FINAL PARTIALLY REVISED ENVIRONMENTAL IMPACT REPORT

Guenoc Valley Mixed Use Planned Development Project



JULY 2025

LEAD AGENCY:

Lake County Community Development Department
255 N. Forbes St. #330
Lakeport, CA 95453

Final Partially Revised Environmental Impact Report

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Lake County Community
Development Department
255 N. Forbes St. #330
Lakeport, CA 95453

PREPARED BY:

Acorn Environmental
5170 Golden Foothill Pkwy.
El Dorado Hills, CA 95762
(916) 235-8224
www.acorn-env.com

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Appendix B	First Appellate Court Decision
Appendix C	Attorney General Settlement Agreement
Appendix D	2020 EIR
Appendix E	Tentative Subdivision Maps
Appendix F	Updated Wildfire Prevention Plan
Appendix G	Water Supply
G-1	Water Supply Assessment Addendum Memorandum
G-2	Drought Management Plan
Appendix H	Community Wildfire Evacuation Analysis
H-1	Wildfire Risk and Evacuation Assessment Report
H-2	Wildfire Evacuation Vehicle Trip Demand Phase 1 Update Memorandum
H-3	Wildfire Risk Analysis (January 2025) and Relationship to Wildfire Evacuation Assessment
Appendix I	Biological Resources Assessment
I-1	Biological Resources Assessment
I-2	WRA Special-Status Plant Survey
Appendix J	Updated Oak Mitigation Plan
Appendix K	Cultural Reports (confidential/bound separately)
K-1	Grange Road Connector Cultural Investigation
K-2	Modified APE Cultural Resources Investigation
Appendix L	Stormwater Technical Memorandum
Appendix M	Wildfire Risk Analysis

The following Appendices N through P are new supporting material prepared for this Final PREIR:

Appendix N	Updated Wildfire Prevention Plan
Appendix O	Water Supply
Appendix P	WRA Special-status Plant Survey

Section 1 | Introduction

1.1 OVERVIEW

The Final Partially Revised Environmental Impact Report (PREIR) for the Guenoc Valley Mixed Use Planned Development Project (Proposed Project) was prepared in accordance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines Section 15132 and consists of this response to comments document together with the March 2025 Draft PREIR (Draft PREIR), and all associated appendices. A Final EIR is defined by Section 15362(b) of the CEQA Guidelines as "…containing the information contained in the draft EIR, comments either verbatim or in summary received in the review process, a list of persons commenting, and the response of the lead agency to the comments received." As discussed in Section 1 of the Draft PREIR, this PREIR revises and recirculates only the community wildfire evacuation and wildfire risk portions of the 2020 EIR as required to address the CEQA adequacy issues identified by the Superior Court and the First Appellate District Court of Appeal (First Appellate Court). In addition, it provides an updated assessment of those project components, called "Project Modifications", that have been changed since the County's certification of the 2020 EIR.

This Final PREIR response to comments document contains this introduction, including an overview of the public review process, list of the additions and revisions to the updated Draft PREIR appendices, and summary of the response to comments organization (**Section 1**); a list of public agencies, individuals, and organizations commenting on the July 2024 Draft PREIR and/or the updated March 2025 Draft PREIR and the comments received (**Section 2**); the responses to those comments (**Section 3**); minor text revisions and clarifications to the March 2025 Draft PREIR text (**Section 4**); and the mitigation, monitoring, and reporting plan for the Proposed Project (**Section 5**).

1.2 PUBLIC REVIEW PROCESS

The County prepared an initial Draft PREIR in July 2024 to address the topic of community wildfire evacuation in order to comply with the Superior Court's decision, as well as an analysis of the proposed modifications to the project. The initial Draft PREIR was circulated for public review and comment for a period of 55 days, including the comment period extension, that began on July 19, 2024, and ended on September 11, 2024. Additionally, the County Planning Division held a public meeting on September 9, 2024, to receive comments from government agencies and the public on the Draft PREIR. Written and oral comments were received but a Final PREIR responding to those comments was not released before the October 2024 appellate court ruling stated that the EIR's wildfire risk analysis needed to be brought into compliance with CEQA and therefore also required recirculation. An updated Draft PREIR was subsequently prepared to address the CEQA adequacy issues identified by the First Appellate Court with regard to its analysis of impacts relating to potential wildfire risk resulting from the Proposed Project. The updated Draft PREIR also underwent a public review period from March 18, 2025 to May 2, 2025.

Separate public review processes occurred for both the July 2024 and March 2025 Draft PREIRs in accordance with the requirements of Sections 15087 and 15088.5(d) of the CEQA Guidelines. The public comment period provides an opportunity for interested public and private parties to provide input regarding the completeness and adequacy of an EIR. Pursuant to Section 15088.5(f)(2) of the CEQA Guidelines, reviewers were directed to limit their comments to the information contained in the Draft

PREIR that was revised and recirculated. Specifically, the County requested that comments be limited to the revised discussion of the Project's potential impacts related to wildfire evacuation, wildfire ignition risk, and the assessment of whether or not the Project Modifications would result in new or substantially more significant environmental effects.

Tribal consultation also occurred pursuant to Assembly Bill (AB) 52 and Senate Bill (SB) 18. Notification letters were sent to tribes on March 28, 2024 and the Middletown Rancheria requested consultation on March 29, 2024. The tribal consultation concluded on August 27, 2024. Following posting of the Draft PREIR on March 18, 2025, a letter was received from the Habematolel Pomo on March 20, 2025, stating that the project was not in the tribe's aboriginal territories and deferred to the Middletown Rancheria of Pomo Indians. The Middletown Rancheria of Pomo Indians was notified about the recirculated Draft PREIR and the County received no response.

1.3 REVISIONS TO THE UPDATED DRAFT PREIR AND APPENDICES

This section describes updated or clarified information that has been attached as new appendices for this Final PREIR:

- **Appendix N:** Updated Wildfire Prevention Plan (WPP). The WPP presented in the Draft PREIR as Appendix F has been updated for this Final PREIR to provide the following clarifications, and is included as a new **Appendix N**. New text within the Updated WPP is color-coded, with new text presented in orange for ease of review.
    - Name of the "Voluntary Property Boundary Fire Break" revised to "Project Boundary Shaded Fuel Break" to align with 2024 Updated Plan Revision #2 revision and demonstrate commitment to this action
    - Name of "Designated Meeting & Staging Area" revised to "Designated Temporary Refuge Areas & Safety Zones" to demonstrate multiple and separate areas for residents and staff (temporary refuge) versus firefighters (safety zones)
    - Plan revised to incorporate updated parcel extents, roadway and fire break layouts, irrigated vineyards fire breaks and primary entrance location
    - Minimum total defensible space expanded from 50 feet to 100 feet-+
    - 300 feet commercial defensible space incorporated
- **Appendix O:** Water Supply. The County requested additional information on several water-supply related topics during preparation of the Draft PREIR to supplement the water related studies presented as Appendix G of the Draft PREIR. This Water Supply Technical Memorandum (**Appendix O**) includes additional details on the mitigation measure pertaining to the off-site well, the Pacific Gas & Electric Company (PG&E) Contamination Plume, and off-site groundwater users. None of these are Project Modifications, nor were any new or substantially more severe significant impacts identified.
- **Appendix P:** WRA Special-status Plant Survey. Botanical surveys have been conducted during the spring bloom window for potentially occurring special-status plants, the results of which are included in this appendix to supplement the biological studies that were included as Appendix I in the Draft PREIR.

Only minor changes have been made in the Final PREIR to ensure consistency with the updated appendices discussed above or to clarify information in response to comments received. These updates are presented in **Section 4** of this Final PREIR.

1.4 RESPONSE TO COMMENTS ORGANIZATION

This Response to Comments document consists of this introduction and the sections outlined below:

Section 2.0, **Comments on the Draft PREIR** – This section includes a list of all agencies and individuals (including organizations) who submitted written comments during the public review period for the July 2024 Draft PREIR and/or the updated March 2025 Draft PREIR. The list is followed by copies of original written comments received during the public review period for the July 2024 Draft PREIR and March 2025 Draft PREIR. Comment letters are each assigned a number, and individual comments are bracketed in the margin. Additionally, this section includes a transcript of the spoken comments provided at the public meeting on September 9, 2024, for the July 2024 Draft PREIR.

Section 3.0, **Responses to Comments** – This section provides 'General Responses' to certain issues raised in multiple comments and individual responses to each written comment submitted during the public review periods for the Draft PREIR. Individual responses are keyed to the bracketed comment numbers provided in **Final EIR Section 2.0**.

Section 4.0, **Draft PREIR Revisions** – This section presents minor clarifying updates made to the March 2025 Draft PREIR in response to comments or to ensure consistency with the updated or new appendices discussed above.

Section 5.0, Updated Mitigation Monitoring and Reporting Plan – This section presents the Mitigation Monitoring and Reporting Plan for the Proposed Project.

Section 6.0, **References** – This section provides bibliographic information for all references and resources cited within this Final PREIR.

Section 2 | Comments on the Draft PREIR

This section contains a list of public agencies, individuals, and organizations that provided comments during the public review periods for the Draft PREIR prepared for the Guenoc Valley Mixed-Use Planned Development Project and copies of these comments. A total of 35 written comment letters were received during the public review period for the July 2024 Draft PREIR, along with verbal comments provided by 17 individuals at the public meeting held on September 9, 2024. An additional 14 comments were received during the public review period for the updated March 2025 Draft PREIR.

Comments are organized into three categories: those submitted in writing by public agencies or governmental entities (A); those submitted in writing from individual private citizens or organizations (I); and those given orally during the public meeting as recorded on the official public meeting transcript (PH). In addition to category, each comment letter is assigned a unique number (e.g., A1), and then individual comments within the letters have been bracketed into specific substantive comments, that are then numbered (e.g., A1-1) for ease of reference. Comment letters I1 through I33 were received on the July 2024 Draft PREIR; numbering for comments that were received during the second public review period continues sequentially (e.g., Comment I34). **Section 3.0** contains responses that correspond to these numbered comments. The supporting materials and attachments submitted with some of the comments have not been included in this section to conserve space but were considered in the comment responses. The supporting materials are considered part of the administrative record and are available for review online at the County's website:

https://lakecountyca.gov/Guenoc-Valley

and at the following address during normal business hours (8:00 A.M. to 5:00 P.M., Monday through Friday):

County of Lake
255 N. Forbes Street
Lakeport, CA 95453

The agencies and individuals (including organizations) who provided comments on the July 2024 and March 2025 Draft PREIR are listed below in **Table 2-1**.

Table 2-1: Comment Letter Log

Comment Number	Name	Organization	Date
	Agencies		
A1	Peter G. Minkel	Central Valley Regional Water Control Board	9/3/2024
A2	Jesse Robertson	California Department of Transportation	9/3/2024
A3	Jesse Robertson	California Department of Transportation	5/2/2025
A4	Claire Bryant	California Department of Fish and Wildlife	5/14/2025
	Individuals and Organizations		
I1	R. Keith Donaldson		7/18/2024

Comment Number	Name	Organization	Date
I2	MaryPat Noeker	Fidelity National Title Group, on behalf of Foley Family Farms	7/22/2024
I3	Maria Rutenburg		7/29/2024
I4	Judson Hodges		8/1/2024
I5	Gail Right		8/8/2024
I6	Felix Droz		8/17/2024
I7	Judson Hodges, Gail Wright, Butts Canyon Residents		8/14/2024
I8	Butts Canyon Neighbors		8/28/2024
I9	Judson & Connie Hodges, Sue Steiner, Sally Beckner, Arlene Hockanson, Gail & Bill Wright (Butts Canyon Neighbors)		8/28/2024
I10	Jennifer Shay		8/31/2024
I11	Revs. Julia and Charles Bono	The Rainbow Church of Living Light	9/4/2024
I12	Aukai Manson		9/4/2024
I13	Revs. Julia and Charles Bono	The Rainbow Church of Living Light	9/5/2024
I14	Joanne Webster		9/5/2024
I15	Keith Woods		9/6/2024
I16	Mary Joan Bunce		9/8/2024
I17	Arlene Hockanson		9/9/2024
I18	Linda Diehl Darms		9/9/2024
I19	Linda Diehl Darms		9/10/2024
I20	Peter Luchetti		9/10/2024
I21	Arlene Hockanson		9/11/2024
I22	Lisa Wittke Schaffner	North Coast Builders Exchange	9/9/2024
I23	Ann Hackett		9/9/2024
I24	Danielle Zalusky		9/11/2024
I25	Helen Owen		9/11/2024
I26	Nick Jensen, Jennifer Riddel	California Native Plant Society	9/11/2024
I27	Meredith Stevenson, Frances Tinney	Center for Biological Diversity	9/11/2024
I28	Linda Diehl Darms		9/11/2024
I29	Monica Rosenthal, Terry Hoberg		9/11/2024
I30	Dennis Smith		8/16/2024
I31	Judson Hodges		8/9/2024
I32	Judson Hodges		7/23/2024
I33	Brian Callaghan	PG&E	9/18/2024
I34	Lisa Kaplan		9/12/2024
I35	Kristina Ann Colon		10/7/2024
I36	Maria Rutenburg		3/18/2025
I37	Shannon Sanders		4/24/2025
I38	Brian Fisher	Visit Lake County CA	4/30/2025
I39	Denise Scoles		4/30/2025
I40	Amanda Martin	Lake County Chamber of Commerce	5/1/2025
I41	Nick Jensen, Jennifer Riddel	California Native Plant Society	5/2/2025
I42	Revs. Julia and Charles Bono	The Rainbow Church of Living Light	5/2/2025
I43	Brandon Skinner	Skinner Electric	5/2/2025
I44	Peter Broderick	Center for Biological Diversity	5/2/2025

Comment Number	Name	Organization	Date
I45	Peter Luchetti and others	LakeCAP	5/2/2025
I46	Iris Behn		5/2/2025
I47	Richard Derum		5/7/2025
	Public Meeting Speakers		
PH1	Judson Hodges		9/9/2024
PH2	Kevin Case		9/9/2024
PH3	Kate Schmidt-Hopper		9/9/2024
PH4	Lisa Kaplan		9/9/2024
PH5	Shannon Sanders		9/9/2024
PH6	Linda Diehl-Darms		9/9/2024
PH7	Terry Hoberg		9/9/2024
PH8	Helen Owen		9/9/2024
PH9	Todd Fiora		9/9/2024
PH10	Hank Lescher		9/9/2024
PH11	Fletcher Thorne		9/9/2024
PH12	Jim Comstock		9/9/2024
PH13	Kate Schmidt-Hopper		9/9/2024
PH14	John Hess		9/9/2024
PH15	Tom Darms		9/9/2024
PH16	Helen Owen		9/9/2024
PH17	Lisa Kaplan		9/9/2024
PH18	Judson Hodges		9/9/2024
PH19	Lisa Kaplan		9/9/2024
PH20	Shannon Sanders		9/9/2024
PH21	Monica Rosenthal		9/9/2024
PH22	Jonathan Breene		9/9/2024
PH23	Linda Diehl-Darms		9/9/2024
PH24	Helen Owen		9/9/2024
PH25	Linda Diehl-Darms		9/9/2024
PH26	Judson Hodges		9/9/2024
PH27	Terry Hoberg		9/9/2024
PH28	Sally Peterson		9/9/2024

CALIFORNIA Water Boards

GAVIN NEWSOM
GOVERNOR

YANA GARCIA
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

3 September 2024

Laura Hall
County of Lake
255 North Forbes Street
Lakeport, CA 95453
laura.hall@lakecountyca.gov

COMMENTS TO REQUEST FOR REVIEW FOR THE REVISED ENVIRONMENTAL IMPACT REPORT, GUENOC VALLEY MIXED-USE PLANNED DEVELOPMENT PROJECT, SCH#2019049134, LAKE COUNTY

Pursuant to the State Clearinghouse's 19 July 2024 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Revised Environmental Impact Report* for the Guenoc Valley Mixed-Use Planned Development Project, located in Lake County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38. A1-1

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by

the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations
All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

A1-1 cont.

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit
Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

A1-2

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]
The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

A1-2 cont.

Clean Water Act Section 404 Permit
If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification
If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

A1-2 cont.

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

A1-2 cont.

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter G. Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

California Department of Transportation

DISTRICT 1
P.O. BOX 3700 | EUREKA, CA 95502–3700
(707) 445-6600 | FAX (707) 441-6314 TTY 711
www.dot.ca.gov

September 3, 2024

1-LAK-29-PM 7.0
Guenoc Planned Development
SCH# 2019049134

Laura Hall, Senior Planner
Community Development Department
County of Lake
255 N. Forbes St.
Lakeport, CA 95453

Dear Ms. Hall:

Thank you for giving Caltrans the opportunity to review the Draft Partially Revised Environmental Impact Report (DPREIR) for the Guenoc Valley Mixed-Use Planned Development. The Project proposes modifications to the original (2020) Guenoc Valley Mixed-Use Planned Development Project that include both modifications required by the Settlement Agreement pertaining to wildfire evacuation, prevention and protection, greenhouse gas (GHG) emissions, and land use; as well as voluntary modifications, including a new emergency ingress and egress route, relocation and reconfigurations of proposed residences and facilities, etc. The project proposes to construct five hotels with a combined 400 hotel rooms, 450 resort residential units, 1,400 residential estates, and up to 500 workforce co-housing units on 16,000 acres. We have the following comments: A2-1

Appendix H of the Draft Partially Revised Environmental Impact Report contains the Community Wildfire Evacuation Analysis, including the Wildfire Risk and Evacuation Assessment Report (H1) and Wildfire Evacuation Vehicle Trip Demand Phase 1 Update Memorandum (H-2). The evacuation assessment for the DPREIR evaluates two scenarios to assess the potential safety aspects of the project in light of emergency wildfire evacuations. Both scenarios conclude that "Congestion forms along primary and secondary evacuation routes in all scenarios."

The Caltrans District 1 Transportation Concept Report for State Route 29 (2013) noted the following:

> *The Concept Level of Service (LOS) for the Minor Arterial segments of Route 29 (PM 0.00/20.30) is "E". The existing level of service for segments in that portion of the corridor is "D". It is anticipated that the Minor Arterial portion of Route 29 will operate at or above the Concept LOS for the 20-year planning period.*

Level of Service (LOS) E may be explained as the roadway operating at capacity, or with a volume to capacity ratio of 1.0. Beginning at or beyond LOS E, traffic flow becomes unstable; free-flowing traffic slows to sub-optimal speeds and travel times become unreliable. These conditions are observed during morning and afternoon commute periods. The ability of State Routes 29 and 175 to convey large volumes of traffic during evacuations is limited and funding to expand the highway capacity is not expected to be available within the foreseeable future.

A2-1 cont.

To ensure the safe conduct of emergency evacuations on State routes, we recommend that the County consider the following:

- The construction of the project-funded roundabout at the intersection of SR 29 and Butts Canyon Road is expected to require two lanes within the circulatory roadway.

- The capacity of Butts Canyon Road, Grange Road, and other local evacuation routes should be reviewed for capacity: there are currently no paved shoulders and therefore no multi-modal access on Butts Canyon Road. Widening the shoulders is expected to aid in emergency evacuation situations as well as accommodate multi-modal travel under normal conditions.

A2-2

- How Grange Road will be managed/restricted to emergency access only should be described in greater detail. We encourage the County to make Grange Road a permanent

A2-3

- Provide safe, multi-modal access at all intersections crossing State Route 29.

A2-4

- Transportation mitigation for the (2020) project includes a roundabout at SR 29 and Butts Canyon Road. This project will be approved following the Caltrans QMAP process. This approval process requires a longer lead time than a permit issued by the Caltrans Encroachment Permits Office. The QMAP process requires a cooperative agreement with Caltrans and a deposit for a relatively extensive plan review. More information about the Caltrans QMAP approvals can be found online at:

  <https://dot.ca.gov/programs/traffic-operations/ep/news-policy>.

A2-5

Please contact me with questions or for further assistance with the comments provided at (707) 684-6879 or by email: <jesse.robertson@dot.ca.gov>.

Sincerely,

Jesse G. Robertson

JESSE ROBERTSON
System Planning Branch Chief
Caltrans District 1

e-copy: State Clearinghouse
Heidi Quintrell, Chief, Caltrans District 1 Encroachment Permits

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 1
P.O. BOX 3700 | EUREKA, CA 95502–3700
(707) 445-6600 | FAX (707) 441-6314 TTY 711
www.dot.ca.gov

May 2, 2025

1-LAK-29 PM 6.36
Guenoc Valley Mixed-Use
Planned Development
GTS ID: 15413

Laura Hall
Senior Planner
County of Lake Community Development Department
255 N. Forbes St.
Lakeport, CA 95453

Dear Ms. Hall:

Thank you for giving Caltrans the opportunity to review the Draft Partially Revised Environmental Impact Report (DPREIR) for a mixed use commercial, residential and resort development of 16,000 acres, located on Butts Canyon Rd near State Route 29 (SR 29) north of Middletown. The original project was approved through an EIR process in 2020. We previously commented extensively on this project. The current document is being circulated in response to a decision of the First Appellate Court in October of 2024. While the current DPREIR is focused on wildfire evacuation, prevention and protection—it also includes substantial transportation-related changes to the project and associated mitigation measures. We offer the following comments:

A3-1

- ***MM 3.16-3*** *Prepare South Lake County Evacuation Traffic Management Plan to Reduce Near-Term Evacuation Times, Incorporate in Updated Lake County Emergency Operations Plan (EOP), and Implement Evacuation Traffic Management Measures*:

  We request Caltrans staff participation in the preparation and review of this plan. Please contact Dan Gjerdy: Gjerde, District 1 Local Development Review: Daniel.Gjerde@dot.ca.gov 707.497.7742.

MM 3.16-4 includes, "*The roundabout that will be constructed by the Project applicant at the SR 29/Butts Canyon Road intersection shall include a southbound bypass lane to increase intersection capacity*."

A3-2

Our comments on the original DEIR noted that this intersection improvement will first require the preparation of an Intersection Control Evaluation (ICE). The ICE process has been replaced with a process called Intersection Safety and Operational Assessment Process (ISOAP).
Detailed information about the ISOAP can be found at: Intersection Safety and Operational Assessment Process | Caltrans. For additional information, please contact District 1 Work Zone Operations, Eric Brunton: eric.s.brunton@dot.ca.gov 707.441.3934.

Locally administered projects on the state highway system are developed through a Quality Management Assessment Process (QMAP) and require a Cooperative Agreement. Detailed information about QMAP can be found in Chapter 9, Article 8, of the Caltrans Project Development Procedures Manual (PDPM). Chapter 16 of the PDPM describes Cooperative Agreements. Links to individual chapters of the PDPM can be found here: Project Development Procedures Manual (PDPM) | Caltrans.

A3-2 cont.

To reimburse Caltrans staff for project oversite as part of the QMAP review, the applicant will need to make an initial deposit. The estimated cost for QMAP is 15% the cost of each phase of project development. For example, if the cost of the Project Report is 1 million dollars, the QMAP for this phase would cost approximately $150,000. The completed QMAP is a prerequisite to issuance of an approved encroachment permit. For additional information please contact Robert Close, District 1 QMAP Coordinator: robert.close@dot.ca.gov, (707) 497-7336.

- **MM 3.16-5** The DPREIR includes proposed intersection and signal modifications at SR 29/SR 175, SR 29/Wardlaw Street, and SR 29/SR 53:

  MM 3.16-5 Implement SR 29 Traffic Signal Evacuation Operational Enhancement Measures

  Prior to issuance of the first certificate of occupancy for any Project uses, the applicant shall design, obtain permits for, and install improvements to the signalized intersection of SR 29/SR 53 intersection in Lower Lake and the two signalized intersections on SR 29 in Middletown (SR 175 and Wardlaw Street). The improvements would be funded by the Project applicant who shall obtain any necessary permits from Caltrans and/or Lake County. The variable message signs and traffic signal controllers shall be connected to Caltrans and Lake County traffic operations staff so they can be managed remotely during an evacuation. Improvements at the SR 29/SR 53 intersection in Lower Lake shall include extending the length of the northbound left turn pocket by 175 feet to a length of approximately 400 feet which could be accomplished by restriping the existing striped median, installing variable message signs on three approaches (i.e., eastbound, southbound, and westbound), and developing and installing wildfire signal timing plans that can be implemented by County staff during a wildfire that significantly extend maximum green times on the northbound approach. Improvements at the two intersections on SR 29 in Middletown include developing and installing wildfire signal timing plans that can be implemented by County staff during a wildfire that significantly extend maximum green times on the northbound and/or southbound approaches depending on conditions.

  A3-3

  Please note: prior to issuance of encroachment permit(s), all proposed intersection and signal modifications will need to be reviewed and approved by District 1 Traffic Electric and Signal Operations unit. Please contact the Office Chief for TMS and Electrical Systems, Anthony Carnemolla, Anthony.Carnemolla@dot.ca.gov 707.498.1251.

- The comments in this letter are intended to reflect general procedural information. They relate to proposed mitigation measures and modifications to Caltrans facilities in Lake

A3-4

County. They do not reflect any concerns/comments for facilities in Napa County (District 4).

A3-4 cont.

- Caltrans is developing two projects in the vicinity of Butts Canyon and Grange Roads. Project 01-0L590 is located in Lake County (LAK) on State Route 29 between postmile (PM) 5.0 and 5.9, while project 01-0M470K is located at LAK-29-PM 7.4/8.9.
    - Project 01-0L590 is located on the south end of Middletown and includes the following improvements:
        - Shoulder widening
        - Left-turn channelization
        - Two-way Left-turn Lane
        - Rectangular Rapid Flashing Beasons
        - New Street Lighting
        - 1,200-feet of new sidewalk
        - Bulbouts
        - New/modified curb ramps
    - Project 01-0M470 is located north of Middletown and south of Grange Road and consists of the following improvements:
        - Road widening
        - Rumble strips
        - Roadway excavation
        - Culvert extension

  The above-described projects may result in changes to the existing transportation setting for the Guenoc project, depending on the timing of implementation. If coordination is needed with Caltrans, please contact Project Manager, Isral Konopa at: 707.499.1533 or isral.konopa@dot.ca.gov.

A3-5

Thank you for meeting with us on April 17 to discuss this project, as well as other local development projects in Lake County. Please contact me with questions or for further assistance with the comments provided at (707) 684-6879 or by email: jesse.robertson@dot.ca.gov.

Sincerely,

Jesse G. Robertson

JESSE ROBERTSON
System Planning Branch Chief
Caltrans District 1

C: Lisa Davey Bates, Executive Director, LAPC
Yunsheng Luo, Caltrans District 4 LDR

From: Bryant, Claire@Wildlife <Claire.Bryant@Wildlife.ca.gov>
Sent: Wednesday, May 14, 2025 4:51 PM
To: Lake County CDD - GuenocValleyComments <guenocvalleycomments@lakecountyca.gov>
Cc: Wildlife R2 CEQA <R2CEQA@wildlife.ca.gov>; Wood, Dylan@Wildlife <Dylan.Wood@wildlife.ca.gov>; Sheya, Tanya@Wildlife <Tanya.Sheya@wildlife.ca.gov>; Kilgour, Morgan@Wildlife <Morgan.Kilgour@Wildlife.ca.gov>
Subject: [EXTERNAL] CDFW Comments on the Draft PREIR for the Guenoc Valley Mixed-Use Planned Development Project

Dear Laura Hall:

The California Department of Fish and Wildlife (CDFW) received and reviewed the Draft Partially Revised Environmental Impact Report (PREIR) from Lake County Community Development Department for the Guenoc Valley Mixed-Use Planned Development (Project) pursuant the California Environmental Quality Act (CEQA) statute and guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish, wildlife, native plants, and their habitat. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may need to exercise its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (Fish & G. Code, § 1802.) Similarly for purposes of CEQA, CDFW provides, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources. A4-1

CDFW may also act as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

The Project site is located north and south of Butts Canyon Road, approximately four miles east of the intersection of State Route 29 and Butts Canyon Road, and 1.5 miles west of the intersection of Snell Balley Road and Butts Canyon Road. The project is approximately 3.5 miles east of Middletown, CA and directly adjacent to the Napa county line.

The Project consists of a General Plan amendment to designate the 16,000-acre Guenoc Valley Ranch property as Resort Commercial and rezone it to Guenoc Valley District (GVD). This would allow for development of up to 400 hotel rooms, 450 resort residential units, 1,400 residential estates, and 500 work force co-housing units within the zoning district. The Project also includes development of a 12.75 acre site in central Middletown, and an off-site water supply well. Phase 1 of the project includes the subdivision, rezoning and related entitlements to develop 401 residential estates, 141 resort residential units, 177 hotel units, and accessory resort and commercial uses. The development of the off-site parcel in Middletown to accommodate 21 single family residences with accessory dwelling units, 29 duplex units in 15 structures, and a community clubhouse with associated infrastructure. The establishment of the off-site well and pipeline located adjacent to and within Butts Canyon Road along with intersection and electrical improvements, and the development of a 3.9 mile emergency road that connects the Guenoc Valley Site with the Grange Road to the north. The Area of Potential Effects (APE) for Phase 1 is approximately 2,453 acres.

A4-1 cont.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist Lake County Community Development Department in adequately identifying and, where appropriate, mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

CDFW is primarily concerned with the project impacts to California state listed species, fully protected species, and California Native Plant Society (CNPS) species including but not limited to: Lake County western flax (*Hesperolinon didymocarpum*), Clara Hunt's milk-vetch (*Astragalus claranus*), Loch Lomond button-celery (*Eryngium constancei*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Burke's goldfields (*Lasthenia burkei*), Sebastopol meadowfoam *(Limnanthes vinculans*), slender Orcutt grass (*Orcuttia tenuis*), Lake County stonecrop (*Sedella leiocarpa*), Keck's checkerbloom (*Sidalcea keckii*), golden eagle (*Aquila chrysaetos*), white-tailed kite (*Elanus leucurus*), bald eagle (*(Haliaeetus Leucocephalus*), tricolored blackbird (*Agelaius tricolor)*, ring-tailed cat (*Bassariscus astutus*), burrowing owl (*Athene cunicularia*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus* townsendii), and western red bat (*Lasiusus blossevilii)*

Additionally, CDFW is concerned about impacts related to sensitive habitats and aquatic resources including wetlands, stream systems, riparian corridors, oak woodlands, wildlife corridors and linkages, and nesting and foraging habitats onsite.

A4-2

COMMENT 1: Federally and State Listed plants, Mitigation Measure 3.4-2, Mitigation Measure 3.4-3, page 240-243

Issue: The PREIR documents a total of 61 special-status pants species have potential to occur on the project site. Nine of which are state or federally listed plant species (page 140-142) with at least moderate potential to occur in the Guenoc Valley project area: Lake County western flax, Clara Hunt's milk-vetch, Loch Lomond button-celery, Boggs Lake hedge-hyssop, Burke's goldfields, Sebastopol meadowfoam, Slender Orcutt grass, Lake County stonecrop, Keck's checkerbloom. Figure 4-7 shows Lake County western flax and Keck's checkerbloom are within the current Area of Potential Effect (APE) of Phase 1. CDFW recommends that impacts to special status species be avoided and minimized whenever possible. Mitigation Measure 3.4-2 provides avoidance and mitigation for special status plants, however the current language does not recognize the additional protection for listed plants present in the project area. If it is determined that the Project may have the potential to result in "take", as defined in the Fish & G. Code, section 86, of a State-listed species, the PREIR shall disclose an Incidental Take Permit (ITP) or a consistency determination (Fish & G. Code, §§ 2080.1 & 2081) should be obtained prior to starting construction activities that could result in take. The PREIR does not sufficiently disclose this requirement. A4-3

Recommendation or Recommended Mitigation Measure: To address this comment, CDFW recommends that listed plant species be included in the work environmental awareness training (Table 3.4-9 in Final EIR Volume II/ MM3.4-2). CDFW suggests adding additional language disclosing that an Incidental Take Permit (ITP) or a consistency determination (Fish & G. Code, §§ 2080.1 & 2081) should be obtained prior to starting construction activities if take cannot be avoided be added to Mitigation Measure 3.4-3, to recognize the protections provided to listed plant species, separate from CNPS rare plants.

Suggested language: If project activities cannot avoid take of federally or state listed plant species, the applicant shall obtain a California Endangered Species Act (CESA) Incidental Take Permit (ITP) or a Consistency Determination (CD) through CDFW and/or USFWS prior to initiating any work that may result in take of State-listed species.

COMMENT 2: Special Status Birds- Nesting, Mitigation Measure 3.4-8, Page 246

Issue: The PREIR documents 16 special-status bird species with potential to occur in the APE (Table 4.4-2, page 137). Three of the 16 are fully protected species (Fish & G . Code§§ 3511, 4700, 5050 and 5515) that have been observed foraging and/or nesting onsite: golden eagle, white-tailed kite, bald eagle. Mitigation Measure 3.4-8 requires preconstruction surveys for migratory birds and raptors, however the measure limits the raptor surveys to construction areas within .5 miles of a documented eagle or protected falcon species nest. All birds of prey are protected by Section 3503.5 of the Fish and Game Code, and the survey should not be limited only to species of special concern or fully protected species, as the Fish and Game Code protects all migratory birds. Birds of A4-4

prey often re-use their nest, but new pairs and new nesting sites are regularly established. This measure does not sufficiently reduce impacts to birds of prey to a less than significant level.

Recommendation or Recommended Mitigation Measure: CDFW recommends that Measure 3.4-8 be revised to the following (additions are noted in bold while deletions are noted in strikethrough):

Should any ~~groundbreaking or construction-related work~~ project-related activities begin within the general nesting season (February 1 through August 31), a pre-construction nesting bird survey ~~on and within 200 feet of ground-disturbing activities~~ shall be completed by a qualified biologist no more than five days prior to the start of work. **The qualified biologist shall survey a minimum radius of 500-feet for migratory birds and ½-mile for raptors around the project area. The results of the survey shall be provided to Lake County upon completion.** If no active nests are observed, no further mitigation shall be recommended.

If active nests are observed during the pre-construction survey, a qualified biologist shall demarcate a protective, high-visibility buffer around the nest. Buffer size shall be determined by the biologist based on species, nest location, planned disturbance footprint, and presence of any visual or auditory buffers. The qualified biologist shall also consider any species-specific plans related to acceptable nest-avoidance measures compared to anticipated disturbance levels of construction. The exclusionary buffer shall remain in place until the chicks have fledged, are feeding independently and are no longer dependent on the nest as determined by a qualified biologist. **The qualified biologist shall regularly monitor the nest and shall have stop work authority if construction activities are having an adverse impact on the nest.** ~~Due to the known presence of several nesting raptor species, including eagles, on the overall Guenoc Valley Site primarily outside of the APE, targeted surveys for active raptor nests shall be conducted. For construction activities planned on the Guenoc Valley Site, Grange Road Connector, Middletown Housing Site, or the Off-Site Infrastructure Improvement Areas within 0.5 miles of a documented eagle or protected falcon species nest, pre- construction surveys shall be conducted in accordance with the most current guidance available from USFWS and CDFW. If a special-status raptor nest~~ **If a fully protected species or otherwise listed species** is determined to be present on or within 0.5 miles of the work area**, a qualified biologist shall develop an avoidance plan, using best available science, in** consultation with the USFWS and/or CDFW, based on regulatory jurisdiction, **to ensure impacts to the species are avoided prior to the initiation of construction activities.** ~~,shall occur and any~~ **Any** measures recommended or required by those agencies shall be incorporated into the project design.

A4-4
cont.

<u>Project Delay</u>. If a lapse in project-related work of fourteen (14) calendar days or longer occurs, the qualified biologist shall complete another focused survey before Project work can be reinitiated.

<u>Project Proponent Responsibility</u>. It is the Project proponent's responsibility to comply with Fish and Game Code Sections 3503, 3503.5, and 3513, regardless of the time of year.

A4-4 cont.

COMMENT 3: Tricolored Blackbird, Biological Resource Assessment, page 30

Issue: The PREIR states that tricolored blackbirds (TRBL) have a high potential to occur within the APE (Table 4.4-2). The attached Biological Resources Assessment states that the APE is adjacent to reservoirs containing emergent vegetation that may support nesting, with a known occurrence within 1 mile of the property. TRBL is listed as *threatened* under CESA. Construction activities near suitable TRBL nesting habitat could result in significant impacts to nesting TRBL through loss of foraging habitat, noise, fugitive dust, human presence, and/or night lighting. Noise from road use, generators, and other equipment may disrupt TRBL mating calls or songs which could impact their reproductive success (Patricelli and Blickley 2006, Halfwerk et al. 2011). Bayne et al. (2008) found that songbird abundance and density was significantly reduced in areas with high levels of noise. Mitigation Measure 3.4-8 is not adequate reducing impacts to TRBL to a less-than significant level.

Recommendation or Recommended Mitigation Measure: CDFW recommends adding the following TRBL preconstruction survey measure to the PREIR:

A4-5

<u>Tricolored Blackbird Nesting Survey</u>. Prior to initiation of construction in areas containing or adjacent to tricolor blackbird (TRBL) habitat (typically characterized by emergent vegetation) a qualified biologist shall conduct protocol-level surveys within a ¼-mile of project work areas to evaluate the presence of TRBL breeding colonies, suitable nesting and foraging habitat. Surveys shall be conducted during the nesting season (March 15 to July 31). If construction is initiated in the project work area during the nesting season, three (3) surveys shall be conducted within fifteen (15) days prior to the construction activity, with one of the surveys within three (3) days prior to the start of the construction. The surveys shall be based on survey methods identified in the Results of the 2017 Tricolored Blackbird Statewide Survey, Appendix 1 (Meese 2017). If breeding colonies are found, the foraging behavior of the colony shall also be documented. Many TRBL breeding colonies expand over time as additional birds are recruited at the edges of established colonies. For this reason, it is important to reassess the extent of a breeding colony before the start of construction activities. If TRBL are found, no work shall begin until CDFW has been consulted with to determine the appropriate avoidance or minimization measures and compliance with CESA can be demonstrated.

COMMENT 4: Fully Protected Species: Ringtail Cat, Mitigation Measure 3.4-5, page 244.

A4-6

Issue: The PREIR recognizes the potential for ring-tailed cats, a fully protected species (Fish & G . Code§§ 4700, 5515)**,** to occur in the project area, and requires a pre-construction survey within suitable habitat to avoid impacts. Mitigation Measure 3.4-5 calls for an exclusionary buffer of no less than 50 feet. Ring-tailed cats have a home range that spans from 9 hectare (Morales, 2006) to 560 hectare (Ackerson & Harveson, 2006), as such a 50-foot buffer does not reduce impact to the species below a significant level.

Recommendation or Recommended Mitigation Measure: CDFW recommends that Measure 3.4-4 be revised to the following (additions are noted in bold while deletions are noted in strikethrough):

A4-6 cont.

No more than 14 days before the start of ground disturbance activities within open grassland, oak woodland, or riparian forest habitat, a qualified biologist shall conduct preconstruction surveys to determine if ringtail dens are present. If no active ringtail dens are observed, no further mitigation shall be recommended. If **active** ringtail dens ~~with young~~ are determined to be present within the work area, the biologist shall **notify Lake County**, **and develop an avoidance plan** ~~establish a clearly marked exclusionary buffer of no less than 50 feet with high-visibility flagging~~ **using best available scientific practices, in consultation with CDFW, to ensure impacts to the species are avoided prior to the initiation of construction activities. The plan shall include an appropriately sized avoidance buffer based on environmental conditions of the den site and project activities in the vicinity.**

COMMENT 5: Burrowing Owl, Mitigation Measure 3.4-9, page 247

Issue: On October 10, 2024, the California Fish and Game Commission granted the western burrowing owls candidate species protections under CESA. The candidacy designation temporarily affords the burrowing owl broad CESA protections (including prohibitions against “take” without permit authorization) throughout the entirety of California over the next 12-18 months while CDFW conducts a species status review to confirm whether (and where) listing is warranted and to recommend management and recovery actions. Projects with potential impacts to burrowing owl are encouraged obtain an ITP from CDFW in order to comply with CESA. In the event that CDFW does confirm listing is warranted for the burrowing owl in the future when the Project’s construction phase is set to occur and take of burrowing owl or its nest is unavoidable, then the Project proponent can obtain an ITP from CDFW and provide suitable mitigation for loss of nesting habitat. As currently written, Mitigation Measure 3.4-9 is limited to passive exclusion which may result in take of burrowing owl and will require the project proponent to fully comply with CESA through an ITP.

A4-7

Recommendation or Recommended Mitigation Measure: CDFW recommends that Measure 3.4-9 be revised to the following (additions are noted in bold while deletions are noted in strikethrough):

A pre-construction survey shall be performed by a qualified biologist prior to the start of ~~ground disturbing~~ **project** activities where suitable burrowing owl burrows (such as ground squirrel complexes) are present. The survey shall be performed according to the standards set forth by the Staff Report for Burrowing Owl Mitigation (CDFW, 2012). Pre-construction surveys shall occur no more than 14 days prior to ground disturbance.

Should a burrow be observed in use by a burrowing owl, or if a burrow shows signs of use (pellets, whitewash, feathers) **no work shall begin until appropriate burrowing owl avoidance or minimization measures have been established by the qualified biologist. The size of the no disturbance buffer shall be consistent with the *Staff Report on Burrowing Owl Mitigation* shown in Table 1. The no disturbance buffer shall be clearly marked with high-visibility flagging, signage, or other methods determined by the qualified biologist.**

Table 1. Burrowing Owl Avoidance Buffers

Time of Year	Buffer Size (in feet) per Level of Disturbance		
	Low	Medium	High
April 1- Aug 15	650	1650	1650
Aug 15- Oct 15	650	650	1650
Oct 16- Mar 31	165	330	1650

A4-7 cont.

To ensure the buffer is sufficiently sized to avoid take, the qualified biologist shall conduct a minimum of two days of baseline monitoring of burrowing owl behavior prior to the start of project activities and then be onsite to monitor the burrow during the start of project activities. No disturbance buffers shall remain in place until the qualified biologist determines the burrow is unoccupied by adults or young (occupation includes individuals or family groups using the burrow or foraging on or near the site following fledging). Should project activities cause burrowing owls to exhibit territorial or agitated behavior (e.g. flushing, vocalizing, making defensive flights at intruders, etc.) then the no disturbance buffer shall be increased such that activities are far enough from the burrow so that the bird(s) no longer display the agitated behavior. Any reductions or modifications to this buffer shall be approved by CDFW prior to its implementation. The buffer reduction request shall include relevant rationale and may propose new measures to further justify the buffer reduction.
~~project activities shall be excluded within a 250- foot high-visibility buffer until the qualified biologist determines the owls are no longer present. For active burrows within an area of impact, passive exclusion techniques, such as one way doors, may be used to exclude burrowing owls from occupied burrows outside the nesting season or if the~~

~~qualified biologist determines the burrow does not support an active nest. Once exclusion is completed and the biologist determines that the burrow is not occupied, the burrows shall be collapsed.~~

A4-7 cont.

COMMENT 6: Bat Maternity Roosts and Special Status Bat Impacts, Mitigation Measure 3.4-6, page 245

Issue: The PREIR recognizes potential habitat for Pallid Bat, Townsend's big-eared bat, and Western red bat exists within the project area. Bats are considered non-game mammals and are protected by state law from take and/or harassment (Fish and Game Code §4150, CCR §251.1). These bat species are also considered Species of Special Concern (SSC), which meet the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines §15065); therefore, impacts may be considered potentially significant unless adequate mitigation is incorporated. CDFW is concerned that the fourteen-day pre-construction survey and tree removal protocol provided in PREIR Mitigation Measure 3.4-6 is too limited in scope to reduce project impacts on the bat species with potential to occur in the project area.

Recommendation or Recommended Mitigation Measure: CDFW recommends that Mitigation Measure 3.4-6 be revised to the following (additions are noted in bold while deletions are noted in strikethrough):

A4-8

A habitat assessment shall be conducted by a qualified biologist for potentially suitable bat habitat within six months of Project activities. The habitat assessment shall include a visual inspection of suitable habitat features (e.g., trees, bridges, and other structures) for suitable bat roosting habitat within the project area and a minimum of a 500-foot radius adjacent to these areas that may be impacted by Project activities.
~~no more than 14 days prior to the start of construction in locations suitable for roosts or tree removal. Surveys of potential bat roost habitat shall concentrate on large trees (DBH >12 inches) specifically looking for relevant bat use features such as loose bark or cavities, broadleaf trees in riparian woodland habitat, buildings, bridges, and cliffs/rocky outcroppings on or within 100 feet of any planned work areas. Prior to construction on the Middletown Housing Site, foliage suitable for western red bat roosting shall also be surveyed.~~ If no potential bat habitat ~~roosts~~ are observed, no further mitigation shall be necessary. **If the habitat assessment reveals suitable bat habitat, then a qualified bat biologist shall do a presence/absence survey during the peak activity periods. If bats are present, then the qualified biologist shall develop a bat avoidance plan, in consultation with CDFW.**
The bat avoidance plan should identify:

1. **The location of the roosting sites.**
2. **The number of bats present at the time of assessment (count or estimate).**
3. **The species of bats present.**
4. **The type of roost: maternity, hibernaculum, or a roost.**

5. **Species specific measures to avoid and minimize impacts to bats. The bat avoidance plan shall evaluate the length of time of disturbance, equipment noise, and type of habitat present at the project.**

If an occupied bat roost is found, the qualified bat biologist should establish a no-disturbance buffer around the roost in consultation with CDFW. The width of the buffer should be determined by the qualified bat biologist based on the bat species, site specific conditions, and level of disturbance. The buffer should be maintained until the qualified bat biologist determines that the roost is no longer occupied.

For ~~trees~~ **structures** ~~proposed for removal~~ **that must be removed** that have been identified as **containing an active bat roost** ~~potentially suitable habitat for special-status species, the following shall apply~~, **the qualified bat biologist should prepare a plan for the passive exclusion of the bats from the roost, in consultation with CDFW. Exclusion should be scheduled either (1) between approximately March 1 (or when evening temperatures are above 45°F and rainfall less than ½ inch in 24 hours occurs) and April 15, prior to parturition of pups; or (2) between September 1 and October 15 prior to hibernation (or prior to evening temperatures dropping below 45°F and onset of rainfall greater than ½ inch in 24 hours). If project activities occur outside these periods, the qualified bat biologist should monitor the roost prior to exclusion to confirm that it does not support a maternity colony or hibernaculum.**

A4-8 cont.

Trees ~~proposed for removal~~ **that must be removed,** that have been identified as potentially suitable ~~special status~~ bat habitat, shall be removed **during the March 1 to April 15 time period (following the temperature and rainfall measures described above),** using the two-day phased removal method**.** ~~described below:~~ On day 1, branches and small limbs not containing potential bat roost habitat (cavities, crevices, exfoliating bark, etc.) shall be removed using chainsaws only. The remainder of the tree shall be removed on day 2. ~~Removal shall occur during seasonal periods of bat activity. Removal shall occur as possible outside of maternity season. The maternity roosting season for bats is approximately February 1 through September 1 (but varies due to rainfall and temperature). The best time for removal of structures that may support maternity roosting is between February 1 and April 15.~~

If an active maternity roost **or hibernaculum** is detected, the tree(s) or structures shall be retained until after **there is no longer a hibernaculum present, or until after** the young bats are no longer dependent on their parents for care as determined by a qualified biologist. If a special-status bat roost is observed during preconstruction surveys, appropriate avoidance or exclusion measures shall be developed in consultation with CDFW.

ENVIRONMENTAL DATA

A4-9

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, §

21003, subd. (e).) Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be submitted online or mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov

A4-9 cont.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

Pursuant to Public Resources Code § 21092 and § 21092.2, CDFW requests written notification of proposed actions and pending decisions regarding the proposed project. Written notifications shall be directed to: California Department of Fish and Wildlife North Central Region, 1701 Nimbus Road, Rancho Cordova, CA 95670 or emailed to R2CEQA@wildlife.ca.gov.

A4-10

CDFW appreciates the opportunity to comment on the PREIR for the Guenoc Valley Mixed-Use Planned Development to assist Lake County Community Development Department in identifying and mitigating Project impacts on biological resources. CDFW personnel are available for consultation regarding biological resources and strategies to minimize and/or mitigate impacts. Questions regarding this letter or further coordination should be directed to Claire Bryant, Environmental Scientist, at 530-333-7748 or Claire.Bryant@Wildlife.ca.gov.

Thank you

Claire Bryant
Environmental Scientist
CDFW Region 2
(530) 333-7748

I1

From: R. Keith Donaldson
To: Ruby Mitts
Subject: [EXTERNAL] Project on Butts Canyon
Date: Thursday, July 18, 2024 10:31:38 AM

This has so many negative environmental impacts in this area, I don't see why this continues to be brought up. As the stresses of global warming seem to be evident, especially in this area. I am totally against this project, I see this a regrettable project. I1-1
Sent from my iPhone

From: Ruby Mitts
To: "noekerm@fnf.com"
Cc: Laura Hall; Michelle Irace; Mireya Turner
Subject: RE: Foley Family Farms Guenoc Winery and Vineyards and Guenoc Valley Mixed Use Development
Date: Tuesday, July 23, 2024 11:29:45 AM
Attachments: image002.png
image003.png
NOA EIR Guenoc Valley_07.17.24.pdf

Good morning.

I wanted to provide you with an update regarding public notifications for the Guenoc project. I have verified 'Foley Family Farms' did not have available contact information through our public notification system; I can update the contact information for future mailers. Can you please provide me with the email or mailing address you would like future notifications to be sent? I have attached a PDF of the mailer sent for your review. Thank you very much for your time, and please contact me if you have any further questions or concerns regarding the public notifications for this project.

Ruby E. Mitts
Office Assistant III
Community Development Department
Planning Division – 3rd Floor
255 N. Forbes St.
Lakeport, CA 95453
Phone: (707) 263-2221
Fax: (707) 263-2225
Email: Ruby.Mitts@lakecountyca.gov

I2-1

From: Laura Hall <Laura.Hall@lakecountyca.gov>
Sent: Tuesday, July 23, 2024 7:44 AM
To: Noeker, MaryPat <noekerm@fnf.com>; Ruby Mitts <Ruby.Mitts@lakecountyca.gov>; Michelle Irace <Michelle.Irace@lakecountyca.gov>
Cc: Mireya Turner <Mireya.Turner@lakecountyca.gov>
Subject: RE: Foley Family Farms Guenoc Winery and Vineyards and Guenoc Valley Mixed Use Development

MaryPat,

I am reaching out to our Office Assistant Ruby Mitts in this email to see if letters went out to the following APNs: 014-310-08, 014-320-06, 014-310-06.

As for the 2020 EIR drafts, I was not employed with the County at that time but will reach out to our Principal Planner Michelle Irace to see if she knows anything. No draft EIRs went out in

2023.

Thank you,

Laura

From: Noeker, MaryPat <noekerm@fnf.com>
Sent: Monday, July 22, 2024 4:40 PM
To: Laura Hall <Laura.Hall@lakecountyca.gov>
Cc: Mireya Turner <Mireya.Turner@lakecountyca.gov>; Michelle Irace <Michelle.Irace@lakecountyca.gov>; Ruby Mitts <Ruby.Mitts@lakecountyca.gov>
Subject: [EXTERNAL] RE: Foley Family Farms Guenoc Winery and Vineyards and Guenoc Valley Mixed Use Development

I2-1 cont.

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Laura

Thank you for the quick reply and the information. Please confirm per your records that Foley Family Farms was noticed on July 19th and please provide the contact information and address the County used for mailing purposes.

Also, is there a way to confirm notices were sent to Foley Family Farms for the 2020 and the 2023 EIR drafts.

2020 ORIGINAL PLAN
2023 UPDATED PLAN
2024 UPDATED PLAN

Finally, is it possible to arrange to examine the County files for the FFW tentative parcel map and the Guenoc Valley Mixed Use Development
(Lotusland) in person in your County offices?

