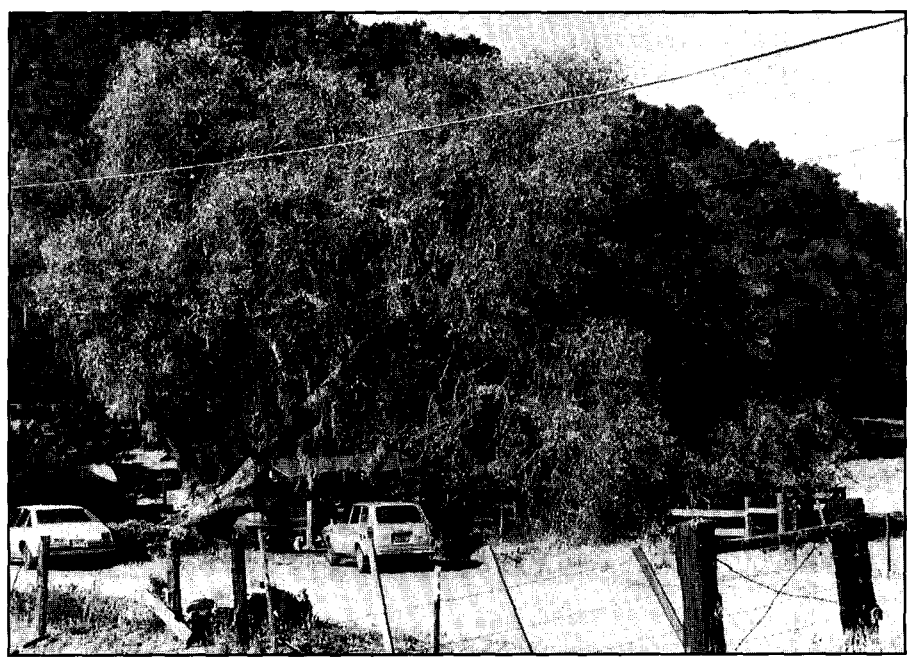


Figure 1. Failure of *Q. agrifolia* in San Luis Obispo County, California. The tree had a dbh of 100 cm (40.5 in.). It failed at the roots during heavy spring rains, with soggy soil and gusty winds. The failed tree had been growing in a residential setting that was a native stand prior to human occupancy (visible in the background). Note the soil disturbances: Herbaceous ornamentals were planted around the base of the tree, requiring irrigation on the trunk and root system; and vehicle traffic, parked cars, etc. extended almost to the trunk. Root decay was present. This photo was taken by CTFRP cooperator Ted Elder 1 to 2 months after the failure.

well, placing greater stress on weakened or dead root system components.

Decay and dead wood were significantly more frequently associated with coast live oak failures than with failures in other tree groups. Eighty-three percent of failures were associated with decay in coast live oaks, similar to the decay pattern observed in other oaks (86%). Decay is thus a major contributing factor to tree failure in coast live oaks. Decay data are hard to interpret. While oaks in general have a higher association of decay with failure than other tree groups, they also fail at a higher reported age than other tree groups and at a larger dbh by a factor of at least 2. While tree age may be a questionable measure due to the imprecision of visual estimation, the older nature of the oak population seems to be reflected in the dbh data. Published dbh tables for *Q. agrifolia* were unavailable; however, dbh tables for *Q. kelloggii* indicate that a 88-cm (35-in.) dbh (the average dbh for *Q. agrifolia* failures) corresponds to an age of 200 years (Burns and Honkala 1990). The oak population's apparent older age before failing may suggest that oaks are actually more resistant to decay rather than more susceptible, or that oak wood is of higher strength and can withstand a greater loss of sound wood before failing. There are few data regarding the percentage of decay in the wild for coast live oak or regarding the age of onset of decay in oaks that have failed.

A large proportion of coast live oak failures (49% of failures overall) occurred in conditions where wind speed was less than 5 mph (8 kph). At a lower wind speed, trees experience a lower bending stress. Our finding that these trees frequently fail at lower wind speeds, together with decay and structural defect data described above, suggests that a substantial decline in structural strength had already occurred in coast live oaks before the trees failed.

MANAGEMENT STRATEGIES

Our findings confirm that, to maintain the health of coast live oak and California oaks in general, careful attention to controlling excess soil moisture and avoiding or correcting grade disturbance and compaction is essential, as is monitoring decay throughout the tree, especially in below-ground portions (Britton 1990).

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Résumé. Les données du *California Tree Failure Report Program* (programme de cueillette d'informations sur les chutes d'arbres de la Californie) sur le chêne vert de Californie (*Quercus agrifolia*) ont été analysées afin de préparer un profil des caractéristiques de bris de structure chez cet arbre. Le type le plus commun de bris de structure pour les chênes verts de Californie rapporté dans cette étude est une faiblesse basse dans le tronc ou les racines des arbres poussant naturellement dans les quartiers résidentiels. La carie, les modifications de sites et des vents de faible vélocité sont significativement associés plus souvent avec les chênes verts de la Californie qu'avec tout autre espèce feuillue, conifère ou l'eucalyptus. Quatre-vingt-trois pourcent des chutes ont été associées à la carie, tout comme chez les autres espèces de chêne. Le défaut structural majeur noté chez le chêne vert de Californie était que les parties tombées étaient mortes, à la fois au niveau des racines et du tronc. Des chutes étaient aussi plus fréquentes chez le chêne vert de Californie que chez les autres espèces de chêne ou les autres groupes d'arbres en présence de conditions de sols saturés associés à un bris de racines. Une attention particulière doit être apportée en contrôlant les excès d'humidité dans le sol, en évitant ou en corrigeant les effets néfastes des changements de nivellement et de la compaction et effectuant un suivi de l'évolution du processus de carie pour maintenir les chênes verts de Californie en santé.

Zusammenfassung. Die Daten vom Kalifornischen Programm zur Erfassung von Baumversagen von Küsteneichen (*Quercus agrifolia*) wurden analysiert, um ein Profil der strukturellen Versagenskriterien für diese Baumart vorzubereiten. Die häufigste strukturelle Versagensursache bei Küsteneichen in dieser Studie ist ein Versagen von Wurzeln und Stammfußbereichen bei Bäumen, die in bebauten Gegenden stehen. Fäulnis, Standortveränderungen und geringe Windgeschwindigkeiten sind deutlich häufiger mit Küsteneichen assoziiert als mit anderen Harthölzern, Koniferen oder Eucalyptus. 80 % der Ausfälle wurden, ähnlich wie bei anderen Eichenarten mit Fäulnis assoziiert. Der hauptsächliche strukturelle Defekt bei Küsteneichen war, daß die umgestürzten Bäume bereits an der Wurzel und im Stammbereich abgestorben waren. Gesättigte Bodenwasserbedingungen in Verbindung mit Wurzelfäule waren bei Küsteneichen häufiger als bei anderen Eichenarten und Baumgrupen zu finden. Aufmerksamkeit bei der Kontrolle des Wassersättigungsgrades der Stanorte, Kontrolle der Bodenverdichtung und des Bodengefüges, sowie die Überwachung von Fäulnis sind notwendig, um die Gesundheit von Küsteneichen zu erhalten.

Resumen. Fueron analizados los datos del Reporte del Programa de Fallas de Arboles de California para robles vivos costeros (*Quercus agrifolia*) con el fin de preparar un perfil de las características de las fallas estructurales de este árbol. El tipo más común de falla estructural para los robles costeros reportados en este estudio es una falla de la raíz o en la parte baja del tronco de árboles que crecen naturalmente en áreas residenciales. La descomposición, los cambios de sitio, y las velocidades bajas del viento están significativamente asociadas más frecuentemente con el roble costero que con otras latifoliadas, coníferas o Eucalyptus. Ochenta y tres por ciento de las fallas estuvieron asociadas con la descomposición, similar a otras especies de roble. El principal defecto estructural anotado para el roble costero fue que las porciones afectadas estaban muertas, tanto en las raíces como en el tronco. Las condiciones saturadas del suelo asociadas con la falla de la raíz fueron también más frecuentes para el roble costero que para otras especies de roble y otros grupos de árboles. Es esencial la atención cuidadosa para controlar los excesos de humedad del suelo, evitando o corrigiendo los disturbios en compactación y nivel del suelo, y el registro de la descomposición, para mantener la salud de los robles vivos costeros de California.

Channel Law Group, LLP

June 25, 2026

Supplemental Justification for CEQA Appeal Reference Documents – 4230 N. Saltillo Street; Case Nos. ZA-2023-1206-ZAD-DRB-SPP-MSP-HCA; ENV-2023-1207-CE-1A; Council File 26-0412 ("Project")

EXHIBIT V

Standards for Bird Safe Buildings – Footnote 72

SAN FRANCISCO
PLANNING
DEPARTMENT

Standards for
Bird-Safe Buildings

SAN FRANCISCO PLANNING DEPARTMENT | ADOPTED JULY 14, 2011



Adopted July 14, 2011

By the San Francisco Planning Commission

SAN FRANCISCO
PLANNING
DEPARTMENT

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Photo by Glenn Nevill

PREFACE: Purpose of the Standards

Photo by Robert Lewis



Varied Thrush

"The wide variety of native birds that thrive in urban areas underscores the importance of these artificial habitats to the survival of many bird populations. Creating greenspace in urban environments, landscaping with native plants in backyards and parks, adopting architecture and lighting systems that reduce collisions, and keeping pets indoors will provide the greatest benefit to breeding birds and migrants seeking safe places to rest and find food during their spectacular journeys."

- 2009 State of The Birds Report by the United States Government US Department of Interior

Pigeons and sparrows are readily visible in San Francisco. These ubiquitous city birds are not shy about sharing our urban spaces. But the casual observer may be shocked to learn that our City's birds are much more diverse. There are about 400 species of birds in San Francisco; remarkably, this is nearly half the species in all North America (*Kay 2009*). For those who look, the shyer species are just around the corner. This is due in part to the diverse habitats of the Bay Area and its position on the coastal migration path, the Pacific Flyway. Some birds are well-adapted to urban life, and they may remain here as year-round "residents." Others are migratory, passing through the City southward in autumn en route to their winter feeding grounds, then returning northward in spring to establish territories in summer breeding grounds.

Photo by Robert Lewis



Anna's Hummingbird

There are special problems posed for birds living in or flying through cities. Over 30 years of research has documented that buildings and windows are the top killer of wild birds in North America (*Banks 1979; Ogden 1996; Hager et al. 2008; Klem 2009; Gelb and Delacretaz 2009*). Structure collision fatalities may account for between 100 million and 1 billion birds killed annually in North America (*United States Fish and Wildlife Service 2002; Klem 2009*). According to the leading expert, Dr. Daniel Klem Jr., this toll strikes indiscriminately culling some of the healthiest of the species. "From a population standpoint, it's a bleeding that doesn't get replaced," he stated, estimating that between one and five percent of the total migratory population die in window crashes annually (*Klem, 2009*). Many of these are endangered or threatened species whose populations are already declining due to habitat loss, toxin loads, and other severe environmental pressures.

Juvenile residents and migrants of all ages — those least familiar with the urban setting — face the greatest risk of injury or death from the hazards of the city environment. Collision hazards include vehicles, bridges, transmission towers, power lines, and turbines, but the majority of avian deaths and injuries occur from impacts with building components such as transparent or reflective glass. Night-time lighting also interferes with avian migrations. Scientists have determined that bird mortality caused by collisions with structures is "biologically significant" for certain species (*Longcore et al. 2005*). In other words, building collisions are a threat of sufficient magnitude to affect the viability of bird populations, leading to local, regional, and national declines. Night-migrating songbirds—already imperiled by habitat loss and other environmental stressors—are at double the risk, threatened both by illuminated buildings when they fly at night and by daytime glass collisions as they seek food and shelter.

While species that are plentiful may not be threatened by structure collisions, many species that are threatened or endangered show up on building collision lists (*Ogden 1996 and references therein*).

Strategies that improve the urban design quality or sustainability of the built environment may help to make a more bird-safe city. For example, San Francisco has a long-standing policy prohibiting installation of mirrored glass, to meet aesthetic goals. This policy also benefits birds, which mistake reflections for real space and don't perceive the glass as a deadly barrier. The launch of the Golden Gate Audubon Society, Pacific Gas and Electric Company, and Department of the Environment's voluntary Lights Out San Francisco program in 2008 links smart energy policy with bird preservation strategies.

Occasionally policy goals may conflict, and we must balance the benefits and costs of one policy against the other. For instance, gains in energy and resource conservation provided by wind generators could also have negative environmental impacts if installations of those wind farms increase mortality among flying animals.

Photo courtesy New York Audubon's "Bird-Safe Guidelines"



A Red-Tailed Hawk may see its reflection as a territorial rival to be driven away, resulting in a collision.

WHAT THIS DOCUMENT DOES

Annual kills at high-risk structures are foreseeable and avoidable and merit protection (*Klem, 2009*). This publication serves as the Planning Commission's policy document for Section 139 of the Planning Code, "*Standards for Bird-Safe Buildings*." The controls described within aim to identify high-risk features in an urban setting and regulate these situations to the best of current scientific understanding. In areas where the risks are less well known, the Department does not propose to apply controls but instead recommends project sponsors use the checklist contained in this document as an educational tool to increase their understanding of potential dangers. Qualifications for achieving recognition as a Bird-Safe building are included in the document to acknowledge building owners who voluntarily take measures to help keep birds safe above and beyond the requirements. At this time, the Planning Department also urges local researchers to further explore the issue and for citizens to get involved in local monitoring efforts.

I. The Issue: Birds, Buildings, People and Cities

Changing Nature of North America and Building Design

The consequences of our population growth are well-known: sprawling development across the country compounds habitat loss and disrupts vital ecological functions. The rate of sprawl in the United States almost quadrupled between 1954 and 2000. An area of undeveloped land about the size of Connecticut is converted to urbanized landscapes annually in the United States (*U.S. Department of Agriculture 1997*). This loss of habitat exerts great pressures on our wildlife.

Less well-known to the general public are the effects of our specific development forms on wildlife. Buildings and birds have coexisted since people first sought shelter. Early blocky buildings posed little threat to birds as the building elements were quite visibly solid. The advent of mass produced sheet glass in 1902 greatly increased the potential for transparency. The innovation of steel frame buildings with glass curtain walls resulted in transparent high-rise buildings.

After the Second World War, these steel and glass buildings were widely used and became the iconic 20th Century American building. Today, planners and urban dwellers increasingly demand building transparency to achieve street activation and pedestrian interest. As glass surface area increases so do the number of bird collisions. After World War II birdwatchers began documenting major bird-building, single-event collisions that resulted in the deaths of hundreds of birds. The first recorded event occurred on September 10, 1948 when more than 200 birds of 30 species were killed upon collision with the Empire State Building (*McAdams 2003*). Similar events have occurred every decade with notable events killing 10,000 to 50,000 birds at a strike (*Bower 2000*). In 2011, the New York Times reported, that "After 5,000 red-winged blackbirds fell from the sky in Arkansas on New Year's Eve, many Americans awakened to a reality that had not necessarily been on their radar: many birds die as a result of collisions with buildings" (*Kaufman 2011).* These single-event strikes are often tied to inclement weather, night migration, and brightly lit structures.



ABOVE: The proposed new Transbay Terminal presents a transparent façade with enticing vegetation visible both inside the building and on the roof. The façade is currently planned to include fritted glass.



ABOVE: Many historic buildings such as the old Transbay Terminal present a solid appearance.



Photo courtesy of Lundberg Design

ABOVE: The City's new bus shelters designed by Lundberg Design use a subtle frit pattern to indicate the barrier. This design, called "SF Fog," is effective in alerting both people and birds to the glass. INSETS show how the frit pattern is more dense at the bottom and dissipates like the City's fog at the top.

While single-event collisions are dramatic, the bulk of bird deaths result from the cumulative effects of a lone, confused bird mistaking glass for a safe flight path. The lone bird strike occurs over and over with conservative estimates calculating that each building kills 10 birds per year on average in the United States (*Klem 1990*). Poorly designed buildings kill hundreds per year (*Hager et al. 2008*). Current research finds that earlier estimates of up to 1 billion bird deaths per year due to building collisions were conservative (*Klem et al. 2009 and references therein*).

New trends in green architecture can either increase or decrease the risk for birds. Green design that facilitates bird safety includes: the avoidance of light pollution, reduced disturbance to natural landscapes and biological systems, and lowered energy use. Green design can also be hard on birds. Green buildings surrounded by lush landscaping may attract more birds. Window reflections of adjacent greenery lure birds to false trees. Green atria inside buildings too may call birds to an inaccessible haven only to have their journey harshly interrupted mid-flight. In 2011, the Chicago Tribune reported that birds were crashing into the FBI's Chicago office, a Platinum LEED Building, at a clip of 10 birds a day during migration (*DeVore 2011*).

Green building design can go hand-in-hand with bird-safe design. The Green Building Council rating system, LEED, challenges designers to assess the impact of building and site development on wildlife, and incorporate measures to reduce threats. Buildings may be certified as silver, gold, or platinum according to the number of credits achieved. A LEED a bird-friendly pilot may be developed as early as summer 2011, for testing and eventual inclusion into the main LEED structure. There is still room for improvement. In the future, green design should thoroughly consider the impact of design on wild flora and fauna.

BELOW: The California Academy of Sciences showcases many green design features including a green roof set within a lush, green landscape that is a natural respite for birds migrating through the city. Because its use of glass could also pose a collision risk, researchers at the Academy are studying the effects of the building on birds and testing various methods of improving bird safety, including the use of external screens, as shown on page 29.



http://slowmuse.files.wordpress.com/2008/10/cast.jpg

The Basics: Birds and Buildings

BIRDS AND GLASS

Glass is everywhere and is one of the least recognized, but most serious, threats to birds; one that is increasing as humans continue to build within bird habitats across the planet. Clear glass is invisible to birds and to humans, but both can learn to recognize and avoid it. Unfortunately, most birds' first encounter with glass is fatal. They collide at full speed when they try to fly to sky, plants, or other objects seen through glass or reflected on its surface. Death is frequently not instantaneous, and may occur as a result of internal hemorrhage days after impact, far away from the original collision site, making monitoring the problem even more difficult. The two primary hazards of glass for birds are reflectivity and transparency.

REFLECTIVITY



Viewed from outside buildings, transparent glass often appears highly reflective. Almost every type of architectural glass under the right conditions reflects the sky, clouds, or nearby trees and vegetation. Glass which reflects the environment presents birds with the appearance of safe routes, shelter, and possibly food ahead. When birds try to fly to the reflected habitat, they hit the glass. Reflected vegetation is the most dangerous, but birds may also attempt to fly past reflected buildings or through reflected passageways.

TRANSPARENCY



During daylight hours, birds strike transparent windows as they attempt to access potential perches, plants, food or water sources and other lures seen through the glass. "Design traps" such as glass "skywalks" joining buildings, glass walls around planted atria and windows installed perpendicularly on building corners are dangerous because birds perceive an unobstructed route to the other side.



http://www.princeton.edu/pr/pictures/l-r/princeton_modern/



Photo by AnMarie Rodgers

TOP: Clouds and neighboring trees reflect in the glass curtain wall of Sherrerd Hall on the Princeton campus making it difficult for birds to distinguish real from reflection.

BOTTOM: A Market Street building with a transparent corner may lead birds to think the tree is reachable by flying through the glass.

GLAZING CHARACTERISTICS

Reflective and transparent glass each present hazards to birds (*Gelb and Delacretaz 2009*).

REFLECTIVITY



Image courtesy of Lightsoutindy.org



Photos Courtesy NY Audubon

TRANSPARENCY



Image courtesy of Lightsoutindy.org



TOP: Reflections: A bird looking for a perch may mistake the reflected tree for an actual tree.

BOTTOM: Transparent glass can be mistaken for a clear flight path.

GLASS RELATIVE TO BUILDING HEIGHT AND MASSING

Typically, as building size increases, so does the amount of glass, making larger buildings more of a threat. Lower stories of buildings are the most dangerous because windows here are at or below canopy height and are more likely to reflect trees and other landscape features that attract birds. This makes a long, low building more of a hazard than a tall one of equal interior square-footage. However, as monitoring programs access setbacks and roofs of tall buildings, they are finding that birds also collide with buildings at the higher floors. This is an area where more information is needed.



TOP: SoMa's Foundry Square presents a full façade of highly reflective glass. While all glass can be reflective, glass manufacturers label glass with standards "reflectivity" ratings.

AMOUNT OF GLASS

Glass causes virtually all bird collisions with buildings. It's logical that as the amount of glazing increases on a building the threat also increases. A study in New York (*Klem et al, 2009*) found a 10% increase in the area of reflective and transparent glass on a building façade correlated with a 19-32% increase in the number of fatal collisions, in spring and fall, when visiting migrants are present.

REDUCING KNOWN BIRD TRAPS





Photo Courtesy NY Audubon

Windowed courtyards and open-topped atria can be hazardous, especially if they are heavily planted. Birds fly down into such places, and then try to leave by flying directly towards reflections on the walls. Glass skywalks, handrails and building corners where glass walls or windows are perpendicular are dangerous because birds can see through them to sky or habitat on the other side.

ABOVE LEFT: This café on Market Street uses a glass wind barrier lined with attractive flowers that may entice birds.

ABOVE RIGHT: This glass walkway allows for a clear sightline though the passage. Without treatment to the glazing, this can create a hazards for birds.

CLEAR FLIGHT PATHS

Birds have evolved to fly through tree canopies at speed. This ability to navigate tight places is a benefit in most natural settings but may be a liability in the built environment. Early attempts to ward off bird collisions with glass panes included the unsuccessful attempts at placing falcon stickers in the middle of each pane. As the acrobatic bird below demonstrates and as current research has shown, collisions are most effectively reduced when flight paths are eliminated by the breaking of glass swaths to less than either 4" vertically or 2" horizontally (*Sheppard 2010*).



Hand Print Rule: Small birds may try to fly through any spaces that are about the size of a handprint.







Exceptional Acrobats: Some birds such as the barn swallow pictured here can easily fly through spaces that are more narrow. This bird is traveling at 35 mph through a 2-inch seam.

http://zuzutop.com/2009/07/a-job-for-superswallow/

We don't know exactly what birds see when they look at glass but we do know that the amount of glass in a building is the strongest predictor of how dangerous it is to birds. Other factors can increase or decrease a building's impact, including the density and species composition of local bird populations, the type, location and extent of landscaping and nearby habitat, prevailing wind and weather, and patterns of migration through the area. All must be considered when planning bird-friendly environments. Commercial buildings with large expanses of glass can kill large numbers of birds, estimated at 35 million per year in the US (*Hager et al 2008*). With bird kills estimated at 1-10 per building per year, the large number of buildings multiplies out to a national estimate of as much as a billion birds per year (*Klem et al 2009; Klem 1990, 2009*). As we'll discuss, certain particularly hazardous combinations can result in hundreds of deaths per year for a single building.



Photo by Hendrik Daoquin

BOTTOM A fatal bird-strike leaves behind a print of the bird's plumage as evidence of the force of the impact.

BIRDS AND LIGHTING



LIGHT

While recent research suggests that nighttime collisions may be more limited in scope than previously thought (*Gelb and Delacretaz 2009 and references therein*), at night artificial light degrades the quality of migratory corridors and adds new dangers to an already perilous journey. These conditions can be exacerbated by unfavorable weather and San Francisco fog, limiting birds' ability to see navigational markers like the stars and moon. Flood lights on tall buildings or intense uplights emit light fields that entrap birds reluctant to fly from a lit area into a dark one. This type of lighting has resulted in mass mortalities of birds (*Ogden 1996 and references therein*).