Thank you

MaryPat Noeker
Vice President
National Underwriter
Fidelity National Title Group
One Embarcadero Center, Suite 250
San Francisco, CA 94111
415-606-4358

From: Laura Hall <Laura.Hall@lakecountyca.gov>
Sent: Monday, July 22, 2024 2:47 PM
To: Noeker, MaryPat <noekerm@fnf.com>
Cc: Mireya Turner <Mireya.Turner@lakecountyca.gov>; Michelle Irace <Michelle.Irace@lakecountyca.gov>; Ruby Mitts <Ruby.Mitts@lakecountyca.gov>
Subject: RE: Foley Family Farms Guenoc Winery and Vineyards and Guenoc Valley Mixed Use Development

IMPORTANT NOTICE - This message sourced from an external mail server outside of the Company.
Hello MaryPat,

A Notice of Availability (NOA) was sent out to all surrounding properties within 725 feet of the Guenoc Ranch and Middletown sites last Friday (July 19). You should be receiving a letter within a few days, if not please reach out again.

The NOA listed on the County's website is what was sent out.

I2-1 cont.

Thank you,

Laura

From: Noeker, MaryPat <noekerm@fnf.com>
Sent: Monday, July 22, 2024 9:22 AM
To: Laura Hall <Laura.Hall@lakecountyca.gov>
Subject: [EXTERNAL] Foley Family Farms Guenoc Winery and Vineyards and Guenoc Valley Mixed Use Development

This message was sent securely using Zix®

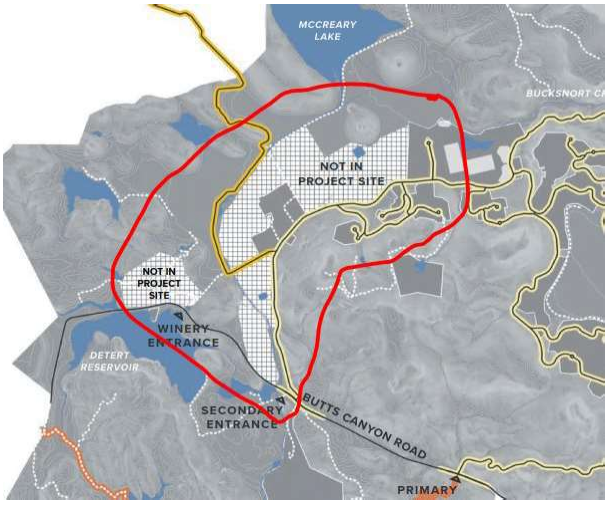
Laura,

Good morning. I am an underwriter with Fidelity National Title Group, and I am coordinating title matters and reviewing the map process in connection with a tentative parcel map for lands in Lake County for Foley Family Farms. Please see attached.

Today I reviewed the recent EIR documents and other matters for the Guenoc Valley Mixed Use Development from the County website. I understand the public comment period began July 19th.

Our client has requested that we follow up with you and request information as to the notification

process by mail or otherwise made by the County to Foley Family Farms in connection with the Guenoc Valley Mixed Use Development. To date, Foley Family Farms has no record of notice from the County regarding this project and how it affects its property. Please kindly share the notice documents, if different from what is available online.



I2-1 cont.

Thank you in advance for your assistance in this matter.

MaryPat Noeker
Vice President
National Underwriter
Fidelity National Title Group
One Embarcadero Center, Suite 250
San Francisco, CA 94111
415-606-4358

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I3

From: Maria Rutenburg
To: Lake County CDD - GuenocValleyComments
Subject: [EXTERNAL] Fwd: proposed development and CEQA filing
Date: Monday, July 29, 2024 2:32:35 PM

Hi,
I own Middletown Mansion at 20650 hwy 29 in Middletown, CA. I have studied the proposal, contacted the developers and heard the opposition. fully support this proposal and hope our local government makes all possible decision to expedite its completion.
Regards,
Maria Rutenburg, trustee of the Dave trust, owner on the 20650 hwy 29 property.
attorney at law

I3-1

I4

From: ktmcobb@aol.com
To: Laura Hall
Cc: Michelle Irace; Mireya Turner
Subject: RE: [EXTERNAL] Guenoc Project
Date: Tuesday, August 6, 2024 3:27:13 PM

Thank you Laura for all the detailed information. I'll reference the 2020 EIR.

Judson

Sent from AOL on Android

On Tue, Aug 6, 2024 at 10:05 AM, Laura Hall <Laura.Hall@lakecountyca.gov> wrote:

> Judson,
>
> My apologizes as there may be some misunderstanding of what is currently being proposed in the Draft Partially Revised Environmental Impact Report (DPREIR). The County is not required to redo the entire 2020 EIR, but according to the 2022 settlement agreement with the Office of the Attorney General the applicant has agreed to address wildfire prevention and protection, greenhouse gas (GHG) emissions, and land use. In addition, the Applicant has voluntarily added to the Project a new emergency ingress and egress route. This DPREIR is limited in scope to assessing the environmental impacts related to the community evacuation analysis and the Project Modifications. The Project Modifications revise the Original Project analyzed in the 2020 EIR to reduce wildfire risks and greenhouse gas emissions.
>
> With that, the 2020 EIR addresses helicopters noise and provides mitigation with MM 3.10-4 (page 27 of PDF). The DPREIR only addresses special -status wildlife and concludes that Mitigation Measure 3.10-4 limits aircraft and non-emergency helicopter flight times, which would protect biological resources as assessed in Impact 3.4-1 of the 2020 EIR. The Project Modifications do not include characteristics that would increase operational noise production beyond what was considered in the 2020 EIR.
>
> I hope this helps, and as mentioned in the previous email, we encourage you to submit any comments and concerns related to environmental issues during the PREIR comment period so that they may be considered by the County and responded to in the Final PREIR.
>
> Sincerely,

I4-1

Laura

From: ktmcobb@aol.com <ktmcobb@aol.com>
Sent: Tuesday, August 6, 2024 7:12 AM
To: Laura Hall <Laura.Hall@lakecountyca.gov>
Cc: Michelle Irace <Michelle.Irace@lakecountyca.gov>; Mireya Turner <Mireya.Turner@lakecountyca.gov>
Subject: RE: [EXTERNAL] Guenoc Project

Morning Laura,

Am I going to hear from you today? I need your help understanding how the helicopters may impact me. Could you call me please?

I4-1 cont.

707 972-2488

Jud

Sent from AOL on Android

On Thu, Aug 1, 2024 at 5:01 PM, Laura Hall

<Laura.Hall@lakecountyca.gov> wrote:

> Hello Judson,
>
> These issues are addressed on page 122 of the PREIR and the 2020 EIR. We encourage you to submit any comments and concerns related to environmental issues during the PREIR comment period so that they may be considered by the County and responded to in the Final PREIR.
>
> Thank you,
>
> Laura
>
> ---
>
> **From:** ktmcobb@aol.com <ktmcobb@aol.com>

Sent: Thursday, August 1, 2024 10:01 AM
To: Laura Hall <Laura.Hall@lakecountyca.gov>
Cc: Gail Wright <gailright@earthlink.net>
Subject: [EXTERNAL] Guenoc Project

Morning.

I sent this email on the 30th. I don't know if you received it?

Thank you Laura for you timely response.

I sent a picture of or view from our back porch, overlooking Langtry Winery, Dietert and the proposed helipad site. We and a few of our neighbors directly border the project As you can see, helicopter traffic will have an immediate impact on us. These concerns were expressed in our letter and the Math letter to the county previously. Has your department responded to them already? I don't want you to have to back track if this has already been addressed. I4-2

Can you tell me where in the proposal is the description of how the helicopters will be used? Are there guidelines for how and when they are used? Are there noise restrictions? Was the impact of the helicopter noise addressed in regards to nesting birds?

Are there still plans to use a float plane? Did you know that Dietert almost completely dries up in the late summer?

Please forward or direct me to any information that may allay our concerns.

Also who would be a good contact person from the project that I can call and talk to about this?

Thank you,

Judson

707 972-2488

I5

From: Laura Hall
To: "gail"
Cc: Judd
Subject: RE: [EXTERNAL] Guenoc
Date: Thursday, August 8, 2024 12:19:00 PM
Attachments: image001.png

Gail,

Please see the screenshot of page 27 from the Draft EIR: Volume I below following the text. You can access that document and more on the County's website here: https://www.lakecountyca.gov/1762/Guenoc-Valley-Mixed-Use-Planned-Developm.

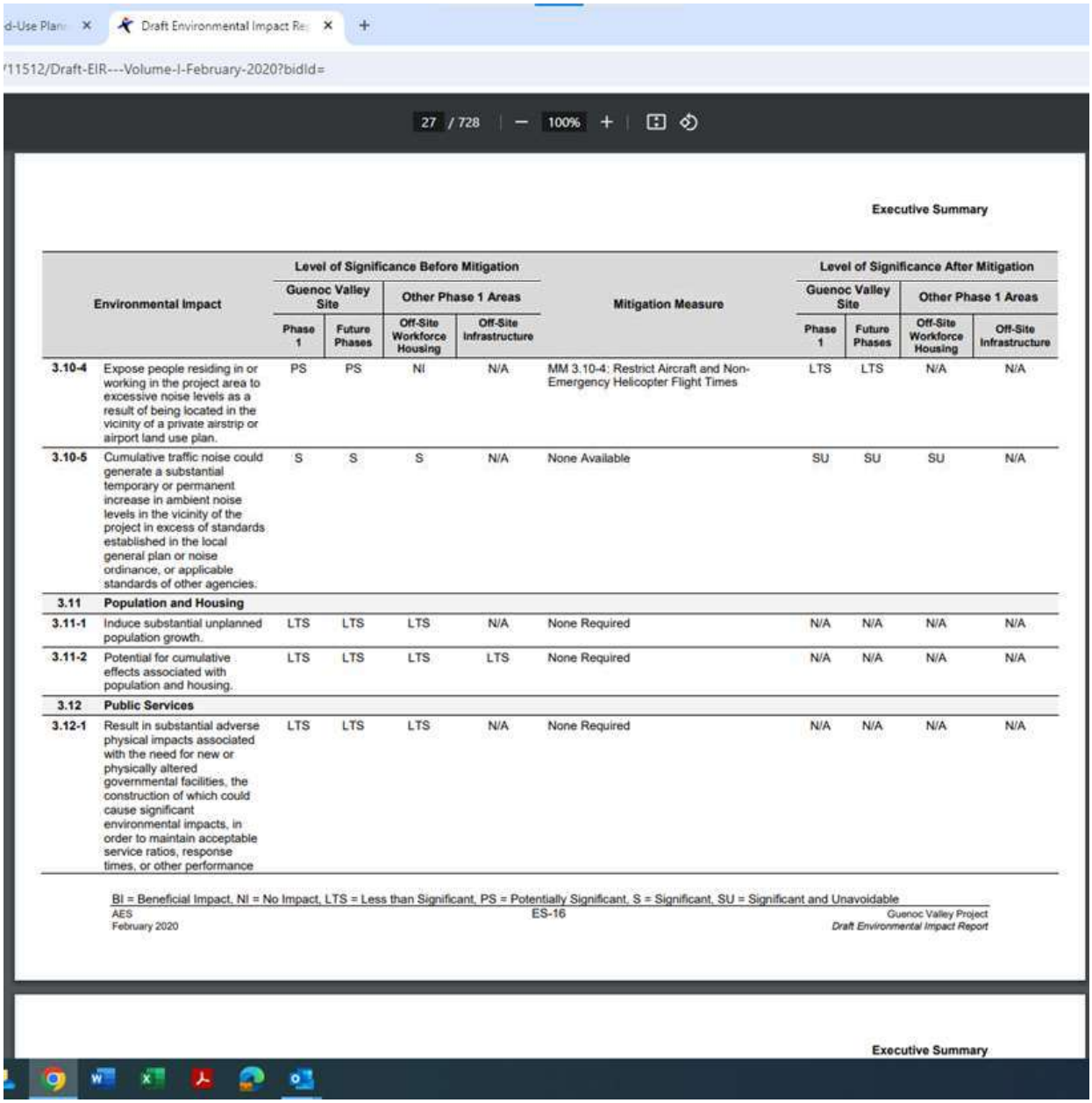
Also, my apologies if I did not include you on the email that went out a few days ago, but there may be some misunderstanding of what is currently being proposed in the Draft Partially Revised Environmental Impact Report (DPREIR). The County is not required to redo the entire 2020 EIR, but according to the 2022 settlement agreement with the Office of the Attorney General the applicant has agreed to address wildfire prevention and protection, greenhouse gas (GHG) emissions, and land use. In addition, the Applicant has voluntarily added to the Project a new emergency ingress and egress route. This DPREIR is limited in scope to assessing the environmental impacts related to the community evacuation analysis and the Project Modifications. The Project Modifications revise the Original Project analyzed in the 2020 EIR to reduce wildfire risks and greenhouse gas emissions. I5-1

With that, the 2020 EIR addresses helicopters noise and provides mitigation with MM 3.10-4 (page 27 of PDF). The DPREIR only addresses special -status wildlife and concludes that Mitigation Measure 3.10-4 limits aircraft and non-emergency helicopter flight times, which would protect biological resources as assessed in Impact 3.4-1 of the 2020 EIR. The Project Modifications do not include characteristics that would increase operational noise production beyond what was considered in the 2020 EIR.

I hope this helps, and as mentioned in the previous email, we encourage you to submit any comments and concerns related to environmental issues during the PREIR comment period so that they may be considered by the County and responded to in the Final PREIR.

Sincerely,

Laura



d-Use Plan | Draft Environmental Impact Re

11512/Draft-EIR---Volume-I-February-2020?bidId=

27 / 728 | 100%

Executive Summary

Environmental Impact		Level of Significance Before Mitigation				Mitigation Measure	Level of Significance After Mitigation			
		Guenoc Valley Site		Other Phase 1 Areas			Guenoc Valley Site		Other Phase 1 Areas	
		Phase 1	Future Phases	Off-Site Workforce Housing	Off-Site Infrastructure		Phase 1	Future Phases	Off-Site Workforce Housing	Off-Site Infrastructure
3.10-4	Expose people residing in or working in the project area to excessive noise levels as a result of being located in the vicinity of a private airstrip or airport land use plan.	PS	PS	NI	N/A	MM 3.10-4: Restrict Aircraft and Non-Emergency Helicopter Flight Times	LTS	LTS	N/A	N/A
3.10-5	Cumulative traffic noise could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	S	S	S	N/A	None Available	SU	SU	SU	N/A
3.11	**Population and Housing**									
3.11-1	Induce substantial unplanned population growth.	LTS	LTS	LTS	N/A	None Required	N/A	N/A	N/A	N/A
3.11-2	Potential for cumulative effects associated with population and housing.	LTS	LTS	LTS	LTS	None Required	N/A	N/A	N/A	N/A
3.12	**Public Services**									
3.12-1	Result in substantial adverse physical impacts associated with the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance	LTS	LTS	LTS	N/A	None Required	N/A	N/A	N/A	N/A

BI = Beneficial Impact, NI = No Impact, LTS = Less than Significant, PS = Potentially Significant, S = Significant, SU = Significant and Unavoidable

AES
February 2020

ES-16

Guenoc Valley Project
Draft Environmental Impact Report

Executive Summary

I5-1 cont.

From: gail <gailright@earthlink.net>
Sent: Thursday, August 8, 2024 8:36 AM
To: Laura Hall <Laura.Hall@lakecountyca.gov>
Cc: Judd <Ktmcobb@aol.com>
Subject: [EXTERNAL] Guenoc

Good morning Laura,
We have not been able to find PG 27 of the PDF of 2020 EIR which you referred to addressing helicopters noise and provides mitigation with MM 3.10-4.

Could you please copy and paste into an email so that we can review it before this evening's MATH meeting?

Thank you,

Gail Wright

From: J <makingitbetter205@gmail.com>
Sent: Saturday, August 17, 2024 3:49 PM
To: Lake County CDD - GuenocValleyComments <guenocvalleycomments@lakecountyca.gov>
Subject: [EXTERNAL] When will

this project break ground and or has it ?

I am very much for this project . Not only will it mean jobs but it'll bring this County revenue and make Lake County something we can be proud of . Lake County has been depressed for years . Properties don't sell here and values stay far below the National average . We need change . Please let me know .

I6-1

FELIX DROZ

To: Mireya Turner, Director COMMUNITY DEVELOPMENT DEPARTMENT, Planning Division Co of Lake

Cc: Rob Bonta rob.bonta@doj.ca.gov, Attorney General State of California

Mike Thompson, Congressman Luca luca.moretti@mail.house.gov (in care of Luca Moretti, Napa office)

Fredrick Lahey, Lake County Record Bee fm.lakey@gmail.com

Monica Rosenthal, MATH chair rvineyards@sonic.net

Justin Augustine Biological Diversity jaugustine@biologicaldiversity.org

From: Judson Hodges, Gail Wright; Butts Canyon Residents, Middletown Ca

Re: Issues regarding DPEIR of proposed Guenoc Valley Mixed Use Planned Development Project

Date: August 14, 2024

Please reference our letter of April 11, 2024 to Laura Hall from Butts Canyon neighbors residing near the Maha project.

- Helipad: The impact of the helipad is inadequately addressed in the existing DPEIR. Our concerns include helicopter and float plane frequency, flight paths as they would impact neighboring properties, noise, impact to wildlife, etc.
  We feel that the location of the proposed aerial site is inappropriate and problematic. A possible solution would be to move it to the existing airstrip just below the Langtry Winery on the ranch side of the property. I7-1

- Dietert Ecosystem: It is acknowledged by Fish and Wildlife and PG&E biologist as one of the highest density environments for raptors in the state of California. There are nesting areas which include migrating birds, Bald Eagles, Osprey, Canadian Geese, Great Blue Herons, Egrets, Night herons, king fisher, American coot, including a “Legacy” Bald Eagle Nest. I7-2

- Traffic: We feel that in an emergency situation the Grange Road fire egress would create a bottleneck at the intersection of Hwy 29 and Grange Rd for the entire HVL/ Middletown area. This is clearly not a good option for evacuations. I7-3

- The MATH letter from April 11, 2024 expressed concerns regarding the water well on the corner of Hwy 29 and Butts Canyon Rd. It is being proposed to utilize that well at maximum capacity that could possibly impact the water table for Callayomi and Long Valleys and potentially pull the plume toward Middletown from the PG&E GI dump site. Can the project ensure that this excessive water use will not compromise clean and adequate water in our community? Additionally pumping groundwater into an open reservoir to store water with an evaporation rate of up to 80” annually seems problematic, wasteful and not environmentally sound. I7-4

Many of us have lived here for decades. Living in a beautiful rural area, one becomes a steward of the land. You become part of it. Maha purports to have the same goals at heart. I hope that we can work together to find a reasonable solution to our concerns and our safety and lifestyle are not compromised.

From: ktmcobb@aol.com <ktmcobb@aol.com>
Sent: Wednesday, August 28, 2024 3:45 PM
To: mireyaturner@lakecounty.ca.gov; Laura Hall <Laura.Hall@lakecountyca.gov>; Gail Wright <gailright@earthlink.net>
Subject: [EXTERNAL] Proposed Airport at Dietert Lake, Guenoc project

Hello,

My Butts Canyon Rd neighbors and I are working on our letter regarding our opposition to the proposed airport at the Deitert Reservoir at the Guenoc Project and would like you clarify this proposal. On 8/6/2024 Laura wrote to me and explained that only certain portions of the 2020 EIR have been revised. She referred me to 3.10-4 that would limit aircraft and helicopter flight times. We feel these measures fall far short of what is needed and we started a petition drive to stop that portion of the project.

We later discovered:

Traffic: *Numerous studies have been prepared regarding project-related traffic, how visitors will arrive at the project site, and how to reduce the use of private vehicles. It is important to note that the traffic analysis in the 2020 EIR includes both daily employee trips and visitors. The goal of the Transportation Demand Management program is to reduce vehicular trips to the Guenoc Valley site (Final EIR, Volume III, Appendix TDM). While 40% of employees and visitors are assumed to arrive in their personal vehicles, the other 60% are not expected to arrive via plane or helicopter. They are expected to arrive via the private shuttles that the project proponent funds between San Francisco area and Sacramento airports, from nearby communities such as Middletown, and carpooling (for employees) under programs designed to make it more convenient to do so. On-site amenities, including electric cars for visitors to borrow, are crucial to ensuring the success of these programs.*

I8-1

We also talked to Kevin Case and he didn't expect to have any air traffic on or near the lake.

So, could you clarify this? If this is true we would like to have the entire airport plan deleted from the proposal. If not, we would need some assurances that this plan would not be instituted at some later date.
Your prompt attention is appreciated.

Butts Canyons Neighbors
Judson Hodges
707 972-2488

Date: August 28, 2024

To: County of Lake Community Development

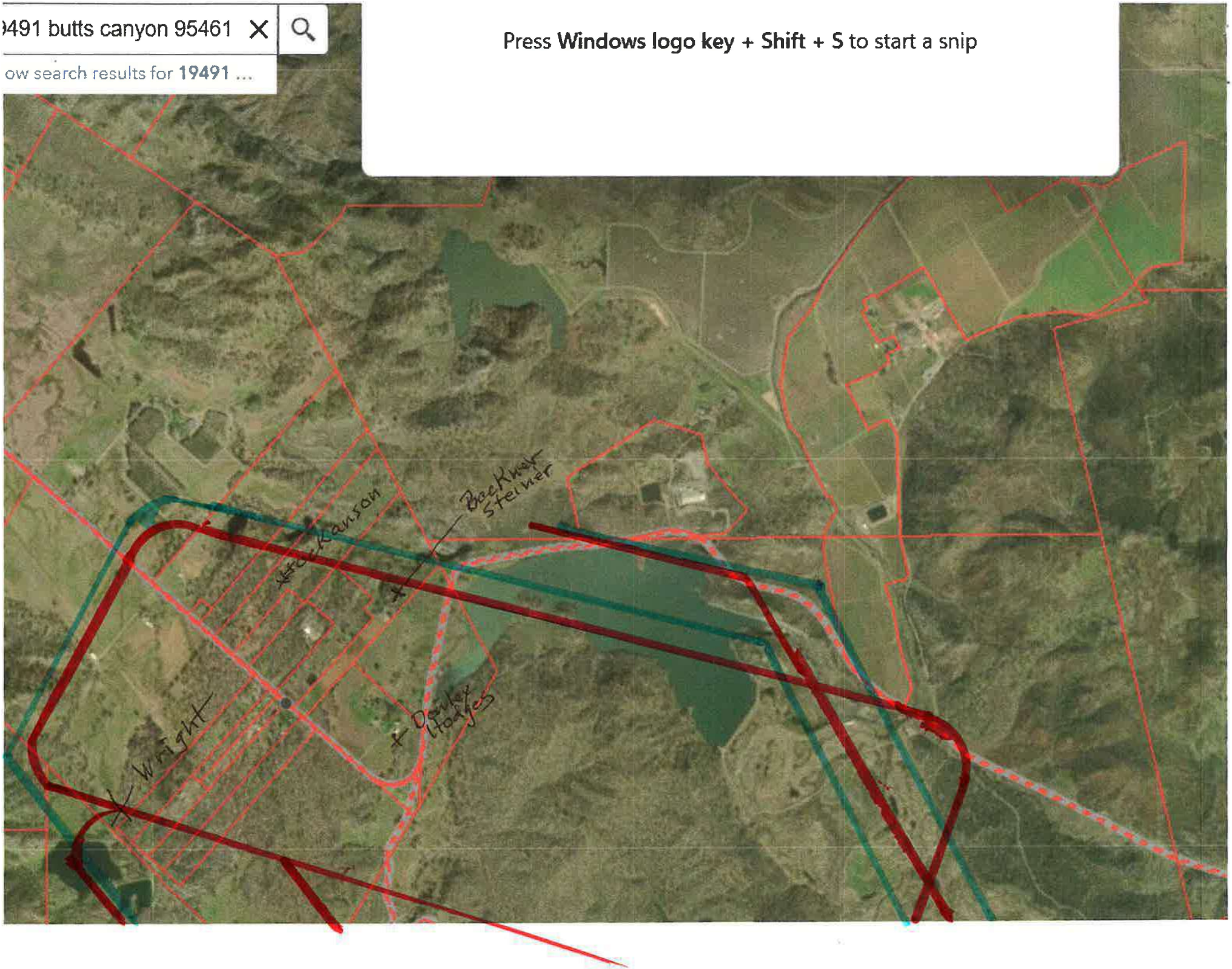
From: Butts Canyon Neighbors: Judson & Connie Hodges, Sue Steiner, Sally Beckner, Arlene Hockanson, Bill & Gail Wright

Re: Guenoc Valley Mixed Use Planned Development Project (EIR 24-01)

Attached please find petitions objecting to the proposed seaplane/helicopter airport at the Guenoc Project. The use of aircraft in an environmentally sensitive area, Dietert Reservoir, will have a damaging effect on the wildlife, create noise pollution and impact public safety. Neighboring residences will be severely impacted by aircraft noise and activity.

Unfortunately, the overview showing flight paths in the EIR is so grainy that parcels and homes cannot be seen. See attachment from the Lake GIS Parcel Viewer. This clearly shows neighboring properties and homes. Why are potential flight paths over neighboring properties rather than Guenoc property?

I9-1

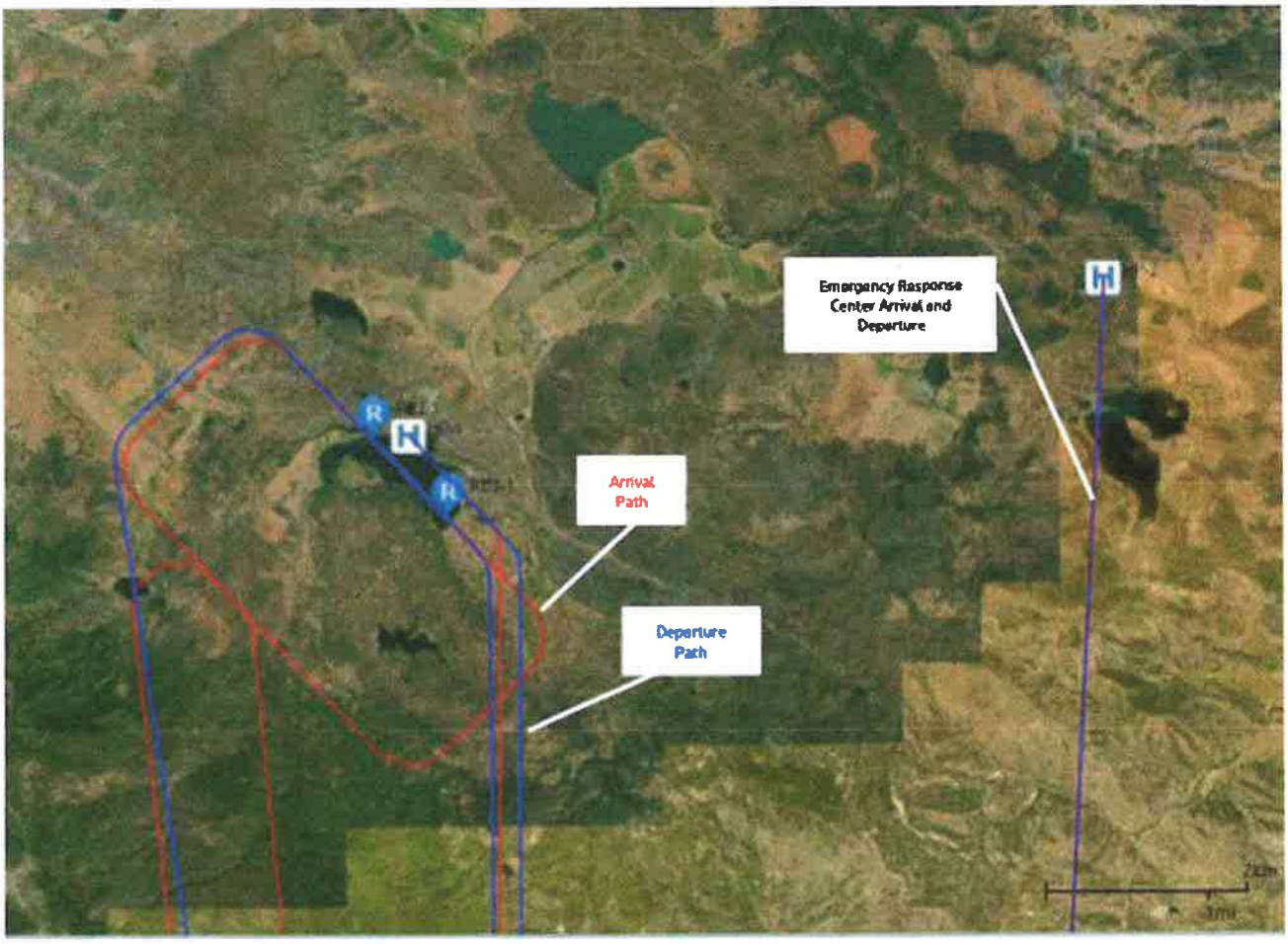

)491 butts canyon 95461
ow search results for 19491 ...
Press Windows logo key + Shift + S to start a snip
Brockway Steiner
Wright
Doyle Hodges

5. Noise Contours

Preliminary noise contours were prepared as part of the project using the Aviation Environmental Design Tool (AEDT) software. The following sections describe the assumptions used to obtain the noise contours.

5.1 Flight Paths

Guests and residents of Guenoc Ranch would arrive or depart from one of the regional international airports via private jet or commercial airline. The regional international airports within an approximate one hour flight time by helicopter or seaplane are: San Francisco International (SFO), Oakland International (OAK), San Jose International (SJC) and Sacramento International (SMF). The assumption is that helicopter and seaplane flights to/from Guenoc Ranch would be made during daylight hours in Visual Meterorlogical Conditions (VMC) flying under Visual Flight Rules (VFR). Flight paths were modelled for the two Heliports as well as for the Seaplane Base on the Detert Reservoir. The flights paths are depicted below. Arrival paths are depicted in red and departure paths in blue. A conventional left turn traffic pattern was assumed for the arrivals to the seaplane base; departures from the seaplane base were assumed to use a left or right turn towards the south depending on the wind direction. The Emergency Response Center Heliport includes a direct approach and departure path to the south and the Detert Reservoir Heliport includes flight paths parallel to the seabase flight paths as depicted below. A modification of the traffic patterns, especially far away from the landing/departure areas is not anticipated to have major impacts on the results.



Date: August 19, 2024

To: County of Lake Community Development

Re: Guenoc Valley Mixed Use Planned Development Project (EIR 24-01)

We, the undersigned, object to the proposed seaplane/helicopter airport at the Guenoc Project. The use of aircraft in an environmentally sensitive area, Dietert Reservoir, will have a damaging effect on the wildlife, create noise pollution and impact public safety. Neighboring residences will be impacted as well by aircraft noise and activity. Flight paths are directly over several homes. See attached Noise Contours 5 and 5.1. This component of the Guenoc Project must be stopped.

Chris Emberson 10495 Twin Oaks Dr Cobb CA
LINDA GIFFORD 11482 Gifford Springs Rd. Cobb CA 95426
Ken GIFFORD 11 " " "
Andrea Moore 11481 Gifford Spring
McKenna Laymon 11320 Oak St Cobb, CA 95426
Chris collins 2443 Hwy 29 Middletown 95461
Tiffany Hill 18238 Seigler Rd HVL
Daniel Deeder 18238 Seigler Rd HVL
Mary McEntee 19870 Reservation Rd HVL
Sarah Mitchell 9073 Hopi Ct Kelseyville CA
Kristin Long 1304 Chestnut Lane Clearlake Oaks CA
Riley Sparks 19374 Old Creek Rd HVL
Rachel Tallman 23875 Oat Hill Rd Middletown, CA. 95461
WALTER THOMAS ENGLAND Libby 18295 SPRUCE ROAD EXT, Hidden Valley Lake, 95467
Audrey Hedina 16160 Eagle Rock Hidden Valley 95467
Alyce Sutton 19869 Mountain Meadow S. HVL. 95467 Alyce Sutton
Tom Sutton 19869 MOUNTAIN MEADOW S. HVL 95467 TOM SUTTON
Jane Cauley 15025 Poppy Ln., Middletown, CA 95461 Jane Cauley
Susan Knowles 20551 Santa Barbara Ave Middletown 95461 Susan Knowles

Date: August 19, 2024

To: County of Lake Community Development

Re: Guenoc Valley Mixed Use Planned Development Project (EIR 24-01)

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Johanna Lormour 9282 Bonheum Rd, Lower Lake, Ca 95457
EDWARD ROSE 21071 BARNES ST, MIDDLETOWN, CA. 95461
Jessica Haugh 12040 Shenandoah Middletown 95461
Glenda Loudermilk 21673 Hwy 29 Middletown
Alicia Mullin 17110 Hwy 175 Middletown
Denise Hartnett 21340 Valley Oak Middletown
Dale Mitchell 21056 WASHINGTON ST. MIDDLETOWN
Andrew Snell 15888 main St middletown CA
Ramona Davis 21503-B Ste Highway 29 Middletown Ca 9546
Lisa A Cole 1800 S. Main St #95 Lakeport, CA 95453
Dan R. Cole 1800 S. Main St #95 Lakeport, CA 95453
Mark Byrd 16210 Hwy 175 Cobb, CA 95426
Jan Morley 16635 Mtn View Dr Cobb Ca 95426
Lance Morley 16635 MTN VIEW DR Cobb, CA 95426
Scott Hopkins 21195 Bush St Middletown 95461
MARTIN PORK 12000 HWY 29 MIDDLETOWN 95461
[illegible] 11385 Alan Lane Middletown 95461
JOHN JOHNSON 16284 EAGLE ROCK RD. H.V.L. CA. 95467

Date: August 19, 2024

To: County of Lake Community Development

Re: Guenoc Valley Mixed Use Planned Development Project (EIR 24-01)

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NAME	ADDRESS	SIGNATURE
Connie Hodges	19750 Butts Cyn Rd.	Connie Hodges
Patricia Donley	19750 Butts Canyon Rd	Patricia Donley
Robert Donley	19750 Butts Canyon Rd.	
Cathy Nudi	17475 Deer Hill Rd.	
Eudoro M Torres	14468 Spruce Grove Rd L	Eudoro M Torres
Jessica Cline	9063 Hwy 175 Kelseyville	Jessica Cline
Dennis Purcell	9740 Fairway Dr. Kelseyville.	Dennis Purcell
Tammy Donaly	21397 Yankee Valley Rd	Tammy Donaly
Tammy Donaly	21397 Yankee Valley Rd	Tammy Donaly
John DeGuire	PO 124 Middletown CA	
Pam Mayfield	PO Box 106 Lobo, Ca	
Byron McGuire	18682 N. Shore Dr.	
Daniel Gordon	9328 Chippewa Trail Kelseyville CA.	
Olivia Cude	19990 Jaclyn Rd. Middletown CA	
Sherrie Mitchell	21050 WASHINGTON Middleto	
Brittney Rose	19595 Hwy 175 Middletown	
Robert H. Loadenwalk	21673 Hwy 295. Middletown.	
Linda Diehl-Downs	15979 Main St Middletown	
ESTHER MCDONELL	15912 ARMSTRONG ST MIDDETOWN	

Date: August 16, 2024

To: Lake County Board of Supervisors

Re: Guenoc Valley Mixed Use Planned Development Project

We, the undersigned, object to the proposed seaplane/helicopter airport at the Guenoc Project. The use of aircraft in an environmentally sensitive area, Dietert Reservoir, will have a damaging effect on the wildlife, create noise pollution and impact public safety. Neighboring residences will be impacted as well by aircraft noise and activity. Flight paths are directly over several homes. See attached Noise Contours 5 and 5.1. This component of the Guenoc Project must be halted until an objective third party can review and validate whether the developer has mitigated these issues in their revised EIR.

NAME	ADDRESS	SIGNATURE
Arlene Hochanson	19298 Butts Canyon Rd Middletown	Arlene Hochanson
Emily Nelson-Walker	22970 Shady Grove Rd Unit 1	
Fiorella Venter	15863 Yaeger	
Brianna Baisch	12 Mustang Ct. Pope Valley	
Monica Rosenthal	21735 Dry Creek, Middletown	
Denise McDowell	23040 Shady Grove Rd Middletown CA	
Larry McDowell	23040 Shady Grove Rd Middletown	
Evelyn J Roach	19336 Bear Valley Rd HVL 95467	
James Hamilton	19184 Deer Hill Rd 95467	
Jaid Keenan - Jaid Keenan	19405 Old Creek Rd	
Michelle Hamilton	19184 Deer Hill Rd HVL CA 95467	
Cecil Huggins	18738 spyglass Rd HV	
Pomeroy, Christina	HVL, 95467	CHRISTINA POMEROY
Jairi Rdi Lee	Lower Lake	
[illegible] Haynes	CLEARLAKE 95422	
Lisa Deane	Cobb 95426	
Cathy M. Cook	18595 DEER Hollow RD. HVL	
Theresa Haskett	22970 Shady Grove #7 Middletown	
Nicola Santacroce	23922 Mirabel Rd. Middletown, CA 95461	
KATHLEEN BROWN	19001 Coyle Springs Rd Hidden Vly CA 95467	
RANDALL BROWN	19001 Coyle Springs CA Hidden Vly 95467	

Date: August 16, 2024

To: Lake County Board of Supervisors

Re: Guenoc Valley Mixed Use Planned Development Project

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NAME	ADDRESS	SIGNATURE
Jed Hodges	19750 Butts Canyon Rd	
Christina Nelson	16524 Crescent Ct, HVL	
Brenda Quintero	15843 Dooley Rd Middletown	
Ben Hittle	10715 Grafton Springs Rd	
Solomon Welsh	21833 Shoreland Rd	
Quinn Beckers	21373 Stateline Rd	
Hart Frazee	3615 Halika St	
Will Tuttle	18257 N. Shore Dr., HVL	
Madeleine Tuttle	18257 N. Shore Dr. HVL	
	17864 Butt Canyon CA 95461	
Lee Tennyken	17225 Brook Circle HVLA 95467	
Scott Sinclover	6675 Kelsey Creek Dr Kelseyville CA 95451	
Tyler Thompson	1938 Hitchcock Ct Lake CA 95461	
Gail Wright	19491 Butts Canyon Rd Middletown 95461	Gail Wright
Lauren Fuller	21125 Loconomi Rd Middle	
Diane Winter	20802 Yankee Valley Rd HVL 95467	
Joyce McHenry	19463 Stinson Rd. HVL 95467	
Gloria Coy	22978 Shady Grove Rd 95461	
Owen Williams	8280 old dirt road 95451	
Alex Wallbungyn	4275 Highland Springs Rd	
Dow Merrill	9289 SALMTWA, Kelseyville CA	
Christine Strunk	15671 Douglas st Middletown CA	

Date: August 16, 2024

To: Lake County Board of Supervisors

Re: Guenoc Valley Mixed Use Planned Development Project

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NAME	ADDRESS	SIGNATURE
LUANN B. NAPIER	19800 HONEY HILL DR. HVL, CA 95469	Luann B Napier
Andrea Decker	PO Box 1750 Middletown Ca 95461	
Michelle Gunn	20104 Hwy 29	

Date: August 16, 2024

To: Lake County Board of Supervisors

Re: Guenoc Valley Mixed Use Planned Development Project

We, the undersigned, object to the proposed seaplane/helicopter airport at the Guenoc Project. The use of aircraft in an environmentally sensitive area, Dietert Reservoir, will have a damaging effect on the wildlife, create noise pollution and impact public safety. Neighboring residences will be impacted as well by aircraft noise and activity. Flight paths are directly over several homes. See attached Noise Contours 5 and 5.1. This component of the Guenoc Project must be halted until an objective third party can review and validate whether the developer has mitigated these issues in their revised EIR.

NAME	ADDRESS	SIGNATURE
Guy Tarelli	17036 Squirrel Hill Rd H.V.L 95467	
Donnie Wald	PO Box 1093 Middletown	
Deborah Rosi	18643 Deer Hollow Rd, HVL 95467	Deborah Rosi
Teri Yee	P.O. Box 1763	
Star Brumfield	19750 Foard Rd Middletown 95461	
* Shawn San Nicolas	P.O. BOX 1677 Middletown CA 95461	
* Kene Fowler	19495 Stinson Rd HVC CA 95467	
* Janet Crofoot	22620 East Rd Middletown, CA 95461	
Laurel Hoggan	21276 Washington St Middletown, CA	Laurel Hoggan
* Voris Brumfield	19750 Foard Rd	Middletown CA 95461
Jeff Hockanson	19186 Butts Cny	Middletown Ca 95461
Florence Hockanson	19186 Butts Cny	Middletown
CHERYL HIGGINS	21573 PINE ST	MIDDLETOWN 95461
Calvin Higgins	21573 Pine St	Middletown CA 95461
Gayle Peters	15074 Spruce Grove	L.L. 95457
Michael Peters	15074 Spruce Grove	LL. 95457

Date: August 16, 2024

To: Lake County Board of Supervisors

Re: Guenoc Valley Mixed Use Planned Development Project

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NAME	ADDRESS	SIGNATURE
Ruth Richards	11948 Riata Rd. Lower Lake 95457	Ruth Richards
GARY E MCKINEY	19869 MTN MDW NTH HVLA 95467	
Brandon Dawson	18643 Deer Hallow Rd HVL 95467	
Lynne Lemon	15750 Knowles Lane Middletown	Lynne Lemon
Robert Lemon	15750 Knowles lane Middletown CA.	Robert Lemon
STEFAN RIPICH	16289 Eagle Rock Rd HVL 95467	
Roni Dunbar	19270 MMS #B HVL	Roni Dunbar
SALLY Beckner	19648 Butts Canyon Rd Middletown 95461	
Sue Steiner	19648 Butts Canyon Rd Middletown CA 95461	
William Wright	19491 Butts Canyon Rd Middletown CA 95461	
Jay Fleming	15374 WESTERN mine Middl 954461	
Larry Fleming	15374 Western Mine Rd Middl 95461	
MATT GRAHAM	11677 old spruce Grove Rd Lower Lake	
Rachelle Guzman	11677 Old Spruce Grove Rd Lower Lake	

Date: August 16, 2024

To: Lake County Board of Supervisors

Re: Guenoc Valley Mixed Use Planned Development Project

We, the undersigned, object to the proposed seaplane/helicopter airport at the Guenoc Project. The use of aircraft in an environmentally sensitive area, Dietert Reservoir, will have a damaging effect on the wildlife, create noise pollution and impact public safety. Neighboring residences will be impacted as well by aircraft noise and activity. Flight paths are directly over several homes. See attached Noise Contours 5 and 5.1. This component of the Guenoc Project must be halted until an objective third party can review and validate whether the developer has mitigated these issues in their revised EIR.

NAME	ADDRESS	SIGNATURE
~~Ruth Richards~~	~~11948 Rio Rd. Lower Lake 95457~~	~~Ruth Richards~~
Dylan Golden	11948 Riata Rd lowerlake 95457	
Jeffry Huckaby	P.O. Box 874 Clearlake, CA 95422	
Jessica Huckaby	P.O. Box 874 Clearlake, CA 95422	
Kate Schmidt-Higgins	19118 Comstock Ct. HVL 95467	
Lisa Kaplan	19535 Moonridge Rd HVL 95467	
Chris Smith	11949 Riata Rd Lower Lake CA 95457	
Janelle Moco	22970 Shady Grove Rd 95461	

To: Laura Hall, Senior Planner, COMMUNITY DEVELOPMENT DEPARTMENT, Planning Division
From: Butts Canyon Residents, Middletown Ca
Re: RFR of proposed Guenoc Valley Mixed Used Planned Development Project
Date: April 11, 2024

We, the undersigned residents of Butts Canyon Rd near the Maha project would like to express our views on this project and how it could impact our daily lives.

We think the project could be an asset to our community of Middletown and Lake County as a whole. However, the size and scope of the project requires a close-up lens, through the eyes of residents that will be affected the most-its immediate neighbors.

We have concerns regarding the traffic on Butts Canyon Rd for sometime now at the current traffic levels. The traffic between 6 and 9 am and 3:30 to 6:30pm is currently exceptionally busy. It is very fast and congested, with often little regard to double yellow lines and curves. Butts Canyon is a major artery to and from Napa County. The County of Lake needs to take measures now to slow people down and improve the road. There are a cluster of homes from the Circle D Ranch (19750 Butts Canyon) near the intersection of Butts Canyon and Oat Hill Mine Rd and Hockenson's (19298 Butts Canyon). During these congested commute hours, it is particularly dangerous for these residents when pulling on to Butts Canyon. The prospect of adding hundreds of more cars is intimidating and needs to be mitigated. This also adds to the issue of Hwy 29 and Butts Canyon and evacuation concerns in an emergency situation. Are there any plans to improve the bridge? Has there been a traffic study? What are the proposed improvements?

Additionally, the revised project is proposing a helipad on the shores of Dietert Reservoir. This, unfortunately, is poor planning. Dietert Reservoir has an extremely high concentration of wildlife. There are Bald Eagles, Osprey, Canadian Geese, Blue Heron, American coots, etc. that reside and nest in this pristine area. "We have had biologists come out to our property (Hodges) and say that this area has the highest raptor concentrations in the state". The Department of Fish and Wildlife are currently conducting a study on the Hodges/Donley and Hockenson's properties. Not only will air traffic in the area disturb the wildlife and the residents, it could endanger the potential guests and staff. Could we get clarification of the specific proposed use of aircraft with this project? Are both Helicopters and float planes proposed. Why isn't the helipad located in the proposed housing area of this project?

Many of us have lived here for decades. Living in a beautiful rural area, one becomes a steward of the land. You become part of it. Maha purports to have the same goals at heart. I hope that we can work together to find a reasonable solution to our concerns and our safety, and life style are not compromised.

Signed:

	Printed Name Bill & Gail Wright	Address 19491 Butts Cyn Rd	
	Printed Name Judson Hodges	Address 19750 Butts Cyn	
Rebecca Pledger	Printed Name Rebecca Pledger	Address 19455 Butts Cyn Rd	
	Printed Name Randy Pledger	Address 19455 Butts Cyn Rd	
	Printed Name JENNIFER CISI	Address 19536 BUTTS CYN RD	

Printed Name SALLY BECKNER Address 19648 Butts Canyon Rd

Printed Name SUSAN M STEWART Address 19648 Butts Canyon Rd

Printed Name JEFFREY GRIFFIN Address 19467 Butts Canyon Rd Middletown CA 95461

Printed Name Lauren Fuller Address 21125 Loconoma Rd. Middletown, Ca 95461

Printed Name Arlene Hockarson Address 19298 Butts Canyon Rd Middletown Ca 95461

Printed Name Gail Wright Address 19491 Butts Canyon

Printed Name Robert Donley Address 19750 Butts Canyon Rd 95461

Printed Name Patricia Donley Address 19750 Butts Canyon Rd 95461

Printed Name ~~Connie Hodges~~ Connie Hodges Address 19750 Butt Cyn Rd

Shannon Sanders 19424 Butts Cny Rd.

Date: August 19, 2024

To: County of Lake Community Development

Re: Guenoc Valley Mixed Use Planned Development Project (EIR 24-01)

We, the undersigned, object to the proposed seaplane/helicopter airport at the Guenoc Project. The use of aircraft in an environmentally sensitive area, Dietert Reservoir, will have a damaging effect on the wildlife, create noise pollution and impact public safety. Neighboring residences will be impacted as well by aircraft noise and activity. Flight paths are directly over several homes. See attached Noise Contours 5 and 5.1. This component of the Guenoc Project must be stopped.

Tara Coreen 15723 Young St. Middletown 95461
Sandra Gosbell 16726 Buckhorn Rd 95467
John Jennings 16070 Railroad Dr. Cobb CA 95426
Linda F Jennings 16070 Rainbow Drive, Cobb Ct 95426
ROSE Bay 1741 Anderson Springs Rd. Middletown
FELICIA POE 14700 Airy Creek Rd Middletown CA 95461
Beth Broida 2712 Buckingham Dr. Kelseyville 95451
Rachel Balunsat 18470 Fernwood Rd HVL, 95467
Glennetta Lambert 16241 Pan Rd, Cobb CA 95426
Mary E Daly 17204 Meadow View Dr HVL 95467
Sandra Roberts 10632 Foothill Rd Loch Lomond 95461
CHERI KEMP. 20517 SANTA ROSA AVE 95401
Jim & Raisbeck 18824 Deer Hill Rd. Hidden Valley Lake 95467

From: J Shay <igodwtrust@gmail.com>
Sent: Saturday, August 31, 2024 9:07 AM
To: Lake County CDD - GuenocValleyComments <guenocvalleycomments@lakecountyca.gov>
Subject: [EXTERNAL] Guenoc Valley Project - Question for meeting

Dear Citizens,

Please consider the 'land' above.

I request LotusLand present the map that visually reveals the over head paths of all aviation, since this activity affects our privacy and home value, specifically.

I further request these paths are contracted, so as to not be altered without concenus.

Thank you for your cooperation,

Jennifer Shay

I10-1

To: Senior Lake County Planner Laura Hall
Subject: Request for Information on Worker Housing Locations for the Guenoc Valley Mixed-Use Planned Development Project and Possible Water Table Implications
From: Revs. Julia and Charles Bono of The Rainbow Church of Living Light

Dear Ms. Hall and Whomever Else It May Concern,

We hope this letter finds you well. We are Revs. Julia and Charles Bono, representing the Rainbow Church of Living Light based in Middletown, CA. We are writing to request more detailed information and to express concerns regarding the Middletown worker housing locations and groundwater requirements associated with Parts I and II, as well as any subsequent planned phased developments, of the Maha development project centered in Guenoc Valley, known as the "Guenoc Valley Mixed-Use Planned Development Project." See here: https://www.lakecountyca.gov/1762/Guenoc-Valley-Mixed-Use-Planned-Developm I11-1

Specifically, we would like to know the following:

1. **Number of Sites and Size:** The total number of worker housing sites to be developed near central Middletown, the size of each site, and their planned locations within Middletown.
2. **Number of Dwellings and Occupancy:** The exact number of dwellings planned for each site and the maximum and expected occupancy at each location.

In addition, we are concerned about the potential adverse impact of this development on our community, particularly in light of Middletown's history of devastating wildfires, such as the 2015 Valley Fire. Therefore, we seek detailed information on the following: I11-2

- **Fire Evacuation Plans:** How are fire evacuations being planned for these Middletown worker housing sites? What measures are being put in place to ensure the safety of all of Middletown's residents in case of a wildfire given such a huge planned population expansion?
- **Infrastructure and Facilities:** What provisions are being made regarding parking, traffic flow, and utilities such as water, sewer, and power? Also, how will the greatly increased Middletown population impact local facilities, such as the Senior Center, schools and low-income food distribution services? Finally, how are accompanying infrastructure and facility expansions that may arise from the presence of these Middletown worker housing sites being planned for and funded?

Considering the substantial expansion of Middletown's population that this project appears to intend, we estimate that the population growth could be as high as 33% or more just for Part I of this project based on official documents we have reviewed. This raises significant concerns about the potential social and quality of life impacts on our tightly-knit historical community, which is known for its unique small-town character—a characteristic that many residents deeply value and wish to preserve. We would also like to know if and how the will of local residents has been considered in the planning process, and what steps are being taken to mitigate any negative impacts on our community. I11-3

Furthermore, we question why these worker housing facilities are being placed in or near central Middletown, where they could potentially place an overwhelming burden on local infrastructure and services. It seems more appropriate that these facilities be located at the larger Guenoc Valley site, where the impact could be more effectively managed and funded by the project developers.

I11-3 cont.

Finally, we are concerned about the potential impact of the proposed water well for this large development, planned to be located at the junction of Highway 29 and Butts Canyon Road, just north of Middletown. Specifically, we are worried that this increased water usage could lower the water table in the central Middletown area. Many people in Middletown have made a significant investment in fruit and nut trees and bushes, and we are concerned that a drop in the water table could prevent these plants from accessing the groundwater they need to thrive without regular watering, which is both expensive and time-consuming.

I11-4

We appreciate your attention to these concerns and look forward to your prompt response. Your insights will greatly assist us in understanding the implications of this development on our community and in planning for the future.

Thank you for your time and consideration.

Sincerely,

Revs. Julia and Charles Bono
The Rainbow Church of Living Light
P.O. Box 1408, Middletown, CA
(707) 881-7573 (vm and text)
rainbowchurchoflivinglight@gmail.com

From: Aukai Manson <cmanson17@alumni.punahou.edu>
Sent: Wednesday, September 4, 2024 9:47 AM
To: Lake County CDD - GuenocValleyComments <guenocvalleycomments@lakecountyca.gov>
Subject: [EXTERNAL] Public Comment on the Guenoc Valley Development Project

Dear Community Development Department,

I am writing to express my strong opposition to the proposed Guenoc Valley luxury resort and residential community development. Despite the recent revisions, the project continues to pose significant threats to both the environment and public safety, particularly due to the extreme wildfire risk and the environmental sensitivity of the proposed area.

Fire Safety Hazard

The location of the proposed development in a high-severity fire zone raises severe concerns. While the developers have included measures such as exterior sprinklers, underground utilities, fire breaks, and an on-site fire station, these additions are insufficient to mitigate the inherent risks of placing over 4,000 new residents in a wildfire-prone area. The Valley Fire and LNU Complex Fire, which both burned parts of the project site, serve as stark reminders of how quickly and catastrophically wildfires can spread in this region. I12-1

Even with the newly added evacuation route and enhanced road configurations, the increased population density would strain the area's already limited evacuation infrastructure, potentially putting lives in danger. The revised evacuation plan does not adequately address the challenges posed by fast-moving fires in this landscape, especially given the area's history of severe wildfires. The risk of ignition, combined with difficult evacuation logistics, makes this project inherently dangerous.

Environmental Impacts

In addition to fire risks, the proposed development would have devastating environmental consequences. The area is home to sensitive species, protected Blue oak woodland, and numerous waterways and riparian areas. The introduction of a large-scale luxury resort and residential community threatens the delicate balance of this ecosystem. I12-2

The destruction of natural habitats for construction, coupled with the water demands of the development, could irreparably harm local wildlife and strain water resources. Water supply issues have already been insufficiently addressed, and the cumulative impact of this development on local resources remains a significant concern.

Inadequate Revisions

While the developers have made some changes in response to legal challenges, the core issues remain unresolved. Simply shifting the location of certain residential units and adding fire-resistant buffers does not change the fact that this project would place thousands of people in harm's way and lead to significant environmental degradation. The minimal revisions fail to address the broader implications of such a large-scale development in a remote, ecologically sensitive area. I12-3

Conclusion

Given the undeniable wildfire risks and the significant environmental impacts, I urge you to reject this project. No amount of modifications can change the fact that this development is unsuitable for the location. The risks to human life and the environment far outweigh any potential economic benefits. I strongly recommend that this project be permanently halted to protect both the people and the natural landscape of the Guenoc Valley.

I12-3 cont.

Sincerely,
Aukai Manson

From: Julia Bono <juliabono1@yahoo.com>
Sent: Thursday, September 5, 2024 10:54 AM
To: Laura Hall <Laura.Hall@lakecountyca.gov>
Subject: [EXTERNAL] RE: FW Email from Guenoc Comments

Thank you Laura. When can we reasonably expect to have these questions responded to in the PREIR? Also, FYI we found it very challenging to sort through all of the hundreds of pages of documents to find information specifically relevant to these proposed central Middletown developments, so having a more focused information pack for the people, service organizations and businesses of Middletown would be helpful. We also do not think the people of Middletown have been adequately warned about the potential adverse implications of vastly increasing the small town's population with the planned central Middletown housing, nor does it yet seem that they will be adequately compensated by the overall Guenoc project for such consequences. Sincerely, Revs. Julia and Charles

I13-1

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Marin and Napa Counties
Pacific Gas & Electric

JOANNE WEBSTER
President & CEO

KATE MURRAY
CAO

NORTH BAY LEADERSHIP COUNCIL

I14

September 5, 2024

Community Development Department
255 N. Forbes St.
Lakeport, CA 95453

RE: Support for the Guenoc Valley Development Project

Dear Director Turner:

On behalf of the North Bay Leadership Council (NBLC), I am writing to express our strong support for the Guenoc Valley Project. NBLC represents the leading employers in the North Bay with collectively over 100,000 employees. As an organization dedicated to generating economic growth and opportunity in the greater North Bay Area, we believe that this project is critical to securing a sustainable economic future for Lake County and the surrounding regions.

The Guenoc Valley Project will spur job creation across multiple employment sectors, generating long-lasting economic benefits for the local community, businesses and Lake County residents. These opportunities will be an economic engine for the region, immediately creating well-paying jobs during the project's construction phase, and continuing to employ Lake County residents through ongoing operations.

I14-1

Additional project benefits include workforce training and development programs for local residents to help them grow in their careers. The Guenoc Valley Project's commitment to workforce development will ensure that the benefits to the local community result in long-term career opportunities for residents of Lake County. The project would also serve as a central venue for local commerce, enabling locally owned businesses, resident farmers and artisans to reach a broader customer base and grow their businesses.

Furthermore, the uptick in economic activity brought about by the Guenoc Valley Project will lead to a substantial increase in tax revenue for Lake County, and these funds will play a critical role in supporting essential Lake County public services such as education, infrastructure improvements, public safety, and healthcare.

In addition to the many economic and community benefits, the Guenoc Valley Project will support increased fire safety and resiliency in the region. Wildfire mitigation measures in the project's design – including new early wildfire detection systems, active year-round fuel load management throughout the project site and strategic fire breaks – will make the area safer and more resilient than it is today.

Our organization strongly believes that the Guenoc Valley Project will serve as catalyst for sustainable growth and economic prosperity in Lake County. We support this project.

Sincerely,

Joanne Webster, President & CEO

775 Baywood Dr., Suite 101 ● Petaluma, CA 94954
707.283.0028 ● Fax: 707.763.3028 ● www.northbayleadership.org

Keith Woods Professional Services
4774 Carissa Ave. Santa Rosa, CA 95405
(707) 799-1177 KAWoods1022@gmail.com

September 6th, 2024

Mireya Turner
Director, Lake County Community Development Department
255 Forbes St.
Lakeport, CA 95453

Hi, Mireya:

I'm Keith Woods, former Chief Executive Officer of the North Coast Builders Exchange, which as I think you know is a contractor's association in the North Bay. We had several members in Lake County when I was CEO from 2000-2021 and while I currently live in Santa Rosa, I have a long-standing fondness for Lake County and a special interest in the economic future (and potential) of your beautiful area.

I have been following the news about the proposed Guenoc Valley project and wanted to take a few minutes to tell you how excited I am to see that this could be happening in Lake County. I always hoped that a development as significant as this would finally come to Lake County and it looks like it has.

After reading the recent article in the Santa Rosa Press Democrat on the project, I looked into it further and can't believe the positive impact this would have on a County whose residents deserve something of this quality. For years at the Builders Exchange, I was hoping that someday in Lake County there would be a major, high-quality development that would create not only hundreds (or potentially thousands) of construction industry jobs, but opportunities for other jobs in the area as well. I15-1

Unless my understanding of the project is wrong, there will be really positive effects on existing local businesses, some additional badly-needed revenue for local governments, new housing for a County that has been hoping for that to happen for years, and most likely a big boost for tourism. I couldn't be happier.

I would be surprised if there aren't detractors who oppose the project – there always are, and their concerns have to be heard. But I hope the decision-makers in Lake County will see that the benefits far outweigh any perceived drawbacks. As I said, back in my NCBE days I always dreamed that Lake County would have something like this come along and finally it has. The County is probably around 70,000 population by now and I really believe these citizens deserve what it seems like this Guenoc Valley project will do for the quality of life, the economy, and the image of Lake County. (I bet you would have enjoyed having something like this come along when you were in the Planning Department in the City of Ukiah.)

Anyway, as Chairman of the "Lake County Fan Club – Sonoma County Chapter" I wanted to tell you that I'm rooting for my Lake County friends to have something this positive happen. Let me know if there is anything I can do to lend my support.

Keith Woods

From: Joan Bunce <joanbunce@gmail.com>
Sent: Sunday, September 8, 2024 5:56 PM
To: Lake County CDD - GuenocValleyComments <guenocvalleycomments@lakecountyca.gov>
Subject: [EXTERNAL] Guenoc Valley Development

My name is Mary Joan Bunce. My husband and I had 1400 acres of land with some seven parcels on Jerusalem Grade Road and some on Grange Road. We are surrounded by the Guenoc property.

Our water comes from Bucksnort Creek which I believe is fed by Detert Lake. A few years ago the supply was blocked by Guenoc. The State Water Resources Board corrected this situation after they learned of the matter in our annual report.

My husband had been injured in 2017 and we moved to Napa for medical reasons. Prior to that time, the property was our main home from 1994. However I brought him to the property on weekends until late 2019. He passed away on February 13, 2020. Unfortunately, since moving to Napa, having the estate in probate until July 31, 2024 and my ongoing cancer treatments, we have been unable to keep up on the development activities. I did subscribe to the Record Bee a few years ago but otherwise had no idea of the development activities.

I16-1

I would like to have some assurance that our water supply will not be interrupted again.

I am hoping the water remains available.

Mary Joan Bunce
2115 West Park Avenue
Napa, CA 94558

joanbunce@gmail.com

From: Arlene Hockanson <ahockanson@yahoo.com>
Sent: Monday, September 9, 2024 10:07 AM
To: Lake County CDD - GuenocValleyComments <guenocvalleycomments@lakecountyca.gov>
Subject: [EXTERNAL] Not in favor!!

I would like it known that as a resident who lives on Butts Canyon for 35 years now I am firmly opposed to this development. I17-1
It will impact our lives as well as the wild life in the valley.
Traffic is already an issue which needs further addressing, Fire routes are not sufficient & will impact those on Grange road & Butts canyon, how will everyone get out onto 29? We do not have adequate police now, we need more officers both CHP & Sheriff! I17-2
I am strongly opposed to them pumping water down butts Canyon as it could deplete the water table for all!! And the county & State as well as PGE have not cleaned up the toxic dump site!!! This water issue should be the first thing addressed before approving any development of this size. It is common knowledge to all who live in the valley that there is no ground water! Guenoc has lakes but pumps water from lake to lake as needed & out of the creeks after the end dates, this is from their employees who see this & I believe not in line with water resources codes/rules. I17-3
Landing on Guenoc lake & flying over our homes Not acceptable !!!! Of course the supervisors don't live here nor the rich who want this, & no not consider what's best for us but only look at the money it could generate! I17-4
Furthermore I am opposed to Chinese run business in the US we should not sell to other countries!

This needs to be stopped!!!

Arlene Hockanson

Sent from my iPhone

Linda Diehl-Darms

PO Box 180
Middletown, CA 95461-0180
(707) 355-4747

September 9, 2024

Community Development Department
255 N Forbes St.
Lakeport, CA 95453

RE: Guenoc Valley Project

To Whom It May Concern:

My name is Linda Diehl-Darms. Thank you for having a community meeting at the Calpine Center to give us the opportunity to ask questions and get clarification. I have been active in the Middletown community for years. I believe the Guenoc Valley Project will be an asset to the Middletown Area and the County of Lake - bringing jobs, tax revenues, and boosting the overall economy. This project will bring much needed funds into our school district, which is struggling. My concern is the project's off-site well on the corner of Butts Canyon Road and Hwy 29. I18-1

The project off-site well is in the Callayomi Valley Water Basin. It states in the EIR (3.9 Hydrology and Water Quality Page 3.9-39) "Operation of the proposed high-capacity groundwater well has the potential to decrease groundwater levels, and impede sustainable groundwater management of the basin. This is considered to be a potentially significant impact".

To mitigate the above impact, it was added to the EIR under 4.0 Mitigation Monitoring and Reporting Plan Section 3.9-3 "The Applicant shall be required to submit annual monitoring reports that provide quarterly groundwater pumping and groundwater level data to the Lake County Health Services Department for the first ten years of use". I am asking that the monitoring as stated in the 3.9-3 Mitigated agreements be changed for this well and any future off-site wells in the Callayomi Valley Water Basin to be in effect for the life of the well(s). I18-2

I strongly suggest that the County officials take a good hard look at the usage of the volume of water this well will take after the 10-year monitoring period. The stipulations the County sets forth for this well will follow the property and whomever owns the property in the future will be free to move as much water as they want as often as they want. Are we going to assume if there are no problems in that ten (10) year window that the draw will remain the same and that the basin can withstand the draw with no ill effects to the water table indefinitely? We have history in California regarding the idea that there is an endless supply of water. Take a look at the San Joaquin and Sacramento Valleys where the land is sinking because the aquifer is receding as a result of too much water being drawn from it.

Are we going to wait until there is a problem for the residents in the valley or with the Middletown water supply? There is a plume of untreated waste in the ground water from a monitored closed Geothermal waste site headed down valley toward Middletown in the Callayomi Valley Water Basin. Currently, there are several homes down from this plume that have private wells for their water supply. We have been told by those who monitor this that the plume has not moved substantially with the usage of these private wells, no one knows if the Guenoc Valley Project off-site well's sphere of influence could potentially move this plume into residents' drinking water supply. I18-3

I am asking those who have the authority to make decisions concerning the off-site well or future wells proposed on the Corner of Butts Canyon and Hwy 29 to please protect the Callayomi Valley Water Basin by changing the monitoring stipulations in 3.9-3 from ten (10) years to the life of the well(s).

Respectfully submitted,

Linda Diehl-Darms
707-355-4747

From: Linda Darms <pinkywink05@gmail.com>
Sent: Tuesday, September 10, 2024 10:03 AM
To: Lake County CDD - GuenocValleyComments <guenocvalleycomments@lakecountyca.gov>; Mireya Turner <Mireya.Turner@lakecountyca.gov>
Subject: [EXTERNAL] Sorry - One More Comment

Hi:

This is Linda Diehl-Darms and I have one more comment that I inadvertently left off of my letter. It is the question as to exactly where this water is being pumped to? The EIR says in several places piped to Detert Reservoir/Lake. My concern is that this water is going to be used to keep Detert Reservoir/Lake full and then the water pumped from the Lake to the non-potable water system. If that is the case, then I am adamantly opposed to this off-site well. I believe in property rights of ownership: however, wells on properties are used for the property's use and not piped to another location without County permitting - At least, that is my understanding.

I19-1

I have lived in this area and driven past this reservoir from my family ranch for over 30 years. This reservoir was used for irrigation only and this time of year the level is usually way below half full regardless of the rainfall and in drought years almost empty. Lake Berryessa which is close to this property as the crow flies loses 80" a year in evaporation alone. I have noticed that this year, Detert is way more than half full. Is this to give the illusion that Detert stays at this level year round naturally because the EIR is under review and the plan is to use the off-site well to keep Detert full?

Please clear this question up for me. I hope the County is not willing to take water from the Callayomi Valley Water Basin to keep Detert full. The volume of water would be astronomical.

I am looking forward to clarity regarding this question.

Respectfully,

Linda Diehl-Darms
707-355-4747

276 Ranch LLC
PO Box 433
Middletown, CA 95461
Attn: Peter Luchetti
(415) 710-0906

September 10, 2024

Guenoc Valley Comments
Community Development Department
255 N. Forbes St.
Lakeport, CA 95453

Attn: Senior Planner Laura Hall

Submitted via email: guenocvalleycomments@lakecountyca.gov

Dear Ms. Hall,

The Luchetti Ranch (276 Ranch LLC) is directly adjacent to the Guenoc Ranch, as identified by the parcel descriptions below. The Luchetti family has owned this ranch since 1970, producing 130 head of beef cattle annually on prime agricultural land for 54 years. For the past 13 years, the ranch has operated as an organic cattle ranch.

I20-1

Luchetti Ranch Parcel Identification

The Luchetti family owns the following parcels in the name of 276 Ranch LLC, adjacent to the Guenoc Valley Project. The 21565 and 21333 Grange Road parcels. Additionally, the Luchetti family owns two contiguous parcels with APNs 030 and 040 on Yankee Valley Rd.:

- APN 014-400-030-000, 21565 Grange Rd.
- APN 014-400-040-000, 21333 Grange Rd.
- APN 144-171-090-000, 21613 Yankee Valley Rd.
- APN 144-171-080-000, 21631 Yankee Valley Rd.

Notice of Availability of a Partially Revised Environmental Impact Report (EIR 24-01), For Guenoc Valley Mixed-Use Planned Development Project, Middletown
Draft Partially Revised Environmental Impact Report ("Draft PREIR")

The Luchetti family wishes to comment on two elements in the PREIR.

I20-1 cont.

General Comment

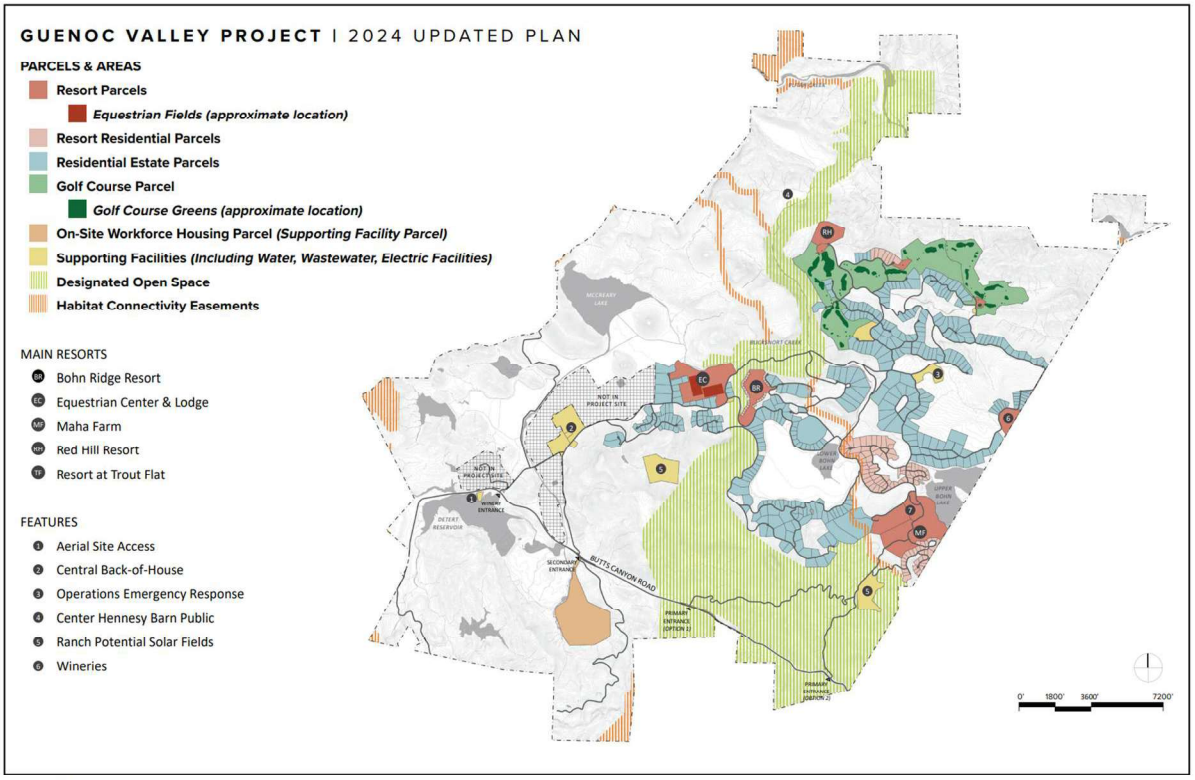
The Luchetti family (276 Ranch LLC) is very familiar with the Guenoc Valley project, as it has been under development for many years. The Luchetti family strongly supports the project, noting the scope and quality of economic development offered by the Guenoc Valley Mixed-Use Planned Development Project. There is an acute need for this kind of economic development in the South County following the Valley Fire. Middletown has experienced a very slow recovery since the Valley Fire in 2015. It would be highly beneficial to Middletown and surrounding communities in the South County to see the Guenoc Valley Mixed-Use Planned Development project move forward in a timely manner.

Specific Comments

1. **Development Area**

Referring to the development area outlined in Figure 2-1, a significant portion of the area to the northwest, towards the original Guenoc Ranch farm center and McCreary Lake, is shaded in white, suggesting it is not being developed at this time. However, this area is within the Guenoc Valley Project Area, indicating it may be eligible for future development under terms and conditions that are not entirely clear to the Luchetti family.

I20-2



Source: SWA Group, 2024

FIGURE 2-1

PROPOSED PROJECT SITE PLAN WITH MODIFICATIONS

The Luchetti family is concerned about the prospect of being wedged between two large, high-impact developments—Hidden Valley and Guenoc Valley—which are comparatively high-density relative to the historical context of the area. This reflects a material change in land use from the designations in the Lake County General Plan. The Luchetti family requests a formal dialogue regarding the designation of a larger portion of the white-shaded area as 'designated open space' or 'designated agricultural land,' providing a buffer zone that ensures the preservation of habitat and agricultural land uses between Hidden Valley and the Guenoc Valley Project. The Luchetti family believes that the proposed buffer zone is necessary to ensure an appropriate balance between the type of development proposed by the Guenoc Valley Project, and which defines Hidden Valley land use, versus the rural agricultural land use that has been typical of the area for over 100 years. The Luchetti family is available to discuss this concept at the earliest convenience of the developer and the county. I20-3

2. **Grange Road Connector - Emergency Ingress and Egress in an Emergency (e.g., a wildfire)**

Referring to Figure 3-4, which illustrates the Grange Road connector emergency ingress and egress in the event of a wildfire, the Luchetti family is concerned. I20-4

Table 3.4-2: Evacuation Trips for Community and Project Phases

Group	Unit Type	Quantity	Trips Generated
Community Population			
Primary Households	Dwelling Units	4,455	7,735
Secondary Homes	Dwelling Units	1,214	1,457
Hotels	Hotel Rooms	123	105
Employees at Work (live and work inside Evacuation Area)	Persons	1,591	1,591
Employees at Work (work inside but live outside Evacuation Area)	Persons	1,240	1,240
Employees at Work (live inside but work outside Evacuation Area)	Persons	1,414	1,414
	Sub-Total	**10,037**	**13,542**
Project Phase 1			
Residential Estate Units	Dwelling Units	385*	659*
Resort Residential Units	Dwelling Units	141	141
Hotels	Hotel Rooms	147*	103*
Employees**	Persons	610	610
Visitors	Persons	100	83
	Sub-Total	**1,383***	**1,569***
Project Full Build-Out (including Phase 1)			
Residential Estate Units	Dwelling Units	1,400	2,394
Resort Residential Units	Dwelling Units	450	450
Hotels	Hotel Rooms	400	280
Employees	Persons	1,220	1,220
Visitors	Persons	200	167
	Sub-Total	**3,670**	**4,511**

Notes:
*The Wildfire Evacuation Assessment analyzed 401 residential estate units (16 more than the 385 estates that are proposed) and 127 hotel rooms (20 less than what is proposed). The Supplemental Memorandum (February 9, 2024, **Appendix H-2**) corrected the residential estate and hotel rooms.
**Workforce Co-Housing is included with Employees.
Source: Fehr & Peers (**Appendix H-1** and **Appendix H-2**)

I20-4 cont.

The Luchetti's were catastrophically impacted by the Valley Fire in 2015, experiencing significant property losses and loss of livestock, estimated at $3.5 million. While the Luchetti family recognizes the necessity of establishing the Grange Road Connector for life safety and property protection, they share the valley with the Comstock family and others, who rely on this route for daily ingress and egress, particularly during emergencies.

In the event of a significant evacuation, Grange Road, in its current state of disrepair, would be severely constrained in accommodating a large volume of traffic, potentially representing thousands of trips generated in a matter of hours (refer to Table 3.4-2). The Luchetti family requests an open dialogue with the county and the developer to address the following topics:

- The need for a more complete definition and disclosure of the exact route being developed from the main road in the Guenoc Valley Project to Highway 29 via the Grange Road Connector and county roads (Grange Road) that define the emergency route. Some areas are undeveloped today, while others are served by primitive ranch roads that connect to Grange Road.
- The potential routing of the connector, along with the Grange Road (County Road) portion represents approximately 7.7 miles of thoroughfare ultimately connecting to Highway 29.

I20-4 cont.



- With significant upgrading and improvement needed for Grange Road and existing ranch roads, which the Luchetti family and many other parties along the route rely on for daily ingress and egress, and which are critical during emergencies.
- Specific attention to accommodating inbound and outbound traffic flow during emergencies. While Guenoc Valley Project community members are evacuating,

I20-4 cont.

it is equally important that first responders (Southern Lake County Fire District, Cal Fire strike teams, PG&E, and law enforcement) can enter the fire zone unimpeded. The use of the Grange Road Connector must not impede other property owners from protecting their safety and property during a major wildfire event.

- The development of a mutual-cooperation agreement between the Guenoc Valley Project and surrounding property owners (including but not limited to the Luchetti family) to effectively collaborate during natural disasters. During the Valley Fire (2015) and LNU Complex Fire (2020), it became clear that help was not going to reach the ranches in time. The Luchetti Ranch has since been reconstructed in a fire-resilient manner and is now better equipped to protect property and participate in the broader emergency response. Recognizing that every available resource must be part of the response in extreme events, the Grange Road and the Grange Road Connector are collective lifelines, and meaningful dialogue is needed on how to accomplish this level of mutual cooperation.
- The PERI is vague on these points. The Grange Road Connector is not precisely defined, and while better definition is expected in time, the Luchetti family wants to ensure that the County and the Developer are aligned in satisfactorily resolving what will become a critical life safety asset for everyone in the Guenoc Valley and neighbors like the Luchetti and Comstock families and all who live on Grange Rd. The Luchetti family requests an open dialogue to define a well-structured agreement for the development and operation of the Grange Road Connector.

I20-4 cont.

Thank you for your attention to these concerns. The Luchetti family looks forward to engaging in further discussions on these matters.

Sincerely,



Peter Luchetti
276 Ranch LLC (Luchetti Ranch)

From: Ruby Mitts <Ruby.Mitts@lakecountyca.gov>
Sent: Wednesday, September 11, 2024 1:02 PM
To: Laura Hall <Laura.Hall@lakecountyca.gov>
Subject: RE Comment received for Guenoc - I saved in Guenoc Folder under Public Comment

Arlene Hockanson <ahockanson@yahoo.com>

I was at the meeting last night.
First I was present at a meeting with Kevin at Judd Hodges home, there were 5 of us who all heard him say that they don't t plan to land on the lake and likely never will, so why can't it be deleted from the plans? he also said Yes! when I asked if we could all tap into the water if it came down Butts Canyon. Last night he denied saying this which is a lie & shows they can not be trusted!
The housing for employees should be at Guenoc or at their property on 29 & Butts Canyon and should Not have 5 rooms & shared kitchen etc. This is not how any long term employee would want to live & is a college dorm style. People will be trained & leave to work elsewhere creating constant turn over of employees. They need small apartments for people to have a home in which to live long term. They also told us before the meeting they were bringing in Asian workers to train the staff , why not locals?
The water should absolutely not be owned by them or run down Butts Canyon & regulated by our water district as pointed out by several last night. This should be your #1 concern!
Their escape plan and flight plans all need to be rerouted away from our homes & fire exits should head East away from HVL/Middletown/Grange Rd. Our roads are already over crowded in a fire evacuation.
The whole plan is not in favor of helping the community but only to disturb homeowners and possibly ruin the quiet valley we all have lived in for years. It is designed to benefit the rich and nothing more!
Please re-think this as there will likely be law suits if we loose our water or worse it is contaminated!

I21-1

Arlene Hockanson

Sent from my iPhone

NORTH COAST BUILDERS EXCHANGE
1030 APOLLO WAY • PO BOX 8070 • SANTA ROSA, CALIFORNIA 95407
(707) 542-9502 • FAX (707) 542-2027 • WWW.NCBEONLINE.COM

September 9, 2024

Community Development Department
255 N. Forbes St.
Lakeport, CA 95453

RE: Letter of Support, Guenoc Valley Project

Dear Leaders,

,

The North Coast Builders Exchange is writing to express our strong support for the Guenoc Valley Project. As an organization dedicated to generating economic growth, building a strong construction workforce and opportunity in our region, we believe that this project will be critical to securing a sustainable economic future for Lake County.

The Guenoc Valley Project presents an opportunity to create lasting economic benefits for the local community by creating much-needed jobs and providing new opportunities for Lake County businesses and residents. The project will be an economic engine for the region, immediately creating well-paying jobs during its construction phase and continuing to employ Lake County residents through ongoing operations. The project would also serve as a central venue for local commerce, enabling locally owned businesses, resident farmers and artisans to reach a broader customer base and grow their businesses.

Additionally, the increase in economic activity brought about by the Guenoc Valley Project will lead to a substantial increase in tax revenues for Lake County. These new funds brought about by the project will play a critical role in supporting essential public services such as education, infrastructure improvements, public safety, and healthcare. I22-1

Beyond job creation and revenue generation, the Guenoc Valley Project will implement workforce training and development programs that will directly benefit local residents and help them grow in their careers. This commitment to workforce development will ensure that the benefits of this project extend beyond economic growth and result in long-term career opportunities for members of our community.

In addition to the many economic benefits this development will bring, the Guenoc Valley Project will support increased fire safety and resiliency in the region. Wildfire mitigation measures in the project's design – including new early wildfire detection systems, active year-round fuel load management throughout the project site and strategic fire breaks – will make the area safer and more resilient than it is today.

We are confident that this project will serve as a catalyst for sustainable growth and prosperity in Lake County while keeping Lake County residents safe and we strongly support this project moving forward.

Sincerely,

Lisa Wittke Schaffner
Chief Executive Officer

9-9-2024

Thank you for this opportunity to comment on the Guenoc project. I will briefly list my questions and concerns.

A Department of Transportation (DOT) paper on Traffic Operations at Roundabouts discusses capacity and three performance measures that determine the performance at roundabouts which are degree of saturation, delay, and queue length. The roundabout at Hartman can exceed its capacity during wildfire evacuations. This can result in performance issues. Reportedly when the degree of saturation exceeds 0.85 range the operation deteriorates, queues form and "delay begins to increase exponentially".
The DOT paper also discusses Geometric delay which is the reduction in speed necessitated by the design of the roundabout.
https://www.fhwa.dot.gov/publications/research/safety/00067/000674.pdf

I23-1

One of the lessons learned from the Paradise Fire was the impact of hardened infrastructure on traffic during wildfire evacuations. A major route had been reduced from 4 lanes to 2 lanes (plus a turn lane) as a traffic safety measure in order to reduce speed for safety. Bulbouts and other hardened designs reduced the available road width. This caused congestion and was cited as the cause of death during the fire.
Doesn't a roundabout function as hardened infrastructure with a geometric design that forces reduced speeds?
https://www.latimes.com/local/california/la-me-ln-paradise-evacuation-road-20181120-story.html

There is another roundabout planned for Butts Canyon and Highway 29 which may further impede wildfire evacuation traffic. What will be the impacts of 2 roundabouts in close proximity during a wildfire evacuation?

I23-2

I haven't been able to find any studies, research papers, or citations specifically on roundabout evacuation performance during wildfires. Are there any?

Is the computer system used to analyze the performance of the evacuation able to accurately address the complex issues facing roundabouts in a wildfire evacuation?
Are there better products available?

I23-3

Grange road exit is proximate to the roundabout at Hartman road in Hidden Valley. Doesn't this allow the traffic from the Project to jump ahead of traffic from Middletown?

Guenoc has an opportunity to design an exemplary model of fire safety. No issues should be overlooked before it begins.

I23-4

Thank you,

Ann Hackett

From: Danielle Zalusky <daniv.zalusk@gmail.com>
Sent: Wednesday, September 11, 2024 3:24 PM
To: Lake County CDD - GuenocValleyComments <guenocvalleycomments@lakecountyca.gov>
Subject: [EXTERNAL] Comments on the DPREIR for the Guenoc Valley project

To Whom it May Concern,

I was unable to attend the meeting at the Calpine Geothermal Center this week. I have a few questions and comments, as follows:

1. Is a construction bond being required? Construction bonds should be required for all phases of development for any large project and this is a project of significant scale. I was a planner with Lake County for many years and having a bond was essential when we had a golf course project that did massive grading then went out of business. I24-1

2. Regarding evacuation to Highway 29 in case of a fire – will a signal be in place at Butts Canyon Road and Highway 29 before occupancy? Has Napa County commented on evacuees traveling south on Butts Canyon Road to Pope Valley? I24-2

3. Have there been changes to the design of the project, particularly in regard to the locations of some of the residential lots? It appears that some lots are still on or near the wildland-urban interface with no buffers from potential off-site fires. Small buffers within individual lots that must be maintained by individual owners are not adequate. As someone who has had to evacuate from a large fire in this county (Valley Fire), I am very concerned about the risks to future residents and vacationers, who may be unfamiliar with wildland fire concerns and our road systems, as well as to the current residents who would be sharing the evacuation routes with a large number of additional people. I am aware that a new wildfire evacuation assessment report has been prepared but I am not confident that it is adequate. As I am writing this letter I am hearing planes over my head on the way to a fire in the Riviera, just after the destructive fire in Clearlake this past weekend, which are a reminder that we should be very cautious when approving new development in Lake County. Such a large and dense development as the proposed project in a fire-prone area of a fire-prone county is a big concern to me and probably many residents. I24-3

Thank you for your time.

Danielle V Zalusky
1905 Westlake Drive
Kelseyville, CA 95451

From: Helen Owen <votehelenowen@gmail.com>
Sent: Wednesday, September 11, 2024 4:05 PM
To: Lake County CDD - GuenocValleyComments <guenocvalleycomments@lakecountyca.gov>; Mireya Turner <Mireya.Turner@lakecountyca.gov>
Subject: [EXTERNAL] Guenoc Project Issues

To Whom It May Concern,

My name is Helen Owen. I am currently running for the Lake County District 1 Board of Supervisors seat. I was born and raised in Middletown. My daughter and her family live in the Hidden Valley Lake Community. I also own and operate the Owen Ranch which is an equestrian ranch north of Middletown and near Hidden Valley in Coyote Valley address: 18585 Guenoc Lane, Middletown.

I believe that the Guenoc Valley Project in Middletown can be of great benefit to Lake County. It will offer tax revenue and jobs among other benefits. However, I do have some issues that I believe should be addressed for the betterment and safety of all of the communities surrounding this project. I25-1

Background: As I understand, the Lake County Board of Supervisors certified their EIR in July 2020. This Approval was challenged by the Attorney General on January 4, 2022 and the EIR was rescinded by the Lake County Board of Supervisors on June 14, 2022. At this time, the entire EIR was rescinded and the entire EIR must be resubmitted to the Lake County Board of Supervisors for approval. This gives a legal argument to address the entire EIR.

Given the above facts, I request that the public be given the proper time to respond to the entire EIR because the County has asked the public to only comment on the portion that the Attorney General challenged. Supporting this project as well as protecting the communities and people around the project is imperative. Below are my concerns:

1. My biggest concern is the off-site water exportation from within the Middletown Area Growth boundaries. Per the EIR this water is to be transported by pipeline to Detert Lake. I have asked the question twice now as to where the water will be stored and what it will be used for. This question has not been completely answered. At the meeting held Monday, September 9, 2024 held at the Calpine Center, Mr. Kevin Case stated that the water will be pumped into Detert Reservoir to keep it full. This is a huge issue for several reasons:

A. The evaporation loss from the lake storage will be significant. However, if the water is left in the Callayomi aquifer the water will be protected and not experience the evaporation loss. I25-2

B. Transporting the water from within the Middletown growth boundaries, 6.5 miles east to the Guenoc Project can risk the lack of water needed to sustain Middletown and its future growth. It can and may also lower the water table enough that surrounding wells in the Middletown and Butts Canyon Road area can be affected and/or possibly run out of water entirely.

C. The GI Wastesite Plume is a big concern. By pumping the large volume of water from the Middletown area, it can affect the hazardous waste plume at the GI/PGE site on Butts Canyon Road. This plume could move to contaminate nearby water wells in the area and or possibly contaminate the entire Callayomi Water Aquifer. This is not worth the risk.

Solution: As the Guenoc EIR has found ample water to sustain their project with the current amount that they have on site, I do not believe that the Middletown off-site well is necessary. Furthermore, the Guenoc Ranch owns far more water than they will need. If a redundant or emergency water supply is necessary, the Callayomi County Water District is willing to enter negotiations to purchase the well and supply the water in the event that the Guenoc Valley Project should need it. This would allow the homes down Butts Canyon Road to hook up, if needed.

I25-2 cont.

2. The proposed emergency exit using Grange Road is too close to the large population of Hidden Valley Lake should an emergency evacuation be warranted. This community experienced severe congestion as a result of the Valley Fire of 2015 - Vehicles were backed up and traffic was stopped for miles throughout Hidden Valley Lake. The volume of traffic to be using the emergency evacuation routes entering Hwy 29 will require major improvements to Hwy 29.

I25-3

3. I want to ensure that there is language included in the EIR stating purchasing of goods and services would be bought in Lake County and hiring will be done locally as much as possible.

I25-4

Thank you for noting my concerns, I look forward to hearing the changes made as a result of the public comments.

Respectfully submitted,

Helen Owen
707-355-0121

CALIFORNIA NATIVE PLANT SOCIETY
2707 K Street, Suite 1, Sacramento, CA 95816-5130 (916) 447.2677 www.cnps.org
Protecting California's native flora since 1965

Sept 11, 2024

County of Lake
Attn: Laura Hall, Senior Planner
244 N. Forbes Street
Lakeport, Ca 95453

Submitted via email to: laura.hall@lakecountyca.gov, guenocvalleycomments@lakecountyca.gov

Re: California Native Plant Society Comments on Guenoc Valley Mixed-Use Planned Development Project DPREIR

Dear Ms. Hall:

Thank you for the opportunity to comment on the Guenoc Valley Mixed-Use Planned Development Project Draft Partially Revised Environmental Impact Report (DPREIR). The following comments are submitted on behalf of the California Native Plant Society (CNPS) and the CNPS Sanhedrin Chapter. CNPS is a non-profit environmental organization with more than 13,000 members in 36 Chapters across California and Baja California, Mexico. CNPS's mission is to protect California's native plant heritage and preserve it for future generations through the application of science, research, education, and conservation. We work closely with decision-makers, scientists, and local planners to advocate for well-informed policies, regulations, and land management practices. The CNPS Sanhedrin chapter membership is composed of land managers, plant scientists, both amateur and professional and has supported the CNPS mission in Lake County and inland Mendocino County since 1981.

I26-1

We are concerned that several rare species with the potential to occur on the project site were excluded from the analysis, that the survey report was not adequate to disclose the results of the surveys, and that mitigation measures were not updated to reflect new information and would be insufficient to ensure the long-term mitigation of project impacts.

Consideration of Rank 3 and 4 Rare Plants

Fifty-seven Rank 3 and 4 rare plants with the potential to occur on the project site were not analyzed for impacts. While these rankings do not automatically qualify these species for consideration under CEQA § 15380 and §15125 (c), impacts to these species should be evaluated to determine whether they need to be analyzed in CEQA documentation. Section 5.1.1 of the PREIR, Terrestrial Land Cover, states in footnote 12 that CNPS Rank 3 and 4 are not considered to be special status in this assessment, and to see section 7.1 for further discussion of Rank 3 and 4 species. Section 7.1 of the PREIR discusses Rank 4 species but makes no mention of Rank 3 species. This section erroneously states that "Rank 4 species are not considered threatened or endangered and are not afforded federal, state, or local protections." Section 15125 (c) of CEQA states that "Knowledge of the regional setting is critical to the assessment of environmental impacts. Special emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project. The EIR must demonstrate that the significant

environmental impacts of the proposed project were adequately investigated and discussed, and it must permit the significant effects of the project to be considered in the full environmental context." This provision of CEQA does require that species be considered for impacts if they are regionally rare, even if not considered rare statewide. This is especially important for disjunct populations or populations at the edge of their natural range that may be genetically distinct. List 3 species "are united by one common theme – we lack the necessary information to assign them to one of the other ranks or to reject them." and "Many of the plants constituting California Rare Plant Rank 3 meet the definitions of the California Endangered Species Act of the California Fish and Game Code and are eligible for state listing. Impacts to these species or their habitat should be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they may meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380."[1] The PREIR does not address why none of the rank 3 species were considered for impacts and was insufficient to justify that all rank 4 species are exempt from CEQA analysis. I26-1 cont.

Botanical Survey Report Adequacy

The description of the methodology for botanical surveys provided in the DPREIR is insufficient to determine if surveys were performed in a manner that accurately establishes the project site's baseline conditions. The California Department of Fish and Wildlife's (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (Protocols)[2] makes several recommendations not only for survey protocols but also for information that should be included regarding the documentation of the surveys. The following should have been included in the Biological Resources Assessment and PREIR: I26-2

- The names and qualifications of the surveyors;
- The dates and locations of surveys, names surveyors on each date, and person hours spent on each date;
- Description of the reference sites used and phenology of target plants at reference sites;
- Description and map of the area surveyed relative to the project area;
- A discussion of how climatic conditions may have affected survey results;
- A discussion of how timing of surveys may have affected survey results;
- A discussion of the potential for a false negative survey;
- 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; and
- A discussion of the degree of impact, if any, of the project on unoccupied, potential habitat for

[1] California Rare Plant Ranks, California Native Plant Society, https://www.cnps.org/rare-plants/california-rare-plant-ranks#:~:text=California%20Rare%20Plant%20Ranks%20(CRPRs,rarity%20in%20the%20California%20flora, accessed 08/27/2024

[2] California Department of Fish and Wildlife, Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities, 2018 (rev 2021), https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline

special status plants.

Many annual and herbaceous perennial species may not be present in years without optimal climatic conditions. For these species it is essential that known populations are checked prior to project surveys to ensure that target species would be identifiable during surveys, the use of reference sites is recommended in the CDFW protocols, as is a discussion of reference site checks in the survey report. I26-2 cont.

Areas of Project Site Not Surveyed

The DPREIR states that 55 acres of the project was not surveyed. While this area will be surveyed prior to ground disturbance and any special status-species would be avoided or mitigated for, the location of the areas not surveyed and the reasoning for not surveying these areas should have been disclosed in the DPREIR. This means that the DPREIR fails to establish the baseline conditions for a portion of the project, as is required by CEQA (see Cal. Code Regs. tit. 14 § 15125). This also means that decision makers lack information to evaluate the project's impacts and to make an informed decision. At a minimum, these areas should be surveyed, environmental impacts should be analyzed, and these results should be presented to the public and decision makers in a revised document, prior to the environmental review of this project moving forward. I26-3

Mitigation Measures

Loss of any serpentine habitat as a result of the Project will lead to a net loss of sensitive natural communities and imperiled species that should be avoided. The disturbance and loss of serpentine habitat is not acceptable and remains significant, even with the proposed mitigation measures. Section 4.4.4 of the PREIR on page 126 states that recreation of serpentine rock outcrop habitat is not a feasible mitigation method and mitigation of these habitats would be limited to preservation, restoration, or enhancement. However, an amended version of MM 3.4-15 is not provided in the PREIR, as is for MM 3.4-18 regarding wildfire clearing activities on serpentine habitats. As serpentine habitat is very uncommon and often home to critically imperiled species and sensitive natural communities, this mitigation measure should detail the locations of potential mitigation sites. I26-4

Furthermore, the recipient sites of mitigation actions must be surveyed following CDFW Protocols to ensure that mitigation activities would not have any impacts to sensitive biological resources. Given the prevalence of rare plant populations and sensitive habitats on the project site, it is entirely possible that ground disturbance associated with mitigation activities will cause significant impacts to the same sensitive species they intend to help. These potential impacts have not been analyzed in the DPREIR. Without identifying potential mitigation sites prior to project approval, mitigation actions on serpentine habitats are likely to be ineffective and could be detrimental to critically imperiled species. The language describing potential mitigation for all impacts to sensitive natural communities and rare species needs to be clearly described in a supplement to the PREIR for this project. I26-5

Recreation/establishment of Purple Needlegrass Grasslands, Musk-brush Chaparral, White Alder Grove, and Brewer Willow Thicket habitats as described in MM 3.4-15 are very unlikely to be successful without explicitly describing success criteria and maintenance and monitoring requirements prior to project approval. Given the relatively small footprint that these habitats occupy, we strongly recommend that these habitats be retained and unaltered. If impacts to these habitats continue to be planned, mitigation measures need to be amended to include more specific success criteria for each habitat type and more specific maintenance and monitoring guidelines, as described below, must be implemented. I26-6

Mitigation measures for impacts to special status plant populations and individuals described in MM 3.4-3 are likely to be ineffective as currently written. A review of mitigation related transplantation, relocation, and reintroduction attempts showed that only 8% of these attempts were successful, and that only 33% of projects reviewed included specific success criteria.[3] Another review offers multiple examples of recreated populations failing, even after multiple years of maintenance and monitoring even when multiple receptor sites were used as no receptor site will be identical to the original site and habitat and the soil microbiome for endangered species cannot be duplicated.[4] This review also found that the introduction of transplants can have the potential to damage the ecosystems that they are introduced to and to surrounding environments. Avoidance of special status species should be the standard given the evidence that transplantation, relocation, and recreation are largely ineffective, and the fact that these unsubstantiated mitigation techniques have become widely accepted has led to the loss of countless special-status populations and individuals.

All special status plant species identified in the DPREIR as being impacted by this project are associated with serpentine soils making mitigation especially challenging. *Hesperolinon bicarpellatum* (48.91 acres, 50,277 individuals), *Hesperolinion didymocarpum* (4.42 acres. 16,863 individuals), and *Streptanthus hesperidis* (8.81 acres, 2,531 individuals) are strict serpentine endemics, meaning that greater than 95% of occurrences are found on serpentine substrates. While a larger portion (between 5 and 25%) of *Astragalus rattanii* var. *jepsonianus*, *Erigeron greenei*, *Layia septentrionalis*, and *Sidalcea keckii* populations may stray into surrounding habitat the presence of competition from other species will restrict serpentine endemics from relatively fertile non-serpentine soils.[5] These species would all require suitable serpentine habitat to be identified and surveyed following CDFW protocols prior to project approval to ensure that there would be sufficient habitat available and that there would be no negative impacts to species existing on these habitats for mitigation to have any chance at success. The DPREIR states that creation of serpentine rock outcrop habitat is impractical, and this is also the case for mitigating impacts to serpentine endemic species. Mitigation measures for serpentine endemics should be similar to mitigation for serpentine rock outcrop habitat and be limited to preservation, restoration, or enhancement. This would require the identification and impact analysis of sufficient suitable habitat to preserve, restore, or enhance impacted species at a 2:1 ratio prior to project approval. I26-7

While they should be avoided at all costs any compensatory plantings or transplants should have a species-specific mitigation plan prepared, and this plan should be developed and approved in consultation with CDFW or USFS. As many attempts at compensatory mitigation fail once the term of the mitigation ends or management of the site is concluded, monitoring should continue in perpetuity with contingencies to resume active management if monitoring shows that mitigation sites are failing to meet success criteria. To ensure the long-term success of compensatory mitigation and to avoid potential impacts to recipient sites, the following guidelines should be incorporated into mitigation measures for both special-status plant species (MM 3.4-3) and for habitats and vegetation communities (MM 3.4-15 – 3.4-17):

[3] Fiedler, P.L., 1991. Mitigation-related Transplantation, Relocation and Reintroduction Projects Involving Endangered and Threatened, and Rare Plant Species in California, Final Report. California. Department of Fish & Game. Endangered Plant Program.

[4] Fahselt, D., 2007. Is transplanting an effective means of preserving vegetation?. *Botany*, *85*(10), pp.1007-1017.

[5] Anacker, B.L., 2014. The nature of serpentine endemism. *American Journal of Botany*, *101*(2), pp.219-224.

- Species-specific restoration plans should be developed for all special status plants with the potential to be impacted, including detailed criteria for determining the success of compensatory mitigation.
- Areas identified as potential recipient sites must be surveyed following CDFW Protocols to ensure that compensatory mitigation efforts would not cause harmful impacts to existing botanical resources. Low conflict areas that have been degraded by previous land uses should be prioritized for restoration, leaving intact natural habitat undisturbed by restoration efforts.
- While on site mitigation is preferred, if contiguous acreage to achieve mitigation needs is not present on the project site restoration activities may be implemented offsite.
- Maintenance and monitoring of compensatory mitigation sites should occur each year for the first five years of the mitigation term. After five years of maintenance, yearly monitoring of the site should demonstrate a self-sustaining area of occupation and population numbers with no management actions for years 6-8.
- If monitoring shows stable populations after three years (following the initial 5-year period of annual monitoring) with no maintenance the populations should be monitored every two years in perpetuity.
- If the populations do not demonstrate stability/adherence to species specific success criteria after the initial five year maintenance and monitoring period, after three years without maintenance, or if subsequent monitoring shows loss or decline of populations as determined by the required compensatory mitigation ratio, then yearly maintenance and monitoring shall be resumed for a five year period, again requiring that yearly monitoring show self-sustaining populations for three years post maintenance before returning to a two year, perpetual monitoring cycle.

I26-7 cont.

We do appreciate MM 3.4-18 mandating that fuel reduction activities avoid serpentine habitats when feasible.

In conclusion, a supplemental DPREIR should be prepared to include an analysis of rare species not included in the DPREIR or an explanation of why each of these species was excluded from analysis. This supplemental document should include an expanded description of surveys and discussion of survey results. If this information cannot be provided for existing surveys, additional surveys should be conducted to disclose information not provided in the DPREIR. Mitigation measures 3.4-3 and 3.4-15 - 3.4-18 should be amended to include the addition of serpentine rock outcrop as a sensitive habitat type and to ensure that mitigation for impacts of this project are successful in the long term. Thank you for the opportunity to comment on this project and please contact me if you have any questions.

Sincerely,

Nick Jensen
Conservation Program Director
California Native Plant Society
njensen@cnps.org

Jennifer Riddell
Conservation Chair
California Native Plant Society - Sanhedrin Chapter
jenariddell@gmail.com

California Rare Plant Ranks (CRPRs) are a ranking system developed by CNPS to define and categorize rarity in the California flora. The CRPRs range from presumed extinct species (CRPR 1A) to limited distribution/watchlist species (CRPR 4). Once assigned, all CRPRs are included and available to search in the CNPS Rare Plant Inventory (RPI). Select from the options below to learn each rank's criteria. The RPI Glossary also has full definitions.

California Rare Plant Rank 1A +

California Rare Plant Rank 1B +

California Rare Plant Rank 2A +

California Rare Plant Rank 2B +

California Rare Plant Rank 3 –

Review List: Plants about which more information is needed

Plants with a California Rare Plant Rank of 3 are

necessary information to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting California Rare Plant Rank 3 are taxonomically problematic. For each California Rare Plant Rank 3 plant we have provided the known information and indicated in the "Notes" section of the CNPS *Inventory* record where assistance is needed. Data regarding distribution, endangerment, ecology, and taxonomic validity are welcomed and can be submitted by emailing the Rare Plant Program at rareplants@cnps.org.

Many of the plants constituting California Rare Plant Rank 3 meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for state listing. Impacts to these species or

preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they may meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380.