Lights disrupt birds' orientation. Birds may cluster around such lights circling upward, increasing the likelihood of collisions with the structure or each other. Importantly, vital energy stores are consumed in nonproductive flight. The combination of fog and light doubly affects birds' navigation and orientation. (*Ogden 2006*)

Besides reducing adverse impacts on migrating birds, there are significant economic and human health incentives for curbing excessive building illumination. In June 2009, the American Medical Association declared light pollution a human health threat and developed a policy in support of control of light pollution.

Overly-lit buildings waste tremendous amounts of electricity, increasing greenhouse gas emissions and air pollution levels, and of course, wasting money. Researchers estimate that the United States alone wastes over one billion dollars in electrical costs annually because poorly designed or improperly installed outdoor fixtures allow much of the light to go up to the sky. "Light pollution" has negative aesthetic and cultural impacts. Recent studies estimate that over two-thirds of the world's population can no longer see the Milky Way, a source of mystery and imagination for star-gazers. Together, the ecological, financial, and aesthetic/cultural impacts of excessive building lighting serve as compelling motivation to reduce and refine light usage (*Scriber 2008*).

Light at night, especially during bad weather, creates conditions that are particularly hazardous to night migrating birds. Typically flying at heights over 500 feet, migrants often descend to lower altitudes during inclement weather, where they may encounter artificial light from buildings. Water vapor in very humid air, fog or mist refracts light, greatly increasing the illuminated area around light sources. Birds circle in the illuminated zone, appearing disoriented and unwilling or unable to leave (*Ogden 2006*). They are likely to succumb to lethal collision or fall to the ground from exhaustion, where they are at risk from predators. While mass mortalities at very tall illuminated structures such as skyscrapers have received the most attention, mortality is also associated with ground level lighting and with inclement weather.

BELOW: Hazards can combine in downtown San Francisco. In this photo beacon lighting, light spillage, and fog mix.



Photo by AnMarie Rodgers

While we typically think of birds as early risers, during migration season many species will travel at night. White lights, red lights, skyglow, brightly lit buildings and interiors can distort normal flight routes (*Poot et al. 2008*). The risks vary by species. Songbirds, in particular, seem to be guided by light and therefore appear more susceptible to collisions with lit structures. Migrant songbirds have been documented by multiple sources to suffer single night mortalities of hundreds of birds at a single location (*Ogden 1996 and references therein*).



Image courtesy Lights Out SF

ABOVE: Lighting and Navigation: Birds migrate by reading light from the moon and stars, as well as by geomagnetic signals radiated from earth. Cumulative light spillage from cities can create a glow that is bright enough to obscure the starlight needed for navigation.

LEFT: Beacon Effect: Individual structures may be lit in a manner that draws birds like a moth to a flame. Beacon structures can draw birds towards land that may offer little shelter or food or towards collisions with glass. Once at the structure, birds may be hesitant to leave the lit area causing them to circle the structure until exhausted. (*Ogden 1996*)

RIGHT: Skyglow can be increased during periods of inclement weather. Current research indicates that red lights in particular may disrupt geomagnetic tracking. Red lights required for airline safety would be permitted (above image). Decorative red lighting, such as on the building below in New York, would be discouraged.



Image courtesy Lights Out SF



Image courtesy NY Audubon



Map courtesy of Texas Parks and Wildlife Department.

OTHER CAUSES OF COLLISIONS:

LOCATION: MACRO-SETTING

San Francisco is on the Oceanic Route of the Pacific Flyway. During migration, birds tend to follow rivers and the coastline. In this way migrants funnel southward together in the fall and disperse northward in the spring.

VISITING BIRDS

Migrating birds are unfamiliar with the City and may be exhausted from their flight. Instances of collisions rise during the migratory seasons as birds travel to lower elevations to feed, rest, and use light to recalibrate their navigation. (*Hager et al. 2008*).

LEFT: Millions of birds – more than 350 species – follow the Pacific Flyway. Of the two primary routes, the Oceanic Route passes through the Bay Area. Spring migration occurs between February through May, and fall migration begins in August and lasts through November. During this time, collisions with buildings can increase notably.







Photos by Eddie Bartley.

LEFT: According to the Golden Gate Audubon Society, over 250 species migrate through San Francisco Bay, many of them small songbirds such as warblers, thrushes, tanagers and sparrows that migrate at night and may be more susceptible to collisions with structures when descending for feeding and resting because of unfamiliar territory and confusing signals from the urban environment. Bird photos from left to right are Anna's Hummingbird, Yellow Warbler, and Lazuli Bunting.

LOCATION: MICRO-SETTING

How a building meets adjacent landscape features can be critical in determining the risk to birds. Buildings with large windows located adjacent to extensive vegetation present great hazards. In suburban areas, buildings with these features have been documented to kill 30 birds per year (*Klem 1990; and O'Connell 2001*). This combination may be even more lethal in urban areas. Studies of Manhattan structures with large swaths of glazing adjacent to large open spaces have recorded well over 100 collisions per year (*Gelb and Delacretaz 2009*).



BUILDING FEATURES

Well-articulated buildings orient people as well as birds, directing flow of traffic, creating enticing rest areas and adding aesthetic appeal.

RIGHT: Although located in a park setting, the De Young Museum minimizes hazards due to its low amount of glazing and perforated copper façade.

WEATHER CONDITIONS

Inclement weather can obscure obstacles and exacerbate skyglow conditions (*Ogden 1996 and references therein*).



http://izismile.com/2009/09/30/beautiful_pictures_of_san_francisco_covered_with_fog_10_pics_1_video.html

Implications for San Francisco

Three decades of researching bird/building collisions has yielded both many answers and posed new questions. The high number of North American bird deaths and the ecological importance of birds demonstrate that the problem exists on a national level, but it is natural to wonder if the dense nature of San Francisco presents the same compelling pressure for a local response. The short answer is yes—San Francisco has both an important population of birds and a potentially injurious built environment for them. As discussed previously, San Francisco is both home to many birds and is on a major migratory pathway. Locally, there are incidents of celebrated birds such, as the Peregrine Falcon, repeatedly losing their young due to collisions with downtown skyscrapers. With only a few studies currently underway in San Francisco and results not yet complete, anecdotally, local birders have monitored several buildings and have noted significant numbers of bird injuries and deaths (*Weeden, 2010*). San Francisco Animal Care and Control staff further reported collecting 938 wild birds over a two year period from May 2008 through June 2010, noting the majority of birds were found during the spring and fall migratory periods. The California Academy of Sciences in Golden Gate Park is spearheading their own research and bird-safe building methods, in a proactive effort to avoid bird fatalities at their facility. In lieu of large-scale local monitoring programs there are a great many studies of dense urban cities that we can further draw upon. These studies demonstrate that birds respond similarly to certain building and environmental features, regardless of geographic location.

SPOTLIGHT ON A LOCAL CELEBRITY

The Peregrine Falcon population suffered a huge blow to their numbers due to the use of pesticides including DDT beginning in the 1950s. In 1970 the California Peregrine Falcon population was reduced to only two known breeding pairs. The Santa Cruz Predatory Bird Research Group (SCPBRG) participated in the reintroduction of the species and has monitored the Peregrine Falcons nesting in San Francisco and other sites.

Natural cliff dwellers, the species adapted to nesting in bridges and downtown high-rises. As the population increased, Peregrine Falcons were reported in the San Francisco financial district and in 1987 a nest box was placed near a commonly used perch on the PG&E Headquarters Building. In 2003, Peregrine Falcons nested in the downtown for the first time and have been a closely watched since. SCPBRG trained citizens to participate in a group called "Fledge Watch" to increase understanding of how young falcons fare in the city. In 2009, 76 people volunteered for 5 hour shifts monitoring the 36-58 day old Peregrines from sunrise to sunset in either San Jose or San Francisco. The public could also view the falcons from the downtown building nest via a webcam.

According to Glenn Stewart of SCPBRG, "while there have been building collision fatalities, the target nest success of Peregrine Falcons in San Francisco was 1.5 per nest and has been exceeded at 1.6 young fledged per nest."

It appears that several weeks after fledging, urban Peregrine Falcons recognize glass as a barrier. In the first few weeks when the young are learning to fly they are most at risk for a collision. In other habitats, falcons face predators like eagles, owls, and when on the ground by bobcats, and coyotes. Like other birds, Peregrine Falcons see in the ultra violet (UV) range.

The architects and designers of the downtown environment did not consider bird building collision as a potential risk. In the future when buildings are being designed and upgraded, the latest information and options should be considered.

- Noreen Weeden, *Golden Gate Audubon Society*



Photo by Glenn Nevill

A native San Franciscan juvenile Peregrine Falcon (deceased offspring of "Dapper Dan" and "Diamond Lil") perched on sill near reflective glass. All three fledged young from that year (2009) died as a result of building collisions. Two more fledglings died from collisions in 2011.

LESSONS FROM MAJOR CITIES

Academic researchers and bird-rescue organizations in Chicago, Toronto, and New York City have documented thousands of structure collisions and come to some interesting conclusions.

Perhaps the most established monitoring program of bird-building collisions in a dense city is NYC Audubon's Project Safe Flight in Manhattan. Project Safe Flight documented over 5,400 collisions between 1997-2008. A recent study (*Gelb, Delacretaz 2009*) analyzed this data to determine the critical contributing factors for the structures with the largest number of bird fatalities.

- The study looked at the 10 most deadly collision sites and found the combination of open space, vegetation, and large windows (greater than 1 meter x 2 meter) to be more predictive of death than building height.
- The frequency of collisions is highest along façades that have lush exterior vegetation and either reflective or transparent windows.
- The majority of the collisions occurred during the daytime and involved migrant species.
- High-rise buildings and night lighting presented less risk than windows adjacent to open spaces one hectare or greater in size.
- The majority of collisions are likely due to high-collision sites that feature glass opposite exterior vegetation.
- Urban mortalities may be higher than previously thought. Non-urban studies estimated that high-collision sites would have about 30 collisions per year. At the Manhattan collision sites examined in this study, well over 100 collisions were recorded per year.

The most dangerous building in this study was not a high-rise, but instead was a 6-story office building adjacent to densely vegetated open space.

Studies in Toronto and other eastern and Great Lakes cities have documented tens of thousands of bird fatalities attributable to building collisions. A 10-year study of bird-building collisions in downtown Toronto found over 21,000 dead and injured birds in the city's downtown core. A 25-year study by researchers from Chicago's Field Museum of Natural History documented a particularly problematic building in Chicago (McCormick Place Convention Center) with over 30,000 dead birds of 141 species. The lights at the McCormick Palace were left on at night until 2000. Anecdotal reports for this building cited an 80% decrease in the number of birds killed, by simply turning out building lights (*Kousky 2004*).

Other researchers have agreed that lights can cause a significant problem, but that turning off lights isn't the only answer *(Shephard, Klem 2011)*. As shown in the Manhattan study of ten buildings, daytime collisions were higher and occurred in areas with vegetation opposite glass. Toronto's approach to tackle this dual issue was to provide mandatory construction standards for daytime, while continuing to increase participation in their Lights Out program at night.



Photos courtesy NY Audubon



ABOVE: The windows of Morgan Mail Building in Manhattan are adjacent to green landscaped open spaces, making it the most dangerous for birds in a recent study.

RIGHT: Morgan Mail Building causality.

Spotlight on San Francisco's Migrant Birds

Bird collisions with buildings occur year-round, but peak during the migration period in spring and especially in fall when millions of birds travel between breeding and wintering grounds. Migration is a complex phenomenon, and different species face different levels of hazards, depending on their migration strategy, immediate weather conditions, availability of food, and anthropogenic obstacles encountered en route.



Photo by Noreen Weeden

Nocturnal migrants: Many songbirds migrate at night, possibly to take advantage of cooler temperatures and less turbulent air, and because they need daylight to hunt insects for food. Generally, these birds migrate individually, not in flocks, flying spread out across most of their range. Migrants depart shortly after sundown. The number of birds in flight peaks before midnight, then drops. Songbirds may fly as many as 200 miles in a night, then stop to rest and feed for one to three days, but these patterns are strongly impacted by weather, especially wind and temperature. Birds may delay departure, waiting for good weather. They generally fly at an altitude of about 2,000 feet, but may descend or curtail flight altogether if they encounter a cold front, rain, or fog. There can be a thousand-fold difference in the number of birds aloft from one night to the next. Concentrations of birds may develop in 'staging areas' where birds prepare to cross large barriers such as the Great Lakes or Gulf of Mexico.



Photo by Eddie Bartley

Diurnal migrants: Daytime migrants include raptors, which take advantage of air currents to reduce the energy needed for flight. Other diurnal migrants, including shorebirds and water-birds, often fly in flocks and their stopover sites are less dispersed because of their dependence on bodies of water. This means that daytime migration routes often follow land forms such as rivers and mountain ranges, and birds tend to be concentrated along these routes or 'flyways'. Not all songbirds migrate at night—species such as robins, larks, kingbirds and others migrate during the day. Birds' daytime flight altitudes are generally lower than their nighttime counterparts.

Millions of birds, especially songbirds, are thus at risk, as they ascend and descend, flying through or stopping at or near populated areas. As city buildings grow in height, they become unseen obstacles by night and pose confusing reflections by day. Nocturnal migrants, after landing, make short, low flights near dawn, searching for feeding areas and running a gauntlet of glass in almost every habitat: in cities, suburbs and, increasingly, exurbs. When weather conditions cause night flyers to descend into the range of lighted structures, huge kills can occur around tall buildings. Urban sprawl is creating large areas lit all night that may be causing less obvious, more dispersed bird mortality.

- Christine Sheppard, *American Bird Conservancy*

THE IMPORTANCE OF MACRO-LOCATION (ON MIGRATION PATH) VS. MICRO-LOCATION (WITHIN A PARK-LIKE SETTING) AS A RISK FACTOR

A study of collisions at suburban office parks in Virginia found a large mortality rate for migrant birds even though the office parks were not on a migratory route—suggesting that the combination of mirrored windows and vegetation was more of a collision risk to visiting birds (*O'Connell 2001*). This study also suggests that the location of the building relative to the flyway may be less important than other risk factors such as building design and siting relative to plantings and open space.

Photos by Eddie Bartley

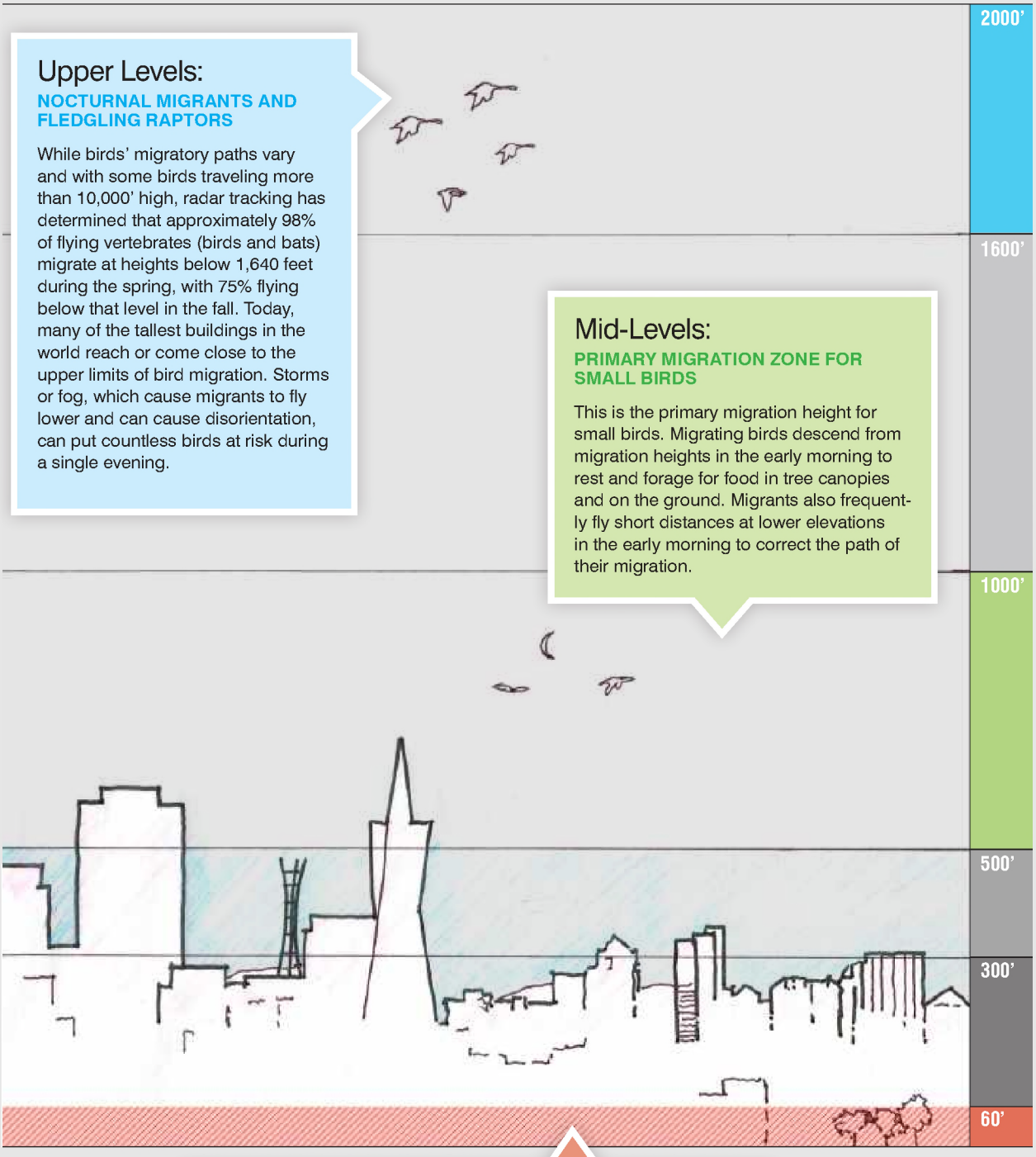




By flying at night, migrants like the Orange-Crowned Warbler (NEAR RIGHT) and Western Tanager (ABOVE LEFT) minimize predation, and avoid overheating that could result from the energy expended to fly such long distances. This also enables them to feed during the day and refuel for the night.

Daytime migrants like this Cooper's Hawk (FAR RIGHT) and the Sharp-shinned Hawk (ABOVE RIGHT) depend on the heating earth for added lift. Riding rising air currents called thermals, these birds take advantage of this lift to rise to the top of one thermal, set their wings in the direction they want to travel and then coast to the next thermal.

Spotlight on Building Height and Bird Migration



Upper Levels:

NOCTURNAL MIGRANTS AND FLEDGLING RAPTORS

While birds' migratory paths vary and with some birds traveling more than 10,000' high, radar tracking has determined that approximately 98% of flying vertebrates (birds and bats) migrate at heights below 1,640 feet during the spring, with 75% flying below that level in the fall. Today, many of the tallest buildings in the world reach or come close to the upper limits of bird migration. Storms or fog, which cause migrants to fly lower and can cause disorientation, can put countless birds at risk during a single evening.

Mid-Levels:

PRIMARY MIGRATION ZONE FOR SMALL BIRDS

This is the primary migration height for small birds. Migrating birds descend from migration heights in the early morning to rest and forage for food in tree canopies and on the ground. Migrants also frequently fly short distances at lower elevations in the early morning to correct the path of their migration.

Bird Building Collision Zone:

INCREASED COLLISIONS FOR LOCAL BIRDS AND MIGRANTS SEARCHING FOR FOOD AND SHELTER

The most hazardous areas of all buildings, especially during the day and regardless of overall height, are the ground level and bottom few stories. Here, birds are most likely to fly into glazed façades that reflect surrounding vegetation, sky, and other attractive features.

II. Bird-Safe Treatments

A Survey of Treatments from Easy to Innovative

Effective bird-safe building treatments exist and have been employed on buildings of significant architectural stature. San Francisco has a local example of such treatments that has been recognized nationally. The new Federal Building is cited as an example of bird-safe building design in United States Representative Mike Quigley's (D-IL) pending bill,"Federal Bird-Safe Buildings Act of 2011" (*House Bill No. 1643*). This bill, if adopted, would require federal buildings to incorporate bird-safe design principals.

Bird-safe design options are limited only by the imagination. Safe buildings may have large expanses of glass but use screens, latticework, grilles and other devices, both functional and decorative, outside the glass or integrated into the glass. There are treatments for existing glass that will reduce mortality to zero. These treatments do provide a view from inside, though often presenting a level of opacity from the outside, a factor that can deter application of these solutions. Glass treatments that can eliminate or greatly reduce bird mortality, while only minimally obscuring the glass itself, are therefore highly desirable and encourage more 'bird-friendly' design.

RIGHT: The south façade sports perforated steel panels that filter sunlight and serve as thermal buffers but also may convince birds that the structure is solid.

BOTTOM: San Francisco's Federal Building's north façade boasts floor-to-ceiling glass buffered behind a grid of metal catwalks and opaque glass fins.

Photos by Kurt Rodgers, SF Chronicle
http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2007/02/25/MNG2DOATDN1.DTL





GLASS AND FAÇADE TREATMENTS

Reduction of bird strikes with new buildings can be achieved with simple and cost-effective means. Creating a visual signal, or "visual noise barrier," that alerts the birds to the presence of glass objects can be achieved with relatively little additional cost. Fritting, the placement of ceramic lines or dots on glass, is one method of creating a visual noise barrier. People inside the building see through the pattern, which has little effect on the human-perceived transparency of the window. Fritting can also reduce air conditioning loads by lowering heat gain, while still allowing enough light transmission for day-lighting interior spaces. There is now a commercially available insulated glass with ultra-violet patterns that are designed to deter birds while largely being imperceptible to humans.

FRITTED AND FROSTED GLASS

Ceramic dots, or frits, are applied between layers of insulated glass to reduce transmission of light. These can be applied in different colors and patterns and can commonly be seen on commercial buildings. At Swarthmore College, external, densely fritted glass was incorporated into the design of the Unified Science Center. Virtually no strikes have been reported at either site. Fritting is a commonly-used and inexpensive solution that is most successful when the frits are applied on the outside surface.

ANGLED GLASS

While angled glass may be a useful strategy for smaller panes, it is generally not effective for large buildings. Birds approach glass from many angles, and can see glass from many perspectives. Generally, the desired angle for effective treatment is 20-40 degrees. These angles are difficult to maintain for large buildings, however, this strategy may work in low-scaled buildings with a limited amount of glass (*Ogden 1996 and references therein; and Klem et al. 2004*).



Minnesota Bird-Safe Building Guidelines



Minnesota Bird-Safe Building Guidelines

LEFT: Swarthmore College uses fritting on a large expanse of glass facing an open space.

RIGHT: The Minnesota Central Library's atrium features angled glass, a dramatic architectural feature that reduces reflections of habitat and sky from most angles. The likelihood of fatal collisions at this angle is lessened.

ULTRA-VIOLET GLASS

The Bronx Zoo uses glass that reflects UV light—primarily visible to birds, but not to people (*Klem 2009*). This glass may be about 50% more expensive than typical glass but is comparable to energy-efficient glass (*Eisenberg 2010*).

TOP RIGHT: The Bronx Zoo from the NYTimes.



http://www.nytimes.com/2010/08/29/business/29novel.html?ref=anne_eisenberg

FILM AND ART TREATMENT OF GLASS

Windows may be used as canvases to express building use through film and art. In certain instances, windows made bird-safe through an application of art may receive funding through San Francisco's One Percent for Public Art Program.