California Rare Plant Rank 4 +

Threat Ranks

Ranks at each level also include a threat rank (e.g., ,CRPR 4.3) and are determined as follows:

- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

immediacy of threat)

- 0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Notes:

1. The above Threat Rank guidelines only represent a starting point in the assessment of threat level. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are also considered in setting the Threat Rank.
2. Many of the Threat Ranks have not been reassessed since the time they were first designated after implementation of the Rare Plant Status Review Process, and therefore may not represent the current level of threats associated with a given taxon.
3. The Threat Ranks do not designate a change of environmental protections. For instance a CRPR 1B.3 plant has the same environmental protections as a CRPR 1B.1 plant, and it is mandatory that both be fully considered during preparation of environmental documents relating to CEQA.

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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*

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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

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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.

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FINAL REPORT

MITIGATION-RELATED TRANSPLANTATION, RELOCATION AND REINTRODUCTION PROJECTS INVOLVING ENDANGERED AND THREATENED, AND RARE PLANT SPECIES IN CALIFORNIA

Submitted by:

Peggy L. Fiedler
Department of Biology
San Francisco State University
San Francisco, California 94132

Submitted to:

Ann Howald
California Department of Fish & Game
Endangered Plant Program
1416 Ninth Street, P.O. Box 94409
Sacramento, California 95814-2090

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FINAL REPORT:
MITIGATION-RELATED TRANSPLANTATION, RELOCATION, AND REINTRODUCTION PROJECTS INVOLVING ENDANGERED, THREATENED, AND RARE PLANT SPECIES IN CALIFORNIA

I. EXECUTIVE SUMMARY

To investigate the efficacy and overall success of transplantation, relocation, and reintroduction of California State-listed endangered, threatened, and rare species, a questionnaire was mailed to 377 individuals, state and federal agencies, and public and private institutions that potentially have been involved in transplantation, relocation, and reintroduction projects. One hundred sixty-eight questionnaires (168) were returned. Of these, twenty-four (24) individuals and/or agencies indicate that they have been directly involved in mitigation-related projects for California plants; one hundred fourteen (114) individuals and/or agencies have not. At minimum, this represents a 45% return rate for the questionnaire.

Files of California Department of Fish and Game's Endangered Plant Program were also reviewed to complete the survey. An additional 13 projects involving eight (8) State-listed species were identified as of these types. Information obtained from the Endangered Plant Program files supplemented 13 responses to the questionnaire.

This report summarizes the results of the questionnaire for each species identified by the respondents and information obtained from the Endangered Plant Program's files. A total of forty-six (46) projects were reviewed, involving fifty-three (53) transplantation, relocation and reintroduction attempts with forty (40) special status species. Of the plant species examined in this review, 25 (63%) are listed by the State as endangered, 3 (8%) are listed as threatened, 6 (15%) are listed as rare, and 6 (15%) are not listed by the State, but have some other form of protection or special status.

In addition, the 40 plant species reviewed belong to 21 plant families. Asteraceae represented the highest number of species involved (9; 23%), followed by the Brassicaceae (4; 10%). Eight (8) additional plant families were represented by two taxa, while ten (10) families were represented in this study by one taxon. The genus *Erysimum* had the greatest number of taxa (3) involved, followed by the genera *Brodiaea, Hemizonia, Lupinus*, and *Oenothera* (2 each).

Results of the survey indicate that of the 46 projects reviewed, 38 (83%) are mitigation-related, while eight (8) projects (17%) are research-related. Of the 53 manipulation attempts, forty-one (41; 77%) involved translocation (including relocation) of species of concern, nine (9) projects (17%) involved reintroduction, and 2 projects (4%) involved restoration of a population of a State-listed species. One additional project reviewed is a research-related project that has yet to include a transplantation, relocation or restoration component.

Thirty-six (36) projects have been implemented, while ten (10) projects are still in the planning stages. Seventeen projects (27%) are developments for housing, business parks, or recreational facilities initiated by private companies and corporations. Eleven projects (24%) are the result of state service operations, such as those by the California Department of Transportation and Department of Water Resources. The remaining projects are either initiated by county services (9%), private and public energy utilities (11%), or are research related. Of the total 46 projects, only 15 projects (33%) had explicitly defined criteria for success of the mitigation project, while

the remaining 31 (67%) either had no criteria for success or the criteria were only vaguely defined.

Only 15% (8) of the 53 transplantation, relocation, or reintroduction attempts reviewed should be considered fully successful (13% of the 46 projects). Plant species for which the project was successful included *Amsinckia grandiflora, Dudleya cymosa* ssp. *marcescens, Holocarpha macradenia, Lasthenia burkei, Opuntia basilaris* var. *treleasei*, and *Sidalcea pedata*. However, of these eight (8) projects, only four (4) are mitigation-related. Therefore, the success rate of the mitigation-related transplantation, relocation, and reintroduction attempts is 8% (9% of the projects). An additional seven (7) transplantation projects (13%) (9 attempts [17%]) are considered partially successful, or of limited success. Twelve (12) projects (26%) are considered here to be unsuccessful, no information was found in the review of files for four (4) projects (9%), and the success of an additional sixteen (16) projects (35%) could not be evaluated because they are on-going or in the planning stages.

In a summary review of the successes and failures of transplantation, relocation and reintroduction of sensitive plant species in California, three broad recommendations can be made that are based on crucial aspects of the biology of imperiled plant species. These recommendations are:

(1) Individuals should be removed with as little physical disturbance as possible to the individual, and at a phenologically appropriate time of year, as when the individual is dormant or photosynthetically inactive;

(2) The receptor site should be of the same habitat quality, particularly with respect to soil type and its physical characteristics. Various other manipulation aspects of the receptor site may include weeding to decrease competition from native and exotic species, watering during times of drought, and fencing and/or other forms of site protection; and

(3) Knowledge of the biology of the organism appears to aid greatly in the design of appropriate horticultural techniques for the preparation of cuttings, transplantation, seed germination, *etc.* This is problematic, however, because the biology of most State-listed species is poorly known. Although some species such as cacti and succulents may be amenable to standard horticultural techniques for propagation, most are not. Therefore, without sufficient knowledge of the biology of impacted species, success of the transplantation, relocation, or reintroduction will not be assured.

Finally, it is suggested that because of the lack of or limited success (21; 32% combined) of most of the transplantation, reintroduction, or restoration attempts documented, and the uncertainty of many of the on-going projects, the Endangered Plant Program of the California Department of Fish and Game's Natural Heritage Division should remain extremely cautious in any mitigation agreement that will allow any of these techniques to serve as mitigation for project impacts.

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II. INTRODUCTION AND PROJECT OBJECTIVES

The Endangered Plant Program (EPP) of the California Department of Fish and Game (CDFG) requested that mitigation-related transplantation, relocation, and reintroduction projects involving the State's endangered, threatened, and rare plant species be assessed for overall project efficacy and success. Thus the purpose of this research is to document the results of mitigation-related projects of this type involving the State's rare plant species of concern. The documentation may serve in the future as a position paper for the EPP's policy on transplantation, relocation, and reintroduction of State-listed species as mitigation.

The Department of Fish and Game currently requires an approved Mitigation Agreement (MA) for the manipulation of State-listed species (*cf.* Howald and Wickenheiser 1990). An MA is the legal document used by CDFG to approve mitigation projects for State-listed species that are required under the California Environmental Quality Act, Statutes, and Guidelines (CEQA). Mitigation is not explicitly defined in CEQA, but is listed as "including":

> (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
>
> (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
>
> (c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
>
> (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
>
> (e) compensating for the impact by replacing or providing substitute resources or environments (CEQA §15370).

If these five forms of mitigation are interpreted as priority in order of listing, then the preferred form of mitigation under CEQA (1986) is project avoidance, followed by minimization of impacts, rectification of impacts, *etc.* It should be noted that compensation is the least preferable form of

mitigation under this interpretation.

III. METHODS

Questionnaire: To begin the assessment, a questionnaire was developed by the author and reviewed by members of the CDFG's Endangered Plant Program. Three hundred seventy-seven (377) individual questionnaires were sent in the summer of 1989, along with, at that time, a current list of State-listed endangered, threatened, and rare plant species (California Department of Fish and Game 1989), to a broad spectrum of public resource and land management agencies, consulting firms, nurseries, museums, academic institutions, and private individuals or conservation organizations (Table 1). The individuals selected for the survey were compiled from California Native Plant Society and California Department of Fish and Game files, and personal mailing lists. The questionnaire and cover letter are included as Appendix A. The mailing list is included as Appendix B.

Review of Internal Files: Project and species files held by the EPP were reviewed in the winter of 1990, to clarify materials received from the questionnaire and to gather additional information. These files were particularly helpful regarding the MOU and MA conditions of the mitigation-related projects. Most, but not all of the current (*i.e.*, on-going and/or currently negotiated) mitigation-related transplantation, relocation, and reintroduction projects were reviewed. However, several recently initiated and on-going projects that conform to newly instituted EPP mitigation standards are not reviewed in this document because assessment of their success is not possible at this time.

Mitigation Project Assessment: The questionnaires received and EPP files reviewed were examined for the following information:

(1) whether the project reported was mitigation- or research-related,

(2) mitigation project objective(s),

(3) responsible party's criteria for mitigation success,

(4) transplantation, relocation, or reintroduction methods,

(5) design and implementation of the mitigated population's monitoring plan,

(6) respondent's assessment of mitigation project success, and

(7) date of transplantation, reintroduction, or relocation project.

Once these data were compiled, the projects were tallied for their assessed success and efficacy. The results of this analysis are summarized in Section IV.

IV. RESULTS

A total of one hundred sixty-eight (168) questionnaires was returned for this survey. All those organizations and individuals who responded to the questionnaire, and their summary responses are listed in Appendix C.

The majority of respondents (114, 68%) have not been involved in any transplantation, relocation, or reintroduction project involving state- (or federally-) listed endangered, threatened, or rare plant species. Twenty-four (24) individuals have been involved, however, and they are reviewed in detail in Section IV.A and IV.B. Table 2 outlines the responses to questionnaire.

A significant number of respondents reported on transplantation, relocation, and reintroduction projects that were not mitigation-related, but rather, research-related. Mitigation-related projects are defined as those that required either an MA or formerly, a Memorandum of Understanding (MOU). Thus several of the projects described in the returned questionnaires were research activities that did not require a Mitigation Agreement (MA). These projects were included in the analysis, and are described in Section IV.B. However, the listing is not exhaustive for research-

TABLE 1. SUMMARY OF RECIPIENTS OF THE MITIGATION QUESTIONNAIRE

Organization or Individual	Number[1]
Consulting Firms	66
Resource Agencies	
Federal	9 (30)[2]
State	10 (43)[3]
County	10 (15)[4]
City	3[5]
Private Nature Preserves	7
Museums	7
Private Energy Companies	1
Public Utilities	4
Private Conservation Organizations	4
Botanic Gardens	6
Nurseries	4
Universities	20 (29)[6]

[1]The number of questionnaires will not sum to a total of 377 because in many cases several individuals within the same office were sent a questionnaire. Therefore, although the questionnaire may have been duplicated within any one office, the probability of receiving a response was increased.

[2]The first number in this column represent the total number of different federal agencies queried. These included the U.S. Fish and Wildlife Service, U.S. National Park Service, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, U.S. Bureau of Land Management, U.S. Soil Conservation Service, U.S. Air Force, U.S. Navy, and the U.S. Forest Service. The number in parentheses indicates the total number of federal agency offices contacted.

[3]The first number in this column represents the total number of different state resource agencies queried. These included the California Department of Fish and Game, Department of Forestry, Department of Transportation, Jackson State Forest, State Lands Commission, California Conservation Corps, California Department of Parks and Recreation, Department of Water Resources, Department of Food and Agriculture, and the Division of Mines and Geology.
The number in parentheses indicates the total number of state offices contacted.

[4]The first number represents the total number of county offices queried. These include planning and resource offices in the following ten counties: Chico, Placer, San Diego, San Luis Obispo, Sacramento, Santa Barbara, Solano, Sonoma, Tuolumne, and Yolo. The number in parentheses represents the total number of county offices contacted.

[5]Planning and resource agencies were contacted in the cities of Santa Rosa, Modesto, and San Diego.

[6]The first number in this column represents the total number of different colleges and universities queried, including American River College; Butte College; California Polytechnic Pomona; California State Universities at Bakersfield, Chico, Hayward, Humbolt, Sacramento, San Diego, San Francisco, San Jose, and San Luis Obispo; Mills College; Pacific Union College; Palomar College; Stanford University; University of California at Berkeley, Davis, Santa Barbara, and University of San Diego.

TABLE 2. SUMMARY OF RESPONSES TO MITIGATION QUESTIONNAIRE

Organization	Number of Questionnaires Sent	Responded Yes	Responded No[7]
Private Individuals/			
Citizen Groups	90	2	24
Consulting Firms	66	6	18
Resource Agencies			
State Agency Offices	10 (44)[8]	11	9
Federal Agency Offices	9 (30)	7	13
County Offices	10 (15)	4	9
City			
University Faculty	20 (29)	5	11
Museums	7	0	3
Private Nature Preserves	7	0	3
Botanic Gardens	6	1	2
Nurseries	4	1	1
Public Utilities	4	0	3
Private Conservation Organizations	4	0	1

[7]In all cases in this table, the total number of respondents will not total to 168 because multiple individuals were contacted within a single office or agency, and therefore multiple questionnaires were returned from a single office or agency.

[8]In all cases, first number in the column represents the total number of agencies queried, and the number in parentheses represents the total number of offices contacted.

related transplantation, relocation, and reintroduction projects, but it is considered nearly so for completed mitigation-related projects of these types.

A total of forty-six (46) projects were review, involving 53 transplantation, relocation, or reintroduction efforts. Forty (40) plant species were reviewed, 34 (85%) are listed by the State, federal goverment, or the California Native Plant Society as either endangered, threatened, or rare. Specifically, 25 (63%) are listed by the State as endangered, 3 (8%) are listed asthreatened, and 6 (15%) are listed as rare, and 6 (15%) are not listed by the State, but have some other form of protection or special status (California Department of Fish and Game 1990, Smith and Berg 1988).

In addition, the 40 plant species reviewed belonged to 21 plant families. Asteraceae represented the highest number of species involved (9; 23%) including species in the genera *Blennosperma, Cirsium, Eriophyllum, Hemizonia, Lasthenia*, and *Pentachaeta*. This was followed by the Brassicaceae (4; 10%), encompassing the genera *Arabis, Eryngium*, and *Erysimum*. Eight additional plant families were represented by two taxa, while ten families were represented in this study by one taxon. The genus *Erysimum* had the greatest number of taxa (3) involved in this study, followed by the genera *Brodiaea, Hemizonia, Lupinus*, and *Oenothera* (2 each).

Additional results of the survey indicate that of the 46 projects reviewed, 38 (83%) are mitigation-related, while eight (17%) are research-related. Of the 53 manipulation attempts, forty-one (41; 77%) involved translocation (including relocation) of species of concern, nine (9) projects (17%) involved reintroduction, and 2 projects (4%) involved restoration of a population of a State-listed species. One additional project reviewed is a research-related project that has yet to include a transplantation, relocation or restoration component.

Of the 46 projects reviewed, 40 projects have been implemented, while 4 projects are in the

planning stages. Of the total 46 projects, only 15 projects (33%) had explicitly defined criteria for success of the mitigation project, while the remaining 31 projects (67%) either had not criteria for success or the criteria were only vaguely defined.

Only 15% (8) of the 53 transplantation, relocation, or reintroduction attempts reviewed should be considered fully successful (13% of the 46 projects). I define "success" in this survey as either: (1) the respondent to the questionnaire felt that the project was successful; or, (2) greater than 75% of the mitigation propagules established a reproducing population over the life of the project as reported. "Unsuccessful" projects were determined to be so in this survey because either: (1) the respondent in the questionnaire reported that the project was unsuccessful; or, (2) less than 25% of the mitigation propagules established a population, and subsequently died. "Limited success" was assigned to those projects for which: (1) the respondent in the questionnaire reported as "limited" or "partially" successful; or, (2) the respondent reported a middle range of mitigation propagule establishment (>25% but <75%).

Plant species for which the transplantation, relocation, or reintroduction project was successful included *Amsinckia grandiflora, Dudley cymosa* ssp. *marcescens, Holocarpha macradenia, Lasthenia burkei* (3 projects), *Opuntia basilaris* var. *treleasei*, and *Sidalcea pedata*. However, of the eight projects involving these species, only four are mitigation-related; therefore the success rate of the mitigation-related attempts is 8%. An additional seven (7) transplantation attempts (13%) are considered partially successful, or of limited success. Twelve (12) of the 53 attempts (23%) are considered here to be unsuccessful, and the success of an additional four projects is unknown (*i.e.*, unreported or no information was found in EPP files). Sixteen projects (35%) could not be evaluated for their success because they are on-going or in the planning stages.

IV.A. Rare, Threatened and Endangered Plant Species Involved in Mitigation-Related Transplantation, Relocation and Reintroduction Projects

The following is a discussion of the state- (and federally-) listed species that have been the subject of mitigation-related transplantation, relocation and reintroduction projects, as outlined by the respondents of the questionnaire and a review of the EPP files. Table 3 lists the endangered, threatened and rare plant species involved in transplantation, relocation, and reintroduction projects. Information from the questionnaire and EPP files is summarized briefly by species. Questionnaires and personal notes are on file and available for review of additional information.

IV.A.1. *Acanthomintha ilicifolia* (San Diego Thornmint): State endangered; Federally Candidate Category 1, CNPS List 1B.

Respondent: None. Data obtained from EPP files.

Project Name and Description: "Westview Planned Residential Development." The Pardee Company agreed to mitigate for destruction of a population of *A. ilicifolia* by the construction of a road (Black Mountain Road) and a housing development by creating a 13.6 acre on-site open space preserve for the San Diego thorn-mint.

Mitigation-Related?: Yes.

Project Objectives: The goal of the mitigation plan was to create a viable population of *A. ilicifolia* in an on-site preserve through the importation of seed and soil.

Project Methods: The Pardee Company contracted with Environmental and Energy Services Company (ERC) to salvage all the *Acanthomintha ilicifolia* seeds in the population affected by the construction. Approximately 10.8 gm. of seed were collected in July 1988. Topsoil was then salvaged from the *Acanthominta ilicifolia* population area to collect seed potentially stored in the soil. The soil was transported to the mitigation site.

TABLE 3. CALIFORNIA STATE ENDANGERED, THREATENED, AND RARE PLANT SPECIES INVOLVED IN MITIGATION-RELATED OR RESEARCH-RELATED TRANSPLANTATION, RELOCATION, OR REINTRODUCTION PROJECTS

SPECIES	FAMILY	PROTECTION STATUS[9]
Acanthomintha ilicifolia	Lamiaceae	Endangered
Amsinckia grandiflora	Boraginaceae	Endangered
Antennaria flagellaris	Caryophyllaceae	None
Arabis macdonaldiana	Brassicaceae	Endangered
Arctostaphylos hookeri var. *ravenii*	Ericaceae	Endangered
Bensoniella oregana	Saxifragaceae	Rare
Blennosperma bakeri	Asteraceae	Rare
Brodiaea filifolia	Amaryllidaceae	Endangered
Brodiaea insignis	Amaryllidaceae	Endangered
Calochortus greenei	Liliaceae	None (Fed C2)
Chorizanthe howellii	Polygonaceae	Threatened
Cirsium occidentale var. *compactum*	Asteraceae	None (Fed C2)
Cordylanthus palmatus	Scrophulariaceae	Endangered
Croton wigginsii	Euphorbiaceae	Rare
Dudley cymosa ssp. *marcescens*	Crassulaceae	Rare
Eriastrum densifolium ssp. *sanctorum*	Polemoniaceae	Endangered
Eriophyllum mohavense	Asteraceae	None (Fed C2)
Eryngium aristulatum var. *parishii*	Apiaceae	Endangered
Erysimum capitatum var. *angustatum*	Brassicaceae	Endangered
Erysimum menziesii	Brassicaceae	Endangered
Erysimum teretifolium	Brassicaceae	Endangered
Gilia tenuiflora ssp. *arenaria*	Polemoniaceae	Threatened
Hemizonia increscens ssp. *villosa*	Asteraceae	Endangered
Hemizonia minthornii	Asteraceae	Rare
Holocarpha macradenia	Asteraceae	Endangered
Lasthenia burkei	Asteraceae	Endangered
Lilaeopsis masonii	Apiaceae	Rare
Lupinus tidestromii var. *tidestromii*	Fabaceae	Endangered
Lupinus milo-bakeri	Fabaceae	Threatened
Mahonia nevinii	Berberidaceae	Endangered
Monardella linoides ssp. *viminea*	Lamiaceae	Endangered
Oenothera deltoides ssp. *howellii*	Onagraceae	Endangered
Oenothera wolfii	Onagraceae	None (Fed C2)
Opuntia basilaris var. *treleasei*	Cactaceae	Endangered
Orcuttia viscida	Poaceae	Endangered
Pentachaeta lyonii	Asteraceae	Endangered
Pogogyne abramsii	Scrophulariaceae	Endangered
Pseudobahia peirsonii	Asteraceae	Endangered
Sedum albomarginatum	Crassulaceae	None (Fed C1)
Sidalcea pedata	Malvaceae	Endangered

[9]State of California, Department of Fish and Game, Nongame-Heritage Program, Endangered Plant Project. Designated Endangered, Threatened or Rare Plants. 1990.

Twenty-five (25) 4 ft^2 experimental plots in the preserve were located and prepared by removing existing vegetation. Seeds sown in the test plots were observed in December, 1988, while the remaining seed was sent to the Rancho Santa Ana Botanic Garden (RSA) for germination tests.

Seedlings occurred in 12 of the 25 test plots in March 1989. At the time of the preparation of this report, no additional information is available. However, the MOU on file requires a monitoring program to be established in the mitigation plots that must continue for five (5) growing seasons.

Criteria for Success: As outlined by the MOU, performance criteria include: (1) erosion control [soil stabilized]; (2) weed invasion [no interference with *A. ilicifolia* establishment]; (3) herbivory ["minimal" damage to *A. ilicifolia* seedlings]; (4) vigor [5 cm minimum height per individual plant]; and, (5) reproductive success [to be determined on the basis of offsite monitoring].

Project Success: Project on-going.

Date Project Initiated: July 1988.

2) Respondent: None. Data obtained from EPP files.

Project Name and Description: "Shea Homes Palos Vista Development." Shea Homes designed a development of 979 acres within the city of Escondido that involved the construction of 730 homes and some open space. Shea Homes contracted initially (October 1988) with Royce B. Riggins and Associates (RBR), working in conjunction with Mr. Jim Dillane of the Lake Hodges Native Plant Club, to prepare the biological reports and initial mitigation design for the project. In May, 1989, ERC completed the work initiated by RBR. The mitigation site was selected as the San Diego Wild Animal Park.

Mitigation-Related?: Yes.

Project Objectives: The goal of the mitigation contract was to assure the preservation of

two small disjunct populations of *Acanthomintha ilicifolia* that were originally located within the boundaries of the Palos Vista residential development.

Project Methods: Plants were collected in June and July of 1988 and transplanted to the mitigation site. The site is a 40 x 30 ft parcel on which a 2 ft layer of subsoil was imported and laid down prior to transplantation.

Criteria for Success: As outlined by the MOU on file, performance criteria are based on reproductive success, as follows: (1) number of plants shall equal or exceed 30% of the mean density of plants in natural populations at the first end of the growing season; (2) number of plants shall equal or exceed 50% of the mean density of plants in natural populations at the end of the second growing season; (3) number of plants shall equal or exceed 70% of the mean density of plants in natural populations at the end of the third growing season; (4) number of plants shall equal or exceed 90% of the mean density of plants in natural populations at the end of the fourth growing season; and, (5) number of plants shall equal or exceed 100% of the mean density of plants in natural populations at the end of the fifth growing season.

Project Success: Project on-going.

Date Project Initiated: December 1988.

3) Respondent: None. Data obtained from EPP files.

Project Name and Description: "Reparation for the Sabre Springs Development." One of the largest known populations of *Acanthomintha ilicifolia* is located on property located within the City of San Diego Open Space System, previously owned by the Pardee Company. In the spring of 1989, the population was reduced by one-third due to an accidental road grading operation. In order to avoid prosecution by the State for these damages, Pardee Company was notified of several measures to rectify the damage. Pardee Company has or is complying with all seven conditions of the reparation plan, but with

varying degrees of success.

Mitigation-Related?: Yes.

Project Objectives: To rectify the accidental damage inflicted on a large population of *Acanthomintha ilicifolia*

Project Methods: The disturbed population was fenced and bermed, signed, weeded, and the adjacent roadbed hydroseeded. A second phase of the project will be to manage suitable *Acanthomintha ilicifolia* areas near existing populations to encourage their spread. Seed will be broadcast onto suitable clay soils adjacent to extant stands in January, 1992.

Criteria for Success: As stated in the reparation plan, the goal of the project is to increase the remaining *Acanthomintha ilicifolia* population to predisturbance size or greater.

Project Success: Project on-going.

Date Project Initiated: Spring-summer 1989.

4) Respondent: None. Data obtained from EPP files.

Project Name and Description: "Indian Hill," "McIntire" ("Las Brisas"), and "Spyglass" urban development projects. The three projects together required translocation of *Acanthomintha ilicifolia* to open space areas on the development sites. Mitigation projects were contracted to Pacific Southwest Biological Services (PSBS) of San Diego. PSBS was responsible for all relocation activities, including seed collection, and excavation and placement of clay soils associated with *Acanthomintha ilicifolia* (PSBS, Inc. 1988).

Mitigation-Related?: Yes.

Project Objectives: None stated. Presumably the project objectives were to establish viable populations of *Acanthomintha ilicifolia* from transplanted plant material at four translocation sites (open space areas onsite at the Las Brisas and Indian Hill sites; within a natural, dedicated open space area at the El Camino Condominium and Tennis Club; a project adjacent to the Spyglass project; and within the natural area of the Quail Botanical Garden

County Park.

Project Methods: Seeds were collected at Jetton Property (Las Brisas Mobile Home Park) during the summer of 1986 and sewn by hand on the relocated clay lens. Soils were excavated and prepared for seeding within a 24-hour period. Seeds were collected as whole plant material, occupying approximately 1/2 yd^3 and weighing about 2 pounds.

Criteria for Success: None state specifically.

Project Success: The project was halted and the MOU terminated due to the difficulty the EPP had in dealing with PSBS. Success of the transplantation was limited as of May 1988. However, at the Las Brisas relocation site in May 1988, an estimate of between 700-1000 individuals (1100 "flowering heads") was reported. At the Quail Gardens relocation site, the population estimate was made during the seedling stage. As of 8 May 1988, "seed heads" numbered 70, while the population survey during the seedling stage resulted in 200-300 plants. PSBS reported that associated native plant species were abundant at the Las Brisas site, though more rare at Quail Gardens.

Date Project Initiated: Spring 1985

IV.A.2. ***Blennosperma bakeri*** (Sonoma Sunshine): Not state listed; Federal Candidate C2; CNPS List 1B.

1) Respondent: Mr. Charlie Patterson, Plant Ecologist. Private Consultant, El Cerrito.

Project Name and Description: "Montclair Park." Project involved the construction of a small housing development by Christopherson Homes in the city of Sonoma (lead agency for the permit). entitled "Montclair Park." The mitigation included the dedication (as compensation) of approximately 2.0 acres of undeveloped land, located on the edge of the development, within which up to 1.0 acres of actual vernal pool habitat would be created and seeded with *Blennosperma bakeri* and associated vernal pool species.

Mitigation-Related?: Yes.

Project Objectives: Objectives for the housing development were the replacement of 0.3 to 0.5 acres of wetlands and of the pre-existing 10,000 individuals of *Blennosperma bakeri* that were destroyed during the construction of the housing development.

Project Methods: The habitat was graded and shaped, creating approximately 10 new vernal pools in a soil that is underlain by the same clayplan existing under the destroyed pools.

Blennosperma bakeri seeds were collected in late May 1989 by collecting the dry flower heads, vacuuming the surface for seeds, duff and dust, and scraping by hoe, 1-2 inches of the top soil of existing pools. Collected seed and duff was air-dried in shallow trays in a cool, dry environment. Seeds were transferred to the created pools by hand. The created pools were fenced (wood and wire) and a berm constructed for protection.

The project design also included several additional trial vernal pools within a storm runoff detention basin to investigate the feasibility of managing detention basins and vernal pools concurrently as a contaminant settling basin.

Monitoring of the pools includes: (1) habitat integrity and stability; (2) *Blennosperma bakeri* growth and reproduction; and, (3) overall vernal pool community development.

Criteria for Success: Essentially the replacement of a self-sustaining colony of *Blennosperma bakeri*. This includes: (1) at least 75% of the created vernal pool habitat should be documented as stable, with no measurable erosion or deposition, and with no significant channel formation; (2) at least 75% of the pools should have adequate [undefined] water-holding capacity; (3) local drainage patterns should be shown to be adequate [undefined] to fill the pools (75%) without input from street runoff or eucalyptus debris; (4) at least 10 colonies of *B. bakeri* should be established in the new pools, and be self-sustaining populations; (5) the total habitat area of at least 0.3 acres should be dominated by *Blennosperma bakeri* for at least 2 years without supplement seeding; (6) the

total population should number at least 10,000 individuals without supplemental seed over 2 years; (7) at least 75% of the total pool habitat should be dominated by typical (native?) vernal pool plants; (8) each pool should contain at least 4 (native?) vernal pool species; and, (9) encroachment by grasses and/or upland weeds should be documented as stable, with no significant advancement into the pools over the last 2 years of the monitoring program.

Project Success: Respondent felt that, after one dry year, the results are promising -- *i.e.*, several thousand individuals of *Blennosperma bakeri* are established. However, the pools need to be regraded and probably deepened.

Date Project Initiated: 1989.

2) Respondent: None. Data obtained from EPP files.

Project Name and Description: "Santa Rosa Rare Plants Mitigation Plan San Miguel Estates 1." In 1989 Cobblestone Development Corporation proposed the development of San Miguel Rancho Subdivision (RSM) at 2001 Waltzer Road within the city of Santa Rosa, Sonoma County and San Miguel Estates No. 2 (SME) at 2192 Francisco Avenue, also within Santa Rosa. The SME project is an on-going housing construction and the RSM housing project was a 1989 development. The projects would destroy approximately 2.51 acres of vernal pool habitat. (see IV.A.19(3) for more details.)

Mitigation-Related?: Yes.

Project Objectives: According to the Mitigation Agreement between Cobblestone and CDFG, the mitigation should establish self-sustaining populations of plants in approximately 2.97 acres of newly created habitat on the mitigation site. Self-sustaining is defined as approximately 13,000 individuals of *Lasthenia burkei* and 137,000 individuals of *Blennosperma bakeri* for 2 consecutive years without supplemental seeding.

Project Methods: The mitigation plan was devised by R. Osterling, Inc. (1989). The plan proposed to transplant all existing plants and/or seeds to a 20-acre receptor site located

approximately 1.5 miles west of the San Miguel Estates property, with existing 3.49 acres of vernal pool resources. Approximately 2.5 acres of vernal pool habitat will be constructed at the receptor site with pool configuration and depth based on survey of existing pools. Grading will be done with small equipment under supervision of a qualified botanist (Charlie Patterson, private consultant). Plant material will be "transferred." Seed will be collected from donor pools and the top 1-2 inches of pool bottom duff will be excavated and spread in the excavated pools at the receptor site. Monitoring will continue through June 1991.

Criteria for Success: None explicitly stated.

Project Success: Unknown. No information found in EPP files.

Date Project Initiated: March 1989.

IV.A.3. *Brodiaea filifolia* (Thread-leaved Brodiaea): State endangered; Federal Candidate C1; CNPS List 1B.

Respondent: None. Data obtained from EPP files.

Project Name and Description: "College Area Specific Plan in San Marcos." The Baldwin Company proposed a development on 530 acres of undeveloped land in the City of San Marcos, on a ridge behind the college. The onsite population of *Brodiaea filifolia* is part of the county's most extensive, known population.

According to the monitoring plan (WESTEC 1988), the mitigation plan included: (1) all onsite mitigation activities; (2) a 12-acre preserve that is completely fenced (vinyl-clad chain-link), protected for the life of the project; (3) planting of (presumably) local plants; (4) creation of a stable, relatively weed free *Brodiaea filifolia* population, requiring low maintenance; (5) onsite salvage of each plant species included in the preserve; (6) transportation and laying of suitable soils (Huerhuero Series); (7) maintenance during the first several years; and, (8) monitoring by a qualified botanist.

Mitigation-Related?: Yes.

Project Objectives: Two objectives were identified: (1) to set aside a 12-acre preserve for existing native grassland habitat supporting *B. filifolia*; and, (2) to reintroduce *Stipa pulchra* (purple needle grass) to disturbed portions of the preserve (ERC Environmental and Energy Services Co. 1990c).

Project Methods: During 1988, clay soils and 8167 *B. filifolia* corms were collected from a 25 ft^2 area within the original population and brought to the preserve. Five plots were marked and rabbit exclosures were installed. The largest corms collected were planted in planting holes in the test plots and throughout the preserve. Smaller corms were shipped to a contract nursery (Tree of Life Nursery, San Juan Capistrano) to be grown for increased size. A portion of these corms (870) were outplanted in the fall of 1990. Seed of *Brodiaea filifolia* also was collected from the original population and seedlings were grown at the nursery for two seasons. These were planted in the preserve in 1990 (ERC Environmental and Energy Co. 1990c).

Monitoring includes: (1) overall success; (2) role of corm size in relation to survivorship and flowering; (3) field establishment of nursery corms under controlled conditions with and without fertilizer treatments; (4) efficacy of relocating *B. filifolia* populations by soil importation; (5) role of supplemental irrigation in the establishment of transplanted corms; and, (6) use of field-collected seed and nursery-generated seedling corms in restoration (ERC Environmental and Energy Services Co. 1990c).

Criteria for Success: Criteria for success includes: (1) 75% survival rate of *Brodiaea filifolia* corms in test plots and 80% in the grassland; (2) 80% survival rate of *Stipa pulchra* plugs (seeds were planted similarly and an 80% survival rate was considered for this activity); (3) weeds should not cover the test plots dense enough to interfere with *Brodiaea filifolia* establishment and noxious weed species [undefined] should be eliminated from the preserve. The same criteria were considered for the *S. pulchra* plantings; (4) herbivory

damage assessed as above-ground and below-ground growth for *B. filifolia*. Acceptable damage to vegetative material is 10% or less of all plantings. Gopher damage to corms cannot exceed 5% in any one plot or 20% overall; and, (5) acceptable herbivory losses for *S. pulchra* should not exceed 10%. No criteria were established for reproductive success, "offset" production of corms, or soil importation.

Project Success: Project is in-progress and will continue until December 1993. To date, preliminary results of the monitoring efforts indicate that the introduction of *Brodiaea filifolia* corms has been largely successful. Corm growth increased significantly between 1989 and 1990. Eighty-seven percent (87%) of the corms have remained viable and 19.9% have produced "offsets." Also, fertilizer treatments of corms grown in the nursery did not improve vegetative development. Irrigation showed initial signs of promise in improvement of establishment of corms, particularly with soil importation. At the time of the monitoring report, results were not available for assessing the success of the transplanted nursery-grown corms. Direct seeding was not successful, in either the irrigated or non-irrigated seed locations. Why it was not successful is not known, but it may be possible that the seeds were held in storage too long and lost viability.

The 1989 planting of *Stipa pulchra* plugs was not successful due to the late planting in conjunction with very warm weather and drought. A portion of the plugs was replaced in winter 1990, and an additional experimental plot was installed in 1990 to test the effects of supplemental irrigation on *S. pulchra* establishment. Significantly more plants survived than those grown from seed (94.8% *vs.* 61.6%).

Efforts to eliminate sweet fennel (*Foeniculum vulgare*) and cardoon (*Cynara cardunculus*) have largely been successful, although mustard (*Brassica* [*nigra?*]), wild radish (*Raphanus sativus*), and invasive annual grasses are not controlled.

Herbivory on *Brodiaea filifolia* by rabbits does not appear to be a problem, although there appears to be some disturbance by gophers within as well as outside the

exclosures (ERC Environmental and Energy Services Co. 1990c).

Date Project Initiated: May 1988.

IV.A.4. *Brodiaea insignis* (Kaweah Brodiaea): State endangered; Federal Candidate C1; CNPS List 1B.

Respondent: Mr. John Stebbins, Fresno.

Project Name and Description: "Kaweah Reservoir Dam Expansion" (Tulare County), initiated by the California Department of Water Resources. Project plans are being drafted at this time.

Mitigation-Related?: Yes.

Project Objectives: Project plans are being drafted at this time. Net yet available.

Project Methods: Project plans are being drafted at this time. Net yet available.

Criteria for Success: Project plans are being drafted at this time. Net yet available.

Project Success: Net yet available.

Date Project Initiated: 1989.

IV.A.5. *Calochortus greenei* (Greene's Mariposa Lily): Not state listed; Federal Candidate C2; CNPS List 1B.

Respondent: Mr. William Ferlatte, Siskiyou County Dept. Agriculture and Ms. Barbara Williams, U.S. Forest Service, Klamath National Forest.

Project Name and Description: None. *Calochortus greenei* is not a state-listed species, and both respondents answered briefly. Project involved a road widening/construction project that required two mitigation transplantation efforts.

Mitigation-Related?: Yes.

Project Objectives: None stated.

Project Methods: None stated, but presumably the bulbs were dug by hand and transported

to the mitigation sites and replanted there.

Criteria for Success: None stated.

Project Success: Approximately 65 plants/bulbs were transplanted on May 23, 1989. As of May 9, 1990 [sic] (June 1989?), approximately 10 individuals survived the transplantation onto U.S. Bureau of Land Management and private property. This resulted in a survivorship rate of approximately 15%.

Date Project Initiated: May 1989.

IV.A.6. ***Chorizanthe howellii*** (Howell's Spineflower): State threatened; Federal Candidate C2; CNPS List 1B.

Respondent: Ms. Frederica Bowcutt, State of California Department of Parks & Recreation, Sacramento.

Project Name and Description: None. Project involved the reintroduction of *Chorizanthe howellii* and *Erysimum menziesii* to archeological sites at MacKerricher State Park (Mendocino County) after an archeological dig. The site is a coastal dune ecosystem. University of California, Davis, initiated an archeological dig in 1989-90 at sites containing rare species. (see IV.A.13(1) for more details).

Mitigation-Related?: Yes.

Project Objectives: None stated.

Project Methods: Seed was collected in the summer of 1989 from the plants on site before the archeological dig was initiated. Plug plants were grown at the California Conservation Corps (CCC) Napa nursery and outplanted in February 1990 by the CCC. Plants were monitored by an undescribed photo monitoring technique. Outplanted plants also were counted and mapped. Initial costs for the project were: (1) salary $800.00; (2) travel $400.00; and, (3) plants $200.00, for a total of $1400.00.

Criteria for Success: None stated.

Project Success: Project on-going. Information not yet available.

Date Project Initiated: July 1989.

IV.A.7. *Cirsium occidentale* var. *compactum* (Compact Cobweb Thistle): Not State listed; Federal Candidate C2; CNPS List 1B.

Respondent: Mr. Gary Ruggerone, California Department of Transportation, San Luis Obispo.

Project Name and Description: California Department of Transportation is involved in two projects, "Little Pico Bridge Replacement" and "Piedras Blancas Shoulder Widening." The former is on-going, and the latter was conducted in 1986. Both projects are along Highway 1 in San Luis Obispo County on ocean bluffs. *Cirsium occidentale* var. *compactum* is found along the disturbed highway shoulders.

Mitigation-Related?: Yes. However, neither project included CEQA permit conditions regarding transplantation of *Cirsium occidentale* var. *compactum*, although California Department of Transportation consulted with the USFWS.

Project Objectives: Transplantation and reseeding of the disturbed areas with *Circium occidentale* var. *compactum* to maintain populations.

Project Methods: Plants of various ages were removed from the impact area and were transplanted to immediately adjacent areas in January and February (1987?). Seed was collected in July through October (1986?), scarified, and scattered in January and February (1987?).

Both sites are monitored several times per year until it can be determined whether a reproducing population has been established. Neither site has received long-term protection, although the areas are considered by Caltrans as "environmental sensitive areas." Costs of the projects have been absorbed in the overhead. No reports other than brief field notes of the transplantation were filed.

Criteria for Success: Success was defined as survival of transplants and germination of seed for reintroduction to establish a continued presence of *Cirsium occidentale* var. *compactum* in the area.

Project Success: For Piedras Blancas, there was only partial success. Transplanting was a total failure, but the respondent reported some success with reseeding. For Little Pico, the transplantation was a failure. Seeding has not yet been initiated.

Date Project Initiated: 1986.

IV.A.8. ***Croton wigginsii*** (Wiggin's Croton): State rare; Federal Candidate C3C; CNPS List 2.

Respondent: Mr. Gerald Hillier, U.S. Bureau of Land Management, Riverside.

Project Name and Description: None. Project involved the construction of a new campsite ("Gecko") at the Imperial Sand Dunes, immediately south of Highway 78 (Imperial County).

Mitigation-Related?: Yes.

Project Objectives: Objectives were to establish seedings of *Croton wigginsii* in an adjacent Wilderness Study Area (WSA).

Project Methods: Seedlings were dug with a shovel of sand, and then placed in a bucket of wet sand. The buckets were transported approximately 1 mile away to a WSA site on the north side of Highway 78. A slice with a shovel was made in the new substrate, and the seedlings were transplanted in approximately 5 per group. About 12 groups were established.

The seedlings were visited approximately every three days for two weeks to monitor the success of the transplantation. During that two-week period, all the seedlings died.

Criteria for Success: Not clearly stated. Respondent suggested that the criterion was

successful establishment of transplanted seedlings.

Project Success: Respondent considered that the project was successful because it established whether transplantation of *C. wigginsii* seedlings would be a viable option. However, as stated above, none of the seedlings survived and therefore, it should not be considered successful from a biological viewpoint.

Date Project Initiated: Unknown.

IV.A.9. *Eriastrum densifolium* ssp. *sanctorum* (Santa Ana River Woollystar): State endangered; Federal endangered; CNPS List 1B.

Respondent: Mr. Craig Martz, Associate Environmental Planner, California Department of Transportation, Sacramento, and data obtained from EPP files.

Project Name and Description: "Santa Ana River Woollystar Relocation Project." California Department of Transportation (Caltrans) attempted to change State Route 30 in San Bernadino County. The project included freeway construction along State Route 30, and a second phase of construction between Interstate 10 in Redlands and Fifth Street in the City of San Bernadino. Grading in the second phase would have resulted in the loss of approximately 1.24 acres of alluvial scrubland, habitat for 1039 individuals of *Eriastrum densifolium* ssp. *sanctorum*. However, the project was modified to affect only 733 individuals, with the remaining 308 individuals preserved in a designated environmental sensitive area avoided during the construction phase. The area is to be protected in perpetuity once construction is completed.

Mitigation-Related?: Yes.

Project Objectives: None stated specifically, but the overall objective appears to be the successful establishment of transplanted individuals of *Eriastrum densifolium* ssp. *sanctorum* from along State Route 30 in the Santa Ana River Wash to three transplant receptor areas within the right-of-way.

Project Methods: A contractor (Nativescapes) was hired to transplant 733 individuals of *E. densifolium* ssp. *sanctorum* from the west side of the Highway 30 project site to three locations on the east side of the highway; during January through March 1988. Plants were removed with a Vermeer TS-20 tree spade mounted on a Bobcat tractor. Plants were then fitted into burlap-lined mesh baskets that conformed to the rootballs for transport to the recipient areas. Individuals were planted in rows within each of the three transplant areas. Each row as initially marked with a wooden stake that was labeled with the number of individuals in the row. However, this labeling method was deemed inadequate in the second year of monitoring. Transplants were then marked individually with aluminum tags. Monitoring of the transplants is to be conducted for three years following the transplantation.

Criteria for Success: None stated explicitly.

Project Success: Respondent felt that the project had not achieved the level of success that was hoped for, in part because of the current drought conditions. After the first year of monitoring, Transplant Area 1 suffered a 39% mortality, Transplant Area 2 suffered a 56% mortality, and Transplant Area 3 suffered a 48% mortality of transplants. Most of the mortality in the first year was attributed to transplant shock, although natural mortality and competition may also be responsible in part (Martz 1990). The first year monitoring report suggests that the transplantation project was "highly successful thus far" because of relatively high survivability (61%, 44%, and 52% in Areas 1, 2, and 3, respectively), and good seedling production was observed.

Results of the May 1990 monitoring (Martz 1990) indicate a survival rate of 46.7% in Transplant Area 1, 38.9% in Transplant Area 2, and 40.5% in Transplant Area 3. The overall survival for the three areas was 332 individuals (44.2%). Approximately 85.5 percent of the surviving individuals were reproductive; however, 31 individuals (9.3%) were considered to be in obvious decline.

Seedling recruitment in the three Transplant Areas numbered 783, 80, and 339, respectively. Martz figured that seedling production in the three areas totalled 3.6 seedlings per Transplant Area 1, 3.3 seedlings per Transplant Area 2, and 5.7 seedlings per Transplant Area 3. However he also suggested that native *Eriastrum* plants already existing in Areas 2 and 3 may have contributed to these totals.

Date Project Initiated: January 1988.

IV.A.10. ***Eriophyllum mohavense*** (Barstow Woolly Sunflower): Not State listed; Federal Candidate C2; CNPS List 1B.

Respondent: Mr. James Brownell, California Energy Commission, Sacramento.

Project Name and Description: "Luz SEGS VII." The project involved the construction in 1988 of a solar power plant by the California Energy Commission, at Kramer Junction in San Bernardino County (Mojave Desert). Luz Engineering, the company that was contracted to construct the power plant, attempted to salvage the plant by collecting seed, topsoil, and additional subsoil material, and by depositing these on the receptor site.

The original occurrence of more than 1700 individuals of *Eriophyllum mohavense* on less than 2 acres represented the western-most location of the species, which is one of the main reasons for attempts to preserve this site. The site is also unusual because population densities are much higher here than in other regions where *Eriophyllum mohavense* is found. Also, a soil investigation was conducted by ERT (1988a; Fort Collins, Colorado) to determine whether the distribution of *Eriophyllum mohavense* (and the Mojave spineflower [*Chorizanthe spinosa*]) is controlled by edaphic factors. The report established that there are distinct differences between the soils on the low knolls that support *Eriophyllum mohavense* and adjacent areas that do not. The rare plants apparently grow on areas with a near surface layer (Btn natric horizon) and an underlying "pan" layer (the lower portion of the natric horizon, the Btkn horizon) that are both highly alkaline.

These layers apparently restrict rooting and establishment by spiny saltbush and other common shrubs of the area, but are not restrictive to *Eriophyllum mohavense* that roots above the pan (ERT 1988a). ERT also found very high levels of boron in the soil. This information was used in selection of the receptor site of *Eriophyllum mohavense*.

Mitigation-Related?: Yes.

Project Objectives: The state objective was to re-establish a population of *Eriophyllum mohavense* on a nearby artificially constructed hill. The original location of *Eriophyllum mohavense* was destroyed by the construction of the solar power plant.

Project Methods: According to the biological resources mitigation implementation plan (ERT 1988b), the consulting botanist worked with Mr. Mark Bagley of Bishop, California, to collect surface material (seed, litter, and the top 0.5 inch of topsoil) within a delineated area at the impacted site. This was done to be done with flat-bottomed shovels and other hand tools. The collected material was to be stored temporarily by spreading it on plastic sheets near the relocation site. About 25 percent of the seed source material was to be used to provide supplemental seed to areas of known habitat for *Eriophyllum mohavense*.

Soil was salvaged in three steps after seed collection. The base material was to be applied to the existing surface at the relocation site to increase the southerly aspect of the site to an approximately 4 percent slope. Following application of the base material, more soil was to be placed on the relocation site, spread, and contoured. In the last stage, the seed source was to be applied and raked smooth. The site was to be misted with water to moisten the seed material and help bind it to aid in erosion control. Finally, the relocation site was fenced by the Luz Engineering Corporation to prohibit future disturbance (ERT 1988b).

Criteria for Success: No specific success criteria were established. Respondent reported that the general criteria was to find the species on the relocation site.

Project Success: Respondents claims that at the present time, due to the unusually dry

years since this project has occurred, no systematic monitoring has been conducted and no plants have been found. However, they claim that the success is "uncertain" until the desert receives normal rainfall.

Date Project Initiated: 1988.

IV.A.11. *Eryngium aristulatum* var. *parishii* (San Diego Button Celery): State endangered; Federal Candidate C1; CNPS List 1B.

Respondent: Drs. C.H. Black and Paul Zedler, Dept. Biology, San Diego State University.

Project Name and Description: "Caltrans Del Mar Mesa Vernal Pools" and "U.S. Navy North Miramar Project Mitigation." As background, California Department of Transportation (Caltrans) had two major projects on Kearny Mesa that eliminated vernal pools. The first project was mitigated by the purchase of 26 acres of prime vernal pool habitat on Del Mar Mesa and a second acquisition of an additional 52 acres at Del Mar Mesa. This second acquisition was to be used in an experiment to create artificial pools capable of supporting *Eryngium aristulatum* var. *parishii* and *Pogogyne abramsii* (Zedler and Black 1988). Respondents did not explain the Mirimar Project. (see IV.A.29 for additional information).

Mitigation-Related?: Yes.

Project Objectives: For both projects, the objective was to create vernal pool habitat for *Eryngium aristulatum* var. *parishii* and *Pogogyne abramsii*.

Project Methods: A set of 40 artificial basins was excavated in December 1986, and 387 were inoculated with material collected from the natural pools on Del Mar Mesa.

Criteria for Success: Respondents did not specifically designate criteria for success.

Project Success: Respondents feel that the projects are "not yet" successful because the rare species have not attained population densities found in the natural pools.

Date Project Initiated: December 1986.

IV.A.12. *Erysimum capitatum* var. *angustatum* (Contra Costa Wallflower): State endangered; Federally endangered; CNPS List 1B.

Respondent: Ms. Joy Albertson, U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge Complex.

Project Name and Description: "Vaca Dixon-Contra Costa 230-kV Reconductoring Project: Habitat Protection and Enhancement for Antioch Dunes." Pacific Gas and Electric Company (PG&E) reconductored the San Joaquin River crossing of the Vaca Dixon-Contra Costa 230 kV transmission line in the fall of 1988. The project took place specifically on the Sardis Unit of the Antioch Dunes National Wildlife Refuge (ADNWR), east of the town of Antioch. USFWS personnel conducted a Section 7 consultation with PG&E before granting access permit. (see IV.A.25 for more details.)

Mitigation Related?: Yes.

Project Objectives: Objectives were: (1) protection of habitat from future damage caused by construction/repair activities; (2) transplantation of sensitive species from the access corridor to allow vehicle access to the tower; (3) establishment of new subpopulations of *Erysimum capitatum* var. *angustatum* (and *Oenothera deltoides* ssp. *howellii*); (4) enhancement of existing populations; and, (5) determination of whether direct seeding or transplantation of nursery liners is preferable transplantation technique.

Project Methods: Eighteen wallflowers from the PG&E east parcel access corridor were transplanted either to other locations on the parcel or to the Sardis Pit area. A small circular area was first cleared of all vegetation, then an appropriate sized hole was dug. A plant was placed in the hole and dirt was packed firmly around it. Nursery grown plants were planted in a similar manner in pre-selected sites on the PG&E and Sardis Pit parcels.

Three hundred seventy-seven (377) wallflower seedlings were planted in January

1990. A survey the following March provided a count of 364 surviving seedlings (96.6%) survival. Plants were monitored during the first spring and summer to determine whether additional water or weeding was needed so as to assure adequate survival. A final evaluation of survival will be made in the spring of the second year.