SECOND RIGHT: IIT Student Center, Chicago.



NY Bird-Safe Design Guidelines

EXTERNAL SCREENS

External screens are both inexpensive and effective. Screens can be added to individual windows for small-scale projects or can become a façade element of larger developments. This time-tested approach precludes collisions without completely obscuring vision. Before non-operable windows, screens were more prevalent. At the other end of the spectrum are solutions that wrap entire structures with lightweight netting or screens. To be effective, the netting must be several inches in front of the window, so birds don't hit the glass after hitting the net.

THIRD RIGHT: The Matarozzi/Pelsinger Building in San Francisco is a LEED Gold building designed by Aidlin-Darling. It has screens over the majority of its façade that protect birds from impact and allow views out for users of the building (left nighttime/right daytime)



Minnesota Bird-Safe Building Guidelines

ARCHITECTURAL FEATURES

Overhangs, louvers, and awnings can block the view of the glass from birds located above the feature but do not eliminate reflections. This approach should be combined with window treatments to achieve results.

BOTTOM RIGHT: The award winning Aqua Tower, Chicago, uses overhangs and other features that provide bird-safe design as well as energy efficiency.



Steve Hall/Studio Gang

NETTING

Netting has proven to be a versatile and effective option for bird-safe window treatment. Netting is stretched several inches over windows or entry ways to prevent birds from hitting the glass. Specifically designed netting is almost completely invisible and does not require invasive installation techniques. It can be used for new buildings, retrofits to existing buildings, replacement glass façades, and for preserving original features of historic buildings.

During the spring and fall migrations, agency staff at the FBI building in Chicago discovered at least 10 birds a day crashing into windows outside of their first floor, plant filled indoor atrium. Seasonal netting was installed and bird collision monitors noted a substantial reduction in bird strikes, without compromising the look of the building or the ability to see into or out of the lobby (*DeVore 2011*).

Netting has also been used successfully to treat historic buildings, where it's critical to maintain the original character of the building. Prestigious historic preservation awards have been earned for netting work on famous buildings such as the American Museum of Natural History and the US Department of Justice. Other historically significant structures with netting include New York Metropolitan Opera, Independence Hall, and even Alcatraz Prison.



Heather Charles, Chicago Tribune



Photo Courtesy of Birdmasters, Inc.



Photo Courtesy of Birdmasters, Inc.

TOP RIGHT: Special agent Julia Meredith discovered so many dead and injured birds on the ground outside the Chicago offices of the FBI that she lobbied to have special bird-friendly netting installed on the building's first floor windows. She estimates that the nets have reduced the number of birds crashing into the windows by 90 percent.

CENTER RIGHT: A close-up view of the New York Public Library barely shows the marble toned and clear netting over the building.

BOTTOM RIGHT: The netting placed over the windows at the New York Public Library is virtually invisible and helps prevent both bird strikes and building deterioration from pest species.

WIND GENERATORS

San Francisco has a policy to encourage the installation of on-site, renewable energy systems, such as small wind generators. Currently, there are two general types of wind generators available. One uses scoops or blades to spin on a vertical axis, shown at far left below. It is probable that birds would perceive this type as a solid barrier even when it's rotating.

The second design uses a propeller-like rotor to spin on a horizontal axis. This is a small-scale version of the most common generator used on large-scale wind farms throughout the world.

While it is unreasonable to believe that these small urban systems would cause the annihilation of birds such as the well-known disaster at Altamont, California (see discussion on adjacent page) a certain amount of caution is prudent in the absence of established scientific research. The Planning Department has exercised that caution by allowing a more widespread installation of vertical axis machines, and limiting locations of horizontal axis, open-bladed generators to areas that would seem to be less densely populated by birds, especially migrants and juveniles.

The only clear way at present to learn whether small urban wind generators will harm birds is to allow the installation of a few, and to monitor the interactions with animals, if any. For this reason, all approvals for wind generators have conditions that require monitoring and reporting of bird and bat strikes. These reporting protocols are in accord with recommendations made by the Mayor's Task Force on Urban Wind.

As of June 2011, none of the approved windmills have submitted monitoring information to the Planning Department.



LEFT: Horizontal axis and vertical access wind generators that do not present a solid appearance are discouraged, especially adjacent to water or open space larger than 2 acres.





ABOVE: Vertical axis wind generators may vary in appearance. Blades that present a solid appearance (such as the left image) are encouraged.



Golden Eagle photo by Eddie Bartley.

Spotlight on the Altamont Windmills

Golden Eagles, named for the golden feathering at the nape of their necks, are majestic raptors that can be found throughout most of California and much of the northern hemisphere. California protects these magnificent raptors as both a species of special concern and a fully protected species, making it illegal to harm or kill them. Golden Eagles are protected under the Bald and Golden Eagle Protection Act. Golden Eagle are also protected under the Federal Migratory Bird Treaty Act, which forbids the killing (even unintentional killing) of any migratory bird.

Golden Eagles typically prefer open terrain, such as the rolling hills of eastern Alameda County. The open grasslands, scattered oaks, and bountiful prey make this area ideal habitat for Golden Eagles. Today, it supports the highest-known density of Golden Eagle nesting territories in the world.

Conservation Issues

Every year, an estimated 75 to 110 Golden Eagles are killed by the wind turbines in the Altamont Pass Wind Resource Area (APWRA). Some lose their wings, others are decapitated, and still others are cut in half. The lethal turbines have been reduced from 6,000 to less than 5,000 which are still arrayed across 50,000 acres of rolling hills in northeastern Alameda and southeastern Contra Costa counties. The APWRA, built in the 1980s, was one of the first wind energy sites in the U.S. At the time, no one knew how deadly the turbines could be for birds. Few would now deny, however, that Altamont Pass is probably the worst site ever chosen for a wind energy project. According to a 2004 California Energy Commission (CEC) report, as many as 380 Burrowing Owls (also a state-designated species of special concern), 300 Red-tailed Hawks, and 333 American Kestrels are killed every year. The most recent study by Dr. Shawn Smallwood, a member of the Altamont Scientific Review Committee estimates that approximately 7,600-9,300 birds are killed here each year. (*Smallwood 2010*)



In 2004, Golden Gate Audubon joined four other Bay Area Audubon chapters (Marin Audubon, Santa Clara Valley Audubon, Mt. Diablo Audubon, and Ohlone Audubon) and Center for Biological Diversity and Californians for Renewable Energy (CARE) in challenging the renewal permits for this facility. The Audubon/CARE CEQA lawsuit settled, with terms requiring the wind companies to reduce avian mortality by 50% within three years and to complete a comprehensive conservation plan to govern operations in the Altamont.

Reducing the kill entirely may not be possible as long as the wind turbines continue to operate at Altamont. However, significant progress can be made. The CEC estimates that wind operators could reduce bird deaths by as much as 50 percent within three years–the goal stated in the settlement agreement–and by up to 85 percent within six years–all without reducing energy output significantly at APWRA. These reductions could be achieved by removing turbines that are the most deadly to birds and shutting down the turbines during four winter months when winds are the least productive for wind energy, combined with some additional measures. Anecdotal data indicate there may not be a substantial improvement for Golden Eagles and there may actually be much higher mortality for bats.

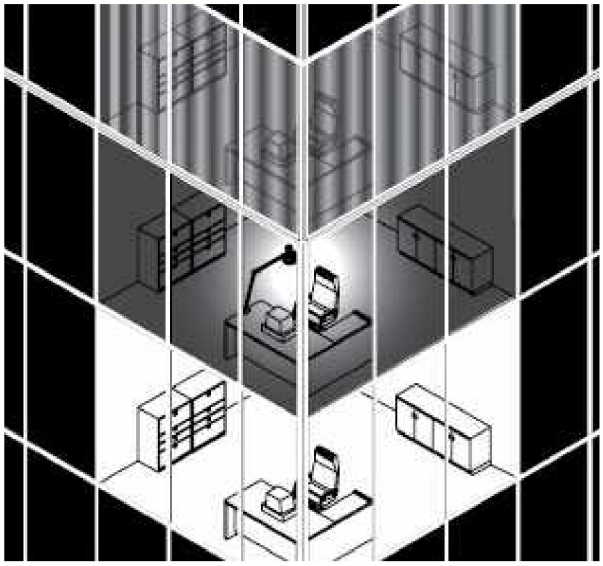
Golden Gate Audubon is working with Alameda County to ensure that the permits granted to the wind industry achieve reductions in bird mortality, in addition to other requirements that will help address the unacceptable bird kills at Altamont Pass over the long term. Pursuit of clean energy technology, when done correctly, can help reduce the risk of global warming and its impacts on wildlife.

Written by the Golden Gate Audubon Society.

LIGHTING TREATMENTS

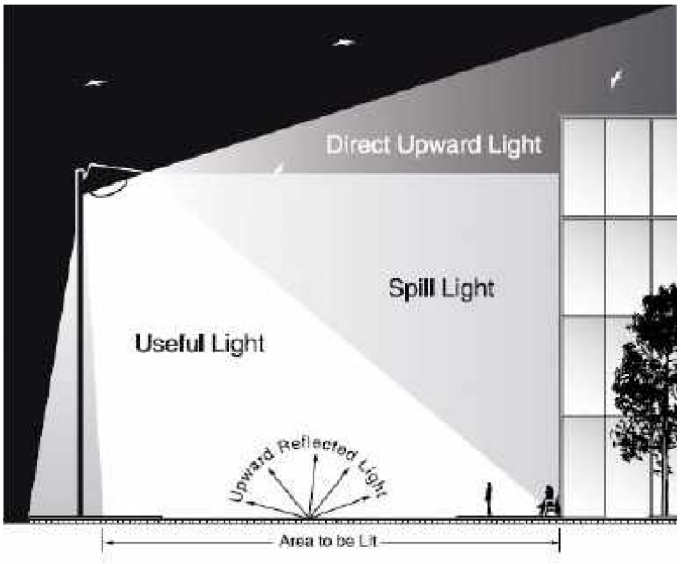
While the ultimate cause of collisions are invisible surfaces, light pollution can increase risk. Night migrants depend on starlight for navigation, and brightly-lit buildings can draw them off course. Once within the aura of bright lights, they can become disoriented, and may collide with buildings, or may fly in circles around the light source, until they drop to the ground from exhaustion, having expended their limited energy reserves needed to complete their migration. Architects and building owners should collaborate to address the two key lighting issues: design and operation.

Eliminating unnecessary lighting is one of the easiest ways to reduce bird collisions, with the added advantage of saving energy and expense. As much as possible, lights should be controlled by motion sensors. Building operations can be managed to eliminate or reduce night lighting from activities near windows. Minimize perimeter and vanity lighting and consider filters or special bulbs to reduce red wavelengths where lighting is necessary. Strobe lighting is preferable to steady burning lights. Exterior light fixtures should be designed to minimize light escaping upwards. Motion detectors are thought to provide better security than steady burning lights, because lights turning on provide a signal, and because steady lights create predictable shadows.