Cost of the nursery-grown seedlings was estimated at $0.30/seedling; 377 seedlings produced; therefore it cost $113.10.

Criteria for Success: The replacement of the plants that were destroyed by the construction, specifically 230 *E. capitatum* var. *angustatum* seedlings and 160 *O. deltoides* ssp. *howellii* seedlings was the criterion.

Project Success: Respondent felt that the project was partially successful. Transplantation of the wall flowers resulted in aa final 61.1% survival rate for 18 of the 22 plants, and 0.0% survival of the additional four (4) individuals. However, germination was high and survival of outplanted seedlings was 96.6% in the first year.

Date Project Initiated: April 5, 1989, for transplantation of *E. capitatum* var. *angustatum* individuals; January 1990 for seedling outplanting.

IV.A.13. *Erysimum menziesii* (Menzies' Wallflower): State endangered; Federal Candidate C1; CNPS List 1B.

1) Respondent: Ms. Frederica Bowcutt, State of California Department of Parks & Recreation, Sacramento.

Project Name and Description: None. Project involved the reintroduction of *Erysimum menziesii* and *Chorizanthe howellii* to archeological sites at MacKerricher State Park (Mendocino County) after an archeological dig. University of California, Davis, initiated an archeological dig in 1989-90 at sites containing rare species. (see IV.A.6 for more details.)

Mitigation-Related?: Yes.

Project Objectives: None stated.

Project Methods: Seed was collected in the summer of 1989 from the plants on site before the archeological dig was initiated. Plug plants were grown at the California Conservation Corps (CCC) Napa nursery and outplanted in February 1990 by the CCC. Plants were monitored by an undescribed photo monitoring technique. Outplanted plants also were counted and mapped. Initial costs for the project were: (1) salary $800.00; (2) travel $400.00; and, (3) plants $200.00, for a total of $1400.00.

Criteria for Success: None stated.

Project Success: Project on-going. Information not yet available.

Date Project Initiated: July 1989.

2) Respondent: Ms. Frederica Bowcutt, State of California Department of Parks & Recreation, Sacramento, and data obtained from EPP files.

Project Name and Description: "Spanish Bay." Project involved the reintroduction of *Erysimum menziesii*, *Lupinus tidestromii* var. *tidestromii*, and *Gilia tenuiflora* ssp. *arenaria* to the dunes surrounding the Links at Spanish Bay (Monterey County). (see IV.A.15 and IV.A.22 for more details.)

Mitigation-Related?: Yes.

Project Objectives: To increase the numbers of the three rare plant species and either enhance existing populations or create new stands.

Project Methods: Seed was collected from a population at Asilomar and propagated at Spanish Bay Nursery. Outplanting of seedlings was to occur during the winter rainy season. The populations were to be fenced and signed, and a boardwalk constructed to route foot traffic past the outplantings. Regular maintenance is to include weeding of invasive species.

Criteria for Success: Survivorship of 80% for the total outplanted seedlings in the first

year, and a total of 70% of the plants within each distinct outplanting site. Should survivorship fall below these standards, replanting would be required to occur during the next rainy season.

Project Success: Respondent reports that the project appears successful, although no information held in the EPP files confirmed this.

Date Project Initiated: 1987.

3) Respondent: Dr. John Sawyer, Department of Biology, Humbolt State University, Arcata.

Project Name and Description: None. Project involved a three-year research project to study the biology of *Erysimum menziesii* and mitigation techniques. The research was supported by a timber company to mitigate the impacts of their harvest operation.

Mitigation-Related?: Yes.

Project Objectives: Stated objectives were to determined a viable population size and ways of habitat restoration to achieve a viable population size.

Project Methods: The current research project has not included any transplantation, relocation or reintroduction at this date. However, 30 permanent plots in existing populations are monitored quarterly, and have been so for the last two and one-half years. Project costs were given at $650,000.00.

Criteria for Success: Criterion was stated somewhat vaguely as when the existing population exceeds in size that projected by computer modeling.

Project Success: Project was still in progress at the time of the questionnaire.

Date Project Initiated: 1988 is the date given for the beginning of the project, although seed collection commenced in April of 1989.

IV.A.14. *Erysimum teretifolium* (Santa Cruz Wallflower): State endangered; Federal Candidate C1; CNPS List 1B.

Respondent: None. Data obtained from EPP files.

Project Name and Description: "Revegetation of the Olympia Quarry." The revegetation is to be done in compliance with conditions stipulated in a mining permit administered by Santa Cruz County. The Olympia Quarry is operated by Lone Star Industries, Inc., and is located west of Scotts Valley. The quarry site is approximately 200 acres, the majority of which has been mined for coarse sand for construction.

The adjacent vegetation is considered biologically significant because it is a xeric environment of sand hills in the midst of more mesic vegetation. Some of the rare elements on the quarry site include rare disjuncts or unusual flower color morphs.

Mitigation-Related?: Yes.

Project Objectives: The goal of the revegetation is to establish the Santa Cruz wallflower on the mined slopes and benches of the Olympia Quarry. In addition, a revegetation plan will attempt to recreate the native plant associations on the previously mined areas.

Project Methods: Larry Seeman and Associates, Inc. (LSA 1989) proposes to collected 50% of all the seed produced by a group of 300 plants growing in the eastern section of the quarry. The planting areas are composed of 15-ft wide benches at 60-ft intervals along a 1.5:1 slope. The seeding regime is to replicate the density of the *Erysimum teretifolium* in undisturbed communities.

Criteria for Success: Criteria will be developed by quantitatively sampling the vegetation in areas with *Erysimum teretifolium.*

Project Success: Project is not yet implemented. Information not yet available.

Date Project Initiated: Revegetation Plan initially submitted by LSA Associates, Inc. in July 1987 (LSA 1987, 1989). The project has not yet begun, however.

IV.A.15. *Gilia tenuiflora* ssp. *arenaria* (Sand Gilia): State threatened; Federal Candidate C1; CNPS List 1B.

Respondent: Ms. Frederica Bowcutt, State of California Department of Parks & Recreation, Sacramento, and data obtained from EPP files.

Project Name and Description: "Spanish Bay." Project involved the reintroduction of *Erysimum menziesii*, *Lupinus tidestromii* var. *tidestromii*, and *Gilia tenuiflora* ssp. *arenaria* to the dunes surrounding the Links at Spanish Bay (Monterey County). (see IV.A.12(2) and IV.A.22 for more details.)

Mitigation-Related?: Yes.

Project Objectives: To increase the numbers of the three rare plant species and either enhance existing populations or create new stands.

Project Methods: Seed was collected from a population at Asilomar and propagated at Spanish Bay Nursery. Seeds of sand gilia need stratification and scarification with differing daylength and temperature regimes. Outplanting of seedlings was scheduled to occur during the winter rainy season. The populations were to be fenced and signed, and a boardwalk constructed to route foot traffic past the outplantings. Regular maintenance was to include weeding of invasive species.

Criteria for Success: Survivorship of 80% for the total outplanted seedlings in the first year, and a total of 70% of the plants within each distinct outplanting site. Survivorship was to be compared in outplanting sites with existing populations in an attempt to account for annual fluctuations that may be environmentally controlled. Should survivorship fall below these standards, replanting would be required to occur during the next rainy season.

Project Success: Respondent reports that the project appears successful, although no information in the EPP files confirmed this.

Date Project Initiated: 1987.

IV.A.16. *Hemizonia increscens* ssp. *villosa* (Gaviota Tarplant): State endangered; Federal Candidate C1; CNPS List 1B.

Respondent: Mr. John Storrer, Storrer & Semonsen Environmental Services, Santa Barbara.

Project Name and Description: "Gaviota Interim Marine Terminal, Santa Barbara County, California." Mitigation was required for the construction of a secondary access road to the marine terminal.

Mitigation-Related?: Yes.

Project Objectives: The stated objective was the establishment of 5,800 ft^2 of *Hemizonia increscens villosa* habitat.

Project Methods: The impacted site was surveyed for *Hemizonia increscens* ssp. *villosa* and it was determined that approximately 50 individuals lay within the access road alignment. There are considerably more individuals found adjacent to the area (approximately 400-600 individuals). Seed was obtained from plants collected from the tank farm area prior to construction. An additional 2-3 inches of topsoil was retrieved before grading. More topsoil (3 inches) also was removed from the access road alignment during grading. The receptor site is on California Department of Parks and Recreation property east of the Texaco Interim Marine Terminal. No further site preparation was attempted prior to broadcasting of seed. The receptor site was fenced with three strands of barbless wire to delineate boundaries, and the project was signed.

Additional (approximately) 50 tarplant seedlings were discovered during an inspection of the site in March 1989. Adjacent weedy vegetation was clipped within a 6 inch radius of many of the plants to decrease competition.

Criteria for Success: Performance criteria included: (1) no evidence of soil erosion; and, (2) presence of a viable *H. increscens* ssp. *villosa* population. The latter was determined by comparing the density of flowering plants during the peak growing period with that of

the surrounding populations.

Project Success: An intensive survey was conducted on May 24, 1989, that recorded 136 flowering tarplants, with an additional nine plants that had died or seeded. The first year densitites of 1.2, 2.69 and 1.28 individuals per m^2 recorded were favorable in comparison with the Chevron restoration site. The project is on-going; however, the respondent felt that the first year's results were promising. More information is not yet available.

IV.A.17. ***Hemizonia minthornii*** (Santa Susana Tarplant): State rare; Federal Candidate C2; CNPS List 1B.

1) Respondent: None. Data obtained from EPP files.

Project Name and Description: "Santa Susana Tarplant (*Hemizonia minthornii*) Mitigation Program 2." Las Virgenes Municipal Water District built a new water reservoir adjacent to its existing reservoir in the Twin Lakes area near Chatsworth. Mitigation for this project involved the salvaging of *Hemizonia minthornii* plants, and transplanting the salvaged plants and some nursery plants grown from seed on the 250 m^2 cut slopes surrounding the new reservoir.

Mitigation-Related?: Yes.

Project Objectives: The overall project objective was to establish a new population of Santa Susana tarplants on the cut slopes surrounding the new water reservoir.

Project Methods: The project site boundaries were staked prior to the initiation of the construction. Seeds were collected in the summer of 1988 at a time considered by the consultants as not phenologically optimum for success -- *i.e.*, while the plants were in full bloom. Individual plants were located in either rock crevices or on thin soil in open areas. A pick mattock was used to break up the sandstone crevices to remove the top portion of the root, but the root was very deeply embedded in the substrate and could not be removed without breaking.

Potting mix was brought to the site and mixed with clean sand and soil from the site. Each transplanted plant was trimmed with clippers to compensate for the loss of the root system, and then potted. Each transplant was watered several times before transportation to Tree of Life Nursery. Cuttings were taken from the transplants and retained for their inflorescences and to attempt root cuttings. A total of 55 plants were potted, representing approximately 70% of the mature plants within the impacted area. Approximately 50% survived the initial transplantation operation; however, cutting survival and seed germination were poor (McClelland Consultants (West), Inc. 1988). None of the initial seed sown germinated (McClelland Consultants (West), Inc. 1988). A second collection of seed made in October 1988 was germinated at Tree of Life Nursery to compensate for the losses.

As of February 1989, however, only 8 of the 55 transplants have survived. During 1990, the site was visited and monitored only 4 times, as the plants appeared to show signs of naturalizing to the cut slope.

Criteria for Success: Performance criteria included the following: (1) 15 surviving mature plants from the transplants by May 1989; (2) 50 seedlings by May 1989; (3) 10 mature plants flowering by October 1989; (4) 30 mature plants by October 1990; (5) 100 seedlings by October 1990; (6) 50 mature plants by October 1991; (7) 70 mature plants with ground coverage of about 25 m^2 by October 1992 (McClelland Consultants (West) 1988).

Project Success: The project success has not been evaluated only because the project technically is still on-going. However, the survival of 8 of the 55 transplants, only 7 of which are doing well, is rather poor (McClelland Consultants (West) 19908). The project has been rather controversial (see article in the Los Angeles Times, February 3, 1989, p. 3, 14).

Date Project Initiated: July 1988 for the initial collection of seed and excavation of plants in the impacted area; January 1989 for the transplantation of salvaged plants.

2) Respondent: None. Data obtained from EPP files.

Project Name and Description: "Woolsey Canyon Development." Chateau Builders proposed in 1989 to construct an extensive residential community in Woolsey Canyon, western Los Angeles County. The project site is located in a sensitive ecological areas as designated by Los Angeles County. An environmental assessment performed by Michael Brandman & Associates (November 1988) identified that the proposed project would result in the direct loss of approximately 57 individuals of *Hemizonia minthornii*, in a population of approximately 147 individuals.

Mitigation-Related?: Yes.

Project Objectives: The primary objective of the mitigation plan will be: (1) to establish on the development site, a second population of *Hemizonia minthornii*, using propagules derived from individuals in the original population that is impacted by the development. The new population should be capable of natural regeneration over the long term; (2) offset of the loss of approximately 57 individuals of *Hemizonii minthornii* with the introduction of approximately 150 individuals as a founder group in a new population; and, (3) advance the state of knowledge of *Hemizonii minthornii* by carrying out appropriate research-related activities in conjunction with mitigation activities (Mistretta 1989).

Project Methods: The plants occur within a single population on a sandstone outcrop on the project site. The original development plan was designed to include 90 individuals in a reserve that would be bordered by the development. However, after consultation with CDFG, the reserve site was reconfigured to be continuous with an adjacent natural area on the southern boundary of the project, rather than being an island within the development (Mistretta 1989).

The Rancho Santa Ana Botanic Garden (RSABG) has been retained by the Chateau Group to advise on the horticultural and research-related aspects of the program. Data to be

gathered are: (1) number of individuals on site; (2) soil analyses; (3) population statistics; (4) reproductive capacity; (5) genetic composition; and, (6) floristic composition of the community.

The proposed revegetation program indicates that prior to the commencement of construction, the preserve site will be fenced and left undisturbed. The remaining Santa Susana tarplants will have the infructescences removed by hand at the appropriate season. Additional seed collection will be done if deemed necessary. Collected seed will be cleaned and dried prior to storage.

Half the collected seed will be sown in the preserve after the transplantation of salvaged individuals (see below). The remaining half will be propagated at RSABG for seedling transplantation.

In addition, the mature plants in the impacted area will be salvaged by digging with a shovel and pick mattock to a depth of 1 ft. Plants will be placed in planters for temporary off-site storage. Plants will be trimmed and watered 3 times during the first week and weekly thereafter until transplanted.

Transplant receptor sites within the preserve will be selected by a botanist/horticulturalist. Plants will be planted without mulch or fertilizers, and watered weekly for 4 weeks. The project site will be checked monthly by the botanist/horticulturalist for an undetermined period.

IV.A.18. ***Holocarpha macradenia*** (Santa Cruz Tarplant): State endangered; Federal Candidate C1; CNPS List 1B.

1) Respondent: None. Data obtained from EPP files.

Project Name and Description: "Hilltop Commons Development." The Nylen Company, Inc., developed an apartment complex in Pinole, Contra Costa County. Dr. Neil Havlik, then of the East Bay Regional Park District, agreed to perform a salvage of the mature

individuals of *Holocarpha macradenia* from the project site and transplant them to a nearby park within the East Bay Regional Park District.

Mitigation-Related?: Yes.

Project Objectives: None specifically stated, but the project was designed to salvage the mature plants of *Holocarpha macradenia* from a housing development site in Pinole, and subsequently establish a new population of *H. macradenia* at Wildcat Canyon Regional Park.

Project Methods: Pallets of soil, 4 ft^2 by 1 ft deep, containing *Holocarpha macradenia* plants were dug and seed was collected from these plants. Seed from the salvage was taken by Dr. Havlik and spread as an enlargement of several existing populations in Wildcat Canyon Park (Havlik's Stand Nos. 2, 11, 12, 13, 14, 15; [CNDDB Occ. Nos. 2, 29, 31 for the first three locations]). Seed also was spread at a site in Sather Canyon on the east side of San Pablo Reservoir.

Criteria for Success: None stated.

Project Success: Havlik monitored 21 populations, 7 of which were new populations, and reported an increase of 30% of the individuals from 1985 to 1986[10].

Date Project Initiated: September 13, 1986.

IV.A.19. *Lasthenia burkei* (Burke's Goldfields): State endangered; Federal Candidate C2; CNPS List 1B[11].

1) Respondent: Mr. Charlie Patterson, Plant Ecologist, private consultant, El Cerrito, and

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[10]See letter to Ms. Susan Cochrane, [formerly] Endangered Plant Coordinator, from Dr. N. Havlik, [formerly of the] East Bay Regional Park District, dated March 9, 1987.

[11]Mr. Ken Milam, Sonoma County Planning Director, returned a questionnaire for *Lasthenia burkei*, but the information provided was so vague as to be useless for this analysis. Therefore, the questionnaire is not included.

data obtained from EPP files.

Project Name and Description: " Airport Boulevard Business Park." A business park was constructed in 1984, located just northeast of the Sonoma County Airport.

Mitigation-Related?: Yes.

Project Objectives: The stated objective for the mitigation for the business park was the replacement of 0.3 acres of wetlands and pre-existing 5000 individuals of *Lasthenia burkei* with, at minimum, 10,000 individuals.

Project Methods: Seed was collected in 1984. Small pools were created by hand, clearing vegetation and topsoil in low swales within an 100 ft easement. These pools were seeded during the winter of 1985-1986. However, much of the easement was disturbed by the installation of a large storm drain before the seeding trials could be assessed. However, new larger pools were created later by a bulldozer-mounted blade during the fall of 1986, and seeded that year.

Criteria for Success: Essentially the replacement of a self-sustaining colony of *Lasthenia burkei* was the criterion for success.

Project Success: Respondent felt that the project was successful. The mitigated seeded population increased from no *Lasthenia burkei* to >6000 individuals in three years. However, due to additional complications, the pools were "re-worked" (*i.e.*, enlarged, re-contoured and re-seeded). The current year's results show in excess of 10,000 individuals.

2) Respondent: Mr. Charlie Patterson, Plant Ecologist, private consultant, El Cerrito, and data obtained from EPP files.

Project Name and Description: "Sonoma County Airport". This project involved the contruction of a new, paved apron at the Sonoma County Airport in 1986.

Mitigation-Related?: Yes.

Project Objectives: Objectives stated by the respondent for the airport expansion project was the replacement of the colony of *Lasthenia burkei* lost during construction.

Project Methods: Eleven small artificial pools were created by shovel and hoe in a broad, nearly level portion of the infield between the north end of Runway 14 and Taxiway Y. Pools were made by selecting a low spot and then scraping 1 to 6 inches of the surface. The scraped soil was piled into small berms around the downslope edges of the pools. Pools were seeded the day of construction.

Seed was sown both as seed collected in 1985 and from other existing populations 0.5 miles away, and by spreading the scraped topsoil from nearby colonies. These were then left alone for most of the winter and spring. Pools were monitored, which involved checking them for water collection and holding capacity, *Lasthenia burkei* germination, phenology, and reproduction.

Criteria for Success: Essentially the replacement of a self-sustaining colony of *Lasthenia burkei* was the criterion for success.

Project Success: Respondent felt that the project was successful. Seeded areas of existing ditches now support several thousand individuals of *Lasthenia burkei*, and another several thousand are growing in the constructed pools.

3) Respondent: Carl Wilcox, California Department of Fish and Game, Yountville, and data obtained from EPP files.None. Data obtained from EPP files.

Project Name and Description: "Santa Rosa Rare Plants Mitigation Plan San Miguel Estates 1." In 1989 Cobblestone Development Corporation proposed the development of San Miguel Rancho Subdivision (RSM) at 2001 Waltzer Road within the city of Santa Rosa, Sonoma County and San Miguel Estates No. 2 (SME) at 2192 Francisco Avenue, also within Santa Rosa. The SME project is an on-going housing construction and the RSM housing project was a 1989 development. The projects would destroy approximately

2.51 acres of vernal pool habitat. (see IV.A.2(2) for more details.)

Mitigation-Related?: Yes.

Project Objectives: According to the Mitigation Agreement between Cobblestone and CDFG, the mitigation should establish self-sustaining populations of plants in approximately 2.97 acres of newly created habitat on the mitigation site. Self-sustaining is defined as approximately 13,000 individuals of *Lasthenia burkei* and 137,000 individuals of *Blennosperma bakeri* for 2 consecutive years without supplemental seeding.

Project Methods: The mitigation plan was devised by R. Osterling, Inc. (1989). The plan proposed to transplant all existing plants and/or seeds to a 20-acre receptor site located approximately 1.5 miles west of the San Miguel Estates property, with existing 3.49 acres of vernal pool resources. Approximately 2.5 acres of vernal pool habitat will be constructed at the receptor site with pool configuration and depth based on survey of existing pools. Grading will be done with small equipment under supervision of a qualified botanist (Charlie Patterson, private consultant). Plant material will be "transferred." Seed will be collected from donor pools and the top 1-2 inches of pool bottom duff will be excavated and spread in the excavated pools at the receptor site. Monitoring will continue through June 1991.

Criteria for Success: None explicitly stated.

Project Success: Respondent indicated that although it was too early to tell because the projects are only in their first year, "[e]arly indications are that they will be the most successful relocations yet achieved in the Santa Rosa Area."

Date Project Initiated: March 1989.

4) Respondent: WESCO, Novato.

Project Name and Description: "County of Sonoma Public Service Area 31 Waste Water Storage Pond." The project involved the creation of a wastewater storage pond in 1988 on

approximately 3.7 acres of northern vernal pool, seasonal marsh and intermittent stream habitat (and 10 acres of non-native grassland). *Lasthenia burkei* was transplanted to an area known as "The Wildflower Preserve" on the Sonoma County Airport. The receptor site is already protected as part of the Sonoma County Airport mitigation.

Mitigation-Related?: Yes.

Project Objectives: The project objective was to create 4.4 acres of seasonal wetland habitat and to provide a transplantation site for *Lasthenia burkei.*

Project Methods: Seed was collected from plants at the impacted site. Plants in bloom were salvaged, kept in containers until seeded and seed subsequently was collected to be sown at the mitigation site. Topsoil was salvaged from around the plants to spread at the new sites.

The number of individuals are to be counted for each of five years.

Criteria for Success: Criteria have not been established.

Project Success: "Although the criteria have not been established, we feel that, for at least the first year of monitoring, the transplantation was somewhat successful. . . . Of course, long term viability of the population is still questionable." Approximately 1000 individuals were observed at the mitigation site, while only 150 plants were found at the impacted site.

Date Project Initiated: 1988.

IV.A.20. *Lilaeopsis masonii* (Mason's Lilaeopsis): State rare; Federal Candidate C2; CNPS List 1B.

1) Respondent: Mr. Niall McCarten, Department of Integrative Biology, University of California, Berkeley, and Department of Water Resources (DWR), Sacramento (questionnaire unsigned).

Project Name and Description: "California Department of Water Resources (DWR) Barker Slough Bank Revetment." The project was initiated in 1989 by DWR for levee bank

protection on private property. Individuals of *Lilaeopsis masonii* were transplanted from the east side of the slough to the west side.

Mitigation-Related?: Yes.

Project Objectives: Project objectives were the removal of *Lilaeopsis masonii* from the proposed rip-rap site and the transplantation of individuals to suitable habitat.

Project Methods: Populations of *Lilaeopsis masonii* were removed with a shovel, placed in shallow water in plastic containers and then placed in a boat and transported to the potential habitat (receptor site). After placing the transplant into the new site, the surrounding substrate was pressed along the edges to homogenize the substrate.

Eighteen (18) 50 x 50 cm permanent plots were established, and marked with numbered, color-coded metal stakes (ECOS, Inc. 1988). Control populations were marked similarly. All plants were to be counted in each plot five times during the first two years following transplantation, and three times per year for the following three years.

The receptor site initially was not protected, but due to the biological values of the site, it was purchased by CDFG as a preserve in January 1990.

Criteria for Success: Specific criterion was the survival of 80% or better of the individuals transplanted over a 5-year monitoring period.

Project Success: Unknown, as the project is on-going. One year of raw data is available from Mr. David Brown, DWR. DWR respondent claims that it is too early to make a determination as to whether the project is successful.

Date Project Initiated: April 1989

2) Respondent: Ms. Frederica Bowcutt, State of California Department of Parks & Recreation, Sacramento.

Project Name and Description: None. Project is being considered; may involve the transplantation of *Lilaeopsis masonii* at Brannan Island State Recreational Area near Rio

Vista (Contra Costa County).

Mitigation-Related?: Yes.

Project Objectives: Project still being planned. None stated.

Project Methods: Project still being planned. None stated.

Criteria for Success: Project still being planned. None Stated.

Project Success: Project still being planned. Not applicable.

Date Project Initiated: Not yet initiated.

IV.A.21. ***Lupinus milo-bakeri*** (Milo Baker's Lupine): State threatened; Federal Candidate C2; CNPS List 1B.

Respondent: None. Data obtained from EPP files.

Project Name and Description: None. In 1985, California Department of Transportation (Caltrans) performed road maintenance along State Highway 162 (Mendocino Pass Road) near the city of Covelo (Mendocino County). The mitigation project was to offset the impacts of this activity.

Mitigation-Related?: Yes.

Project Objectives: None stated explicitly, but the project was to establish several new populations to offset the loss of *L. milo-bakeri* during highway maintenance.

Project Methods: Caltrans collected seed from the CNDDB occurrence #2 for *Lupinus milo-bakeri* from August through September 1985. Not more than 15% of the population's annual seed crop was collected. Prior to seeding, the collected seed was rinsed, and the seed beds prepared by adding topsoil from the parent population. In October 1985, Caltrans planted the seed in areas of suitable habitat along Highway 162 between post mile markers (PM) 31.50 and 31.61, and from PM 32.00 to 32.14, as well as planted seed in suitable habitat near the Caltrans equipment yard near Covelo.

Criteria for Success: None stated.

Project Success: In some of the plots, there was considerable competition from annual grasses. Caltrans annually sprays the highway edges with herbicide, and this added to the growth of *L. milo-bakeri* in the seeded areas.

Date Project Initiated: August 1985.

IV.A.22. *Lupinus tidestromii* var. *tidestromii* (Tidestrom's Lupine): State endangered; Federal Candidate 1; CNPS List 1B.

Respondent: Ms. Frederica Bowcutt, State of California Department of Parks & Recreation, Sacramento, and data obtained from EPP files.

Project Name and Description: "Spanish Bay." Project involved the reintroduction of *Lupinus tidestromii* var. *tidestronii*, *Erysimum menziesii*, and *Gilia tenuiflora* ssp. *arenaria* to the dunes surrounding the Links at Spanish Bay (Monterey County). (see IV.A.13(2) and IV.A.15 for additional details)

Mitigation-Related?: Yes.

Project Objectives: To increase the numbers of the three rare plant species and either enhance existing populations or create new stands.

Project Methods: Seed was collected from a population at Asilomar and propagated at Spanish Bay Nursery. Seeds of *Lupinus tidestromii* var. *tidestromii* need stratification and scarification with differing daylength and temperature regimes. Outplanting of seedlings was to occur during the winter rainy season. The populations were to be fenced and signed, and a boardwalk constructed to route foot traffic past the outplantings. Regular maintenance was to include weeding of invasive species. Monitoring will continue until 1993.

Criteria for Success: Survivorship of 80% for the total outplanted seedlings in the first year, and a total of 70% of the plants within each distinct outplanting site. Should survivorship fall below these standards, replanting would be required to occur during the

next rainy season.

Project Success: Respondent reports that the project appears successful, although no information in the EPP files confirmed this.

Date Project Initiated: 1987.

IV.A.23. *Mahonia nevinii* (Nevin's Barberry): State endangered; Federal Candidate C1; CNPS List 1B.

Respondent: None. Data obtained from EPP files.

Project Name and Description: None. The RANPAC Corporation proposed the construction of Vesting Tentative Tract No. 23267 that would impact a population of *Mahonia nevinii* on the Old Vail Ranch property. Although 12 plants are found on the property, the mitigation project involved the relocation of a single plant.

Mitigation-Related?: Yes.

Project Objectives: None stated explicitly.

Project Methods: The impacted plant would undergo crown division and root cuttings. These would be transplanted in the late fall (no more details were provided). The success of the transplantations would be monitored for three years following transplantation. Seed was to be collected in the summer of 1989 to be propagated in a nursery and maintained until the success of the transplantation efforts could be adequately assessed.

Criteria for Success: Success would be based on the number of (trans)plants that grow and reproduce.

Project Success: Unknown. No information available in EPP files.

Date Project Initiated: Fall 1988.

IV.A.23. *Monardella linoides* ssp. *viminea* (Willowy Monardella): State endangered; Federal Candidate C3; CNPS List 1B.

Respondent: None. Data obtained from EPP files.

Project Name and Description: None. Mitigation was required for the California Department of Transportation (Caltrans) construction in 1983 of an I-15 gap closure and the construction of State Route 52 from I-805 to Santo Road.

Mitigation-Related?: Yes.

Project Objectives: The project objective was simply to offset losses of this plant species caused by construction of the highway projects.

Project Methods: For the State Route 52 project, Caltrans collected a total of 55 individual *M. linoides* ssp. *viminea* plants within the impacted area, and collected green cuttings of this species for reintroduction into suitable habitat within the project area. For the two projects together, Caltrans collected no more than 50% of each year's seed from populations within the impacted area. Prior to broadcasting of seed, Caltrans reviewed existing sites to characterize the ecological parameters of the species.

Criteria for Success: None stated explicitly.

Project Success: Progress reports were submitted in November 1983, April 1984, June 1985, and May 1986. The 1986 report stated that from June 1985 to December 1985, approximately 389 (additional) seedlings died, from the earlier total of 509 plants. This was the result of overcrowding in the nursery.

Two of the original 16 containerized salvaged plants died by June 1985. By December 1985, an additional eight plants had died.

Findings in the 1986 report were: (1) salvaged *M. linoides* ssp. *viminea* plants required parent soil to survive; (2) plants in nursery conditions need to be aggressively pruned; (3) nursery containers must be widely spaced; (4) *M. linoides* ssp. *viminea* is easily propagated from seed and cuttings, and, (5) transplantation would be at a suitable site in Murphy Canyon.

Date Project Initiated: 1983.

IV.A.25. *Oenothera deltoides* ssp. *howellii* (Antioch Dunes Evening Primrose): State endangered; Federally endangered; CNPS List 1B.

Respondent: Ms. Joy Albertson, U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge Complex.

Project Name and Description: "Vaca Dixon-Contra Costa 230-kV Reconductoring Project: Habitat Protection and Enhancement for Antioch Dunes." Pacific Gas and Electric Company (PG&E) reconductored the San Joaquin River crossing of the Vaca Dixon-Contra Costa 230 kV transmission line in the fall of 1988. The project took place specifically on the Sardis Unit of the Antioch Dunes National Wildlife Refuge (ADNWR), east of the town of Antioch. USFWS personnel conducted a Section 7 consultation with PG&E before granting access permit. (see IV.A.12 for more details.)

Mitigation Related?: Yes.

Project Objectives: Objectives were: (1) protection of habitat from future damage caused by construction/repair activities; (2) transplantation of listed species from access corridor to allow vehicle access to the tower; (3) establishment of new subpopulations of *Oenothera deltoides* ssp.*howelii* (and *Erysimum capitatum* var. *angustatum*); (4) enhancement of existing populations; and, (5) determination of whether direct seeding or transplantation of nursery liners is preferable.

Project Methods: Plants from the PG&E east parcel access corridor were transplanted either to other locations on the parcel or to the Sardis Pit area. A small circular area was first cleared of all vegetation, then an appropriately sized hole was dug. A plant was placed in the hole and soil was firmly packed around it. Nursery grown plants were planted in a similar manner in pre-selected sites on the PG&E and Sardis Pit Parcels.

Seed germination for *Oenothera deltoides* ssp. *howellii* was poor: only 10 seedlings survived to be planted. More seedlings were to be outplanted in December 1990. Cost of

the nursery-grown seedlings was estimated at $0.30/seedling; 377 seedlings produced; therefore it cost $113.10.

Criteria for Success: The replacement of the plants that were destroyed by the construction, specifically 160 *O. deltoides* ssp. *howellii* seedlings and 230 *E. capitatum* var. *angustatum* seedlings was the criterion.

Project Success: Respondent felt that the project was partially successful.

Date Project Initiated: April 5, 1989, for transplantation; January 1990 for seedling outplanting.

IV.A.26. *Opuntia basilaris* ssp. *treleasei* (Bakersfield Cactus): State endangered; Federal endangered; CNPS List 1B.

1) Respondent: James Brownell, California Energy Commission, Sacramento.

Project Name and Description: "Kern River Cogeneration Power Plant Project." Project involved the construction of a cogeneration power plant along the Kern River in 1983-85.

Mitigation-Related?: Yes.

Project Objectives: Objective of the mitigation project was to keep the cactus located at the edge of the road from being destroyed by truck traffic during construction.

Project Methods: Cactus pads were collected and allowed to callus. Approximately two weeks later, the pads were taken to the transplantation site. The receptor site is within the California Living Museum (CALM) property, a non-profit, privately-run educational program. CALM is located east of Bakersfield within the native range of *Opuntia basilaris* var. *treleasei*.

The receptor site had been weeded to remove non-native annual grasses, and soil had been loosened to allow the callus end of the pads to be placed in the soil. One hundred fifteen (115) cactus pads were positioned in nine (9) clumped in two (2) nearby areas. The receptor site was visited each year for three (3) years, and grasses were cleared at each

visit.

Criteria for Success: Success was achieved if the cactus flourished at the site.

Project Success: The project was considered successful, because the new plants were established wherever pads were planted.

Date Project Initiated: October 1983.

2) Respondent: Rick York, California Energy Commission, Sacramento, and data obtained from EPP files.

Project Name and Description: "Sycamore Cogeneration Project." Project involved the mitigation of operation activities of the Sycamore Cogeneration Company. A population of *Opuntia basilaris* var. *treleasei* became vulnerable to loss from erosion on a slope that was cut prior to construction of the project.

Mitigation-Related?: Yes.

Project Objectives: Sycamore Cogeneration Company, as part of the conditions of certification by the California Energy Commission, agreed to protect *Opuntia basilaris* var. *treleasei* in the main power plant area, pipeline right-of-ways, transmission line right-of-ways, access roads and the fuel oil storage area. If the Bakersfield cactus was disturbed, Sycamore agreed to transplant the affected stands to another area within the project vicinity in a manner similar to that described for the Kern River Cogeneration Project.

Project Methods: No details are provided in the Mitigation Agreement (MA). Information in EPP files indicates that Sycamore Cogeneration Company objected to the five-year monitoring stipulation in the MA.

Criteria for Success: No information was received.

Project Success: No information was received.

Date Project Initiated: 1989.

IV.A.27. *Orcuttia viscida* (Sacramento Orcutt Grass): State endangered; Federal Candidate C1; CNPS List 1B.

Respondent: Mr. Barry Hecht, Balance Hydrologics, Inc., Berkeley.

Project Name and Description: "Sunrise/Douglas Wetland Protection and Creation Program", Sacramento County. Project involved mitigation for two housing developments along Sunrise Boulevard, Sacramento County. Techniques for mitigation relocation/transplantation are "pending."

Mitigation-Related?: Yes.

Project Objectives: The objective for both projects was to re-establish species in vernal pools and freshwater seasonal wetlands within a 350-acre wetland preserve.

Project Methods: Methods are "pending."

Criteria for Success: Respondent reports two specific criteria: 1) Survival for 5 years in 90% of the pools and wetlands to which individuals of *Orcuttia viscida* are transplanted; and, 2) noticeable vigor and expansion of the range of *Orcuttia viscida* in 50% of the pools/wetlands into which individuals are transplanted.

Project Success: Decision of success is "pending."

Date Project Initiated: Project is "on-going;" presumably construction has not yet begun.

IV.A.28. *Pentachaeta lyonii* (Lyon's Pentachaeta): State endangered; Federal Candidate C1; CNPS List 1B.

Respondent: Mr. Carl B. Wishner, Envicom Corporation, Calabasas.

Project Name and Description: "Lake Sherwood Golf Course." The mitigation that was prepared by Envicom Corporation involved a salvage and restoration plan for *Pentachaeta lyonii* at the Lake Sherwood Golf Course site in Ventura County. The planning unit (Planning Unit No. 1) consisted of a 163-acre golf course, driving range, clubhouse, 146 single-family lots, and 4 estate lots, ranging from 0.3 to 12.7 acres.

Mitigation-Related?: Yes.

Project Objectives: Project objectives included: (1) maintenance of at least one site occurrence of *Pentachaeta lyonii* in perpetuity; (2) maintenance of at least one occurrence in an undisturbed state until the majority has flowered and seeded; (3) harvest of mature seed to establish a "germ plasm" collection at the Rancho Santa Ana Botanic Garden (RSABG), and to establish a living collection; (4) removal of top soil at impacted site for seed collection; (5) development of a five-year monitoring program; and, (6) conduction of a phytosociological study to determine habitat parameters.

Project Methods: Seed of *Pentachaeta lyonii* was collected by hand and by using a portable hand vacuum, yielding 7.75 grams. It was held cryogenically by the RSABG. Just before site grading, a target soil removal from areas of high plant density (70 flats of soil) was conducted, followed by overall surface scraping and stockpiling of about 2 yd^3 of soil.

Salvaged soil was redistributed of 0.1 acre *ex situ* just prior to the first major fall storm (November 1988). A small amount of seed and three (3) flats of salvaged soil were distributed onto the preserved *P. lyonii* location.

Prior to the extirpation of the *Pentachaeta lyonii* site, a grid system of 1 m squares was established using string and nails. Presence and ranked order estimates of density for each square meter were recorded. The identity of all species present within the areal extent of *P. lyonii* was recorded. A random sample of 60 quadrats was investigated for species presence. These data were subjected to an ordination analysis, along with similar data from other sites of occurrence. The *ex situ* site was similarly gridded in the spring of 1989. All species were recorded, and each quadrat checked for *Pentachaeta lyonii*.

Criteria for Success: Respondent indicated that the plan did not specifically designate criteria for success.

Project Success: Success in the stated context was not achieved. The respondent suggested that the plan for salvage was inadequate.

Date Project Initiated: May 1988.

IV.A.29. *Pogogyne abramsii* (San Diego Mesa Mint): State endangered; Federally endangered; CNPS List 1B.

Respondent: Drs. C.H. Black and Paul Zedler, Dept. Biology, San Diego State University.

Project Name and Description: "Caltrans Del Mar Mesa Vernal Pools" and "U.S. Navy North Miramar Project Mitigation." As background, California Department of Transportation (Caltrans) had two major projects on Kearny Mesa that eliminated vernal pools. The first project was mitigated by the purchase of 26 acres of prime vernal pool habitat on Del Mar Mesa and a second acquisition of an additional 52 acres at Del Mar Mesa. This second acquisition was to be used in an experiment to create artificial pools capable of supporting *Pogogyne abramsii* and *Eryngium aristulatum* var. *parishii* (Zedler and Black 1988). Respondents did not explain the Mirimar Project. (see IV.A.11 for additional information).

Mitigation-Related?: Yes.

Project Objectives: For both projects, the objective was to create vernal pool habitat for *Eryngium aristulatum* var. *parishii* and *Pogogyne abramsii*.

Project Methods: A set of 40 artificial basins was excavated in December 1986, and 387 were inoculated with material collected from the natural pools on Del Mar Mesa.

Criteria for Success: Respondents did not specifically designate criteria for success.

Project Success: Respondents feel that the projects are "not yet" successful because the rare species have not attained population densities found in the natural pools.

Date Project Initiated: December 1986.

IV.A.30. *Pseudobahia peirsonii* (Tulare Pseudobahia): State endangered; Federal Candidate C1; CNPS List 1B.

Respondent: John Stebbins, California State University, Fresno.

Project Name and Description: "Round Mountain Flood Control Project," initiated by the Fresno County Metro Flood District. Project plans are being drafted at this time.

Mitigation-Related?: Yes.

Project Objectives: Project plans are being drafted at this time. Net yet available.

Project Methods: Project plans are being drafted at this time. Net yet available.

Criteria for Success: Project plans are being drafted at this time. Net yet available.

Project Success: Net yet available.

Date Project Initiated: Presumably the project has not yet begun.

IV.A.31. *Sedum albomarginatum* (Feather River Stonecrop): Not State listed; Federal Candidate C1; CNPS List 1B.

Respondent: Sharon Villa, California Department of Transportation (Caltrans), Redding.

Project Name and Description: "Feather River Canyon Storm Damage Repair." The project involved the repair of the February 1986 storm damage to State Route 70 in Plumas County. Work included widening at three (3) spot locations where the highway was reduced to a single lane. Initially, the existing rock slopes were cut back approximately 15 feet to restore two traffic lanes. The roadway was later realigned away from the East Branch North Fork Feather River.

Mitigation-Related?: Yes (for a federal candidate).

Project Objectives: The overall goal of the mitigation project was to reduce the severity of project impacts on *Sedum albomarginatum*. Specific project objectives were : (1) avoid unnecessary or inadvertent damage to the population by restricting habitat disturbance to those areas that are located within the slope lines; (2) salvage individual *S. albomarginatum*

plants from project impact areas prior to construction, and reintroduce these plants on suitable slopes within the immediate area following construction; (3) collect information on the distribution, density, and microhabitat preferences of *S. albomarginatum* within the project area to guide reintroduction efforts; and, (4) monitor the survival of re-established plants for a period of five years to evaluate the effectiveness of transplantation as a mitigation measure of *Sedum albomarginatum.*

Project Methods: An unspecified number of plants (up to 500 individuals) were salvaged from the impacted site, placed in a burlap bag and transferred to labeled flats. These were maintained in a lath house at the Butte College horticultural facility. The salvaged plants were returned to the area of origin and transplanted after the new highway slopes had been constructed. Two plantings were performed, one in Fall 1986 and the other in Spring 1987. Each plant was permanently marked with a numbered aluminum tag wired to a steel spike driven into the ground.

Criteria for Success: None were developed.

Project Success: One hundred fifty eight (158) plants were outplanted in Fall 1986 and an additional 158 were outplanted the following spring. Only 14 (8.8% survival rate) survived the fall transplant, and only three (3) individuals (1.9% survival rate) survived the spring transplant.

Date Project Initiated: June 1986.

IV.A.32. *Sidalcea pedata* (Bird-Footed Checkerbloom): State endangered; Federally endangered; CNPS List 1B.

Respondent: None. Data obtained from EPP files.

Project Name and Description: "*Sidalcea pedata* Transplantation Project." The project involved the construction of a store (Big Bear K-Mart) in the city of Big Bear Lake (San Bernadino County). The mitigation involved the transplantation of eleven (11) whole

plants.

Mitigation-Related?: Yes.

Project Methods: Terms of the Mitigation Agreement (MA) between CDFG and K-Mart Corporation stipulated that all four *Sidalcea pedata* plants on the impacted site were to be translocated to a protected site approximately 0.25 miles away, owned by The Nature Conservancy. However, by the time the MA was signed, several individuals of *S. pedata* were destroyed by equipment operations from an industrial contractor's yard adjacent to the K-Mart proposed site. The remaining twelve plants (10 mature and two seedlings) were transplanted by means of a Vermeer hydraulic spade during November 1988.

Site preparation included the removal of several tons of asphalt debris and light discing to reduce the compaction of the recipient area. The 0.9 acre parcel was fenced with a split rail around its entire perimeter.

Criteria for Success: None stated in the materials available for review.

Project Success: As of 16 May 1990, 10 of the 12 transplants survived to reproduce and one seedling transplant survived, despite two years of drought. This represents a 90% survival rate for the mature plants. T. Krantz, the contractor from Nativescapes responsible for the transplantation effort, suggests that the project was at least initially successful.

Date Project Initiated: November 1988.

IV.B. Endangered, Threatened, and Rare Plant Species Involved in Research-Related ,Transplantation, Relocation and Reintroduction Projects

IV.B.1. ***Amsinckia grandiflora*** (Large-Flowered Fiddleneck): State endangered; Federally endangered, CNPS List 1B.

Respondent: Mr. Kevin Shea, East Bay Regional Parks District (EBRPD), Oakland, and

data obtained from EPP files.

Project Name and Description: "*Amsinckia Grandiflora* Experimental Reintroduction." EPP contracted with Dr. Bruce Pavlik of Mills College, Oakland, to re-establish *Amsinckia grandiflora* at Black Diamond Mines Regional Reserve, a park within the East Bay Regional Park District (Pavlik 1990). The project included: (1) reintroduction of *Amsinckia grandiflora* to its historic location near Antioch, California ("Stewartville"), (2) monitoring the new population; and, (3) experimentally testing the effects of burning, clipping, and herbicide on survivorship and seed production of *Amsinckia grandiflora*. These results would be used to establish additional satellite populations of *Amsinckia grandiflora*.

Mitigation-Related?: No.

Project Objectives: Establishment of at least four new *Amsinckia* populations within its historic range in order to reduce the probability of extinction.

Project Methods: A 14 x 17 m plot was fenced with barbed wire to exclude livestock. Within the area, 20, 2 x 2 m plots of 4 treatments were selected by a stratified random design. Five plots served as controls, five plots were burned after sowing, five plots were hand-clipped, and five plots were sprayed with a dilute solution of a grass-specific herbicide (fluazifop-p-butyl, known as "Fusilade®", produced by the ICI Corporation).

Amsinckia grandiflora nutlets (3460 total), 1800 from a naturally occurring population (Site 300 source) and 1660 grown at the University of California at Davis were sown on October 19 and 20. Each plot was planted with 160 nutlets by pressing each into a shallow depression in the mineral soil. The nutlets were covered with approximately 20 cc of loose native soil to a depth of 1 cm. No supplements of water or nutrients were applied during the experiment.

Amsinckia grandiflora plots were monitored for the following parameters: (1) germination, (2) stress factors, (3) mortality, (4) phenology, (5) reproductive survivorship,

(6) pin-thrum ratio, and (7) nutlet output per plant and per plot.

Criteria for Success: Not explicitly stated, but the success of the reintroduction effort was based on the result that the maximum nutlet output in the experimental plots exceeded the predicted nutlet output (based on laboratory studies).

Project Success: Pavlik reported the project a success in its first year, based upon the production of approximately 35,000 seeds from 1140 individuals, representing a ten-fold increase over the number (3460) of individuals used in the experiment.

Date Project Initiated: October, 1989

IV.B.2. ***Antennaria flagellaris*** (Stoloniferous Pussytoes): Not state or federally listed, but meets CEQA criteria (§15380?) at the time of transplantation; CNPS List 4.

Respondent: Mr. Gary Schoolcraft, U.S. Bureau of Land Management, Susanville.

Project Name and Description: None. U.S. BLM initiated a transplantation project, moving a portion of a population consisting of approximately 10,000+ individuals, that at the time (1983), was considered the only known population in California. Transplantation was attempted as an experiment because it was believed that gold mining would return to the area, and the population was located at the edge of the previous mining activity.

Mitigation-Related?: No.

Project Objectives: Project was initiated to determine whether transplantation of *Antennaria flagellaris* could be used in the future as mitigation.

Project Methods: Plants were removed in groups from a large (>10,000+ individuals) by shovel. These were then transplanted immediately in flats to the relocation sites. Groups and soils were kept in tact, as much as possible. Some plants were watered with a vitamin B1 mixture, while others were not supplemented. No difference was observed in growth between these two groups.

Each summer following the transplantation, the total number of plants (both live

and dead) were counted. No transplanting report was prepared, but internal memoranda describing the transplantation and the concluding activities were prepared. Estimated cost of the transplantation was 1 work day per transplant.

Criteria for Success: Establishment and reproduction of the plants on site, to sufficient numbers to guarantee existence of the population.

Project Success: Not successful. Of the >400 plants transplanted into 4 different populations, only one newly established population exists. This consists of only 17 plants after 6 years. All other died. Schoolcraft suggested that because the plant is a short-lived perennial that reproduces vegetatively primarily by stolons, the receptor site may have had an inappropriate soil texture to allow adequate vegetative reproduction.

Date Project Initiated: October 1983.

IV.B.3. *Arabis macdonaldiana* (MacDonald's Rock Cress): State endangered; Federally endangered; CNPS List 1B.

Respondent: Pardee Bardwell, U.S. Bureau of Land Management (U.S. BLM) and Michael Baad, California State University, Sacramento.

Project Name and Description: "Geographic Distribution of Rare Plants on Public Lands Within the Red Mountain Study Area and A Study of the Population Dynamics and Reproductive Biology of McDonald's Rock-Cress [sic] (*Arabis macdonaldiana*)." The project was contracted by Dr. Baad with the U.S. BLM to determine the: (1) geographic distribution of rare plants on Red Mountain public lands; and, (2) population dynamics and reproductive biology of MacDonald's rockcress (Baad 1987).

Mitigation-Related?: No.

Project Objectives: The overall project objective of the contract was to determine why *Arabis macdonaldiana* is not more widely distributed within the rocky habitats of Red Mountain. The project was initiated in part in response to the 1984 Recovery Plan for

MacDonald's rock cress.

Project Methods: As part of this contract, in November 1985, Dr. Baad planted 30 1 m^2 plots with 100 *Arabis macdonaldiana* seeds each, over a wide range of habitats on Red Mountain. Several plots also received seedlings germinated from seed under greenhouse conditions. These were monitored during 1986.

Criteria for Success: None.

Project Success: The report notes that there was extremely poor germination success by *Arabis macdonaldiana* over the wide range of habitats into which they were outplanted. Dr. Baad concluded that this species has a relatively low rate of germination even in its preferred habitat. Also, the transplants did not do well, surviving in only 3 of the original plots. All but 5 of the original 25 transplants that remained were completely grazed and/or torn out of the ground by herbivores.

Date Project Initiated: Spring 1984.

IV.B.4. ***Arctostaphylos hookeri* var. *ravenii*** (Raven's Manzanita): State endangered; Federally endangered; CNPS List 1B.

Respondent: Ms. Terri Thomas, U.S. National Park Service, Golden Gate National Recreation Area, San Francisco.

Project Name and Description: "Raven's Manzanita Recovery Plan." The "relocation" project was initiated as part of the Raven's manzanita recovery plan.

Mitigation-Related?: No.

Project Objectives: To expand the number of individuals in the population, so that the single remaining individual could remain undisturbed.

Project Methods: Approximately 60 cuttings were taken and propagated by the Saratoga Horticultural Foundation and the University of California Botanic Garden. Later, 60 plants were outplanted in the Presidio in sites identified as similar to the original serpentine site of

the parent plant. Plants were watered periodically throughout the first season. An unreported number of seeds were collected, soaked in concentrated sulfuric acid for three hours, and then washed. They were then stratified in moist peat for three months at room temperature and then for three months in the refrigerator.

Criteria for Success: The criterion for success for the cuttings was simply survival. For the seeds, the criterion for success has not yet been determined, because they are still experimenting with collection times, germination techniques, *etc.* However, no mechanism for protection of the transplants has been initiated.

Project Success: Of the approximately 160 cuttings taken and grown at various local botanical gardens, 60 plants were eventually outplanted. It is not clear from the respondent whether any of these remaining 60 have died, but it appears that they have not.

Date Project Initiated: January 1987.

IV.B.5. ***Bensoniella oregana*** (Bensoniella): State rare; Federal Candidate C2; CNPS List 1B.

Respondent: Mr. Dave Imper, North Coast Chapter, California Native Plant Society, Eureka.

Project Name and Description: "*Bensoniella* Transplant Project." Project was initiated in 1979 by the Six Rivers National Forest because downcutting of stream channels appeared to threaten populations of *Bensoniella oregana*. Approximately 50 rosettes were removed from the Smokehouse Creek parcel and transplanted to Groves Prairie, east of Willow Creek, in similar habitat.

Mitigation-Related?: No.