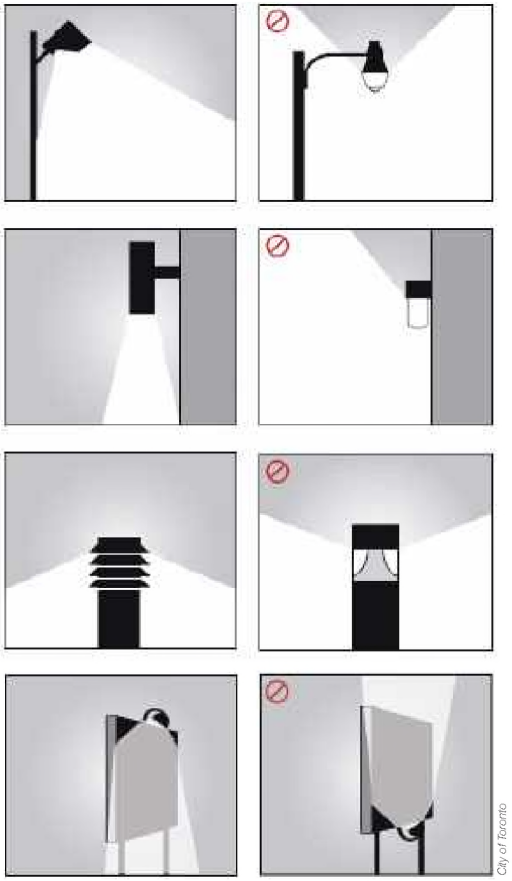
Minnesota Bird-Safe Building Guidelines

REDUCE: UNNECESSARY INTERIOR LIGHT



Minnesota Bird-Safe Building Guidelines

REDUCE: UNNECESSARY EXTERIOR LIGHT



City of Toronto

PREFERRED DISCOURAGED

LIGHTING DESIGN

The built environment should be designed to minimize light pollution including: light trespass, over-illumination, glare, light clutter, and skyglow while using bird-friendly lighting colors when possible (*Poot et al. 2008*).

- → **Avoid uplighting**
- → **Avoid light spillage**
- → **Use green and blue lights when possible**

LIGHTING OPERATIONS

Unneeded interior and exterior lighting should be turned off from dusk to dawn during migrations: February 15 through May 31 and August 15 through November 30. Rooms where interior lighting is used at night should have window coverings that adequately block light transmission, and motion sensors or controls to extinguish lights in unoccupied spaces. Event searchlights are strongly discouraged during these times.

Several cities, including San Francisco, have launched citywide efforts to reduce unneeded lighting during migration. In addition to saving birds, these "Lights Out" programs save a considerable amount of energy and reduce pollution by reducing carbon dioxide emissions. The savings for a building can be significant. One participating municipal building in the Toronto Lights Out program reported annual energy reductions worth more than $200,000 in 2006.

Lights Out requires that building owners, managers, and tenants work together to ensure that all unnecessary lighting is turned off during Lights Out dates and times (during spring and fall migration February 15th through May 31st and August 15th through November 30th). Best practices for lighting include turning off unnecessary lights after dusk and leaving the lights off until dawn. If inside lights are needed, window coverings such as blinds or drapes should be closed.



The Tribute of Lights | Copyright (c) 2010 John de Guzman: http://johndeguzman.com

LEFT: The white streaks are the time-exposed paths of birds attracted to, dazed by, and circling within the columns of light. Many succumbed to exhaustion and perished without completing their migration. Lights Out policies do not allow the use of searchlights during the Spring and Autumn migration periods for this reason.

III. Bird-Safe Requirements and Guidelines Across North America

When discussing human-caused threats to birds, the US Fish and Wildlife Service reports "that the incidental, accidental or unintentional take of migratory birds is not permitted by the Service and is a criminal violation of the Migratory Bird Treaty Act" but that the Service first attempts to work with industries and individuals who unintentionally cause bird death before pursuing criminal prosecution (*US Fish and Wildlife Service 2002*).

Several major cities are addressing the issue through local legislation.

- **Chicago:** In July of 2008, Cook County, Illinois, which includes Chicago, passed an ordinance requiring that all new buildings and major renovations incorporate design elements to reduce the likelihood of bird collisions. This ordinance established Chicago as the first major jurisdiction with a requirement for bird-safe elements. Other nearby local jurisdictions, such as Highland Park, are also following suit with new bird-safe architecture requirements.

- **Toronto:** This effort has evolved from voluntary ratings and incentive program to bird-friendly construction guidelines that became mandatory at the beginning of 2010. The bird-friendly guidelines were integrated into Toronto's local Green Development Standard, required for nearly all new construction. In addition, the City of Toronto offers an acknowledgement program that offers incentives to developers and building owners and managers who implement the Bird-Friendly Development Guidelines. Once a development has been verified by City staff as "bird-friendly", the City provides the owner with an original print by a local artist and the building may be marketed as "bird-friendly." A bird-friendly designation could give these buildings a competitive advantage by identifying these features to an increasingly environmentally concerned and aware marketplace. Toronto also has had great success with their Lights Out program which has been in effect since 2006. (See images on page 36.)

- **Minnesota:** As of 2009, the State of Minnesota requires that all state owned and leased buildings turn off their lights at night during migration. As of June, 2011, bird-safe building criteria are being developed for incorporation into the State of Minnesota Sustainable Building Guidelines.

- **Michigan:** Since 2006, the governor of Michigan has issued an annual proclamation, declaring "Safe Passage" dates during spring and fall migration, when buildings managers are asked to turn off lights at night.

- **Nationally:** In April 2011, Congressman Mike Quigley introduced a bill (*H.R. 1643*) into the U.S. Congress that, if passed, would mandate bird-friendly construction practices for federal buildings.



NY Bird-Safe Building Guidelines

IV. San Francisco's Bird-Safe Requirements

It is clear from studies done throughout the U.S. and Canada that certain building and landscape configurations can be especially dangerous to birds. These sites present heightened risks for collisions and necessitate requirements, which are included in Section 139 of the Planning Code, Standards for Bird-Safe Buildings.



NY Bird-Safe Building Guidelines

The following bird-safe measures apply in San Francisco.

Structure and/or siting characteristics that present the greatest risk to birds are called "bird-hazards" and include:

1 Location-related hazards

2 Building feature-related hazards

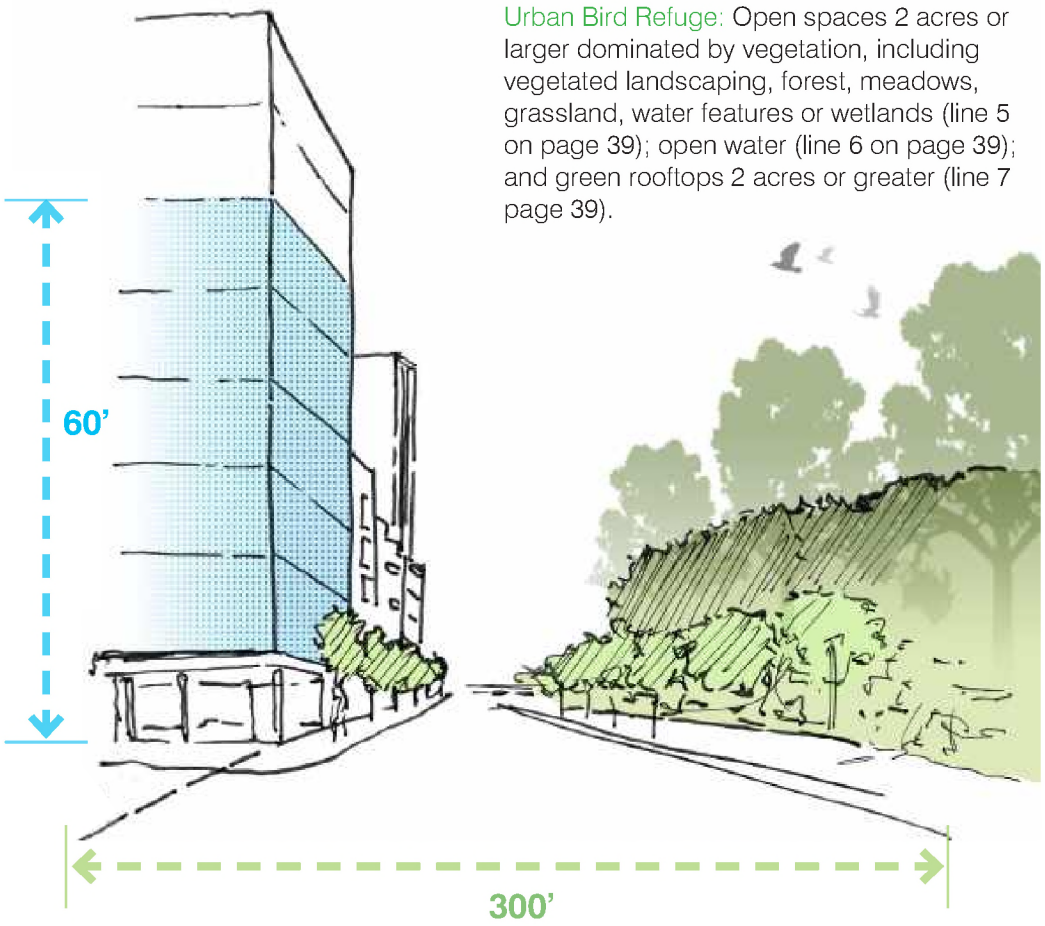
1 Requirements for Location-Related Hazards

What is a "location-related" hazard?

Location-Related Hazard: Buildings located inside of, or within a clear flight path of less than 300 feet from an Urban Bird Refuge (defined below) require treatment when:

- New buildings are constructed;
- Additions are made to existing buildings (Note: only the new construction will require treatment); or
- Existing buildings replace 50% or more of the glazing within the "bird collision zone" on the façade(s) facing the Urban Bird Refuge.

Bird Collision Zone: The portion of buildings most likely to sustain bird strikes. This area begins at grade and extends upwards for 60 feet. This zone also applies to glass façades directly adjacent to large landscaped roofs (two acres or larger) and extending upward 60 feet from the level of the subject roof.



Urban Bird Refuge: Open spaces 2 acres or larger dominated by vegetation, including vegetated landscaping, forest, meadows, grassland, water features or wetlands (line 5 on page 39); open water (line 6 on page 39); and green rooftops 2 acres or greater (line 7 page 39).

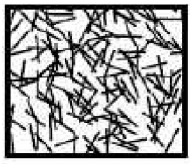
What requirements apply to a "location-related" hazard?

Treatment of Location-Related Hazards. Buildings located inside of or within a clear flight path from an Urban Bird Refuge shall implement the following applicable treatments for façades facing an Urban Bird Refuge.

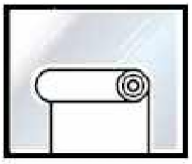
- Façade Treatments: Bird-Safe Glazing Treatment is required such that the Bird Collision Zone consists of no more than 10% untreated glazing. Building owners are encouraged to concentrate permitted transparent glazing on the ground floor and lobby entrances to enhance visual interest for pedestrians.
- Lighting Design: Minimal lighting shall be used. Lighting shall be shielded. No uplighting shall be used. No event searchlights should be permitted for the property.
- Wind Generators: Sites should avoid horizontal access windmills or vertical access wind generators that do not appear solid.*



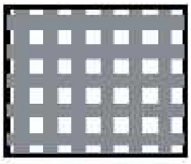
ABOVE: The California Academy of Sciences uses external screens 24 hours per day during spring and fall migration to reduce bird/building collisions.



Solution: Visual Noise



Solution: Use of plastic films, diachroic coatings and tints on facade



Solution: Screen / scrim / fritting

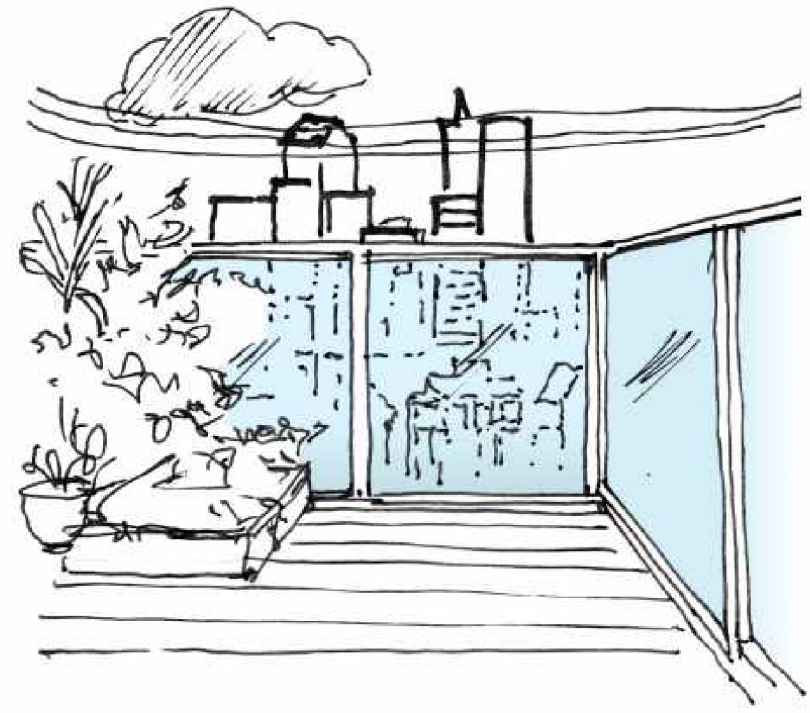
* The Planning Commission adopted a policy that would prohibit nonsolid or horizontal-axis wind generators via Resolution No. 18383. However, Ordinance No. 199-11, as adopted by the Board of Supervisors, does not expressly prohibit specific types of wind generators. Instead, the Planning Code requires that proposals for wind generation undergo individual project review to evaluate their specific risk to birds.

2 Requirements for Feature-Related Hazards

What is a "feature-related" hazard?

Building Feature-Related Hazard: Certain potential bird traps are hazardous enough to necessitate treatment, regardless of building location. A building-specific hazard is a feature that creates hazards for birds in flight unrelated to the location of the building. Building feature-related hazards include free- standing clear glass walls, skywalks, greenhouses on rooftops, and balconies that have unbroken glazed segments 24 square feet and larger in size. (See citywide bird-safe checklist, lines 19-22 on page 39). These features require treatment when:

- New buildings are constructed;
- Additions are made to existing buildings (Note: only the new construction will require treatment).



LEFT: These windows are an example of a feature-related hazard.

What requirements apply to a "featured-related" hazard?

Treatment of Feature-Related Hazards - Regardless of whether the site is located inside or adjacent to an Urban Bird Refuge, 100% of building feature-related hazards shall be treated.



Image courtesy of Lightsoutindy.org

LEFT: A transparent glass skywalk poses a "feature-related" hazard.

LEFT: This skywalk was intentionally treated with fritting by the Indiana Museum to avoid creating a "feature-related" hazard.



RIGHT: The fritting maintains transparency for pedestrians.



Images courtesy of Lightsoutindy.org

The Details: Exceptions and Specifications

Exceptions: Certain exceptions apply to the afore-mentioned controls.

1) Treatment of Historic Buildings. Treatment of replacement glass façades for structures designated as City landmarks or within landmark districts pursuant to Article 10 of the Planning Code, or any building Category I-IV or Category V within a Conservation District pursuant to Article 11 of the Planning Code, shall conform to Secretary of Interior Standards for Rehabilitation of Historic Properties. Reversible treatment methods such as netting, glass films, grates, and screens are recommended. Netting or any other method demonstrated to protect historic buildings from pest species that meets the Specifications for Bird-Safe Glazing Treatment stated above may also be used to fulfill the requirement.

2) Exceptions for Treatment of Location-Related Hazards for Residential Buildings within R-Zoned Districts.

→ *Limited Glass Façade:* Residential buildings less than 45 feet in height within R-Districts that have an exposed façade comprised of less than 50% glass are exempt from new or replacement glazing treatments, but must comply with feature-related and wind generation requirements below.

→ *Substantial Glass Façade:* Residential buildings within R-Districts that are less than 45 feet in height but have a façade with a surface area of more than 50% glass, must provide glazing treatments for location-related hazards such that 95% of all large, unbroken glazed segments that are 24 square feet and larger in size are treated.

3) Other Waivers or Modifications by the Zoning Administrator. The Zoning Administrator may either waive requirements for Location-Related Hazards or Feature-Related Hazards or modify the requirements to allow equivalent Bird-Safe Glazing Treatments based upon the recommendation of a qualified biologist.



Photo courtesy NY Audubon

A New York volunteer examining a window casualty.

Glazing Treatment Specifications: Bird-safe glazing treatment may include fritting, netting, permanent stencils, frosted glass, exterior screens, physical grids placed on the exterior of glazing or UV patterns visible to birds. To qualify as Bird-Safe Glazing Treatment, vertical elements of the window patterns should be at least 1/4 inch wide at a maximum spacing of 4 inches, or have horizontal elements at least 1/8 inch wide at a maximum spacing of 2 inches (*Klem 2009.*)

V. Recommended Actions and Bird-Safe Stewardship

Public Education and Outreach Partnerships

The Planning Department will partner with the Golden Gate Audubon Society to conduct outreach on bird-safe building practices. Staff will work collaboratively to increase awareness of bird/building issues, and disseminate educational materials on design and treatment options. A public education effort will proactively increase awareness of the issues and strive to make bird safety practices a part of the construction lexicon within this highly urbanized area. Developers, architects, planners, property owners, businesses, city residents and youth groups are encouraged to contact the Department about educational programs. Curriculum will include education about the standards for bird-safe buildings and exploring citizen involvement of monitoring bird/building collisions as well as general advocacy for bird conservation.



Photo courtesy Jessica Weinberg. http://www.jessicaweinberg.com/

Building Owner Bird-Safe Stewardship

Owners of new buildings and buildings proposing major renovations with a façade of greater than 50% glass are encouraged to evaluate their building against the Bird-Safe Building Checklist (pages 38-39) and provide future tenants with a copy of this document. Although requirements only apply to the most hazardous conditions, building owners and architects can become more aware of potential hazards and treatments. With the support of building owners who help educate future tenants, the people of San Francisco would become better educated about ways to enhance bird safety.

Building owners can help make their buildings safer by evaluating the risks of their buildings and retrofitting buildings with known hazards. Engaging in conservation measures outlined in this guide and granting access to collision monitoring groups help to address the issue and increase our understanding.

Encouraged Treatments

The following treatments are encouraged to enhance bird safety, in addition to meeting requirements:

→ Expanding treatment outside of the Bird Collision Zone: bird-safe treatments on building façades above the minimum height requirements.

→ Other window treatments: latticework, grilles and other devices, both functional and decorative, outside the glass or integrated into the glass spacing requirements;

→ Placement of trees or tall shrubs: should be located directly adjacent to glazing (with 3 feet) to slow birds down on approach, or placed far enough away to avoid reflecting canopies in the glazing.

Building Tenant Education

Some of the most effective treatments for making buildings bird-safe are those that require the cooperation of building owners and tenants. For this reason, the City should continue to use and should expand a "carrot"-based system to widely encourage participation in bird-safe efforts. San Francisco's existing Lights Out for Birds Program seeks to educate residents and provide recognition of voluntary bird-safe measures. Since 2008, the City has urged building owners and managers to turn off unnecessary interior and exterior lights. Twenty-two of the City's forty-four tallest buildings have been asked to participate.

To raise bird-awareness of building occupants, building owners may supply tenants with copies of this booklet. Building occupants can help make buildings bird-safe through the following good practices:

- → Interior plants should be moved so as not to be visible from the outside.
- → Consider limiting nighttime building use by combining motion operated light sensor with daytime cleaning services. This combination will reduce light pollution and increase energy conservation.
- → Where interior lighting is used at night, window coverings should be closed to block light transmission adequately.
- → Consider seasonal migration needs. Unneeded interior and exterior lighting should be turned off from dusk to dawn from February 15 through May 31 AND August 15 through November 30.



Photo by Robert Lewis

Greater Scaup



Photo by Robert Lewis

Western Sandpiper

Bird/Building Collision Monitoring

Project Safe Flight in Manhattan has collected and documented over 4,000 dead and injured birds since 1997. In 2009 the Chicago Bird Collision monitors recovered more than 6,000 dead or injured migratory birds from more than 100 different species. In Toronto, Fatal Light Awareness Program (FLAP) volunteers patrol Toronto's downtown core in the early morning hours rescuing live birds and collecting the dead ones since 1993. In the summer of 2010, the Oregon Zoo funded a six-week sunrise study of Portland's newest and tallest buildings where volunteers collected dead and injured birds. Audubon Minnesota has collected over 3000 birds of 110 species from monitoring efforts between 2007-2011.

Aside from regular collection of injured or dead migratory birds throughout the City by San Francisco Animal Care and Control staff and bird group volunteers, the only large bird/building monitoring program currently being conducted by the California Academy of Sciences, read more on page 14 (*Flannery 2011)*. Additional regular monitoring of the hazard in San Francisco is needed to help in the evaluation of local conditions and refinement of appropriate controls. Collaborations between building owners and bird-research groups should be encouraged to help increase our understanding of San Francisco's unique conditions. With the publication of this document, the City calls for more local research to help achieve the goal of better characterizing the problem on a local level, as well as for testing of new bird-safe technologies that could be utilized along with those that are already available.

CONTACT THE SAN FRANCISCO BIRD-STRIKE HOTLINE TO REPORT BIRD-STRIKES

Report injured birds found outside of buildings by emailing ***safebirds@goldengateaudubon.org*** or by calling **Golden Gate Audubon Society** at **(510) 843-6551** with the following information:

Date:

Time:

Address including cross streets:

Location details:

Species of bird, if known:

Male or female, if known:

Adult or juvenile bird, if known:

Condition of bird:

Did you see or hear the collision?
If so, please provide a description:

Weather:

Please email a photo of the bird and building, if possible. If the bird appears to be injured, call **San Francisco Animal Care and Control** at **(415) 554-9400** and record the date and time you called.



Photo by Eddie Bartley

A 2008 San Francisco pilot study discovered a Green Heron in the Downtown area. Further monitoring may reveal other unexpected neotropical migrants passing through the City's dense core.

Lights Out for Birds San Francisco

The Golden Gate Audubon Society, Pacific Gas and Electric Company and the San Francisco Department of the Environment administer "Lights Out for Birds – San Francisco." This voluntary program helps building owners, managers and tenants save energy and money while protecting migratory birds. Lights Out for Birds asks participants to turn off building lights during the bird migration (February through May and August though November each year).

"Participants in the Lights Out for Birds program can save natural resources, money, and birds by turning off lighting after dusk each evening and leaving lights off until dawn," said Mike Lynes, Conservation Director for Golden Gate Audubon. "Over 250 species of birds migrate through San Francisco in the spring and fall, and many that migrate at night can become confused by the City's lights and collide with tall buildings and towers. The Lights Out for Birds program can reduce bird deaths while cutting energy costs and saving participants thousands of dollars each year."

The North American Bird Conservation Initiative—a joint effort of federal agencies and nonprofit conservation organizations—released the "2009 State of the Birds" in which it reported that the majority of migratory birds in North America are suffering significant population declines due to human-induced causes, including habitat loss and collisions. In addition to window treatments to reduce daytime collisions, effective Lights Out programs can help stem these population declines.

Participants in the Lights Out for Birds program also gain significant financial benefits. Building operators and tenants have reported significant savings on energy bills as a result of participation—one business in Toronto reported a savings of $200,000 in 2006. In 2010 Mayor Gavin Newsom announced energy efficient retrofit funding for 2,000 small to mid-sized businesses and 500 homes. By installing timers or motion detectors and turning off unnecessary lights, building owners and operators can significantly reduce their energy bill. Reduced energy consumption decreases overall greenhouse gas emissions, which is essential in the effort to combat climate change.

San Francisco was one of the first cities to implement a Lights Out program in 2008. Now over 21 cities in the US and Canada have a Lights Out program. Conservationists hope that the program extends to every major city in North America, to save birds, energy and money.



Photos of 2008 Lights Out Toronto by Dick Hemingway via WWF-Canada.



Toronto's established Lights Out Program creates a dramatic change in the skyline appearance. As San Francisco's program spreads we should be able to see seasonal changes as our skyline lights up in non-migratory months and dims down during migration.