Project Objectives: No specific objectives, although generally the Forest Service wanted to prevent the demise of the streamside populations of *Bensoniella oregana.*

Project Methods: Whole plants (rosettes) were removed from the Smokehouse Creek

Parcel (an outholding held by Six Rivers National Forest specifically for *Bensoniella oregana*), and transplanted to Groves Prairie, east of Willow Creek in a similar habitat of white fir (*Abies concolor*)/incense cedar (*Calocedrus decurrens*). Transplants were monitored from 1980-1985.

Criteria for Success: Not clearly defined, other than short-term survival. Respondent noted that a "rather inadequate" measure of vigor was included in the original monitoring plan.

Project Success: Success was not clearly defined, but some rosettes survived. During the first year, a large increase (>100%) in the number of rosettes and inflorescences was observed. However, there has been an apparent failure for these transplants to reproduce sexually. Respondent indicated that so little of the biology of this species is known that it is not clear whether *Bensoniella oregana* reproduces sexually anywhere or whether sexually reproduction is intermittent. Also, respondent indicates that the transplant population has declined significantly within the last year.

Date Project Initiated: 1978-79.

IV.B.6. *Cordylanthus palmatus* (Ferris' Bird's Beak): State endangered; Federal endangered; CNPS List 1B.

Respondent: Dr Larry Heckert, Jepson Herbarium, University of California, Berkeley.

Project Name and Description: None stated.

Mitigation-Related?: No.

Project Objectives: None stated. Presumably the objective of Dr. Heckert was to establish a self-sustaining population of *Cordylanthus palmatus* at the Mendota Wildlife Refuge.

Project Methods: An unspecified number of individuals was collected from somewhere outside the wildlife refuge and transplanted to the refuge. The population lasted for over 10 years, but eventually died out. At some time during this project, a naturally-occurring

population was discovered within the Mendota Wildlife Refuge.

Criteria for Success: None stated.

Project Success: Project was successful about a decade, but not for the long term.

Date Project Initiated: late 1970's.

IV.B.7. *Dudleya cymosa* ssp. *marcescens* (Santa Monica Mountains Dudleya): State rare; Federal Candidate C2; CNPS List 1B.

Respondent: Ms. D.A. Hoover, Woodland Hills, California.

Project Name and Description: "Soltice Canyon Native Plant Project." Volunteers from the California Native Plant Society (CNPS) proposed to eradicate invasive exotic species and replace them at Soltice Canyon Park with species native to the Santa Monica Mountains. This project included the reintroduction of *Hemizonia minthornii* and *Dudleya cymosa* ssp. *marcescens*. (see IV.B.8 for more details).

Mitigation-Related?: No.

Project Objectives: Objectives as stated were to expand the protected sites for the relatively rare native species and to learn practical methods for safe propagation without threatening native populations.

Project Methods: Individuals of *D. cymosa* var. *marcescens* were collected (salvaged) from along a road in Red Rock Canyon that was to be graded for fire-break maintenance. Approximately 7-8 individuals were lifted from the hard-packed roadside soil and transplanted to soil-filled pockets on a rocky berm on Humbolt Terrace at Soltice Canyon Park. Each plant was watered by hand for several months. The respondent suggested that the rocky setting protects the plants from gophers and also provides excellent drainage.

Plants were monitored by CNPS members through periodic inspections. Visits included weeding of competing exotics (*e.g.*, castor bean, tree tobacco, mustard, various thistles, *etc.*) and handwatering of additional native species. Total cost of the project was

$130.00 (gas @ $10.00 and paid assistance at $120.00).

Criteria for Success: None stated for *Dudleya cymosa* var. *marcescens*.

Project Success: For *Dudleya cymosa* var. *marcescens*, the respondent felt that the transplantation was successful because the transplanted plants established successfully. However, the respondent also noted that many more individuals of *D. cymosa* var. *marcescens* were lost due to road-scraping. The CNPS hopes to expand this reintroduced population through future off-site seed collection, germination, and transplantation.

Date Project Initiated: 1987; project on-going.

IV.B.8. ***Hemizonia minthornii*** (Santa Susana Tarplant): State rare; Federal Candidate C2; CNPS List 1B.

Respondent: Ms. D.A. Hoover, Woodland Hills, California.

Project Name and Description: "Soltice Canyon Native Plant Project." Volunteers from the California Native Plant Society (CNPS) proposed to eradicate invasive exotic species and replace them at Soltice Canyon Park with species native to the Santa Monica Mountains. This project included the reintroduction of *Hemizonia minthornii* and *Dudleya cymosa* ssp. *marcescens*. (see IV.B.7 for more details).

Mitigation-Related?: No.

Project Objectives: Objectives as stated were to expand the protected sites for the relatively rare native species and to learn practical methods for safe propagation without threatening native populations.

Project Methods: Seed was collected from two off-site populations in the Santa Monica Mountains (Calabasas Peak and Castro Peak), and stored for several weeks. These failed to germinate, but a second collection was made, and seeds were sown the same day of collection. These seeds germinated and subsequently were transplanted to a screen-covered seed bed in Soltice Canyon Park. The populations were subject to gopher predation and

overwatering, however.

Plants were monitored by CNPS members through periodic inspections. Visits included weeding of competing exotics (*e.g.*, castor bean, tree tobacco, mustard, various thistles, *etc.*) and handwatering of additional native species. Total cost of the project was $130.00 (gas @ $10.00 and paid assistance at $120.00).

Criteria for Success: None stated for *Hemizonia minthornii.*

Project Success: Respondent reported that virtually 100% of the seeds germinated, but the very young transplants died from drought. Approximately 10 individuals survived to flower. The Castro Peak seedlings will be transplanted to various locations in the park to test their ability to survive in each (different?) site.

Date Project Initiated: 1987; project on-going.

IV.B.9. *Oenothera wolfii* (Wolf's Evening Primrose): Not California State listed; Federal Candidate C2; CNPS List 1B.

Respondent: Mr. Dave Imper, North Coast Chapter, California Native Plant Society, Eureka.

Project Name and Description: None. Project involved the population expansion within the type locality of *Oenothera wolfii* at Luffenholtz Beach. In December, 1988, 3 individuals of *Oenothera wolfii* were transplanted from Luffenholtz parking area to adjacent habitat, along with two greenhouse seedlings and considerable amounts of seed.

Mitigation-Related?: No.

Project Objectives: The stated objective was to reduce the impacts of repaving, trampling, and vehicular use to populations of *Oenothera wolfii* at Luffenholtz Beach.

Project Methods: Seeds were collected and grown in respondent's greenhouse. Approximately 80 seedling rosettes ranging from 1 - 4 inches in diameter were outplanted on December 26, 1989, in four small areas east of Scenic Drive, south of the residence

driveway. In addition, a small amount of seed was planted directly.

Criteria for Success: None stated.

Project Success: Late summer mortality was high. Only 55 seedlings from 7000+ seeds currently survive. Five of the 7 onsite transplants survived, and one of the two greenhouse seedlings. However, the respondent suggests that both seeding and transplantation are potentially viable methods for mitigating impacts on this species, and for expanding small populations.

IV.C. Project Proponents

Of the 46 projects reviewed in this analysis, 17 (37%) were conducted by private businesses involved in housing construction, outdoor recreational facilities, and business offices (Table 4). However, state services such as the California Department of Transportation, California Department of Water Resources, California Department of Parks and Recreation, and the services of two counties (Sonoma and Fresno) together were involved in a total of 15 projects (33%). Finally, an additional 5 projects (11%) were conducted by energy companies (both private and public utilities) (Table 4). The remaining projects were research-related or mitigation-related projects conducted by various agencies of the federal government for a variety of reasons,

V. DISCUSSION OF FINDINGS

V.A. Mitigation Successes

Seven transplantation attempts were considered successful in this analysis. These attempts involved the plant species *Amsinckia grandiflora, Dudleya cymosa* ssp. *marcescens, Holocarpha macradenia, Lasthenia burkei, Opuntia basilaris* var. *treleasei*, and *Sidalcea pedata*. Of these species, the first two were not involved in mitigation-related transplantation efforts. However, the *Amsinckia* project appears to have been so successful because of the great detail and care taken in

TABLE 4. PLANT SPECIES INVOLVED IN TRANSPLANTATION, RELOCATION, OR REINTRODUCTION PROJECTS, PROJECT PROPONENTS, AND DEGREE OF MITIGATION SUCCESS.

SPECIES	PROJECT PROPONENT	PROJECT NAME	PROJECT SUCCESS
Acanthomintha ilicifolia	1) Pardee Company	Westview Planned Residential Development	On-going
	2) Shea Homes	Palos Vista Development	On-going
	3) Pardee Company	Reparation for Sabre Springs Development	On-going
	4) Unknown	Indian Hill, Las Brisas, & Spyglass	Limited success
Amsinckia grandiflora	N/A: Research-Related	*Amsinckia grandiflora* Experimental Reintroduction	Successful
Antennaria flagellaris	U.S. BLM	None	Not successful
Arabis macdonaldiana	N/A: Research-Related	Geographic Distribution of Rare Plants on Public Lands Within the Red Mountain Study Area....	Not successful
Arctostaphylos hookeri var. *ravenii*	N/A: Research-Related	Raven's Manzanita Recovery Plan	On-going
Bensoniella oregana	N/A: Research-Related	*Bensoniella* Transplant Project	Limited success
Blennosperma bakeri	1) Christopherson Homes	Montclair Park	Limited success
	2) Cobblestone Development Corporation	San Miguel Estates	On-going
Brodiaea filifolia	Baldwin Company	College Area Specific Plan in San Marcos	On-going
Brodiaea insignis	Dept. Water Resources	Kaweah Reservoir Dam Expansion	Planning stage
Calochortus greenei	Siskiyou County	None	Not successful
Chorizanthe howellii	UC Davis	None	On-going
Cirsium occidentale var. *compactum*	Calif. Dept. Transportation	Little Pico Bridge Replacement & Piedras Blancas Shoulder widening	Partial success
Cordylanthus palmatus	N/A: Research-Related	None	Partial success
Croton wigginsii	U.S. BLM	None	Not successful
Dudley cymosa ssp. *marcescens*	N/A: Research-Related	None	Successful
Eriastrum densifolium ssp. *sanctorum*	Calif. Dept. Transportation	Santa Ana Woollystar Relocation Project	Not successful
Eriophyllum mohavense	Calif. Energy Commission	LUZ SEGS VII	Not successful
Eryngium aristulatum var. *parishii*	Calif. Dept. Transportation	Caltrans Del Mar Mesa Vernal Pools	Partial success
Erysimum capitatum var. *angustatum*	Pacific Gas & Electric Co.	Vaca Dixon-Contra Costa 230-kV Reconductoring Project....	Partial success
Erysimum menziesii	1) UC Davis	None	On-going
	2) Unknown	Spanish Bay	No information
	3) Unnamed timber company	None	On-going
Erysimum teretifolium	Lone Star Industries, Inc.	Revegetation of Olympia Quarry	Planning stage
Gilia tenuiflora ssp. *arenaria*	Unknown	Spanish Bay	No information
Hemizonia increscens ssp. *villosa*	Texaco	Gaviota Interim Marine Terminal	On-going
Hemizonia minthornii	1) N/A: Research-Related	None	Not successful
	2) Las Virgenes Municipal Water District	Santa Susana Tarplant Mitigation Program Twin Lakes Tank No. 2	Not successful
	3) Chateau Builders	Woolsey Canyon Development	Planning stage
Holocarpha macradenia	Nylen Company	Hilltop Commons Development	Successful
Lasthenia burkei	1) Unknown	Airport Blvd. Business Park	Successful
	2) Sonoma Co. Airport	Sonoma Co. Airport Expansion	Successful
	3) Cobblestone Development Corporation	San Miguel Estates	On-going
	4) Sonoma County	County of Sonoma Public Service Area 31 Waste Water Storage Pond	On-going
Lilaeopsis masonii	1) Dept. Water Resources	Baker Slough Bank Revetment	On-going
	2) Dept. Parks & Recreation	None	Planning stage
Lupinus tidestromii var. *tidestromii*	Unknown	Spanish Bay	No information
Lupinus milo-bakeri	Calif. Dept. Transportation	None	Unknown

TABLE 4. PLANT SPECIES INVOLVED IN TRANSPLANTATION, RELOCATION, OR REINTRODUCTION PROJECTS, PROJECT PROPONENTS, AND DEGREE OF MITIGATION SUCCESS (cont.).

SPECIES	PROJECT PROPONENT	PROJECT NAME	PROJECT SUCCESS
Mahonia nevinii	RANPAC Corporation	Vesting Tentative Tract No. 23267	Unknown
Monardella linoides ssp. *viminea*	Calif. Dept. Transportation	None	Not successful
Oenothera deltoides ssp. *howellii*	Pacific Gas & Electric Co.	Vaca Dixon-Contra Costa 230-kV Reconductoring Project....	Partial success
Oenothera wolfii	N/A: Research-Related	None	Not successful
Opuntia basilaris var. *treleasei*	1) Calif. Energy Commission	Kern River Cogeneration Power Plant Project	Successful
	2) Sycamore Cogeneration Company	Sycamore Cogeneration Project	Unknown
Orcuttia viscida	Unknown	Sunrise/Douglas Wetland & Creation Program	Ongoing
Pentachaeta lyonii	Unknown	Lake Sherwood Golf Course	Not successful
Pogogyne abramsii	Calif. Dept. Transportation	Caltrans Del Mar Mesa Vernal Pools	Partial success
Pseudobahia peirsonii	Fresno Co. Metro Flood Control District	Round Mountain Flood Control Project	Planning stage
Sedum albomarginatum	Calif. Dept. Transportation	Feather River Canyon Storm Damage Repair	Not successful
Sidalcea pedata	K-Mart Corporation	*Sidalcea pedata* Transplantation Project	Successful

all phases of the research, and that is was peformed by a conscientious and skilled researcher, Dr. Bruce Pavlik. In this instance, the biology of the species was investigated in full, and various relevant (receptor) site treatments were included as an experimental component of the research. It appears crucial that the soil and habitat requirements of the species be understood completely before successful establishment can be assured.

As for the success of the nonmitigation-related transplantation of *Dudleya cymosa* ssp. *marcescens* and the mitigation-related *Opuntia basilaris* var. *treleasei*, these species are succulents which in general, have relatively easy horticultural requirements. Succulents by their biology are rather hardy and tolerant of drought and other forms of disturbance. Therefore, in the case of the Bakersfield cactus, using industry standards for cutting and callus formation may have insured its successful transplantation for the Kern River Cogeneration Power Plant Project. However, the receptor site was also carefully prepared to receive the cactus pads, and this again, appears to be important in assuring success of the transplantation.

The reasons for the success of the thwo *Lasthenia burkei* vernal pool projects (Sonoma County Airport Business Park, and the Sonoma County Airport Expansion are not clear. The issue of vernal pool creation, mitigation, and enhancement is exceptionally contentious among practicing biologists in the State, and there are many differing opinions about vernal pool mitigation "success" (see Ferren and Gevirtz 1990, for example). In a survey such as this, we must accept the accessment of success by the parties responsible for the mitigation, if the established criteria are met and it meets the criteria imposed by this review. In all three cases with *Lasthenia burkei*, populations were established with a greater number of individuals than there present originally (*i.e.*, no individuals). However, because these projects have been on-going for less than 10 years, the long-term viability of the populations is not yet known.

What is also interesting about the vernal pool projects in Sonoma County is that they also involved *Blennosperma bakeri*. Although these projects are technically on-going and were not evaluated as either successful or unsuccessful in this analysis, the early reported results indicate that this species will also successfully establish at created vernal pools. However, one respondent (N. Harrison, San Rosa Jr. College) suggested that despite the purported success of vernal pool creation in Sonoma County, this is an "unsuitable" method for mitigation. Preservation is the only viable mitigation method for vernal pool [plants]. She also reported that Sonoma State University [personnel] has tried for 12 years to vegetate an artificial vernal pool by seeding and transplantation from local sources, but without success. It is not clear from this review why there is such a clear discrepancy in the evaluation of mitigation success for Sonoma County's vernal pool plant species. It is likely that philosophic and ethic differences, rather than biology, drive this debate.

The successful mitigation efforts of the last two species, *Holocarpha macradenia* and *Sidalcea pedata*. are not known. For the Santa Cruz tarplant, the salvage of individual plants was accomplished with care, but preparation of the receptor site was not performed. It is possible that *H. macradenia* is a rather weedy species capable of taking advantage of small site disturbances to establish successfully. As for the bird-footed checkerbloom, the individuals were carefully removed from the construction site, the receptor site was prepared to receive the transplanted individuals, and the receptor site fenced for protection from disturbance. The assessment of success may be premature for this species because the project is only in the second year of monitoring, but the first year survival rate is significant (90%).

V.B. Mitigation Failures

Over one quarter (12 out of the 26 projects; 26%) of the transplantation, relocation, and reintroduction projects in this survey are considered failures. They will not be reviewed individually; however, several are notable, and will serve to illustrate the various reasons for a

project's lack of success. The Las Virgenes Municipal Water District's project involving the construction of a water and the consequent destruction of a population of *Hemizonia minthornii* is a controversial mitigation failure that received media attention (Los Angeles Times 1989). Several obvious reasons why this project failed are: (1) seed was collected from plants before it was fully mature (seasoned) and thus subsequent seed germination was poor; (2) plants were collected during the middle of the growing season when they may have been most vulnerable to disturbance; and, (3) because of the nature of the (rock) substrate, individuals were difficult to collect for transplantation. Although an attempt was made to extract individuals carefully, in many cases it appears that the roots had to be broken as individuals were torn from their rock substrate; consequently, few individuals survived.

The difficulties the California Department of Transportation had with the transplantation of *Monardella linoides* ssp. *viminea* again illustrates the problems of native substrate and soils. One of the findings made in the 1986 monitoring report was that this species required its parent material to survive in cultivation. This was discovered after a significant number of individuals had died. For *Antennaria flagellaris*, the respondent suggested that the reason this species did not thrive in its transplantation site was because the soils had an inappropriate soil texture to allow for stoloniferous growth. *Arabis macdonaldiana* is a serpentine endemic, and many such species are difficult to grow in cultivation. Dr. Baad's work demonstrated that this species has poor germination rates even on its native substrate, and did not fare well in any experimental manipulations in the field. Finally, despite serious efforts to control for the unusual edaphic factors that control the distribution of *Eriophyllum mohavense* (and *Chorizanthe spinosa*), transplantation of seeds of the Barstow woolly sunflower and its soil by the California Energy Commission did not succeed. Again, the respondent suggests that the current drought is responsible for the transplantation failure.

Another feature of the mitigation-related transplantation failures is illustrated, again by the California Department of Transportation, in its efforts to transplant *Sedum albomarginatum*. This species is a succulent, and unlike the other succulents in this survey, did not survive its transplantation. It is believed that the transplanted individuals did not survive in large part due to the present drought (Martz, personal communication).

The efforts of the U.S. Bureau of Land Management (BLM) illustrate the problems associated with the transplantation at different life stages. In this instance attempted to transplant seedlings of *Croton wigginsii*. The seedlings were reported as being transplanted with considerable care into an appropriate habitat, but all seedlings died. Because seedlings are a well known to be vulnerable life history stage, manipulations involving seedlings are not likely to succeed.

For other species, such as *Pentachaeta lyonii*, the reasons for failure are not clear. Despite considerable efforts on the part of the consultants to insure mitigation success, including cooperation with the Rancho Santa Ana Botanic Garden for horticultural expertise and sound field methods, the respondent reported that success of the project objectives was not achieved. The reason offered was that the salvage plan was "inadequate."

In summary of the successes and failures of transplantation, relocation and reintroduction of sensitive plant species in California, three broad recommendations can be made that are based on several aspects of the biology of imperiled plant species. These recommendations are:

(1) Individuals should be removed with as little disturbance as possible to the individual, and at a phenologically appropriate time of year when the individual is dormant or photosynthetically inactive;

(2) The receptor site should be of the same habitat quality, particularly with respect to soil

type and its physical characteristics. Various other aspects of the receptor site might include weeding to decrease competition from native and exotic species, watering during times of drought, and fencing and/or other forms of site protection; and

(3) Knowledge of the biology of the organism appears to aid greatly in the design of appropriate horticultural techniques for the preparation of cuttings, transplantation, seed germination, *etc.* This is problematic, however, because the biology of most State-listed species is poorly known. Although some species such as cacti and succulents may be amenable to standard horticultural techniques for propagation, most are not. Therefore, without sufficient knowledge of the biology of impacted species, success of the transplantation, relocation, or reintroduction will not be assured.

V.C. Overview and Summary

Mitigation of impacts to endangered, threatened, and rare plant species is an issue of considerable debate. On the one hand, the Canadian Botanical Association (Fahselt 1988), the American Society of Plant Taxonomists (ASPT 1989), and the Rare Plant Scientific Committee of the California Native Plant Society (CNPS 1990) do not favor mitigation and in point of fact, oppose transplantation as a means of plant preservation except in those instances for which there are no other means of protection. An otherwise doomed population of *Penstemon barrettiae* was transplanted under just such circumstances (Guerrant 1990). Mitigation guidelines propagated by the CNPS (1990) recommend impact avoidance as outlined in the California Environmental Quality Act (CEQA §15370) as the favored mitigation technique.

On the other hand, however, transplantation, relocation, and reintroduction of endangered, threatened, or rare species are routinely performed as mitigation for "unavoidable" project impacts, according to both state and federal environmental legislation. This is currently accomplished in

California for listed plant species through Mitigation Agreements. However, it is remarkable that such potentially harmful activities to State- and (federally-) listed species has, until very recently, been so poorly monitored by all parties (but see new guidelines by Howald and Wickenheiser 1990).

What is equally remarkable is the lack of performance criteria (*i.e.*, criteria for success) of the completed mitigation-related projects reviewed here. Only 15 of the 46 projects (33%) have explicitly defined criteria for success, and until quite recently, there was no consistency in these criteria. Without such "industry" standards, success of translocation, relocation, and reintroduction projects cannot be made objectively. When criteria are explicitly defined, for example the College Area Specific Plan in San Marcos for *Brodiaea filifolia*, mitigation successes can be assessed appropriately.

Such policy statements about transplantation, relocation, or reintroduction as mitigation as those promulgated by the Canadian Botanical Society and the American Society of Plant Taxonomists, combine an ethical viewpoint with a scientific evaluation of plant (and animal) transplantation efforts. For animals, Griffith *et al.* (1989) reported that success rates for the translocation of birds in the United States, Australia, Canada, and New Zealand range widely, from 10% to greater than 90%. The results depended upon the type of animal involved and the conditions of release. They concluded that without high quality habitat at the receptor site, translocations had a low chance of success, regardless of how many animals were released or the condition of the individuals. High quality receptor habitat may be even more critical for plant transplantations than for animals, because of the physical immobility of plants.

For plants, Hall (1986) recently reviewed transplantation for sensitive plants as mitigation for environmental impacts in California, and concluded that transplantation has not been a "panacea"

for botanical resource conservation. Hall also suggested that the lack of sufficient post-transplantation maintenance and monitoring has contributed to the unreliability of these mitigation techniques. Monitoring, however, is a labor-intensive commitment, and as such, may not be budgeted appropriately, particularly over the long term. In addition, monitoring of rare plant species can take many forms (see for example, Palmer 1987), and standards for monitoring should be established before mitigation successes can be compared. This is an enormous task.

The effective of many kinds mitigation-related projects is coming into question elsewhere, and it is a critical resource conservation issue for the regulatory community and the public alike. For example, the Florida Department of Environmental Regulation recently issued a report that summarized the success of wetland mitigation required for the issuance of dredge and fill permits under the state Henderson Wetlands Act of 1984 (FDER 1991). The success rate of mitigation was 27% (with some wetland types proving much less successfully mitigated than others). The report also finds that with the institution of simple remedial measures, mitigation success could have been increased to 40% overall. Interestingly, the report documented only 6% (4 out of 63) were found to be in full compliance with the mitigation requirements of the permit.

Some analogies may be relevant here. First, in both instances, success rates for mitigation projects is equal to or less than 25%. This statistic should be unacceptable to the regulating agency, and strongly indicates that the program is not working effectively. Second, some plants (as some wetland habitats) may be more easily manipulated (*i.e.*,, mitigated) than others. This is clearly reflected in the kinds of plants (*e.g.*, succulents and cacti) that were determined to be successfully mitigated in this review. Third, it is likely that with simple remedial measures (as discussed for the Florida wetlands), *e.g.*, hand-watering, weeding of competing exotics, fencing, *etc.*, mitigation success rates for the transplantation of State-listed species could be greatly enhanced. Finally, although not part of this study, it should be investigated whether the permittees are in full

compliance with the Mitigation Agreements.

There are some success stories, however. *Stephanomeria malheurensis* (Parenti and Guerrant 1990) and *Styrax texana* (Cox 1990) are two endangered plants that have been successfully reintroduced back into their native habitats in Oregon and Texas, respectively. In many instances, such as these two, success of relocation, reintroduction, or transplantation is achieved through Herculean means. Thus until we understand thoroughly the techniques of translocation, relocation, reintroduction, and restoration, it may be unwise to routinely agree to these forms of mitigation for endangered, threatened, or rare botanical resources.

In conclusion, it is recommended that because of the low success rate of the completed mitigation-related projects involving translocation, relocation, and reintroduction, and the reasonably high number of projects that are on-going and for which no conclusive information is currently available, the Endangered Plant Program should limit their Mitigation Agreements to those projects for which such techniques are the only known means of preservation of a population of an endangered, threatened, or rare species, or for impact avoidance is not possible, and for which there is no demonstrated practicable alternative.

VI. ACKNOWLEDGEMENTS

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APPENDIX A. EXAMPLE COVER LETTER AND QUESTIONNAIRE

San Francisco State University
1600 Holloway Avenue
San Francisco, California 94132

Department of Biology
415/338-1548

18 April 1990

Ms. Ann Howald, Program Ecologist
Endangered Plant Program
California Department of Fish & Game
Non-Game Heritage Division
1416 Ninth St.
P.O. Box 944209
Sacramento, CA 95814-2090

Dear Ms. Howald:

As part of the California Department of Fish and Game's Endangered Plant Program review of mitigation for state-listed rare, threatened and endangered plant species, I am conducting a survey of mitigation, transplantation, replantation and reintroduction projects that have been implemented or planned in California. The purpose of this survey is to assess the success of mitigation-related transplantation, relocation and reintroduction projects of state-listed plant species.

The enclosed form details fifteen questions. Please answer each to the best of your knowledge. Should you need more room for your answers, please feel free to attach an additional sheet. Copies of any reports for projects of an unusual or special nature, or illustrative for any particular point, would be greatly appreciated.

If you are unable to complete this questionnaire, please contact me at your earliest convenience (415-338-6270). If you would prefer, this questionnaire can be completed by phone if you call me at a time convenient for both parties.

Thank you for your time. Your efforts are of considerable importance for a project that has significant ramifications for the future of the rare plant species of California.

Yours most sincerely,

Peggy L. Fiedler
Assistant Professor
Lcdfgq

Appendix A

APPENDIX B. MAILING LIST FOR QUESTIONNAIRE

Appendix B. Mailing List for Questionnaire

Louise Accurso
U.S. Fish & Wildlife Service
Box 524
Newark, CA 94536

Lowell Ahart
9771 Ahart Road
Oroville, CA 95966

Douglas G. Alexander
Department of Biological Sciences
California State University
Chico, CA 95929

Bob Allen
7 Palm Court
Larkspur, CA 94939

David Amme
1314 Curtis Street
Berkeley, CA 94702

Jerry Anders
GW Consulting Engineers
7447 Antelope Road, Suite 202
Citrus Heights, CA 95621

Dick Anderson
CEC
1416 Ninth Street
Sacramento, CA 95814

John Anderson
Yolo County Resource Conservation District
Box 231
Winters, CA 95694

John Anderson
Tuolumne County Planning Dept.
2 South Green Street
Sonora, CA 95370

Joseph Aparicio
Biology Department
American River College
Sacramento, CA 95811

Wayne Armstrong
Department of Biology
Palomar College
San Marcos, CA 92069

Richard Arnold
50 Cleveland Rd., #3
Pleasant Hill, CA 94523

Leland K. Ashford, Jr.
Department of Fish & Game
48 West Indianapolis Ave.
Clovis, CA 93612

Bill Asserson
California Department of Fish & Game
1200 Carter Avenue
Bakersfield, CA 93308

Walt Auburn
California Conservation Corp
1530 Capitol Avenue
Sacramento, CA 95814

Mike Baad
Department of Biological Sciences
California State University
Sacramento, CA 95819

Mark Bagley
P.O. Box 1431
Bishop, CA 93514

Geoffrey Bain
U.S. Bureau of Land Management
P.O. Box 1112
Arcata, CA 95501

Susan Bainbridge
California Department of Fish and Game
1416 Ninth Street, Room 1225
Sacramento, CA 95814

Kate Baird
CalTrans
1248 Johnson Avenue
San Diego, CA 92103

Richard Baker
NPS/Western Regional Office
450 Golden Gate Avenue
San Francisco, CA 94102

Doug Barbe
1220 "N" Street, Room 324
Sacramento, CA 95814

Linda Barker
1312 Fairlane Road
Yreka, CA 96097

Katie Barrows
P.O. Box 478
La Quinta, CA 92253

W. Jim Barry
Department of Parks & Recreation
P.O. Box 2390
Sacramento, CA 95811

Jim A. Bartel
U.S. Fish & Wildlife Service
2800 Cottage Way, Room E-1823
Sacramento, CA 95825

Ellen Bauder
4824 Point Alto
La Mesa, CA 92041

Barbara Beard
Thomas Reid Associates
P.O. Box 872
Palo Alto, CA 94302

Mitchel Beauchamp
Pacific Southwest Biological Services, Inc.
P.O. Box 985
National City, CA 92050

Tom Beck
19777 Greenley Rd.
Sonora, CA 95370

Eric Behn
U.S. Army Corps of Engineers
211 Main Street
San Francisco, CA 94105

Germaine Belanger
CalTrans
P.O. Box 911
Marysville, CA 95901

Barbara Benge
U.S. Army Corps of Engineers
650 Capitol Mall
Sacramento, CA 95814

R.W. Benseler
Dept. Biological Sciences
Hayward State University
Hayward, CA 94542

Kristin Berry
P.O. Box 3119
Truckee, CA 95734

Albin Bills
Department of Biology
Butte College
Oroville, CA 95965

Charles Black
Department of Biology
California State University
San Diego, CA 92102

Martha Black
California Department of Parks & Recreation
1600 U.S. Hwy. 101
Garberville, CA 95440

Tom Blankinship
California Department of Fish & Game
407 W. Pine Street
Bishop, CA 93514

Dave Bockman
531 Sumner Street, Apt. D.
Santa Cruz, CA 95060

Mary Boland
California Department of Fish & Game
1234 E. Shaw
Fresno, CA 93710

Bob Bonderud
Pacific Gas and Electric Company
123 Mission Street, #2159
San Francisco, CA 94105

Jack Booth
3551 Eastside Calpella Rd.
Ukiah, CA 95482

Steve Botti
Yosemite National Park
P.O. Box 577
Yosemite Natl. Park, CA 95389

Frederica Bowcutt
P.O. Box 2390
Sacramento, CA 95811

Jacqueline Bowland
McClelland Environmental Services
2140 Eastman Ave.
Ventura, CA 93003

David Bradford
Envirosphere Co.
10933 Wagner Street
Culver City, CA 90230

Dave Bramlet
1691 Mesa Dr., Apt. A-2
Santa Ana, CA 92707

Dr. Robert Branson
National Park Service
57 Ciello Vista Drive
Monteray, CA 93940

Rick Breitenbach
Bureau of Reclamation
2800 Cottage Way, Room W-2103
Sacramento, CA 95825

Dave Brennan
900 West Grande
Porterville, CA 93257

Katya Bridwell
URS Corporation
501 J Street
Sacramento, CA 95814

Jim Brownell
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Allen Buckman
Department of Fish and Game
P.O. Box 47
Yountville, CA 94599

Rick Burgess
721 Aster #124
Oxnard, CA 93030

Don Burke
Planning Associates
662 Azalea Avenue
Redding, CA 96002

Geoff Burleigh
602 North Brand
San Fernando, CA 91340

Brad Burkhart
ERCE
5510 Morehouse Drive
San Diego, CA 92121

Robert Burness
Sacramento County Planning Department
827 Seventh Street, Room 230
Sacramento, CA 95814

Tom Burnham
745 West "J" Street
Los Banos, CA 936335

Brenda Butner
14565 Harvard Ct.
Los Altos, CA 94022

Joe Callizo
1730 Stockton St.
St. Helena, CA 94574

Rosemary Carey
EA Engineering Science & Technology
41A Lafayette Circle
Lafayette, CA 94549

Clif Carstens
Omni-Means, Ltd.
2240 Douglas Boulevard, Suite 260
Roseville, CA 95661

Susan Marie Carter
Southern Cal Edison, Research & Development
1190 Durfee Road
South El Monte, CA 91733

Chuck Casena
CalTrans
50 Higuera Street, P.O. Box 8114
San Luis Obispo, CA 93403

John Cassady
Pacific Gas and Electric Company
123 Mission Street, #2159
San Francisco, CA 94105

Steve Chainey
Jones & Stokes Associates, Inc.
1725 23rd Street, Suite 100
Sacramento, CA 95816

Frank Chan
Pacific Gas and Electric Company
123 Mission Street, #2159
San Francisco, CA 94105

Norden H. Cheatham
Natural Reserves System
300 Lakeside Drive, 6th Floor
Oakland, CA 94612-3560

Marvin Chesebro
1545 Wilshire Blvd., #711
Los Angeles, CA 90017

Geoff Chinn
Solano County/ Environmental Management
601 Texas Street
Fairfield, CA 94533

Curtis Clark
Dept. Biology
California Polytechnic University
Pomona, CA 91768

Dick Clark
U.S. Army Corps of Engineers
650 Capitol Mall
Sacramento, CA 95814

Ronilee Clark
1901 Spinaker Dr.
Ventura, CA 93001

William Clark
CWESA
1758 N. Academy
Sanger, CA 93657

Duffy Clemons
9502 Fairbanks Ave.
San Diego, CA 92123

Philip Scott Clemons
ESD
7136 Cardinal Road
Fair Oaks, CA 95628

Glen Clifton
910 Sanitarium Rd.
Deer Park, CA 94576

Bob Coats
Phillip Williams & Associates
Pier 35, The Embarcadero
San Francisco, CA 94133

Steven Cohan
Rancho Santa Ana Botanical Garden
1500 North College Avenue
Claremento, CA 91711

Dana Cole
Jackson State Forest
802 N. Main Street
Ft. Bragg, CA

Mike Concannon
CH2M Hill
2200 Powell Street
Emeryville, CA 94608

Lincoln Constance
Dept. Integrative Biology
University of California
Berkeley, CA 94720

Cynthia Copeland
Dept. Environmental Mngmt., Solano Co.
601 Texas Street
Fairfield, CA 94533

Toni Corelli
678 Perth Court
Milpitas, CA 95035

Dave Cornman
Pacific Gas and Electric
123 Mission Street, #2159
San Francisco, CA 94105

Robin Cox
The Nature Conservancy
785 Market Street, 3rd Floor
San Francisco, CA 94103

Robin Crabill
345 Jersey St.
San Francisco, CA 94114

James V. Crew
California Department of Fish & Game
841 E. Scranton
Porterville, CA 93257

Katherine Culligan
150 Woodland Way
Piedmont, CA 94611

Katherine Cuneo
Cuneo Environmental Planning
7 Poco Paso
San Rafael, CA 94903

Michael Curto
California Deparment of Parks & Recreation
8669 Verlane Drive
San Diego, CA 92119

Paul Cylinder
Jones & Stokes Associates, Inc.
1725 23rd Street, Suite 100
Sacramento, CA 95816

Virginia Dains
3371 Ayres Holmes Road
Auburn, CA 95603

Charlice Danielson
10 Kerr Ave.
Kensington, CA 94707

Karen Danielson
NPS - Channel Island NP
1901 Spinnaker Drive
Ventura, CA 93001

William Davilla
Biosystems Analysis Inc.
303 Potrero Street, #29-203
Santa Cruz, CA 95060

Sidney W. Davis
Davis 2, Consulting Earth Scientists
P.O. Box 724
Georgetown, CA 95634

Bruce Dawson
555 Leslie Street
Ukiah, CA 95482

Sally deBecker
Pacific Gas and Electric Company
3400 Crow Canyon Road
San Ramon, CA 94583

Mary DeDecker
P.O. Box 506
Independence, CA 93526

Lauramay T. Dempster
Jepson Herbarium
University of California
Berkeley, CA 94720

David Diaz
U.S. Forest Service
630 Sansome Street
San Francisco, CA 94111

Jim Dice
6066 Portobelo Ct.
San Diego, CA 92124

Janet Diehl
Trust for Public Land
82 2nd Street
San Francisco, CA 94110

Kenneth M. DiVittorio
Pacific Gas and Electric Company
3400 Crow Canyon Road
San Ramon, CA 94583

Linda Dondanville
UNOCAL Geothermal Corp.
2099 Range Avenue, Box 6854
Santa Rosa, CA 95406
Ms. Dondanville

Greg Donovan
P.O. Box 1152
Santa Ynez, CA 93460

Monica Dreibelbis
CalTrans District 7
2520 3rd Street, #3
Santa Monica, CA 90405

Nancy Dubbs
U.S. EPA
215 Fremont Street
San Francisco, CA 94105

Anthony T. Dunn
6210 Callee Empinada
San Diego, CA 92124

Wendie Duron
1063 Pierce Drive, #104
Clovis, CA 93612

John Edell
CalTrans District #9
500 South Main Street
Bishop, CA 93514

David Edelson
Natural Resources Defense Council
25 Kearney Street
San Francisco, CA 94108

Robert Edminster
DFG-Los Banos Complex
18110 W. Henry Miller Avenue
Los Banos, CA 93635

Steve Edwards
Tilden Botanic Garden
Berkeley, CA 94708

Jean Elder
U.S. Army Corps of Engineers
650 Capitol Mall
Sacramento, CA 95814

Tom Elias
Rancho Santa Ana Botanic Garden
1500 North College Avenue
Claremont, CA 91711

Bruce Eliason
California Department of Fish & Game
245 W. Broadway, Suite 350
Long Beach, CA 90802

Bruce Elliot
Department of Fish and Game
2201 Garden Road
Monterey, CA 93940

Mary Jo Elpers
U.S. Fish & Wildlife Service
5825 Creekside Avenue #2
Orange, CA 92669

Larry L. Eng
Department of Fish and Game
2896 Candido Drive
Sacramento, CA 95833

Michael Evans
Tree of Life Nursery
33201 Ortega Highway
P.O. Box 736
San Juan Capistrano, CA 92693

Phillis Faber
California Native Plant Society
212 Del Casa
Mill Valley, CA 94941

Reynaud Farve
U.S. Bureau of Land Management
63 Natoma Street
Folsom, CA 95630

Stan Farwig
1230 Almar St.
Concord, CA 94518

Bill Ferlatte
Rt. 1, Box 263D
Montague, CA 96064

Jean Ferreira
California Dept. Parks & Recreation
2211 Garden Road
Monterey, CA 93940

Wayne Ferren
Dept. Biological Sciences/Herbarium
University of California Santa Barbara
Santa Barbara, CA 93106

Wayne Fields
Hydrozoology
P.O. Box 682
Newcastle, CA 95658

Jeff Finn
Department of Fish and Game
13515 Schooner Hill Road
Grass Valley, CA 95945

Daniel Fira
Santa Barbara County Planning
123 East Anapamu Street
Santa Barbara, CA 93101

Ann Fisher
Cornflower Farms
P.O. Box 896
Sacramento, CA 95827

Steve Flannery
Sacramento County Parks
4040 Bradshaw Road
Sacramento, CA 95827

Doug Flesher
Butte College
4841 Round Valley Road
Paradise, CA 95969

Cal Fong
U.S. Army Corps of Engineers
211 Main Street
San Francisco, CA 94106

Holly Forbes
Botanical Garden
University of California
Berkeley, CA 94720

Bruce Forman
Sacramento Science Center/Jr. Museum
3615 Auburn Blvd.
Sacramento, CA 95821

Steve Forman
WESCO
14 Galli Drive, Suite A
Novato, CA 94949

Eric Forno
Balance Hydrologics, Inc.
1760 Solano Ave, #209
Berkeley, CA 94707

Mike Foster
P.O. Box 1336
Quincy, CA 95971

Leslie Friedman
The Nature Conservancy
785 Market Street, 3rd Floor
San Francisco, CA 94104

Marilynn Friley
USFWS, Division of Ecological Services
2800 Cottage Way, Room E-1803
Sacramento, CA 95825

Joel Galbraith
City of Santa Rosa
P.O. Box 1678
Santa Rosa, CA 95402

Roman Gankin
1525 Regent St., Apt. 5
Redwood City, CA 94061

Carl Geldin-Mayer
1649 Church Rd.
McKinleyville, CA 95521

Jim Gibson
Consultant
8291 Caribbean Way
Sacramento, CA 95826

Dan Gifford
Department of Fish and Game
1701 Nimbus Road
Rancho Cordova, CA 95670

Valerie Gizinski
California Department of Parks & Recreation
3033 Cleveland Avenue, Suite 110
Santa Rosa, CA 95401

Bernard H. Goldner
Santa Clara Valley Water District
5750 Alamaden Expressway
San Jose, CA 95118

Cay Goude
U.S. Fish and Wildlife Service
2800 Cottage Way, Room E-1823
Sacramento, CA 95825

Steve Granholm
LSA
157 Park Place
Pt. Richmond, CA 94801

John Gray
Dames & Moore
175 Cremona Drive
Goleta, CA 93117

Jim Griffin
Hasting Natural History Reservation
Star Route, Box 80
Carmel Valley, CA 93924

Tom and Mary Ann Griggs
The Nature Conservancy
7100 Desmond Road
Galt, CA 95632

Alan Grundman
Jasper Ridge Biological Preserve
Stanford University
Stanford, CA 94305-5020

Hector Guerro
Tulare County Planning
County Civic Center
Visalia, CA 93291

Jack and Betty Guggolz
California Native Plant Society
1123 Palomino Road
Cloverdale, CA 95425

Laren Hall
Dept. Recreation
San Diego State University
San Diego, CA 92181

J.R. Haller
Dept. Biological Sciences
University of California
Santa Barbara, CA 93106

William Halvorson
Channel Island National Park
1901 Spinnaker Drive
Ventura, CA 93001

Michael Hamilton
UC James San Jacinto Mtms. Reserve
P.O. Box 1775
Idyllwidl, CA 92349

Linnea Hanson
875 Mitchell Ave.
Oroville, CA 95965

Rick Hanson
URS Corporation
501 J Street
Sacramento, CA 95814

Nancy Harrison
1150 Wild Rose Dr.
Santa Rosa, CA 95401

Sandy Harrison
California Department of Parks & Recreation
730 S. Beckman, Box 1450
Lodi, CA 95241-1450

Neil Havlik
Solano County Farmlands & Open Space Foundation
1000 Webster Street
Fairfield, CA 94533

Barry Hecht
Balance Hydrologics, Inc.
1760 Solano Avenue, Suite 209
Berkeley, 94707

Larry Heckard
Jepson Herbarium
University of California
Berkeley, CA 94720

Kristi Hein
Pacific Gas and Electric Company
123 Mission Street, #2159
San Francisco, CA 94105

Larry Hendrickson
California Native Plant Society
P.O. Box 155
Julian, CA 92036

Mary Ann Henry
329 Purdew
Ridgecrest, CA 93555

Tom Hesseldenz
P.O. Box 409
McCloud, CA 96057

Diana Hickson
WESCO
14 Galli Drive, Suite A
Novato, CA 94949

Brian Hoffman
EIP Associates
1311 I Street, Suite 200
Sacramento, CA 95814

B. Demar Hooper
Holliman, Hackard & Taylor
1545 River Park Drive, Suite 550
Sacramento, CA 95815

Doris A. Hoover
4773 Abargo St.
Woodland Hills, CA 91364

Natalie Hopkins
906 Elizabeth St., Drawer E
Alviso, CA 95002

Barbara Hopper
Box. 783
Kenwood, CA 95452

Alice Howard
6415 Regent Street
Oakland, CA 94618

Terry Huffman
Huffman & Associates, Inc.
69 Aztec Street
San Francisco, CA 94110

Thomas Huffman
City of San Diego Planning Department
202 "C" Street, MS 5A
San Diego, CA 92101

Dave Imper
4612 Lentell Rd.
Eureka, CA 95501

Gerda Isenberg
Yerba Buena Nursery
19500 Skyline Blvd.
Woodside, CA 94062

Dave Isle
USFS Stonyford Station
HC-1, Box 12
Stoneyford, CA 95979

Diana Jacobs
State Lands Commission
1807 13th Street
Sacramento, CA 95814

Lawrence Janeway
P.O. Box 411
Chico, CA 95927

Tom Jimerson
507 "F" Street
Eureka, CA 95501

Bennett Johnston
Trust for Public Land
116 New Montgomery Street, 4th Floor
San Francisco, CA 94105

Jim Jokerst
Jones & Stokes Associates, Inc.
1725 23rd Street, Suite 100
Sacramento, CA 95816

H. Lee Jones
Michael Brandman & Associates
4918 No. Harbor Drive, Suite 205-A
San Diego, CA 92106

Robert Jones
Earthcraft Planning Services
1540 Talmage Road
Ukiah, CA 95482

Eric H. Jonsson
5148 Elnire Place
San Diego, CA 92117

Michael Josselyn
Dept. Biology
San Francisco State University
San Francisco, CA 94132

Paul Jorgensen
P.O. Box 645
Point Arena, CA 95468

Steve Junak
Santa Barbara Botanic Garden
1212 Mission Canyon Rd.
Santa Barbara, CA 93105

Holly Keeler
City of Sacramento Planning
1231 I Street
Sacramento, CA 95814

Charles Keene
California Department of Water Resources
120 S. Spring Street
Los Angeles, CA 90012

David B. Kelley
Consulting Plant Ecologist
216 F Street, No. 51
Sacramento, CA 95616

Joanne Kerbavaz
1004 Cypress Ln.
Davis, CA 95616

Harlan Kessel
376 Bellevue Ave.
Oakland, CA 94610

Laurie Kiguchi
304 Park Way
Santa Cruz, CA 95060

Holman E. King
Dept. Fish & Game
4728 Jimbo Court
Denair, CA 95316

Karen Kirtland
1 Park Plaza, Suite 500
Irvine, CA 92714

Doug Kleinsmith
U.S. Bureau of Reclamation
2800 Cottage Way, Room W-2103
Sacramento, CA 95825

Walter Knight
1513 Royal Oak Dr.
Petaluma, CA 94952

Monti Knutsen
USFWS, Endangered Species Office
2800 Cottage Way, Room E-1823
Sacramento, CA 95825

Robin S. Kohn
Holliman, Hackard & Taylor
1545 River Park Drive, Suite 55
Sacramento, CA 95815

Maribeth Kottman
USDA Forest Service
3348 Alpine Blvd.
Alpine, CA 92201

Karla Kramer
USFWS, Endangered Species Office
2800 Cottage Way, Room E-1823
Sacramento, CA 95825

Tim Krantz
Big Bear Valley Preserves
P.O. Box 6154
Big Bear Lake, CA 92315

Tom Kubik
Placer County Planning Division
11414 B Avenue
Auburn, CA 95603

Laura Kuh
Ott Water Engineers Inc.
2334 Washington Ave.
Redding, CA 96001

Joyce Lacy
Department of Water Resources
2440 Main Street
Red Bluff, CA 96080

Kris Lal
Department of Fish and Game, Region 5
330 Golden Shore, Suite 50
Long Beach, CA 90802

Larry LaPre
Tierra Madre Consultants
4178 Chestnut St.
Riverside, CA 92501

June Latting
320 Maravilla Drive
Riverside, CA 92507

Robert Leidy
U.S. Environmental Protection Agency
215 Fremont Street
San Francisco, CA 94105

Barbara M. Leitner
Leitner Biological Consulting
5944 Taft Avenue
Oakland, CA 94618

Veda Lewis
California Department of Transportation
P.O. Box 7310
San Francisco, CA 94120

R. John Little
Envirosphere Company
555 Capitol Mall, Suite 625
Sacramento, CA 95814

Priscilla Locke
Woodward-Clyde Consultants
100 Spear Street, Suite 425
San Francisco, CA 94105

Maggie Loy
San Diego Department of Public Works
5555 Overland Ave., Bldg. 2/156
San Diego, CA 92123

Kathleen Lyons
Habitat Restoration Group
6001 Butler Lane, #1
Scotts Valley, CA 95066

Richard A. Macedo
Departmento of Fish & Game
6515 Estates Court
Kelseyville, CA 95451

Joe Madeiros
Great Valley Museum of Natural History
1100 Stoddard Avenue
Modesto, CA 95350

Tony Magennis
Lefkas/West Placer County Citizens Committee
P.O. Box 1075
Rocklin, CA 95677

Jack Major
Dept. of Botany
University of California
Davis, CA 95616

Michael Marangio
Harvey & Stanley Associates
6001 Butler Lane, Suite 1
Scotts Valley, CA 95066

Laurie Marcus
State Coastal Conservancy
1330 Broadway, Suite #1100
Oakland, CA 94612

Craig Martz
CalTrans
950 Howe Avenue
Sacramento, CA 95825

Mark Matthias
Jones & Stokes Associates, Inc.
1725 23rd Street, Suite 100
Sacramento, CA 95816

John D. Mayer
Department of Planning, Modesto
1100 H Street
Modesto, CA 95355

Joe McBride
Department of Forestry & Resource Management
University of California
Berkeley, CA 94720

Steve McCabe
U.C. Santa Cruz Arboretum
205 Morningside Dr.
Ben Lomand, CA 95005

Niall McCarten
Department of Integrative Biology
University of California
Berkeley, CA 94720

Elizabeth McClintock
1335 Union St.
San Francisco, CA 94109

Michael McElligott
Vandenberg Air Force Base
4016 Altair Place
Lompoc, CA 93436

Malcolm McLeod
2122 Loomis St.
San Luis Obispo, CA 93401

Dale McNeal
Department of Biology
University of the Pacific
Stockton, CA

David Mayfield
San Diego Parks & Recreation
5201 Ruffin Road, Suite P
San Diego, CA 92123

Jerry Meral
Planning & Conservation League
909 12th Street
Sacramento, CA 95814

Tim Messick
Jones & Stokes Associates, Inc.
1725 23rd Street, Suite 100
Sacramento, CA 95816

Ken Milam
Sonoma County Planning Director
575 Administration Drive, Room 105A
Santa Rosa, CA 95403

Connie Millar
U.S. Forest Service
Pacific Southwest Forest & Range Experiment Station
Box 245
Berkeley, CA 94701

Diane Mitchell
J & M Land Restoration
3826 Bryn Mawr Drive
Bakersfield, CA 9330

Maynard Moe
Dept. Biology
California State University
Bakersfield, CA 93111-1099

Sharon Moreland
U.S. Army Corps of Engineers
211 Main Street, Attn: Regulatory Branch
San Francisco, CA 94105

Sia Morhardt
EA Engineering Science & Technology
41A Lafayette Circle
Lafayette, CA 94549

Gilbert Muth
Biology Department
Pacific Union College
Angwin, CA 94508

Mona Myatt
Southern California Edison
P.O. Box 800, Rm. 427 GC1
Rosemead, CA 91770

Rodney Myatt
Dept. Biology
San Jose State University
San Jose, CA 95192

Jim Nelson
State Energy Resources Conservation & Development Commission
1516 Ninth Street, MS 40, 4th Floor
Sacramento, CA 95814

Gail Newton
Division of Mines & Geology
650-B Bercut Drive
Sacramento, CA 95819

Larry Norris
USDA, Soil Conservation Service
4700 Northgate Blvd., Suite 015
Sacramento, CA 95814

Patti Novak
Los Angeles Department of Water & Power
873 N. Main
Bishop, CA 93514

Tom Oberbauer
3739 Oleander St.
San Diego, CA 92106

Steven Orr
Nature Landscapes
12545 Quito Rd.
Saratoga, CA 95070

Rexford Palmer
Palmer Honeysett Consulting
Route 2 Box 660
Dixon, CA 95620

V.T. Parker
Department of Biology
San Francisco State University
San Francisco, CA 94132

David Parsons
Sequoia & Kings Canyon National Parks
Three Rivers, CA 93271

Cam Patterson
RECON
1276 Moreno Blvd.
San Diego, CA 92110

Charlie Patterson
Consultant
7573 Terrace Drive
El Cerrito, CA 94530

Bruce Pavlik
Biology Department
Mills College
Oakland, CA 94613

Doug Peterson
Sacramento County Environmental Impact Section
827 Seventh Street, Room 220
Sacramento, CA 95814

Taylor Peterson
Thomas Reid Associates
P.O. Box 872
Palo Alto, CA 94302

Ralph Philbrick
Santa Barbara Botanic Garden
1212 Mission Canyon Rd.
Santa Barbara, CA 93105

Bob Powell
1306 Toyon Place
Davis, CA 956616

Genevieve Prlain
Oakland Museum Natural Science
1000 Oak Street
Oakland, CA 94607

Denyse Racine
California Department of Fish & Game
3346 Herman Avenue
San Diego, CA 92104

Stephen P. Rae
Department of Fish & Game
1130 Cayetano Court
Napa, CA 94559

John Ranlett
Sugnet & Associates
8265 Kingsley Court
Roseville, CA 95661

Debbie Raphael
USFS Angeles National Forest Saugas
30800 Bouquet Canyon Road
Saugas, CA 91350

Ron Rempel
Department of Fish & Game
4449 East Stetson
Clovis, CA 93612

Royce Riggins
RBR & Associates
233 "A" Street, Suite 804
San Diego, CA 92101

Larry Riggs
GENREC
3828 Everett Ave
Oakland, CA 94602

Fred Riley
2933 Eastern Avenue
Sacramento, CA 95821

Ellen Rognas
San Luis Obispo Planning Department
Government Center Room 370
San Luis Obispo, CA 93408

Alan Romspert
Desert Studies
605 N. Pomona Avenue
Fullerton, CA 92632

Peter Rowlands
P.O. Box 427
Death Valley, CA 92328

Peter Rubtzoff
1678 25th Avenue
San Francisco, CA 94122

Gary Ruggerone
CalTrans
1449 Hollister Lane
Los Osos, CA 93402

Bill Ruskin
P.O. Drawer F-2
Felton, CA 95018

Jake Ruygt
3549 Willis Dr.
Napa, CA 94558

Bill Sacks
P.O. Box 4215
San Luis Obispo, CA 93403

Theodore St. John
Mycorrhizal Services
28285 Bundy Canyon Road
Menfee, CA 92355

Andy Sanders
422 Campus View
Riverside, CA 92507

Randy Sater
Teichert Aggregates
P.O. Box 15002
Sacramento, CA 15002

John Sawyer
2731 Greenbriar Land
Arcata, CA 95521

Carla Scheidlinger
P.O. Box 1176
Mammoth Lakes, CA 93546

Suzanne Schettler
Hastings Natural History Reservation
Star Route, Box 80
Carmel Valley, CA 93924

Robert Schlising
Department of Biology
California State University
Chico, CA 95929

Rob Schonholtz
Larry Seeman Associates, Inc.
157 Park Place
Pt. Richmond, CA 94801

Gary Schoolcraft
U.S. Bureau of Land Management
2545 Riverside Drive
Susanville, CA 96130

Roger E. Scoonover
Department of Fish & Game
753 Pendegast Circle
Woodland, CA 95695

Peter Schuyler
The Nature Conservancy
525 Lorraine Avenue
Santa Barbara, CA 93110

Melvin Schwartz
661 Riverlake Way
Sacramento, CA 95831

Michael E. Scott
U.S. Navy
Public Works Dept. (code 183E)
San Diego, CA 92145

Clif Sellers
City of Chico Planning Office
P.O. Box 3420
Chico, CA 95927

Merrily Severance
U.S. Navy, Engineering Field Activity, SW, Code 243
1220 Pacific Highway
San Diego, CA 92132

Kevin Shea
East Bay Regional Park District
11500 Skyline Blvd.
Oakland, CA 94619

Jim Shevock
U.S. Forest Service, Region 5
630 Sansome Street
San Francisco, CA 94111

Marie A. Simovich
Biology Department
University of San Diego
San Diego, CA 92110

Joanne Sorenson
Jones & Stokes Associates, Inc.
1725 23rd Street, Suite 100
Sacramento, CA 95816

James P. Smith, Jr.
193 13th St.
Arcata, CA 95521

JoAnne Smith
J.A. Biological Services
739 Hawthorne Avenue
El Cajon, CA 92020

Susan Smith
1730 A Jones St.
San Francisco, CA 94109

Susan Sommers
879 Roble #2
Menlo Park, CA 94025

Linda Spahr
3615 Brook Street
Lafayette, CA 94549

Connie Spenger
1318 East Glenwood
Fullerton, CA 92631

Fred T. Sproul
Pacific Southwest Biological Services
14353 Mussey Grade Road
Ramona, CA 92065

Jack Spruill
California Department of Fish & Game
8621 Doremore Dr.
Huntington Beach, CA 92646

John Stebbins
357 Adler
Clovis, CA 93612

Bobbie Steele
CalTrans
P.O. Box 85406
San Diego, CA 92138

Dale Steele
1976 E. Charter Way
Stockton, CA 95206

Kingsley Stern
Department of Biology
California State University
Chico, CA 95929

Joan Stewart
4996 Mt. Almagosa Dr.
San Diego, CA 92111

Jon Mark Stewart
The Living Desert
47900 Portola Ave.
Palm Desert, CA 92260

Douglas Stone
Biosystems Analysis, Incorporated
303 Potrero St., #29-203
Santa Cruz, CA 95060

Mark Stopher
CalTrans
5340 Pimlico Avenue
Sacramento, CA 95841

Larry Stromberg
Consulting Plant Ecologist
1048 Santa Fe Avenue
Albany, CA 94706

Paul Sugnet
Sugnet & Associates
8265 Kingsley Court
Roseville, CA 95661

John Sully
California Department of Transportation
120 S. Spring Street
Los Angeles, CA 90012

Karen Swirsky
Michael Brandman Associates
4918 North Harbor Drive, Suite 205-A
San Diego, CA 92106

Barbara Talley
CalTrans, Office of Environmental Analysis
650 Howe Avenue, Suite 400
Sacramento, CA 95825

Karen Tatanish
Sonoma State Botanical Garden
11529 Bodega Hwy.
Sebastopol, CA 95472

Dean Taylor
Biosystems Analysis, Inc.
303 Potrero, Suite 29-203
Santa Cruz, CA 95060

Sherry Teresa
California Dept. of Fish and Game
5841 Primrose Ave.
Temple City, CA 91780

Greg Tholen
Sacramento County Planning Department
827 7th Street, Room 230
Sacramento, CA 95814

Terri Thomas
Golden Gate National Recreation Area
Ft. Mason, Bldg. 201
San Francisco, CA 94123

Timothy Thomas
National Park Service
22900 Ventura Blvd., Suite 140
Woodland Hills, CA 91364

John Thompson
U.S. Air Force
11654 Buckeye Circle
Penn Valley, CA 95946

Laura Thompson
U.S. Forest Service
Tulelake Ranger Station, P.O. Box 369
Tulelake, CA 96134

Rocky Thompson
Curcurt Riders Productions
9619 Old Redwood Hwy.
Windsor, CA 95492

Robert Thorne
Rancho Santa Ana Botanic Garden
1500 North College
Claremont, CA 91711

Charlie Turner
1050 San Pablo Avenue
Albany, CA 94706

Zoe Tyler
U.S. Forest Service
100 Forni Rd.
Placerville, CA 95667

Wayne Tyson
Land Restoration Associates
2456 Broadway
San Diego, CA 92101

Julie Vanderweir
Mooney Lettieri & Associates
9903 Business Park Avenue
San Diego, CA 92131

Ricardo Villaseñor
EIP
319 11th. Street
San Francisco, CA 94103

Larry Vinzant
U.S. Army Corps of Engineers, Attn: Regulatory Section
650 Capitol Mall
Sacramento, CA 95814

Marco Waaland
Golden Bear Biostudies
2727 Canterbury Drive
Santa Rosa, CA 95405

Connie Wade
Wade Associates
735 Sunrise Avenue, Suite 145
Roseville, CA 95678

Gary Wallace
900 Exposition Blvd.
Los Angeles, CA 90007

Sally Walters
CalTrans Environmental
P.O. Box 1976
Stockton, CA 95201

Ruth Wattling
The Living Desert
P.O. Box 1775
Palm Desert, CA 92261

Nancy Weintraub
Western Area Power Administration
1825 Bell Street, Suite 105
Sacramento, CA 95821

Stuart Weiss
Center for Conservation Biology
Department of Biological Studies, Stanford University
Stanford, CA 94305

Mary Wells
684 Benicia Dr., Apt. 15
Santa Rosa, CA 95405

Barbara Wendt
City of Sacramento Planning Department
1231 I Street, Suite 300
Sacramento, CA 95814

Phil Wendt
California Dept. Water Resources
1416 Ninth Street
P.O. Box 942836
Sacramento, CA 94236-0001

Frank Wernette
Department of Fish & Game
4001 North Wilson Way
Stockton, CA 95205

Grant Werschkull
EIP Associates
1311 I Street, Suite 200
Sacramento, CA 95814

Dale Whitmore
Department of Fish & Game
1263 Nadene Drive
Marysville, CA 95901

Howie Wier
Michael Brandman Associates, Inc.
4918 North Harbor Drive, Suite 205-A
San Diego, CA 92106

Carl Wilcox
Department of Fish & Game
P.O. Box 47
Yountville, CA 94599

Ron Wilkinson
116 McKee St.
Ventura, CA 93001

Barbara Williams
Klamath National Forest
1312 Fairlane Road
Yreka, CA 96097

John Willoughby
U.S. Bureau of Land Management
2800 Cottage Way
Sacramento, CA 95825

Jim Wilson
5616 Schatz Lane
Rocklin, CA 95677

Tamara Wilton
U.S. Forest Service
Star Route Box 300
Bridgeville, CA 95526

Steve Windowski
LTBMU
P.O. Box 8465
South Lake Tahoe, CA 95731

Ted Winfield
ENTRIX, Inc.
2125 Oak Grove Rd., Suite 300
Walnut Creek, CA 94598

Carl Wishner
ENVICOM Corporation
4674 Park Granada, #202
Calabasas, CA 91302

Charles G. Wolfe
Kleinfelder
2121 North California Blvd., Suite 570
Walnut Creek, CA 94596

Roy Woodward
Department of Parks & Recreation, OHMVR
1416 Ninth Street
Sacramento, CA 95814

Patty Worthing
Naval Facilities, Western Division, Attn: Code 1835PW
P.O. Box 727
San Bruno, CA 94066

Jack Wright
USDA Soil Conservation Service
65 Quinta Court, Suite C
Sacramento, CA 95823

Walt Wright
326 Redwood Ave.
Brea, CA 92621

Robert Wunner
Redwood Community Action Agency
1567 Central Agency
McKinleyville, CA 95521

Nancy Wymer
Wymer & Associates
P.O. Box 2018
Citrus Heights, CA 95661

Dr. Vernal Yadon
165 Forest Avenue
Pacific Grove, CA 93950

Ann Yoder
CNPS Bristlecone Pine Chapter
P.O. Box 330
Lone Pine, CA 93545

Mike Yoder-Williams
Williams Enterprises
1914 North 34th Street, Suite 411
Seattle, Washington 98103

Leslie Zander
Harding - Lawson & Associates
7655 Redwood Blvd., P.O. Box 578
Novato, CA 94948

Jack Zaninovich
Rt. 2, Box 708
Delano, CA 93215

Paul Zedler
Department of Biology
San Diego State University
San Diego, CA 92182

John Zenter
Zentner & Zentner
925 Ygnacio Valley Road, #250
Walnut Creek, CA 94596

APPENDIX C. PERSONS RESPONDING TO QUESTIONNAIRE AND SUMMARY RESPONSES

Appendix C. Persons And/Or Agencies Responding to Questionnaire and Summary Responses

Person and/or Agency	Response/Species Involved/Comments
Lowell Ahart Oroville, CA	Never Involved[1]
Bob Allen Larkspur, CA	Never Involved
David Amme Berkeley, CA	Never Involved[2]
Joseph Aparicio Biology Department American River College Sacramento, CA	Never Involved
Wayne Armstrong Department of Biology Palomar College San Marcos, CA	Never Involved
Mike Baad Department of Biological Sciences California State University Sacramento, CA	*Arabis macdonaldiana*
Balance Hydrologics Berkeley, CA [Contact: Barry Hecht]	*Orcuttia viscida*

[1]Never involved refers to the non-involvement of the person, agency or specific branch thereof, in a mitigation-related transplantation, relocation, or reintroduction of a state-listed endangered, threatened or rare species. The party may have been involved in the transplantation of a state- or federally-listed rare, endangered or threatened species, but the project was not related to mitigation.

[2]Mr. Amme reported that he had developed a restoration plan for the Alameda manzanita (*Arctostaphylos pallida*) for the East Bay Regional Park District, but it was never implemented.

Ellen Bauder Dept. Biological Sciences San Diego State University	Never Involved[3]
R.W. Benseler Dept. Biological Sciences California State University Hayward, CA	Never Involved
Albin Bills Department of Biology Butte College Oroville, CA	Never Involved
Charles Black Department of Biology California State University San Diego, CA	Answered with Paul Zedler; *Pogogyne abramsii,* *Eryngium aartistulatum*
Geoff Burleigh San Fernando, CA	Never Involved
California Conservation Corps Sacramento, CA [Contact: Walt Auburn]	Never Involved[4]
California Department of Fish & Game Bishop, CA [Contact: Denyse Racine]	Never Involved
California Department Fish & Game Denair, CA [Contact: Holman E. King]	Never Involved
California Department of Fish & Game Fresno, CA [Contact: Leland K. Ashford, Jr.]	Never Involved
California Department of Fish & Game Grass Valley, CA [Contact: Jeff Finn]	Never Involved[5]

[3]Dr. Bauder sent information on research-related work on San Diego vernal pools.

[4]Recommended contacting others, specifically Chris Sauer at the CCC's nursery.

[5]Mr. Finn mentioned two vernal pool creation/restoration projects near Roseville.

California Department of Fiah & Game Lodi, CA [Contact: Sandy Harrison]	Never Involved
California Department of Fish & Game Marysville, CA [Contact: Dale Whitmore]	Never Involved
California Department of Fish & Game Rancho Cordova [Contact: Response not signed]	*Lilaeopsis masonii*
California Department of Fish & Game Springville, CA [Contact: James V. Crew]	Never Involved
California Department of Fish & Game Endangered Plant Program Sacramento, CA [Contact: Ann Howald]	*Oenothera wolfii* *Sidalcea pedata*
California Department of Fish & Game San Diego, CA [Contact: Denise Racine]	Never Involved
California Department of Fish & Game Yountville, CA [Contact: Carl Wilcox]	*Lasthenia burkei*
California Department of Forestry Jackson State Forest Ft. Bragg, CA [Contact: Dana Cole]	Never Involved
California Department of Parks & Recreation Lodi, CA [Contact: Sandy Harrison]	Never Involved
California Department Parks & Recreation Monterey, CA [Contact: Jean Ferreira]	Never Involved[6]
California Department of Parks & Recreation Sacramento, CA [Contact: Frederica Bowcutt]	*Lupinus tidestromii, Lilaeopsis masonii, Chorizanthe howellii, Erysimum menziesii*
California Department of Parks & Recreation, OHMVR	

[6]Ms. Ferreira mentioned briefly a non-mitigation related project involving *Erysimum menziesii*, but did not send any information regarding the project.

Sacramento, CA [Contact: Roy Woodward]	Never Involved
California Department of Transportation Los Osos, CA [Contact: Gary Ruggerone]	Never Involved[7]
California Department of Transportation Redding, CA [Contact: Sharon Villa]	*Sedum albomarginatum*
California Department of Transportation Sacramento, CA [Contact: Craig Martz]	*Eriastrum densifolium* ssp. *sanetorum* *Sedum albopurpureum*
California Department of Transportation San Diego, CA [Contact: John Rieger]	San Diego Vernal Pool Species
California Department of Transportation San Francisco, CA [Contact: Sid Shadle]	Never Involved
California Department of Transporation Stockton, CA [Contact: Deborah McKee]	Never Involved
California Department of Water Resources Sacramento, CA [Contact: John Squires]	Recommended contacting Phil Wendt re: *Lilaeopsis masonii*
California Energy Commission Sacramento, CA [Contact: James Brownell and Rick York]	*Opuntia basilaris* ssp. *treleasei*[8] *Eriophyllum mohavense*

[7]Mr. Ruggerone sent information on the transplantation work on federal candidate species *Circium occidentale* var. *compactum* in two projects, Little Pico Bridge replacement and the Piedras Blancas shoulder widening.

[8]Neither of these species is state-listed, but *Eriophyllum mohavense* meets CEQA criteria. *Opuntia basilaris* ssp.*treleasei* is a "candidate" for state listing.

California Native Plant Society Dorothy King Young Chapter Gualala, CA	Never Involved
California State Food and Agriculture Sacramento, CA [Contact: Doug Barbe]	Never Involved
Joe Callizo St. Helena, CA	Never Involved
City of Chico Planning Office Chico, CA [Contact: Cliff Sellers]	Never Involved
Curcurt Riders Productions Windsor, CA [Contact: Rocky Thompson]	Never Involved[9]
Katherine Culligan Piedmont, CA	Never Involved
Michael Curto California Deparment of Parks & Recreation San Diego, CA	Never Involved[10]
CWESA Sanger, CA [Contact: Curt Uptain]	Never Involved
Dames & Moore Goleta, CA [Contact: John Gray]	Never Involved
Mary DeDecker Independence, CA	Never Involved
LauraMay Dempster Jepson Herbarium University of California Berkeley, CA	Never Involved
Desert Studies	

[9]Mr. Thompson sent information on a research project involving *Dichanthelium lanuginosum* ssp. *thermale*.

[10]Mr. Curto is no longer with CDPR, and sent personal comments about mitigation-related work with rare plant species.

Fullerton, CA [Contact: Alan Romspert]	Never Involved
Wendie Duron Clovis, CA	Never Involved
EA Engineering Science & Technology Lafayette, CA [Contacts: Sia Morhardt & R. Douglas Stone]	Never Involved
East Bay Regional Park District Oakland, CA [Contact: Kevin Shea]	Never Involved[11]
EIP Associates Sacramento, CA [Contact: Brian Hoffman]	Never Involved
Envicom Corporation Calabasas, CA [Contact: Carl Wishner]	*Pentachaeta lyonii*
Envirosphere Co. Culver City, CA [Contact: David Bradford]	Never Involved
Phyllis Faber Mill Valley, CA	Never Involved
Roman Gankin Redwood City, CA	Never Involved
GENREC Oakland, CA [Contact: Larry Riggs]	Never Involved
Betty & Jack Guggolz Cloverdale, CA	Never Involved
GW Consulting Engineers Citrus Heights, CA [Contact: Jerry Anders]	Never Involved
Nancy Harrison Dept. Life Sciences Santa Rosa Junior College Santa Rosa, CA	Never Involved

[11]Mr. Shea sent non-mitigation related information concerning a research project on *Amsinkia grandiflora* conducted in the EBRPD.

Larry Heckert Jepson Herbarium University of California Berkeley, CA	*Cordylanthus palmatus* *Castilleja uliginosa*
Mary Ann Henry Ridgecrest, CA	Never Involved[12]
Doris A. Hoover Woodland Hills, CA	Never Involved[13]
Barbara Hopper Kenwood, CA	Never Involved
Hydrozoology Newcastle, CA [Contact: Wayne Fields]	Never Involved
J & M Land Restoration Bakersfield, CA [Contact: Diane Mitchell]	Never Involved
Dave Keil Department of Biological Sciences California Polytechnic Institute San Luis Obispo, CA	Never Involved
David B. Kelley Sacramento, CA	Never Involved

[12]Ms. Henry sent comments about her concern over *Eriophyllum mohavense* as potentially threatened.

[13]Never involved in a transplantation, reintroduction or relocation project, but sent information on non-mitigation-related restoration project for *Hemizonia minthornii* and *Dudleya cymosa* ssp. *marcescens*

Kleinfelder Walnut Creek, CA [Contact: Charles G. Wolfe]	Never Involved
L & M Land Restoration Bakersfield, CA [Contact: Diane Mitchell]	Never Involved
Leitner Biological Consulting Oakland, CA [Contact: Barbara Leitner]	Never Involved
The Living Desert Palm Desert, CA [Contact: Jon Mark Stewart]	Never Involved
Los Angeles Department of Water & Power Bishop, CA [Contact: Patti Novak]	Never Involved
Joe McBride Department of Forestry & Resource Management University of California, Berkeley	Never Involved
Niall McCarten Department of Integrative Biology University of California, Berkeley	*Lilaeopsis masonii*
Elizabeth McClintock San Francisco, CA	Never Involved
Malcolm McLeod Dept. Biological Sciences California Polytechnic Institute San Luis Obispo, CA	Never Involved
Dale McNeal Dept. of Biology University of the Pacific Stockton, CA	Never Involved
Jack Major Dept. of Botany University of California, Davis	Never Involved
Jerry Meral Planning & Conservation League Sacramento, CA	Never Involved
Rhonda & Carl Meyers McKinleyville, CA	Never Involved

Maynard Moe Dept. Biology California State University Bakersfield, CA	Never Involved
Gilbert Muth Biology Department Pacific Union College Angwin, CA	Never Involved
Mycorrhizal Services Menifee, CA [Contact: Theodore St. John]	Never Involved
Pacific Gas and Electric Company Department of Engineering Research San Ramon, CA [Contact: Sally deBecker]	Never Involved
Pacific Gas and Electric Company San Francisco, CA [Contact: Frank Chan; Ken DiVittorio]	Never Involved
Pacific Southwest Biological Services, Inc. National City, CA [Contact: Mitchel Beauchamp]	Refused to Answer
V.T. Parker Department of Biology San Francisco State University	Never Involved
Charlie Patterson El Cerrito, CA	*Lasthenia burkei*, *Blennosperma bakeri*
Phillip Williams & Associates San Francisco, CA [Contact: Bob Coats]	Never Involved
Placer County Community Development Dept. Auburn, CA [Contact: Thomas Kubik]	Never Involved
Planning Associates Redding, CA [Contact: Don Burke]	Never Involved[14]

[14]Recommended contacting Dr. Kingsley Stern at Chico State regarding *Orcuttia tenuis*.

Bob Powell Davis, CA	Never Involved
Rancho Santa Ana Botanical Garden Claremento, CA [Contact: Orlando Mistretta]	Indirectly Involved[15]
Thomas Reid Associates Palo Alto, CA [Contact: Taylor Peterson]	Never Involved[16]
Peter Rubtzoff San Francisco, CA	Never Involved
Jake Ruygt Napa, CA	Never Involved
City of Sacramento Planning Dept. Sacramento, CA [Contact: Holly Keeler]	Never Involved[17]
Sacramento County Dept. of Parks and Recreation Sacramento, CA [Contact: Steve Flannery]	Never Involved
Sacramento County Environmental Impact Section [Contact: Doug Peterson]	Never Involved

[15]Provided nursery stock of *Pentachaeta lyonii* to Envicom Corporation, *Acanthomintha ilicifolia* to ERCE, *Cercocarpus traskiae* to the Catalina Island Conservancy, and *Eriastrum densifolium* ssp. *sanctorum* to the U.S. Bureau of Land Management.

[16]Firm was not involved in any transplantation, reintroduction or relocation projects for State-listed species, but did devise a plan for *Castilleja neglecta* that was never implemented due to project postponement.

[17]Ms. Keeler recommended contacting the consulting firm Zentner and Zentner regarding the Laguna Creek Project.

Sacramento County Planning Department [Contact: Robert Burness]	Never Involved
City of San Diego [Contact: Keith A. Greer]	*Monardella linoides* ssp. *viminea*; *Eryngium aristulatum* var. *parishii*[18]
San Diego Department of Public Works San Diego, CA [Contact: Maggie Loy]	Never Involved
Santa Barbara County Santa Barbara, CA [Contact: John Storrer]	*Hemizonia increscens* ssp. *villosa*
City of Santa Rosa [Contact: Denise Peters]	Responded; see Sonoma County Planning Dept.
John Sawyer Biology Department Humbolt State University Arcata, CA	*Erysimum menziesii* *Lilium occidentale*
Marie Simovich Biology Department University of San Diego	Never Involved
James P. Smith, Jr. Dept. Biological Sciences Humbolt State University Arcata, CA	Never Involved
Susan Smith San Francisco, CA	Never Involved
Solano County/ Environmental Management Fairfield, CA [Contact: Karen Wyeth & Cynthia Copeland]	Never Involved
Sonoma County Planning Dept. Santa Rosa, CA [Contact: Ken Milam]	Santa Rosa Plains Vernal Pools

[18]Mr. Greer also sent information for several other plant species that are not state-listed, but have some form of federal status.

Siskiyou County Dept. Agriculture Montague, CA [Contact: Bill Ferlatte]	*Calochortus greenei*
Sonoma State Botanical Garden Sebastopol, CA [Contact: Karen Tatanish]	Never Involved
Sonoma County Planning Department Santa Rosa, CA [Contact: Ken Milam]	*Navarretia plieantha* *Limnanthes vinculans* *Lasthenia burkei*
Stanford University Jasper Ridge Biological Preserve [Contact: Alan Grundman]	Never Involved
John Stebbins Clovis, CA	*Pseudobahia peirsonii*, *Brodiaea insignis*
Sugnet & Associates Roseville [Contact: John Ranlett]	Never Involved
The Nature Conservancy San Francisco, CA [Contact: Robin Cox & Leslie Friedman]	Never Involved
The Nature Conservancy Santa Barbara, CA Peter Schuyler	Never Involved[19]
Tierra Madre Consultants Riverside, CA [Contact: Larry LaPre]	Never Involved[20]

[19]Mr. Schuyler is no longer with The Nature Conservancy.

[20]Tierra Madre Consultants is planning projects that involve the mitigation-related manipulation of *Brodiaea filifolia* and *Eriastrum densifolium* ssp. *sanctorum*.

Tree of Life Nursery San Juan Capistrano, CA [Contact: Mike Evans]	Indirectly Involved[21]
Trust For Public Land San Francisco, CA [Contact: Bennett Johnston]	Never Involved
Tulare County Planning Visalia, CA [Contact: Hector Guerro]	Never Involved
Tuolumne County Planning Dept. Sonora, CA [Contact: John Anderson]	Never Involved
U.S. Army Corps of Engineers Sacramento, CA [Contact: Larry Vinzant]	Never Involved
U.S. Bureau of Land Management Arcata, CA [Contact: Carol Tyson & Steve Hawks]	Never Involved
U.S. Bureau of Land Management Folsom, CA [Contact: D.K. Swickard]	Never Involved
U.S. Department of Energy Sacramento, CA [Contact: No name forwarded on questionnaire]	Never Involved
U.S. Bureau of Land Management Riverside, CA [Contact: Gerald Hillier & Connie Rutherford]	*Croton wigginsii*
U.S. Bureau of Land Management Susanville, CA [Contact: Gary Schoolcraft]	*Antennaria flagellaris*

[21]Mr. Evans forwarded a list of rare, endangered and threatened plants handled by Tree of Life Nursery. State-listed species include: *Acanthomintha ilicifolia, Arctostaphylos imbricata, Brodiaea filifolia, Ceanothus heastiorum, Ceanothus maritimus, Eriastrum densifolium* ssp. *sanctorum, Eriogonum crocatum, Fremontodendron mexicanum, Hemizonia minthornii, Mahonia nevinii, Malacothamnus clementinus,* and *Monardella linoides* ssp. *viminea.*

U.S. Bureau of Land Management Ukiah, CA [Contact: Pardee Bardwell]	*Arabis macdonaldiana* Contracted with M. Baad
U.S. Fish and Wildlife Service San Francisco Bay Wildlife Refuge Complex Newark, CA [Contact: Joy Albertson]	*Erysimum capitatum* var. *angustifolium* ,*Oenothera deltoides* ssp. *howellii*
U.S. Forest Service Alpine, CA [Contact: Maribeth Kottman]	Never Involved
U.S. Forest Service Klamath National Forest Yreka, CA [Contact: Barbara Williams]	*Calochortus greenei*
U.S. Forest Service Lake Tahoe Basin Mgmt. Unit S. Lake Tahoe, CA [Contact: Helen Soderberg]	Never Involved[22]
U.S. Forest Service Modoc National Forest Tulelake, CA [Contact: Laura Thompson]	Never Involved
U.S. Forest Service Pacific Southwest Forest & Range Experiment Station Berkeley, CA [Contact: Connie Millar]	Never Involved
U.S. Forest Service Six Rivers National Forest Eureka, CA [Contact: Dave Imper]	*Bensoniella oregana, Oenothera wolfii*
U.S. National Park Service Channel Island NP Ventura, CA [Contact: Karen Danielson & William Halvorsen]	Never Involved

[22]Never involved in a mitigation-related transplantation, reintroduction or relocation project, but mentioned that the USFS had reintroduced *Rorippa subumbellata* tc three historic locations. No additional information was received.

U.S. National Park Service Golden Gate National Recreation Area San Francisco, CA [Contact: Terri Thomas]	*Arctostaphylos hookeri* var. *ravenii*
U.S. National Park Service Yosemite National Park Yosemite, CA [Contact: Susan Buis]	Never Involved
U.S. National Park Service Monterey, CA [Contact: Robert Branson]	Never Involved
U.S. Navy Public Works Dept. San Diego, CA [Contact: Mike E. Scott]	Never Involved[23]
U.S. Soil Conservation Service Sacramento, CA [Contact: Jack Wright]	Never Involved
University of California Botanical Garden Berkeley, CA [Contact: Holly Forbes]	Never Involved
University of California Hastings Natural History Reservation Carmel Valley, CA [Contact: Susan Schettler]	Never Involved
University of California James San Jacinto Mtms. Reserve Idyllwild, CA [Contact: Michael Hamilton]	Never Involved
University of California Natural Reserves System Oakland, CA [Contact: Norden H. Cheatham]	Never Involved
WESCO Novato, CA [Contact: Diane Hickson]	*Lasthenia burkei*
Western Area Power Administration	

[23]Mr. Scott recommended contacting Zentner and Zentner regarding Miramar.

Sacramento, CA [Contact: Nancy Weintraub]	Never Involved
Williams Enterprises, Inc. Seattle, WA [Contact: Mike Williams]	Never Involved
Vernal Yadon Pacific Grove, CA	Never Involved
Yolo County Resource Conservation District Winters, CA [Contact: John Anderson]	Never Involved
Paul Zedler Department of Biology San Diego State University	Answered with C.A. Black; *Pogogyne abramsii &* *Eryngium aristulatum*
John Zenter Zentner & Zentner Walnut Creek, CA	Called; Never received information on several projects involving *Gratiola heterosepala, Sagittaria sanfordii & Hibiscus californicus*

Abstract

Transplantation to new locations is used widely to propagate horticultural and agricultural species but is also promoted as a means of relocating whole communities that stand in the way of development. It may be used as well to move vegetation from the field for experimentation under controlled conditions. Transplantation has not in the past been considered a reliable means of conserving threatened species or reproducing functional characteristics of natural communities, and has been regarded by many as highly ineffective. However, its potential must now be re-examined because of the many recent transplant attempts as well as advances in related fields. Recent trials illustrate that individual endangered species are still particularly difficult to transplant and displaced multi-species sods are almost always changed in the process. Exact reconstruction of communities from individual components is next to impossible because the full complement of species, including critical microbial components, is almost never known. Owing to a limited understanding of phenology, reproduction, functional roles, and interrelationships among constituent microbes, cryptogams, vascular plants, and fauna, transplants may be placed into sites with both biological and physical insufficiencies. Genetic diversity may be lost or, if genotypes from diverse sources are mixed, outbreeding depression may result. Recent advances in soil science, microbial ecology, and population genetics have in some cases improved the effectiveness of transplantation, but new insights mainly permit a fuller appreciation of the causes of failure. Home-site advantage has been demonstrated, and habitat protection appears to be the best and perhaps only reliable way of preserving intact natural communities and rare species. Furthermore, experimentation with vegetational mats under controlled conditions may have little relevance to natural ecosystems.

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On utilise souvent la transplantation sur de nouveaux sites pour propager les plantes et stabiliser les paysages perturbés, cependant plusieurs considèrent ce procédé hautement inefficace comme méthode fiable pour conserver les espèces menacées et les communautés naturelles. Tout de même, on doit réexaminer sa pertinence, compte tenu de nombreux essais récents de transplantation, ainsi que de progrès dans les domaines connexes. Dans des essais récents, on a constaté, que les espèces menacées demeurent particulièrement difficiles à transplanter, et que le patron des communautés en tapis d'espèces multiples, se modifie presque toujours au cours du processus. La reconstruction exacte des communautés, à partir des composantes individuelles frôle l'impossible parce que l'apport de la totalité des espèces, incluant les composantes microbiennes, demeure presque toujours un inconnu. Comme on comprend peu la phénologie, la reproduction, les rôles fonctionnels et les interrelations entre les microbes, les cryptogames, les plantes vasculaires et la faune, on peut placer les transplants sur des sites présentant des insuffisances biologiques et physiques. Au cours de la transplantation, on perd de la diversité génétique, et le mélange de génotypes provenant de diverses sources peu occasionner des dépressions d'hétérocroisement. Les sites perturbés par la transplantation offrent de plus des opportunités pour des espèces adventices agressives. Les progrès récents en pédologie, écologie microbienne et génétique des populations ont, dans certains cas, amélioré l'efficacité de la transplantation, mais les nouvelles perceptions ont surtout permis de meux identifier les causes des échecs. De plus, les expériences conduites avec des tapis de végétation sous des conditions contrôlées pourraient avoir peu de communes mesures avec les écosystèmes naturels.

Introduction

Transplantation is an established technique for propagation in agriculture and horticulture. It is also widely used to repair damaged landscapes and produce rangeland extensions. It has also

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Intact natural communities, although declining in availability, are crucial as benchmarks against which change can be detected and serve as controls while the landscape undergoes extensive modification, e.g., distributional changes resulting from climatic shifts that can be documented through monitoring or the impact of local disturbances may be quantified by trackingchanges in vegetational characters. Natural communities are essential for the study of succession, ecosystem functioning, reproduction, interspecific interactions, and response to stress, and in addition they offer unique educational opportunities, display the vegetation best fit for survival in particular habitats and regions, harbor poorly understood species, and serve as genetic reservoirs.

Unfortunately, there is considerable interest in transplanting natural plant communities to permit development of the original location. Several problems with such transplantations were identified by Fahselt (1988) and similar reservations voiced by others (e.g., Falk et al. 1996, Howald 1996, Bullock 1998, Hubbard et al. 2001). Concerns revolved around disturbance associated with relocation and the poorly known requirements of the species involved, especially rare species, as well as the high costs and low chances of success. Another of the problems identified was that habitat destruction tends to become more acceptable once transplantation is proposed.

The criteria for success vary enormously from one transplant project to another (Howald 1996; Pavlik 1996), and are often not defined, but if relocated communities are to fulfill the roles of natural communities standards must be high. Transplants would need to be capable of self-maintenance, but also of retaining pretransplant diversity, composition, and functioning. Function, established through features such as productivity, seed dispersal, nutrient recycling, pollination, allelopathic interactions, and food-chain relationships, would be compared with natural stands to determine whether it was the same as in natural communities (Niering 1997), or at least fell within the range of variation for that habitat and region. Genetic analysis and ordination of quantitative characters would constitute further tests of likeness. The highest

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that planners, board members, and lawyers are confused. Even wildlife managers and consultants may not be aware of developments in all fields relevant to transplantation. The main objective of this paper is to demonstrate whether, on the basis of recent literature, previous concerns about transplanting natural communities are still warranted. The approach is to examine and summarize recent transplant trials related to conservation of natural communities and rare species. Literature cited will be largely in peer-reviewed journals and important multi-authored books (e.g., Cairns 1995, Falk et al. 1996, Urbanska et al. 1997, Whisenant 1999), although citations of earlier evidence (e.g., Fahselt 1988) will not be repeated here. Little will be said about transplants performed primarily to stabilize damaged areas or propagate single species for commercial reasons, but the significance of recent advances in soil microbiology and population genetics will be considered in connection with transplanting for conservation purposes.

Compatibility of transplant sites and transplants

While some native plants are amenable to transplantation, others may be difficult to re-establish in new locations. The success of relocation partly depends upon whether plants evolved in one location are capable of re-establishing in another somewhat different area. Populations have long been considered best adapted to their home environment, and this has now been tested by elegant reciprocal transplant and common garden experiments involving genetic assessment. For example, using allozymes, genetic differences were demonstrated between seven source locations of *Aristida beyrichiana* Trin. & Rupr. (wiregrass) (Walters et al. 1994). Transplanting plants from these seven locations to one site where they share a common environment provided further evidence of genetic distinctions, because under these circumstances, provenances retained their differing vegetative and seed characteristics (Gordon and Rice 1998). That plants of this declining grass species performed significantly better in their source locations (Kindell et al. 1996) was taken as an indication that transplantation is best performed with local plants.

Home site advantage was also demonstrated with natural populations of *Lotus scoparius* (Nutt.)

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isozyme analyses (Montalvo and Ellstrand 2000). Common garden experiments performed in the home sites of two populations showed that plant performance decreased significantly with genetic distance from source and, in some cases, also with environmental distance. Transplantation into dissimilar sites and populations can thus reduce fitness (Montalvo and Ellstrand 2000).

Although initial survival is critical, receptor sites must also be suitable in the long term, and ecological requirements of most transplanted species are still imperfectly understood (e.g., Haselwandter 1997, Florentine and Westbrooke 2004). No potential receptor locations are identical to the original site, but differ in topography, hydrology, exposure, soil, etc. (e.g., Allen 1994, Primack 1996). Micro-environment, extremely important to plant survival, also varies from site to site. Thus it is difficult or impossible to determine a priori the suitability of any transplant location (Harris et al. 1996, Davy 2002). Even preliminary experiments to assess site suitability do not guarantee success (Jones 2001). The US Army Corps of Engineers once indicated that habitats for endangered species can simply not be duplicated (Howald 1996).

The biological milieu in a transplant site will also differ from the original location and some interactions can unexpectedly produce disastrous results. In Hawaii, two endangered species of *Hibiscadelphus* survived transfer into the same area, but then interbred. Robust hybrid offspring outcompeted one of the parents, and the more aggressive species, along with all hybrid progeny, had to be removed to prevent elimination of the vulnerable parent (Mehrhoff 1996). Unfortunate species combinations are difficult to predict. A striking example of a dangerous neighbor is *Alliaria petiolata* (Bieb.) Cavara & Grande (garlic mustard), which through allelopathic chemicals that reduce growth of essential mycorrhizal fungi, impairs the performance of several herbaceous and woody species, including trees, in eastern forests (Stinson et al. 2006). Transplanting can inadvertently juxtapose not only incompatible vasculars but also introduce fungal disease (Storfer 1999).

On the other hand, specific invertebrate communities are required in transplant sites because of

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as to decomposition (Bradshaw 1997), faunal relationships are seldom considered in the selection of transplant sites.

Soil microbiology

Many soil microbes have never been described but nevertheless interact with other organisms, such as plants, and are also pivotal to natural ecosystems (Bianchi and Bianchi 1995, Brundrett and Cairney 2002) and play a pivotal role in the maintenance of ecosystem diversity (Sivasithamparam et al. 2002). However, microbial communities are poorly understood (Haselwandter 1997) and ignored in most transplant exercises.

Nevertheless, several well-known bacterial species benefit plants through the fixation of atmospheric nitrogen, and non-nitrogen fixers may also be critical to symbioses between fungi and plant roots (mycorrhizas), which are essential for nutrient cycling. Bacteria may also repress soil pathogens (Azcón-Aguilar and Barea 1992, Newsham et al. 1995, Gerhardson 2002). For example, plant growth promoting rhizobacteria (PGPR) in plants may induce systemic resistance to pathogens and stimulate plant growth by providing nutrients and growth factors or by increasing root permeability. Mycorrhizal helper bacteria (MHB) appear to stimulate initial mycorrhizal formation, enhance root development, and decrease susceptibility to infection (Martin et al. 2000); MHBs may also facilitate recognition between a plant and its mycorrhizal fungus, improve root receptivity or stimulate fungal growth (Garbaye 1994, Frey-Klett et al. 1997). However, bacterial communities may be altered by mycorrhizal fungi which preferentially stimulate certain species (Frey et al. 1997, Heinonsalo et al. 2000). Because of such potential interactions there is no guarantee that bacteria in transplant sites will be compatible with relocated plants.

Mycorrhyzal fungi are also important in plant root zones, or rhizospheres, where they mediate interactions among vascular plants (Miller and Allen 1992, Gerhardson 2002) in accordance with host specificities of the fungi (Brundrett and Cairney 2002). Mycorrhizas which are host-

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of carbon and mineral nutrients, e.g., carbon from the overstory may be transferred through mycorrhizal hyphae to the understory and facilitate establishment of seedlings in the ground layer (Miller and Allen 1992). The participation of mycorrhizas in nutrient cycling could explain why soil perturbation, such as occurs with transplantation, seriously impacts ecosystem functioning (Haselwandter 1997, Brundrett and Cairney 2002). Hyphae may also be necessary for transport of fungal inoculum to growing roots (Jones et al. 2003), and particular mycorrhizas may be obligate for endangered plants (Barroetavena et al. 1998). Some mycorrhizal associations could also be damaging, because hyphal networks may permit plants to disadvantage one another (Miller and Allen 1992).

Mycorrhizal species differ in ecology, nutrient access capability, and approach to root colonization, and may interact competitively (Wilson and Tommerup 1992). Also, mycorrhizas and free-living fungi may compete in the soil for mineral nutrients, secondary products of other organisms and carbon compounds (Siciliano and Germida 1998, Cairney and Meharg 2002). Mycorrhizas interface as well with saprophytic fungi, possibly resulting in mutual interference or even replacement of one by another (Olsson et al. 1998, Cairney 2005). Thus, the many interactions involving mycorrhizas, both necessary and potentially damaging, could make reconstitution of viable communities extremely difficult.

The complexity of mycorrhizal communities differs (Barroetavena et al. 1998, Dahlberg 2001), but interactions are numerous and extremely intricate. Mathematical models were invoked in one attempt to partially explain the existing symbioses (Allen et al. 2003). Although the stability and resilience of efficiently functioning terrestrial ecosystems are based on microbial diversity (Tiedje et al. 1999, Fitter et al. 2005), disturbances to soil systems often reduce diversity. Disruption of hyphal networks may produce species shifts in microbial soil communities (Haselwandter 1997; Caplan et al. 1999; Brundrett and Abbott 2002); nearly half the normal ectotrophic mycorrhizal (EMF) morphotypes were lost from transplanted seedlings in one experiment (Jones et al. 2003). Airborne inocula eventually enrich fungal communities in any

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Both arbuscular mycorrhizas (AMF) and EMF are sensitive to soil temperature, pH, drainage, aridity, organics, compaction, erosion, and other factors following topsoil removal (Brundrett and Abbott 2002, Brundrett and Cairney 2002), and mycorrhizal populations insufficiently tolerant to site changes produced by transplanting can be displaced by others more resilient (Caplan et al. 1999; Diaz 2004). In addition, loss of normal soil fungi required by native vasculars could permit establishment of exotics with less specific mycorrhizal requirements (Stinson et al. 2006).

Transplant techniques

The question of technique has been viewed as a fundamental dilemma of transplantation (Berg 1996). Experimentation with different methods has been likened to "opening Pandora's box" (Allen 1994). Numerous transplant protocols have been discussed by Whisenant (1999), including the use of different plant parts, seedlings, older plants, or propagules. Many programs have in fact relied upon seedlings (Florentine and Westbrooke 2004), but establishment is sometimes superior with adult plants (Drayton and Primack 2000). However, unavoidable disturbance of root systems, and initial lack of connection between transplants and underlying subsoil, are considered problematic (Harris et al. 1996). Because mycorrhizal communities vary seasonally (Allen et al. 1994, Sigüenza et al. 1996) the timing of transplant operations may also be critical.

Under some circumstances, seeds appear relatively ineffective (e.g., Fattorini 2001), although broadcasting as many as possible is suggested in other situations (Primack 1996). Seeding is recommended for establishing prairie (Wilson 2002), but well-known prairie plantings have used both seed and single-species sods (Sperry 1994). A comparison of four approaches to transplanting declining herbaceous perennials showed that each alternative was fraught with difficulty (Drayton and Primack 2000), and it was concluded that repeated plantings of seeds, seedlings, and older plants may be necessary year after year to produce stable populations. Frequent introductions into numerous recipient sites have been recommended by Falk et al.

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Mechanical preparation of transplant receptor locations may also be damaging because heavy machinery used in large scale projects (Down and Morton 1989, Davy 2002) compacts the soil. Concerns have even been raised regarding possible impact of crews using shovels (Sperry 1994). To facilitate root penetration in compacted sites, mechanical soil scarification has been recommended (Bradshaw 1997), but that constitutes another form of disruption.

No reliable guidelines have been developed for determining the number of transplant individuals required, but the optimal number would increase with diversity in donor populations (e.g., Pavlik 1996, Vogler 1998, Batista et al. 2001). Analysis of DNA could demonstrate levels of variation in regions of the genome, but this is not generally done for transplant experiments (Gordon and Rice 1998). Also, there is no a priori way of estimating levels of diversity. It might be expected that large populations would be genetically more diverse, but there are exceptions, so inherent variation cannot be inferred from population size (Francisco-Ortega et al. 2000, Gravuer et al. 2005). Neither is phylogenetic position a reliable indicator of population variability because, contrary to expectation, recently-derived groups are in some cases as heterogeneous as those which are basal or ancestral (Francisco-Ortega et al. 2000). If an insufficient number of transplants are used, however, only a fraction of donor site diversity will be retained (Guerrant 1996) and genetic impoverishment may result (Krauss et al. 2002).

Based on variation in simple sequence repeats in DNA, it was estimated that more than 1000 transplanted individuals would be required to preserve 90% of the variation in a natural population of *Abronia umbellata* subsp. *brevifolia* (Standl.) Munz in California (McGlaughlin et al. 2002). However, even a large number of transplants does not guarantee long-term establishment (Mehrhoff 1996). The required number of transplant individuals would also depend on the breeding system, with more needed for outbreeding species.

In cases where failure to establish may be linked to lack of essential soil microbes, fungal inocula have been used to improve transplant performance. For example, transplant survival in

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Micropropagated plantlets of *Sesbania sesban* (L.) Merr. also responded better to transplantion if first inoculated with a fungus (Subhan et al. 1998), and establishment of endangered Hawaiian species was likewise improved by fungal supplements (Koske and Gemma 1995). Transplant shock was alleviated for three species of leguminous trees through supplementation with mycorrhizal spores (Sharmila et al. 1997).

Fungal supplements can thus improve transplant performance, but the required species of mycorrhizas must be identified and (or) available in soil extracts. Otherwise, enrichment attempts may fail. For example, constructed propagules inoculated with fungi did not improve transplant survival in one prairie experiment (Caplan et al. 1999). In fact, introduced fungal strains may disadvantage plants by outcompeting indigenous fungi and destroying essential host-specific mycorrhizas (Brundrett and Abbott 2002, Brundrett and Cairney 2002).

Because of a potential threat to desired species (Huenneke and Thomson 1995, Vitousek et al. 1997), transplant sites may be managed to curb invasives (e.g., Howald 1996, Kutner and Morse 1996, Lofflin and Kephart 2005). However, removal of exotics from transplant locations may be as difficult as establishment of desired species (Davy 2002). Intensive tillage, use of herbicides, or application of diverse seeding mixtures of native species are some of the methods attempted in reconstructed grasslands. Selective removal of above ground parts through actual or simulated grazing has also been tried, as have controlled burns (Hutchings and Stewart 2002, Wilson 2002). Some invasives in transplant prairie communities appear to be lost after half a century (Sperry 1994), but spontaneous long-term disappearance has not been demonstrated from transplant communities of most vegetation types. Although aggressive microbes or vascular plants may seriously alter vegetation communities (Richardson et al. 2000, Callaway and Ridenour 2004) there are no standard techniques to prevent them from being introduced accidentally.

Transplantation involving individual species

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at the Centre for Plant Conservation at the St. Louis Missouri Botanical Garden were directed towards threatened plants (Allen 1994). Transplants are often made with at-risk species to save them from condemned sites, enrich gene pools, or increase sizes of declining populations (e.g., Gordon and Rice 1998, Lofflin and Kephart 2005). In some cases, attempts are made to initiate new populations (e.g., Pavlik 1996).

One recent example of transplantation into natural forest involved the threatened herb, *Hydrastis canadensis* L. (goldenthread); it survived one growing season but the subsequent performance is unknown (Sinclair and Catling 2003). Populations of the endangered species, *Conradina glabra* Shinners (Apalachicola rosemary) were re-introduced as cuttings into a nature reserve within its original geographic range (Gordon 1996), and although its survival rate was also high 1 or 2 years after transplantation, long-term results of these transplants are also lacking. Longer term monitoring is in fact necessary, because although initial transplant survival rates may be high they are often followed by remarkable reversals over time. The population size of *Amsinckia grandiflora* (Kleeb. ex Gray) Kleeb. ex Greene introduced into several new areas increased at first but dropped sharply after 2 or 3 years (Pavlik 1996). Similarly, *Abronia umbellata* subsp. *breviflora* transplanted into carefully selected sites within its former range was reproductive and even robust in the first year, but population sizes were subject to wild fluctuations and after 4 years, each site retained one or two living individuals or more typically none at all (Kaye 2002).

Furthermore, establishment cannot be guaranteed even using a large number of apparently suitable receptor sites. For example, all but one of 22 transplanted populations of the declining species, *Holocarpha macradenia* (DC.) Greene (tar plant), crashed within 13 years (Allen 1994). Threatened and endangered *Potentilla robbinsiana* Oakes ex Rydb. was subjected to 14 years of stewardship and monitoring, and the first series of trials failed to establish in 19 of 20 locations (Jones 2001). In a second series, populations persisted for 3 years in two of the four locations, but not in the remaining sites. Some of the implants made to enhance declining populations of

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Of the many transplant trials in California, only 15% of those involving rare plants were viewed as successful (Hubbard et al. 2001). In Hawaii, none of the 13 endangered species transplanted between 1910 and 1960 have persisted (Mehrhoff 1996). Even in the extensive transplant program of the Centre for Plant Conservation at the Missouri Botanical Garden in St. Louis, devoted to securing the future of endangered and rare species, many transplants were regarded as unsuccessful (Allen 1994). While transplantation typically works well for horticultural species, it has not proven to be a reliable means of protecting rare plants.

Somewhat better results were achieved with typical, as opposed to rare, species in Wisconsin (Sperry 1994). After approximately 50 years, about half of the 48 originally transplanted species showed good or very good establishment; and a few species that initially seemed to have failed, unexpectedly reappeared years later in bare areas created by rodents or water erosion. However, 19 of the introduced prairie elements never re-established.