Building owners, managers and tenants interested in an energy evaluation and current rebates should contact the San Francisco Department of the Environment or a PG&E representative. For more information on how to participate in the program and to learn about local bird populations and how to help, contact the Golden Gate Audubon Society at (510) 843-6551.

PARTICIPANTS IN SAN FRANCISCO LIGHTS OUT FOR BIRDS

101 California Street
Allsteel Inc.
Barker Pacific Group, Inc.
New Resource Bank
Pacific Gas and Electric Company
San Francisco Department of the Environment
Tishman Speyer



ABOVE: Rescued thrush resting safely in the hand of a Chicago Bird Collision Monitor volunteer.

Photo: Willowbrook Wildlife Center
http://www.chicagoaudubon.org/imgcas/21-02/rescuedthrush.jpg)

Beyond Requirements: Voluntary Treatments and Acknowledgment

San Francisco building owners who implement Bird-Safe treatments are strongly encouraged to seek recognition under the City's new Bird-Safe Building Certification and Acknowledgement Program. Buildings which avoid creating hazards or implement bird-safe treatments as identified in this document would be acknowledged by the City and could be marketed as such. Three levels of certification will be offered:

Bird-Safe Building:
The building meets the minimum conditions for bird-safety. This level focuses on ensuring "bird-hazards" and "bird traps" are not created or are remedied with bird-safe treatments.

Select Bird-Safe Building:
The building meets all of the minimum requirements; commits to "lights out" practices during migratory seasons; reduces untreated glazing beyond the requirements; and commits to educating future building occupants.

Sterling Bird-Safe Building:
This is the highest level of Bird-Safe Building certification possible. The building meets all of the conditions of the other certification levels, plus the building reduces the amount of glass on the façade, avoids or treats additional hazards—beyond the requirements, and features year-round best management practices for lighting.

The program will be administered by the Planning Department. Buildings that qualify will be awarded plaques and public recognition through the City's website and outreach materials. To find out if your building qualifies for Bird-Safe Certification, fill out the attached Bird-Safe Building Checklist on pages 38-39 of this document and contact the Planning Department at (415) 558-6377.

VI. Bird-Safe Building Checklist

Use of this checklist: This checklist serves three purposes: 1) assessing risk factors and determining risks which must be addressed by the requirements; 2) increasing awareness of risk factors that are de minimis and don't require treatment; and 3) evaluating buildings for certification as a bird-safe building.

1 REQUIREMENTS FOR THE MOST HAZARDOUS CONDITIONS: The conditions that warrant special concern in San Francisco are designated by red-shaded boxes. These red boxes indicate prohibited building conditions or conditions which are only permitted if the glazing is installed with bird-safe glazing treatments. If the project combines a glass façade with a high-risk location ("location-related hazard", line 5-7), glazing treatments will be required for the façade(s) such that the amount of untreated glazing is reduced to less than 10% for the façade facing the landscaping, forest, meadow, grassland, wetland, or water. If a project creates a new bird-trap or "feature-related hazard" (lines 19-22) or remodels an existing feature-related hazard, bird-safe treatment will be required.

2 INCREASING AWARENESS: Owners of buildings with a façade of greater than 50% glass (lines 9 -10) are strongly encouraged to evaluate the building against the checklist and to help provide future tenants with copies of this guide. Use this checklist to evaluate design strategies for building new structures and retrofitting existing buildings throughout the City. This checklist summarizes conditions that could contribute to bird mortality and will help to identify the potential risks. Interested neighborhood groups and trade associations are encouraged to contact the Department for suggestions on how to proactively increase awareness of the issue and make bird safety practices a part of the construction lexicon.

3 VOLUNTARY RATINGS: Project sponsors interested in submitting a project for "Bird-Safe Certification" may use this form. The Department will partner with local artists to produce appropriate artwork and/or plaques to acknowledge those who actively seek to reduce bird collisions on their property. The ratings system will create tiers certification to recognize projects that meet minimum requirements as well as those projects that exceed the requirements.

RISK ASSESSMENT LEGEND:

Potential Risk Factors: These shade indicate factors that may present hazards to birds. Note: actual risks vary greatly depending upon building and site-specific variables.

GRAY: This shade indicates potential increased risk. NOTE: *The net assessment of total risk varies with the combination of building factors. While every building in San Francisco will present some element of risk to birds, only combinations with "red" boxes present a risk level necessitating bird-safe treatments.*

RED: This shade indicates prohibited conditions or conditions which are prohibited unless bird-safe treatment is applied.

CERTIFICATION LEGEND:

Bird-Safe Building Certification and Acknowledgement: Buildings which avoid creating hazards or which enhance bird safety with treatments identified as effective in this document would be acknowledged by the City and could be marketed as such. This document proposes three levels of certification by the City. Certification is determined by applying the checklist criteria.

By checking all of the boxes for one (or more) of these colors on the Bird-Safe Building Checklist (page 39), a building owner is eligible to apply to the Planning Department for Bird-Safe Building Certification.

YELLOW:
Bird-Safe Building
The building meets the minimum conditions for bird-safety. This level focuses on ensuring "bird-hazards" and "bird traps" are not created or are remedied with bird-safe treatments.

GREEN:
Select Bird-Safe Building
The building meets all of the minimum requirements; commits to "lights out" practices during migratory seasons; reduces untreated glazing beyond the requirements; and commits to educating future building occupants.

BLUE:
Sterling Bird-Safe Building
This is the highest level of Bird-Safe Building certification possible. The building meets all of the conditions of the other certification levels, plus the building reduces the amount of glass on the façade, avoids or treats additional hazards—beyond the requirements, and features year-round best management practices for lighting.

BIRD-SAFE BUILDING CHECKLIST

Using the key on the prior page, complete this checklist as a guide to help evaluate potential bird-hazards or eligibility for Bird-Safe Building Certification.

		QUESTION		YES	NO
MACRO-SETTING (PAGE 12, 16)	1	**Is the structure located within a major migratory route?** (All of San Francisco is on the Pacific Flyway)			
	2	**Is the location proximate to a migratory stopover destination?** (Within 1/4 mile from Golden Gate Park, Lake Merced or the Presidio)			
	3	**Is the structure location in a fog-prone area?** (Within 1/2 mile from the ocean or bay)			
MICRO-SETTING (LOCATION-RELATED HAZARD) (PAGES 13, 16, 28-29)	4	**Is the structure located such that large windows greater than 24 square feet will be opposite of, or will reflect interlocking tree canopies?**			
	5	**Is the structure inside of, or within a distance of 300 feet from an open space 2 acres or larger dominated by vegetation?** (Requires treatment of glazing, see page 28)			
	6	**Is the structure located on, or within 300 feet from water, water features, or wetlands?** (Requires treatment of glazing, see page 28)			
	7	**Does the structure feature an above ground or rooftop vegetated area two acres or greater in size?** (Requires treatment of glazing, see page 29)			
GLAZING QUANTITY (PAGE 8)	8	**Is the overall quantity of glazing as a percentage of façade:** (Risk increases with amount of glazing)	**Less than 10%?**		
			More than 50%? (Residential Buildings in R-Districts must treat 95% of unbroken glazed segments 24 square feet or greater in size if within 300 feet of an Urban Bird Refuge.)		
	9	**Will the glazing be replaced?**	**More than 50% glazing to be replaced on an existing bird hazard (including both feature-related hazards as described in lines 19-22 and location-related hazard as described in lines 4-7)?** (Requires treatment see pages 29 and 31.)		
GLAZING QUALITY (PAGE 6, 7)	10	**Is the quality of the glass best described as:**	**Transparent** (If so, remove indoor bird-attractions visible from outside the windows.)		
	11		**Reflective** (If so, keep visible light reflectance low (between 10-20%) and consider what will reflect in the windows. Note: Some bird-safe glazing such as fritting and UV spectrum glass may have higher reflectivity that is visible to birds.)		
	12		**Mirrored or visible light reflectance exceeding 30%.** (Prohibited by Planning Code.)		
GLAZING TREATMENTS (PAGE 18-21)	13	**Is the building's glass treated with bird-safe treatments such that the "collision zone" contains no more than 10% untreated glazing for identified "location-related hazards" (lines 4-7) and such that 100% of the glazing on "feature-related hazards" (lines 19-22) is treated?**			
	14	**Is the building's glass treated for required "bird hazards" (as described in line 13) *and* such that no more than 5% of the collision zone (lower 60') glazing is untreated but not for the entire building?**			
	15	**Is the building glazing treated (as described above in lines 14 and 15) *and* such that no more than 5% of the glazing on the exposed façade is left untreated?**			
BUILDING FAÇADE GENERAL (PAGE 8, 13)	16	**Is the building façade well-articulated (as opposed to flat in appearance)?**			
	17	**Is the building's fenestration broken with mullions or other treatments?**			
	18	**Does the building use unbroken glass at lower levels?**			
BUILDING FEATURE-RELATED HAZARDS AND BIRD TRAPS (PAGE 8, 30-31)	19	**Does the structure contain a "feature-related" hazard or potential "bird trap" such as:**	**Free standing clear-glass walls, greenhouse or other clear barriers on rooftops or balconies?** (Prohibited unless the glazing is treated with bird-safe applications.)		
	20		**Free standing clear-glass landscape feature or bus shelters?** (Prohibited unless the glazing is treated with bird-safe applications.)		
	21		**Glazed passageways or lobbies with clear sight lines through the building broken only by glazing?**		
	22		**Transparent building corners?**		
LIGHTING DESIGN (PAGE 10, 25)	23	**Does the structure, signage or landscaping feature uplighting?** (Prohibited within 300 feet of an Urban Bird Refuge)			
	24	**Does the structure minimize light spillage and maximize light shielding?**			
	25	**Does the structure use interior "lights-out" motion sensors?**			
	26	**Is night lighting minimized to levels needed for security?**			
	27	**Does the structure use decorative red-colored lighting?**			
LIGHTING OPERATIONS (PAGE 12, 24-25)	28	**Will the building participate in San Francisco Lights Out during the migration seasons?** (February 15-May 31 and August 15- November 30th) To achieve "sterling" certification the building must participate in year-round best management practices for lighting.			
OTHER BUILDING ELEMENTS (PAGE 23)	29	**Does the structure feature rooftop antennae or guy wires?**			
	30	**Does the structure feature horizontal access wind generators or non-solid blades?**			
CONSENT (PAGE 34)	31	**Does the building owner agree to distribute San Francisco's Bird-Safe Building Standards to future tenants?**			

Authorized Signature X _____ **Date:** _____



From City of Toronto Green Development Standard: "Bird-Friendly Development Guidelines."

Some of the birds killed by building collisions and collected during one migration season in Toronto's Financial District.



"A vast and growing amount of evidence supports the interpretation that, except for habitat destruction, collisions with clear and reflective sheet glass and plastic cause the deaths of more birds than any other human-related avian mortality factor. From published estimates, an upper level of 1 billion annual kills in the U.S. alone is likely conservative; the worldwide toll is expected to be billions.

Birds in general act as if sheet glass and plastic in the form of windows and noise barriers are invisible to them. Casualties die from head trauma after leaving a perch from as little as one meter away in an attempt to reach habitat seen through, or reflected in, clear and tinted panes... Glass is an indiscriminate killer, taking the fittest individuals of species of special concern as well as the common and abundant."

–DANIEL KLEM, JR.
Leading researcher of bird/building collisions as presented at Fourth International Partners in Flight Conference, 2008.

Photo by Glenn Nevill

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SAN FRANCISCO PLANNING DEPARTMENT

FOR MORE INFORMATION:
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San Francisco CA 94103-2479

TEL: **415.558.6378**
FAX: **415.558.6409**
WEB: **http://www.sfplanning.org**

Planning Information Center (PIC)
1660 Mission Street, First Floor
San Francisco CA 94103-2479

TEL: **415.558.6377**

Planning staff are available by phone and at the PIC counter. No appointment is necessary.