It might be expected that transplantation of any single taxon would be relatively straightforward (Harris et al. 1996), but because each species is linked with others, establishment is difficult out of its natural context. Excessive focus on one species may thus complicate, rather than alleviate, re-establishment problems (Franklin et al. 1995). Translocations involving species at risk are especially challenging because their ecological requirements are narrower than common species (Berg 1996, Davy 2002).

Translocation of entire communities

Transplants intended to stabilize degraded areas often employ a relatively small number of species, but more are obviously involved if the objective is to re-instate an entire community. Some community re-constructions are attempted using multiple single-species transplants, while others focus on relocating many associated species together. The degree of difficulty associated with faithfully reproducing communities by transplantation depends partly on the vegetation type, but effectiveness has been limited overall.

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fact, few attempts to move entire forests have been reported. In England, heavy equipment was used to individually transplant 5 species of trees and 11 species of ground flora into a receptor site (Down and Morton 1989). Plants survived for 6 years after this "whole woodland" transplant, but the long term outcome is unknown. On volcano-devastated Mount St. Helens, tree seedlings were transplanted in an effort to re-establish native *Pseudotsuga menziesii* (Mirbel) Franco (Douglas fir) and *Abies procera* Rehd. (noble fir) over one large area (Franklin et al. 1995). Decades will pass before the final result is apparent, but the original forest community is less unlikely to re-establish in this situation than elsewhere because previously developed soils are deeply buried by volcanic materials.

Reconstruction of herbaceous communities, however, may be somewhat less failure prone. For many years it was policy under the USA Environmental Protection Act to require that new and artificial wetlands be created if natural ones were destroyed through development. Cattail marshes were more easily imitated, and efforts were mainly directed toward more these rather than bogs and fens, which in some cases would have been more appropriate (Kaiser 2001). After three decades it was realized that artificially created marshes had different mixes of plants and animals than natural wetlands and did not function the same (Kaiser 2001), so the policy was discontinued.

Other herbaceous wetlands subject to transplanting are declining coastal marshes (e.g., Bakker et al. 1997, Hughes and Paramor 2004). On the west coast of North America, plugs supporting five dominant marsh species were planted on constructed islands in an attempt to produce marshes like the natural ones that had been lost. After 4 years, species distribution was similar to natural marshes, but after 6–13 years one of the dominant sedges had not recovered and large, bare areas had developed (Dawe et al. 2000). In addition, vegetational fluctuations were greater in constructed than in reference communities and biomass relationships were different. The conclusion was that it is inadvisable to sacrifice natural wetlands for the promise of man-made substitutes. Several marsh species were also established though planting on the eastern

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wetlands should be preserved whenever possible and reconstruction considered only as a last resort. Re-establishment of destroyed coastal mangrove swamps is also being considered in East Asia (Barbier 2006) to help stabilize storm-prone coastlines.

Reconstruction of alpine vegetation has also been attempted, with thousands of transplants of native species introduced into slopes in the Swiss Alps, but species performances were uneven, with some showing high survival rates and others declining strongly over time (Fattorini 2001). To include a wider selection of native alpine plants than would have been possible with multiple single-species transfers, Conlin and Ebersole (2001) attempted to re-establish alpine meadows using cut sections of sod. After 1 year the transported turf sections still retained cryptogams, fauna, and microbes, along with vascular plants and the upper layer of the soil profile, but overall cover was reduced and quantitative representation of some vasculars was altered significantly. Documentation beyond the first year appears to be unavailable.

The prognosis for re-establishing structurally and compositionally simple herbaceous communities may be better than others. For example, foredunes of active sand-dune systems naturally support mainly the dune grass, *Ammophila breviligulata* Fern., which is later joined in succession by *Calamovilfa longifolia* (Hook.) Scribn. and a few other minor vascular species. Transplantation of grasses into de-stabilized dunes using a combination of seeds and vegetative tillers appears to have been a relatively effective means for re-establishing at least a good facsimile of this type of vegetation (Maun and Krajnyk 1989).

Extensive attempts to re-establish prairie vegetation have also shown considerable promise with many of the trials performed at the University of Wisconsin. In some experiments, only one plant species was originally introduced into each plot (Sperry 1994), but the vegetation developed over several decades into assemblages containing many prairie elements. Nevertheless, the resulting communities differed markedly from undisturbed prairie (Sperry 1994) and a natural species balance was not achieved after several decades.

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values had changed in comparison with natural grassland. In another project, both grassland and marsh communities were moved from their original locations as sods, but in three soil layers that were stripped separately from the source location and relaid in sequence in the new site (Worthington and Helliwell 1987). While these large-scale transplants produced plant cover that was maintained for at least 6 years, both grassland and marsh communities were altered owing to variable species responses. In another attempt to extend grasslands using sod transplants, green cover developed but species composition was altered because more than half of those introduced were lost within 3 years (Good et al. 1999).

The many attempts to relocate vegetation by re-installation of lifted vegetational mats were registered by the British Nature Conservancy Council, and in each of the 48 such projects from both wet and mesic sites listed prior to 1998, some of the introduced species increased over time, some decreased, others were lost altogether and extraneous species volunteered (Bullock 1998). Communities reassembled or reconstructed through sod transplants were usually changed structurally and compositionally, as well as functionally, and were not thus full equivalents of natural communities.

Enriching the gene pool of declining populations

The detrimental effects of inbreeding are well known, especially in species which evolved as outbreeders (e.g., Waser 1993, Frankham 1995, Francisco-Ortega et al. 2000). Therefore, enhancing populations with inplants having different genetic backgrounds is sometimes contemplated as a means of preventing inbreeding depression. While gene flow into a transplant site may minimize negative effects of inbreeding (Frankham 1995, Storfer 1999), and in some cases even improve adaptive prospects for small or declining populations (Falk et al. 1996), the close association of genotypes from different sources may also be disastrous because adaptive gene complexes evolved in parental genomes are dissembled through meiotic recombination (Gravuer et al. 2005). This results in hybrids and backcross individuals with fitness reduced in comparison to parents. Selection against less adaptive hybrid genotypes

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well as plants. The negative effects of interbreeding in the intertidal copepod, *Tigriopsus californicus*, were actually more pronounced in the F_2 than the F_1 (Edmands 1999), and the degree of debilitation increased with greater geographic and genetic distances between parental populations.

In hybrid progeny between genetically differing stocks from six populations of *Lotus scoparius* (Nutt.) Ottley (Montalvo and Ellstrand 2001), which represented two distinct varieties, reproductive fitness decreased significantly in crosses between differently adapted parents. Overall, the progeny of crosses made between varieties of *L. scoparius* were less fit than those from crosses within the same variety, an illustration of the adverse consequences of mixing of genetically differentiated genotypes to enrich a population or create new populations. An extensive genetic rescue program in the Canary Islands was apparently initiated without considering the possible negative effects of outbreeding, and some inter-island transplants of declining rare endemics were initially installed near natural populations with genetically different backgrounds. However, investigators later removed these plants out of concern for possible genetic erosion (Francisco-Ortega et al. 2000).

Outbreeding depression appears to be more severe when parents originate from highly diverged populations (Frankham 1995), but the degree of genetic differentiation between populations involved in transplantation is usually unknown. The statistical significance of any inter-population differences in quantitative characters, phenotypic and molecular, can be determined, as they have been in *Liatris scariosa* (L.) Willd. (Gravuer et al. 2005), but there are no guidelines to indicate which features and what levels of significance will indicate whether plants from particular populations can be safely associated. Base sequences give precise information about divergence in certain genetic regions, but may not be representative of variation in the entire genome and may not pertain to fitness (O'Brien 1994). Breeding systems also complicate assessment of appropriate levels of variation for a population (Falk et al. 1996).

Current status of transplantation as a conservation tool

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into the reasons why transplants fail. For example, the functional importance of inconspicuous species is now becoming more obvious along with the realization that communities may not operate normally if such species are missing or others are introduced unintentionally. It can now be appreciated also that compaction and other disturbances associated with transplanting may alter not only site features such as soil drainage and aeration, but also crucial microbial communities. It is now evident that transplants have the potential to damage the ecosystems into which they are placed (e.g., Berg 1996, Higgs 2003) and even surrounding areas (Falk et al. 1996). Recent investigations have also increased awareness (Allen 1994, Lofflin and Kephart 2005) of potential problems caused by both genetic impoverishment and excessive heterogeneity of gene pools.

At best, restoration is regarded by many serious practitioners as being still in the experimental stages (Allen 1994, Howald 1996) with very limited prospects for success. Overwhelming difficulties have suggested to Pavlik (1996) that restoration is the greatest technical challenge in biological conservation. Transplant efforts have been characterized as informed guesswork (Davy 2002) and unintelligent tinkering (Berg 1996). Most active researchers regard introductions as less effective than conservation or even infeasible, and concur that conservation is a first priority (e.g., Allen 1994, Drayton and Primack 2000, Hubbard et al. 2001, Gerhardson 2002, Higgs 2003, Lofflin and Kephart 2005), because ecosystems are too complex to be reproduced and cannot be maintained if shifted around arbitrarily.

Although literature generally indicates that transplantation is not a promising approach to conservation, it is probably even less so than it appears. First, success is sometimes based on the use of low standards to indicate satisfactory performance. Second, many failed attempts probably remain unpublished (Berg 1996, Harris et al. 1996, Tanacredi 1999, Kaiser 2001) because negative findings are less publishable or regarded as uninteresting. In fact, Sperry (1994), who published well-documented results 50 years after extensive prairie transplants were initiated, felt there was nothing of merit to report after only 5 or 10 years. Although long-term

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undertaking, and scientists often lack the necessary opportunity and funding, while developers probably lack interest.

Essentially all the specific concerns raised 20 years ago about transplantation as a means of conservation have been upheld by recent literature. Effectiveness has not improved markedly. As previously suspected, transplantation is not a dependable way to perpetuate species at risk, nor has it proven to be a successful means of relocating complex natural communities. Differences between donor and post-transplant communities may initially appear minor, but more often than not, they are substantial (Bullock 1998). Some elements may survive transplantation, at least for a time, but assemblages are clearly altered in the process. The more that is learned about ecosystems, the more complex they seem to be, and because all the intricacies could not be unraveled even in several lifetimes, it is difficult to accommodate them during transplantation. At best, translocation helps to mitigate loss, but even mitigation cannot be guaranteed.

In addition, the expense of relocating endangered species or vegetation is still exorbitant. The only advantage that might be realized from these high costs is that if developers were made responsible, commercial activities would be diverted into areas with less biological significance (Howald 1996). Site preparation alone can be extremely expensive (Harris et al. 1996) as can labor, especially for large-scale transplantations with sufficient transplant individuals to represent variation in parent populations (Wilson 2002, McGlaughlin et al. 2002). Monitoring to determine sustainability is labor intensive and some believe that it is required for up to 25 years (Allen 1994), 50 year (Sperry 1994) or longer (Franklin et al. 1995). Gordon (1996) concluded that considering the resources required to perform preliminary experiments then transplant and monitor properly, in situ conservation would be less expensive. At the same time, national spending priorities in North America are shifting in directions that do not represent a ground swell of support for conservation of nature, let alone for a technique with such uncertain results as transplantation.

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relinquishing important habitat for alternate uses. An overview of the essentially unanimous opinion of 18 private and government organizations and agencies is that, “it is far better…to conserve existing populations and communities than to attempt the difficult and imperfect task of creating new ones” (Falk et al. 1996). The consensus then appears to be that protection of intact undisturbed environments is the only real solution to conservation of natural communities (Berg 1996, Howald 1996).

Doomed communities or populations of rare plants are, nevertheless, always a compelling concern, and it is often proposed that they be moved in an effort to prevent extirpation. For example, rare species might be relocated in anticipation of possible loss due to global warming (Kutner and Morse 1996). For example, northward migration of north temperate floodplain species will be blocked in river valleys by man-made obstacles, such as dams and cities (M. Martin personal communication, 2004). The thought is that since humans have caused the problem we have a responsibility to compensate. However, because of the obvious difficulties of finding safe havens for rare species, even under prevailing climatic conditions, it would seem even more difficult to project which locations would be suitable after climate has been altered more seriously. Nevertheless, assuming that a long-term commitment of funding and (or) manpower is available, salvage or creation of new populations could be undertaken according to some tested plan, but it is critical that no intact natural areas are manipulated in the process because they themselves are of immense intrinsic value. Realistically though, given the practical difficulties, greater returns for the effort would probably be realized by in situ protection of intact habitat, which could potentially perpetuate an entire species assemblage.

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AJB CENTENNIAL REVIEW

The nature of serpentine endemism[1]

Brian L. Anacker[2]

Department of Evolution and Ecology, University of California-Davis, One Shields Avenue, Davis, California 95616 USA

Serpentine soils are a model system for the study of plant adaptation, speciation, and species interactions. Serpentine soil is an edaphically stressful, low productivity soil type that hosts stunted vegetation and a spectacular level of plant endemism. One of the first papers on serpentine plant endemism was by Arthur Kruckeberg, titled "Intraspecific variability in the response of certain native plant species to serpentine soil." Published in the *American Journal of Botany* in 1951, it has been cited over 100 times. Here, I review the context and content of the paper, as well as its impact. On the basis of the results of reciprocal transplant experiments in the greenhouse, Kruckeberg made three important conclusions on the nature of serpentine plant endemism: (1) Plants are locally adapted to serpentine soils, forming distinct soil ecotypes; (2) soil ecotypes are the first stage in the evolutionary progression toward serpentine endemism; and (3) serpentine endemics are restricted from more fertile nonserpentine soils by competition. Kruckeberg's paper inspired a substantial amount of research, especially in the three areas reviewed here: local adaptation and plant traits, speciation, and the interaction of climate and soil in plant endemism. In documenting soil ecotypes, Kruckeberg identified serpentine soils as a potent selective factor in plant evolution and helped establish serpentine soils as a model system in evolution and ecology.

Key words: bodenvag; climate; competition; ecotype; edaphic; local adaptation; plant traits; serpentine endemism; soil; speciation.

Serpentine soils are a model system for the study of evolution, ecology, and conservation (Harrison and Rajakaruna, 2011). Serpentine soils are edaphically stressful for plant growth, due to nutrient deficiencies, especially Ca, low water-holding capacity, and high levels of heavy metals and Mg (Kruckeberg, 1984). They are derived from weathered ultramafic rocks that have been uplifted on the margins of former crustal plates (Alexander, 2006). Serpentine soils are typically recognized on the landscape as patchily distributed rock outcrops with stunted vegetation.

Serpentine soils host a spectacular level of plant endemism in many regions; for example, California has 215, Cuba 854, and New Caledonia 1150 taxa found growing only on serpentine (Anacker, 2011). The remarkable levels of plant endemism and the unique chemistry of serpentine soils have stimulated a substantial amount of research on plant adaptation, plant speciation, species invasion, interspecific interactions, disturbance, plant diversity, and climate change (see the following books, reviews, and special issues: Proctor and Woodell, 1975; Kruckeberg, 1984, 2002; Brooks, 1987; Baker et al., 1992; Roberts and Proctor, 1992; Jaffré et al., 1997; Balkwill, 2001; Boyd et al., 2004; Brady et al., 2005; Alexander, 2006; Chiarucci and Baker, 2007; Kazakou et al., 2008; Rajakaruna and Boyd, 2009, 2014; Rajakaruna et al., 2009; Harrison and Rajakaruna, 2011; Damschen et al., 2012).

Here, I describe one of the first and most important papers on serpentine plant endemism, "Intraspecific variability in the response of certain native plant species to serpentine soil," published in the *American Journal of Botany* by Arthur Kruckeburg in 1951. This paper has been cited 119 times in ecology and evolution journals (Web of Science [WOS; Thomas Reuters, New York, New York, USA], accessed 26 November 2013). Two other works are often cited interchangeably: Kruckeberg's Ph.D. dissertation (Kruckeberg, 1950, not indexed by WOS) and a 1954 symposium paper in *Ecology* (Kruckeberg, 1954: 188 cites). During his career, Kruckeberg proceeded to address serpentine adaptations with 40 different plant species from California and Washington (Wright et al., 2006) and write several indispensable research papers, review papers, and books (Kruckeberg, 1967, 1984, 1991, 2002; Kruckeberg and Rabinowitz, 1985; Brady et al., 2005).

For his 1951 paper, Kruckeberg conducted greenhouse experiments to test for soil ecotypes, in the context of establishing a link between natural selection and speciation in four taxa: *Achillea borealis* Bong. (now *Achillea millefolium* L.), *Gilia capitata* Sims, and two subspecies of *Streptanthus glandulosus* Hook., *Streptanthus glandulosus* subsp. *typicus* Morris. and *Streptanthus glandulosus* subsp. *secundus* (Greene) Kruckeb. Each taxon has both nonserpentine and serpentine populations. Today, we refer to such taxa interchangeably as soil generalists, serpentine tolerators, or bodenvag. For each taxon, seeds collected from nonserpentine and serpentine soils were sown into nonserpentine and serpentine field soils in greenhouse trays and performance was measured. For *Streptanthus*, Kruckeberg only provided the results for plants grown on serpentine soils, somewhat confusingly; for the other two taxa, results are given for both soils. The results of the greenhouse experiments, summarized into three key points below and in Fig. 1, reveal a surprising amount about the nature of serpentine endemism. I will now review each point and discuss the status of related contemporary research.

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[2] E-mail: blanacker@ucdavis.edu

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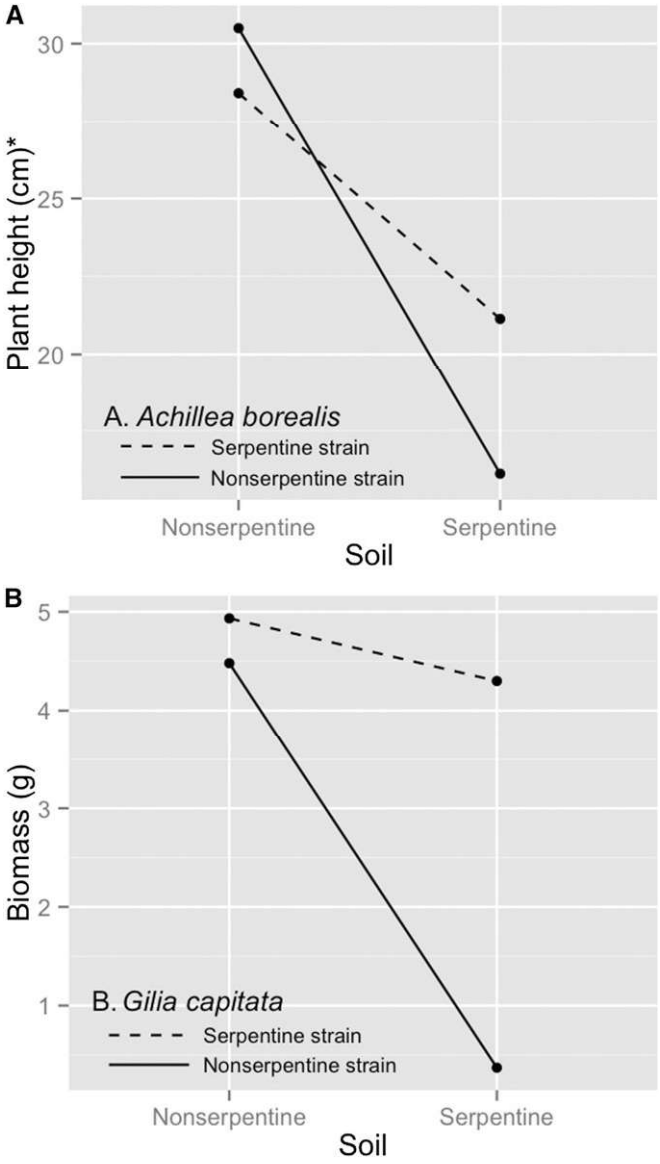


Fig. 1. Performance of putative soil-specific ecotypes of two plant species when grown on nonserpentine and serpentine soils in the greenhouse. * Plant height data were not presented in the paper; I measured them on the photograph in fig. 5 of Kruckeberg (1951). The plant height data are presented here for illustrative purposes only.

(1) STRONG SELECTION BY SERPENTINE SOIL LEADS TO LOCAL ADAPTATION AND THE FORMATION OF SOIL ECOTYPES

Serpentine race plants grew larger than nonserpentine race plants when grown in serpentine soils (Fig. 1). This result established serpentine soils as a "potent selective factor" (Kruckeberg, 1951; p. 415) that drives differentiation and local adaptation on par with the selective strength of mine tailings (Jain and Bradshaw, 1966; Snaydon, 1970; Antonovics et al., 1971).

While reports of ecotypes are relatively common today, many midcentury ecologists viewed the natural world through a lens of continuous variation along environmental clines (see Lowry, 2012 and references therein). The demonstration of local adaptation across discrete soil boundaries likely made a strong impression on adherents to ecoclines. Clausen, Keck, and Hiesey (1948) would also largely reject the idea of clines, calling them "oversimplified abstractions not commensurate with natural entities" (Clausen, 1951: p. 28). These authors also focused on ecotypes, but at the much larger scale of climatic zones. Interestingly, both Clausen et al. and Kruckeberg used *Achillea borealis* in their experiments. Kruckeberg found soil ecotypes within a single climatic ecotype of *A. borealis* and said "edaphic races appear to be superimposed upon climatic races" (Kruckeberg, 1951: p. 415). This result was important because it suggested that ecotypes might form in response to more than one environmental factor, possibly operating at different scales. The interacting roles of climate and soils on endemism are discussed in more detail below.

Since Kruckeberg (1951), ecotypic differentiation to serpentine has been reported in several studies (Wright et al., 2006; O'Dell and Rajakaruna, 2011; Wright and Stanton, 2011). These findings suggest some generality to Kruckeberg's results, despite the fact that Kruckeburg's experiments were limited in a number of ways. For example, Kruckeburg used only a few sources for plant seeds and sampled soils from just one location. Another criticism is that Kruckeburg's transplant studies were conducted in a controlled greenhouse environment. However, Wright et al. (2006) suggested that the local adaptation that Kruckeburg measured in the greenhouse would only be stronger if measured in natural field conditions. In their study of *Collinsia sparsiflora*, ecotypic variation across soil boundaries was absent in the greenhouse, but strong in the field (Wright et al., 2006). Another advance since Kruckeberg (1951) has been to show that there is substantial variation of serpentine soils at both large and small scales; i.e., the edaphic properties of serpentine soils vary among and even within serpentine outcrops. For example, in the *Lasthenia californica-L. gracilis* complex, ecotypes have been documented *within* a single serpentine outcrop, reflecting small-scale variation in soil chemistry and soil structure (Rajakaruna and Bohm, 1999; Rajakaruna, 2003; Yost et al., 2012).

The search for plant traits associated with serpentine adaptation and endemism is very active. Whole-plant and leaf-level traits underlying serpentine tolerance include traits associated with resource-use efficiency and water retention, such as low specific leaf area, low growth rates, and perenniality (Chapin, 1980; Chapin et al., 1993; Anacker et al., 2011a; Anacker and Harrison, 2012b). At the physiological level, studies have investigated how serpentine tolerance is a function of the cellular regulation of Ca, Mg, and heavy metals (Brady et al., 2005). The subject of heavy metals, in particular, has received much attention, including studies on uptake, exclusion, and sequestration, extensive field reconnaissance for putative metal hyperaccumulators (van der Ent et al., 2013), and research on how hyperaccumulation may deter herbivores (Boyd and Martens, 1998; Proctor, 1999; Boyd and Jaffré, 2001; Davis et al., 2001; Boyd, 2012). Belowground studies have also revealed the selective power of serpentine soils. Serpentine plants tend to have more developed rooting systems on serpentine and may, based on a limited number of studies, form belowground mutualisms with a unique biota found in serpentine soils (Rune, 1953; Tadros, 1957; Schechter and Bruns, 2008, 2013; Porter et al., 2011). Little is known about the genetics that underlie serpentine tolerance, but tools to determine whether specific genes are associated with serpentine adaptations are now available (Brady et al., 2005; Turner et al., 2010).

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(2) SOIL ECOTYPES MAY BE A STAGE IN THE PROGRESSION TOWARD SERPENTINE ENDEMISM

Plant endemics are conventionally considered to have one of two contrasting historical origins. In the first treatment of the subject, Cain classified endemics as being either "new" or "old." New endemics are recently formed species confined to a region by geographic barriers; old endemics are formerly widespread species capable of spreading again (Cain, 1944). The principal factors determining the balance between new and old endemics are the age and isolation of an area. This definition would be later refined for the California flora by Stebbins and Major (1965), who classified species as neo- or paleoendemics. Neoendemics originate after a single founder event and have had inadequate time to spread; such taxa are also referred to as "insular endemics." Paleoendemics form via a pathway of biotype depletion, where environmental changes may lead to altered competitive regimes and habitat-specific population extirpation. As a result, paleoendemics now occupy a small subset of their former range.

Kruckeberg's 1951 experiments were designed to apply the concept of paleoendemism to soil endemism. Kruckeberg viewed the formation of serpentine plant ecotypes as the first stage in the evolution of serpentine endemic species through the biotype depletion process. In stage one, local soil ecotype populations are formed by strong selection and local adaptation. In stage two, nonserpentine populations are extirpated, leaving only serpentine ecotypes intact.

Kruckeberg (1951; p. 418) suggested that the ecotypes of *S. glandulosus* that he identified in the greenhouse were precursors of endemic species and that we are observing the "closing stage in the elimination of all but the serpentine-adapted biotypes". Kruckeberg provided no evidence to support this assertion, although later work in *Streptanthus* would largely support the claim (Mayer and Soltis, 1994; Mayer et al., 1994). Moreover, Kruckeberg does not say what would actually cause the loss of nonserpentine populations. We can speculate that an environmental change that negatively impacted the nonserpentine populations might cause their extirpation. For example, increased aridity might differentially impact the ecotypes, if serpentine plants can tolerate more drought than nonserpentine plants (Hughes et al., 2001; Wu et al., 2010). Alternatively, decreased aridity may increase competition levels on nonserpentine soils and cause nonserpentine populations to decline (Rune, 1953; Moore et al., 2013).

While Kruckeberg was mostly concerned with the idea that endemics might arise via a biotype depletion scenario, it is often assumed that the majority of Californian endemics have arisen via a neoendemic pathway (Harrison, 2013). Several studies to date have shown that endemics appear to arise from nearby progenitor taxa (Kay et al., 2011). For example, in *Layia*, a serpentine endemic was derived from a sympatric progenitor nontolerator relative (Baldwin, 2005; see also *Leptosiphon* in Kay et al., 2011). These examples are remarkable because they do not involve large-scale geographic isolation, which is typically thought to be required for the completion of reproductive isolation (Kay et al., 2011). Instead, strong directional selection by serpentine soils appears to be able to overcome the homogenizing effects of gene flow, demonstrating that speciation can be relatively rapid and local (Clausen, 1951; Lowry, 2012). Shifts in reproductive attributes, such as flowering time, flower morphology, and mating system, can also serve as important prezygotic barriers that limit gene flow between progenitor and nascent derivative species (Kay et al., 2011; O'Dell and Rajakaruna, 2011; Anacker and Strauss, 2014).

Geographic isolation does, however, likely play a role in speciation of serpentine endemics. In *Streptanthus*, studies of genetic diversity of *Streptanthus glandulous* and its derivative endemics offer support for speciation via biotype depletion, but also for the subsequent formation of insular taxa (Kruckeberg, 1957; Mayer and Soltis, 1994, 1999; Mayer et al., 1994). In *Lasthenia*, there is support for the geographic isolation of serpentine outcrops playing a role in the allopatric divergence of two species (Kay et al., 2011; Yost et al., 2012).

It is clear that serpentine tolerance has evolved independently many times, both among and within species, based on the number and taxonomic distribution of endemics and tolerators as well as molecular phylogenetic studies (Kruckeberg, 1967; Kruckeberg and Rabinowitz, 1985; Rajakaruna et al., 2003; Berglund et al., 2004; Rajakaruna, 2004; Rajakaruna and Whitton, 2004; Safford et al., 2005; Anacker, 2011; Anacker et al., 2011; Kay et al., 2011). For example, the 215 endemic species of California come from 39 different families (Cuba's 854 endemics come from 24 families, New Caledonia's 1150 endemics from 64). Preliminary estimates suggest that the number of serpentine tolerant species in the California flora is over 1000 (Safford et al., 2005). Each of these 1000+ bodenvag taxa offers a chance to repeat studies like those of Kruckeberg (1951), thereby revealing the contingencies that are likely involved in the evolution of serpentine adaptation and ensuing reproductive isolation.

Interestingly, despite the fact that the strong selection and spatial isolation of serpentine appears to promote adaptation and speciation, serpentine endemism is not associated with adaptive radiations along insular island outcrops, unlike oceanic islands. It is possible that the edaphic stress and/or absence of empty niche space limits subsequent lineage radiation (Anacker et al., 2011b). Moreover, the observation that tolerators outnumber endemics four to one indicates constraints on the transition from serpentine tolerance to serpentine endemism. For example, serpentine soils might represent sink habitats that cannot support their own populations without dispersal from more productive habitats. A second possibility is that gene flow across soil boundaries could prevent selection from driving complete reproductive isolation. Even if reproductive isolation is complete, nascent lineages are likely to have small, isolated populations that have relatively high levels of inbreeding, increased sensitivity to stochastic events, and increased extinction risk.

In the future, we must expand our studies outside of California to include the other serpentine exposures in the world, each of which offers an independent look at adaptation and speciation on serpentine under different climate conditions and biogeographic histories. In addition, comparison of the serpentine floras with endemic floras on other unusual bedrock and soil types, such as granite rock outcrops in the southeastern United States, can help establish the strengths and weaknesses of serpentine as a model system for ecology and evolution (Shure, 1999). Unfortunately, the data required to make such a meaningful comparison is scarce. Finally, we should expand our studies to understudied groups, such as cryptograms, where ultramafic endemism appears to be uncommon, possibly because selection by physical factors is stronger than selection by chemical factors (Rajakaruna et al., 2012 and references therein).

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(3) SERPENTINE ENDEMICS ARE RESTRICTED FROM MORE FERTILE SOILS BY COMPETITION

The experimental results showed that serpentine plants do better on nonserpentine soils than on serpentine soils (Fig. 1). Why then are serpentine-adapted plants not found on nonserpentine soils? One explanation is that competition in matrix habitats plays an important role in the restriction of serpentine-adapted plants to serpentine soils. If true, serpentine soils may be viewed as a refuge from competition, rather than a source of unique resources. In Kruckeberg (1951; p. 418) words, "Serpentine endemics are not restricted to serpentine merely because of some specific requirement uniquely provided by serpentine."

Many of Kruckeberg's contemporaries agreed that competition may restrict taxa to serpentine (Rune, 1954; Stebbins and Major, 1965), and this notion is generally accepted today. However, the evidence that competition is lower on serpentine soils and that serpentine endemics are competitively inferior is not substantial. A review on neighbor removal studies found several examples where competition was lower on serpentine soils (Moore and Elmendorf, 2011), but the experimental evidence is mixed (describe in more detail below; Fernandez-Going and Harrison, 2013).

Underpinning this discussion is the idea that serpentine tolerance comes at a cost, though this idea requires further study. For example, there is little evidence for a cost of tolerance of low Ca to Mg ratios or heavy metals (Brady et al., 2005; Kay et al., 2011). Species-level traits, however, indicate that endemics are typically slow-growing stress tolerators, rather than fast-growing competitive dominants (Anacker and Harrison, 2012b; Fernandez-Going et al., 2012). The stress tolerance traits of endemics are consistent with a trade-off of competitive ability for serpentine tolerance traits, by which drought adaptations may come at the cost of fast growth rate (Grime et al., 2008).

Kruckeberg and others speculated that competition plays a key role in endemism by restricting such slow-growing, stress-tolerator plants from high-fertility nonserpentine soils (Kruckeberg, 1951; Stebbins and Major, 1965). Kruckeberg also acknowledged that climate plays a key role in plant adaptation and ecogeographic isolation. However, what is little recognized is that climatic and edaphic factors might interact to control endemism (Anacker and Harrison, 2012b; Fernandez-Going et al., 2013).

Across a rainfall gradient, increasing precipitation will have the direct effect of increasing competition in fertile, nonserpentine soils and the indirect effect of restricting bodenvag species to serpentine. Several observational studies are consistent with such an indirect effect of climate on serpentine. Serpentine endemism peaks in wet regions, both regionally and globally (Anacker, 2011; Fernandez-Going et al., 2013). In addition, some soil generalists become specialists in the more climatically favorable parts of their ranges ("regional endemics": Rune, 1953; Kruckeberg, 1984; Safford et al., 2005). At the community level, there is more species, functional, and phylogenetic turnover across soil boundaries in the mesic northwest of California than the arid south (Anacker and Harrison, 2012b; Fernandez-Going et al., 2013).

The evolution of serpentine endemism also bears the strong imprint of climate. Endemics occupy wetter regions than even their closest relatives (Anacker and Harrison, 2012a), but only in the case of endemics that have arisen via a neoendemic pathway. For neoendemics, nascent lineages that colonize serpentine in regions with benign and stable climate are more likely to persist and achieve reproductive isolation than nascent lineages in regions with harsh and fluctuating climates. Paleoendemics, on the other hand, do not occupy different climates than their closest relatives, suggesting that range contractions were equally common in wetter and drier regions.

Experiments are required to mechanistically determine how climate influences serpentine endemism. Such tests should simultaneously address whether competition is lower on serpentine, whether serpentine endemics are relatively poor competitors, whether climate can alter competitive environments and the soil-specific performance of endemics, and whether paleo- and neoendemics differ in their sensitivities to competition. The only experimental study to date on this topic provides mixed evidence for the interaction of water availability and soils on serpentine restriction (Fernandez-Going and Harrison, 2013). The survival of three serpentine endemic plant species was unaffected by competition removal or water addition, but endemic biomass was lowest in uncleared, nonserpentine plots. These results are consistent with competition restricting endemics from relatively fertile, nonserpentine soils. Studies with more endemic plant species and factorial manipulations of soil fertility and water availability are still required to make conclusions about the interacting effects of climate and soils on serpentine plant endemism.

If mesic climates do promote endemism, then what will be the fate of serpentine endemics under a drier future? In California, many climate models predict a drier future with rainfall falling in fewer, bigger storms (Pierce et al., 2013). Under future climate scenarios, species distribution models predict that the new climate range for a set of serpentine endemic species will include a large amount of habitat, but these areas are far from known occurrences, requiring dispersal events on the order of tens of kilometers (Damschen et al., 2012). However, several lines of evidence suggest that the stress-tolerant traits of endemics may prevent increased mortality under drying conditions, preventing the need for them to colonize new outcrops (Grime et al., 2000, 2008; Damschen et al., 2012; Fernandez-Going et al., 2012). Interestingly, a drier future could lead to the loss of endemics (i.e., they expand onto nonserpentine), if competition in matrix habitats decreases. For example, *Arenaria norvegica* and *Minuartia laricifolia* subsp. *ophiolitica* both expanded out of serpentine soils with the retreat of forest from matrix habitats during climatic cooling in glacial periods (Rune, 1953; Moore et al., 2013).

CONCLUSIONS

Kruckeberg's 1951 paper was among the first to show how serpentine soils are important selective factors in plant evolution. The three key ideas described here stimulated much additional research on serpentine plant adaptation, speciation, and plant restriction. Moreover, studies of serpentine endemism have revealed much about the nature of plant endemism in general. In particular, serpentine research has highlighted the role of geology as a major environmental determinant of endemism through direct effects on topography and soil properties and indirect effects on habitat availability, degree of spatial isolation, and microclimate (Kruckeberg and Rabinowitz, 1985). A second insight is that plant endemics may have contrasting origins, arising from widespread progenitor taxa or existing as relicts of formerly widespread, generalist species.

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Kruckeberg would later describe an equation relating plant diversity to five processes: climate, organism, topography, rock type, and time (Kruckeberg, 1986). We are indebted to Kruckeberg for establishing serpentine as an excellent model system for disentangling these often-interacting components.

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CENTER *for* BIOLOGICAL DIVERSITY *Because life is good.*

September 11, 2024

Sent via email

Laura Hall
Senior Planner,
255 N. Forbes Street
Lakeport, CA 95453
guenocvalleycomments@lakecountyca.gov

Re: Comments on the Draft Partially Revised Environmental Impact Report for the Guenoc Valley Mixed Use Planned Development Project (State Clearinghouse No. 2019049134)

Dear Ms. Hall:

This letter is submitted on behalf of the Center for Biological Diversity ("Center") regarding the Draft Partially Revised Environmental Impact Report ("DEIR") for the Guenoc Valley Mixed Use Planned Development Project ("Project"), State Clearinghouse No. 2019049134. As you are aware, the Center remains involved in ongoing litigation challenging the adequacy of this Project's 2020 EIR, a lawsuit that resulted in the Lake County Superior Court's 2022 decision that the 2020 EIR failed to comply with the California Environmental Quality Act ("CEQA"). (*Center for Biological Diversity v. County of Lake*, No. CV421152.) The Court ordered the County to set aside its approval of this Project and decertify the 2020 EIR, and the Center's appeal challenging additional aspects of the 2020 EIR remains ongoing. (*Center for Biological Diversity v. County of Lake*, No. A165677.) I27-1

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people throughout Lake County.

The Center commends the County's efforts to modify the original Project to reduce wildfire risks and greenhouse gas emissions. Among several revisions, the Modified Project adds

a new proposed 3.9-mile-long emergency route—the Grange Road Connector—connecting the Guenoc Valley Site with the County-maintained Grange Road to the north to enhance public safety in the event of a wildfire. (PREIR at 15.) It also relocates 25 residential building sites and 39 residential building sites; reconfigures the roadway plan to eliminate dead-end, non-looped road segments exceeding one mile in length; improves an area of approximately 10 feet on each side of roadways with hardscape; removes a camping area in the northern portion of the property; and provides funding and staffing commitments for the onsite Emergency Response Center. (PREIR at ES-1-2.) Additionally, to address our current climate crisis, the Modified Project includes various renewable energy commitments and greenhouse gas reduction measures, which the Center supports. (*Ibid.*)

I27-1 cont.

However, while these positive changes will reduce some risks, the Center urges the County to further assess and mitigate the Modified Project's impacts to protect the local community and its biological resources, as well as meet California's climate change goals. This Modified Project still allows for a 16,000-acre development, including up to 400 hotel rooms, 450 resort residential units, 1,400 residential estate units, and 500 workforce co-housing units. (PREIR at 1.) It still allows for low and medium residential density development in a Very High fire safety hazard zone. (PREIR at 32.) And its impacts will still cross several thresholds of significance, including having significant and unavoidable noise impacts (PREIR at 68), GHG impacts (*id.* at 159), increased VMT (*id.* at 191), and traffic impacts (*id.* at 193.) As a result, the Modified Project still raises significant concerns the final revised EIR must take into account, fully assess, and mitigate to the maximum extent feasible, then recirculate for public review and comment.[1]

I. THE COUNTY CANNOT LIMIT PUBLIC COMMENT TO THE DRAFT PREIR'S REVISED PORTIONS.

As a preliminary matter, the County cannot limit public comment to the PREIR's revised portions for several reasons. First, doing so would be premature in light of the ongoing appeal. (*Center for Biological Diversity v. Lake County*, No. A165677.) The PREIR specifically attempts to limit comments to those addressing the PREIR's revised wildfire evacuation discussion and whether the Project Modifications would result in new or more substantially significant environmental effects because "the County need not address comments on issues that were covered in the 2020 EIR . . . that were not overturned by the Superior Court." (PREIR at 5.) However, the ongoing appeal also challenges *other* sections of the 2020 EIR, which may soon require revision, including sections on wildfire risks, biological resources, climate change mitigation, water usage, and alternatives consideration. The parties have fully briefed the appeal, and the Court will hold oral argument in just two weeks on September 24, 2024. Any significant

I27-2

[1] The Center also incorporates and attaches our 2020 comments on the FEIR and DEIR.

revisions following the appeal's resolution will undoubtedly require public review and comment under CEQA. (CEQA Guidelines § 15088.5.)

I27-2 cont.

Second, CEQA makes plain that significant new information on a project prior to EIR certification requires revision and recirculation for public review. (Pub. Res. Code § 21092.1; CEQA Guidelines § 15088.5(a).)[2] In this instance, it has been *four years* since the 2020 EIR, and significant new information has emerged regarding the Modified Project's climate change impacts, wildfire risks, biological resources, and cumulative impacts. Not only has a recent wildfire swept through the project area, but groundbreaking climate change research has emerged, Lake County has experienced severe drought, and new surrounding projects have been proposed that will alter the Modified Project's cumulative impacts. The County must take into account significant new information on all Modified Project impacts and revise and recirculate the EIR before certification. (CEQA Guidelines § 15088.5(a).)

Relatedly, it makes little sense for the County to only accept comment on the Modified Project's revised aspects when its PREIR still *republishes* other decertified sections of the 2020 EIR, altering the context and interrelation of the incorporated prior analyses. (PREIR, Appendix D.) The County will need to again "certify the completion of" the revised EIR *as a whole*, not only the PREIR's revised sections. (Guidelines § 21100.) Restricting the public's ability to comment on the 2020 EIR, now in the context of Project Modifications, circumvents one of CEQA's core purposes to allow for public input on projects. (Pub. Res. Code § 21061.)

I27-3

Third, it is even *more* crucial for the County to allow public comment on impacts and mitigation first provided in the 2020 Errata, as the public has never had an opportunity to comment on this new information. The 2020 EIR deferred critical disclosures regarding the Project's impact on wildfire risks, GHGs, and transportation until the last minute, issuing its 2020 Errata with substantive changes and significant new information just *two days* before the hearing to approve the Project in July 2020. In doing so, the County prevented the public from meaningfully considering and commenting on these changes and should allow for this now.

Finally, as a matter of policy, nothing limits the County to correcting the flaws the Lake County Superior Court identified. All modified projects such as this require revised environmental analysis, and any CEQA document must reflect the County's "independent judgment." (Guidelines §§ 21082.1 & 15090.) The County should take this opportunity to hear from the public on all project aspects and ensure that the Modified Project complies with its

[2] Even when a *certified* EIR is in effect, an agency must revise its analysis to consider significant new information and changed circumstances. (Pub. Res. Code § 21166; Guidelines, § 15162(a)(2), (a)(3)(A), (B).)

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policies and intentions for its citizens now, in 2024. Furthermore, it would benefit the County to first take into account public input on the Lake County 2050 General Plan Update, which it plans to release for public comment prior to summer 2025, before it approves the Modified Project. And the County should ensure that environmental review contains the analysis needed to allow the public and decisionmakers to understand environmental consequences of the Modified Project and fully comply with CEQA.

I27-3 cont.

II. SIGNIFICANT NEW INFORMATION REQUIRES THE COUNTY TO REVISE AND RECIRCULATE NUMEROUS OTHER SECTIONS OF THE 2020 EIR.

Where an agency's actions violate CEQA, "it must do the environmental review process over if it wants to approve the project." (*Woodward Park Homeowners Assn., Inc. v. City of Fresno* (2007) 150 Cal.App.4th 683, 690.) Accordingly, before approving the Modified Project, the County must prepare and circulate for public review a revised EIR that complies with CEQA. (*See, e.g., King & Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814, 901 [where EIR inadequate, County must revise EIR, circulate it for public review and comment, and prepare responses to the comments before reapproving same or modified project].). Any revised draft EIR must comply with CEQA's mandatory requirements for public review, including completing and filing with the State Clearinghouse, providing a 45-day comment period, and consulting with public agencies. (Guidelines §§ 15082-88, 15105.) The County must also consider and respond in detail to the public's comments. (*See* § 21091(d) [requiring agency responses to comments on draft EIRs]; Guidelines § 15088(c) [requiring "good faith, reasoned analysis" in responses]); (*Ukiah Citizens for Safety First v. City of Ukiah* (2016) 248 Cal.App.4th 256, 266-67 ["recirculation and consideration of public comments" necessary before revised project approval].)

I27-4

Significant new information and changed circumstances further require revision and recirculation prior to certification, or a subsequent EIR after certification. (Pub. Res. Code § 21166; CEQA Guidelines § 15088.5(a); CEQA Guidelines, § 15162(a)(2), (a)(3)(A), (B).) CEQA specifically provides that "[w]hen an environmental impact report has been prepared for a project pursuant to this division, no subsequent or supplemental environmental impact report shall be required . . . [unless] [n]ew information, which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available." (Pub. Res. Code § 21166(c).) CEQA defines significant new information as information showing: (1) "[a] new significant environmental impact would result from the project . . ."; or (2) "[a] substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance." (CEQA Guidelines § 15088.5(a).) Additionally, CEQA requires a revised EIR when "substantial changes occur with respect to the circumstances under which the project is being undertaken

which will require major revisions in the environmental impact report." (Pub. Res. Code § 21166(b).)

I27-4 cont.

A. New Scientific Knowledge on Climate Change Increases the Urgency of Addressing Climate Change.

Substantial new information on the severity of the Modified Project's contributions to climate change has become available in the past four years. Not only has California set new GHG reduction targets, but groundbreaking climate change research sheds light on the critical need to reduce GHG emissions further than the PREIR proposes. The County must take this significant information into account and require further mitigation measures aligned with statewide goals.

i. Substantial New Information on Climate Change Impacts Requires Revision.

First, since the County certified the original 2020 FEIR, the Intergovernmental Panel on Climate Change (IPCC), the leading international scientific body for the assessment of climate change, concluded in its 2023 Sixth Assessment Report that: "[u]nsustainable and unequal energy and land use as well as more than a century of burning fossil fuels have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850-1900 in 2011-2020." (IPCC 2023.) The increase in global surface temperature has resulted in sea level rise, more frequent extreme weather events, and "irreversible losses" at the species and ecosystem levels. (IPCC 2023.) The United States' own 2023 Fifth National Climate Assessment, prepared by scientific experts and reviewed by the National Academy of Sciences and multiple federal agencies, echoed these findings. The 2023 Assessment concluded that "[t]he global warming observed over the industrial era is unequivocally caused by greenhouse gas emissions from human activities–primarily burning fossil fuels," and long-term responses include "sea level rise, ice sheet losses, and associated disruptions to human health, social systems, and ecosystems." (Jay 2023.)

I27-5

This significant new information requires immediate and aggressive greenhouse gas emissions reductions to keep warming well below 2°C above pre-industrial levels. The IPCC Sixth Assessment Report and other expert assessments have established global carbon budgets, or the total amount of carbon that can be burned while maintaining some probability of staying below a given temperature target. According to the IPCC, "[t]he best estimates of the remaining carbon budgets from the beginning of 2020 are 500 GtCO2 for a 50% likelihood of limiting global warming to 1.5°C and 1150 GtCO2 for a 67% likelihood of limiting warming to 2°C." (IPCC 2023 at 19.) Additionally, "[i]f the annual CO2 emissions between 2020-2030 stayed, on average, at the same level as 2019, the resulting cumulative emissions would almost exhaust the remaining carbon budget for 1.5°C (50%), and deplete more than a third of the remaining carbon

budget for 2°C (67%)." (IPCC 2023.) As of 2023, climate policies by countries across the world would lead to an estimated 2.7°C of warming, and possibly up to 3.4°C of warming, well above the level needed to avoid the worst dangers of climate change. (Climate Action Tracker, The CAT Thermometer 2023.)

I27-5 cont.

ii. The PREIR's GHG Analysis Is Outdated.

The significant new information described *supra* leaves no doubt that climate change will transform California, resulting in increased temperature and frequency of wildfires, and a reduction in snowpack, precipitation levels, and water availability. (Turco 2023.) But the PREIR fails to fully take this into account, instead relying on an outdated GHG emissions calculation model, CalEEMod Version 2016.3.2. (PREIR at 91.) The significant new information regarding climate change impacts should be assessed under the new version of CalEEMod, which became available in 2020, and again in 2022, intended to incorporate the latest science on GHG emissions (CAPCOA 2021; CAPCOA 2022). Specifically, the newer models take into account critical sources of GHG emissions prior models did not, such as CARB's EMFAC2017 N2O emissions, and they incorporate the 2019 update to Title 24 (building efficiency percentage reduction). (CAPCOA 2021.) The PREIR offers no justification for using a version two cycles and six years out of date that overlooks several aspects of GHG emissions. The GHG analysis is therefore not supported by sufficient evidence and must be revised and recirculated.

I27-6

iii. The PREIR Still Fails to Adopt All Feasible GHG Mitigation.

In light of these new assessments, the County must further mitigate the Modified Project's GHG emissions. While the Center supports the Modified Project's additional GHG emissions mitigation measures, the substantial new information, along with California's updated targets, should compel the County to do even more. In fact, any revised EIR must show how a project will conform to current statewide GHG reduction targets and adopt enforceable mitigation to achieve these goals. (*Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 225-26; *League to Save Lake Tahoe v. County of Placer* (2022) 75 Cal.App.5th 63, 121-22.)

I27-7

Since 2020, the State has released several new GHG reduction targets. For example, the PREIR acknowledges that in November 2022, CARB released a new Scoping Plan, requiring "aggressive reduction of fossil fuels" and "rapidly moving to zero emission transportation," identifying "a technologically feasible and cost-effective path to achieve carbon neutrality by 2045." (PREIR at 154.) Additionally, under AB 1279, the California Climate Crisis Act, California must achieve net zero GHG emissions by no later than 2045 and achieve and maintain net negative GHG emissions thereafter. (AB 1279 2022.) Newsom has continued to issue climate-related executive orders, such as a 2020 order requiring that, by 2035, all passenger vehicles will be zero-emission, in addition to other motor vehicle emission goals. (Executive

Order N-79-20 (2020).) Enforcement of and compliance with these steps are essential to stabilize the climate and avoid catastrophic impacts to our environment.

Appendix D of CARB's 2022 Scoping Plan includes on-site GHG-reducing design features and mitigation measures, as well as offsite measures the County should consider to conform to these new targets. Other feasible measures can be found in the California Air Pollution Control Officers Association 2022 Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity. (CAPCOA, December 2021.) The Center urges the County to take all feasible steps to reduce GHG emissions in light of the recent climate change research outlined *supra*. I27-7 cont.

B. The County Must Take into Account Significant New Information Regarding California's Water Supply.

Relatedly, since the 2020 EIR's preparation and certification, significant new information reveals that California's water supply has become more uncertain. Indeed, climate change and population growth pose unprecedented challenges to California's efforts to allocate and conserve limited water resources. New studies predict that in the next 35 to 60 years, if GHG emissions continue unchecked, the American West's snowpack will continuously shrink, disappearing for a decade or more at a time. (Siirila-Woodburn 2021.) In 2022, the IPCC specifically identified the American West as vulnerable, warning that with projected warming in the western mountains, accumulated snowpack is "virtually certain to decline." (IPCC 2022.) This warning informed a recent Executive Order from Governor Newsom, declaring that California must "redouble near-, medium-, and long-term efforts to adapt its water management to a changing climate, shifting precipitation patterns, and water scarcity." (Executive Order N-7-22 (2022).) I27-8

This changing reality has been uniquely felt in Lake County since the EIR's initial preparation in 2020. In May 2021, Lake County declared a local emergency due to drought, reporting less than one percent of the average rainfall for May. (VC Star.) And to this day, the majority of Lake County remains "abnormally dry." (Drought.gov 2024.)

As noted in the Center's April 21, 2020 letter, the 2020 EIR already lacked sufficient information to support the conclusion that groundwater would be available to supply the Project into the future. (*See* Center Comment, April 2020.) Four years later, the significant new information heightens this concern, yet the PREIR continues to rely on information more than *two decades old* that does not account for the impact of climate change on groundwater availability. While the PREIR adds data on current conditions in the Modified Project's wells, it still uses a 2003 study to estimate aquifer recharge, asserting that in Mediterranean-type climates like California, ground-water recharge is typically 10-20% of long-term precipitation. (PREIR

Appendix G-1 Well Testing Report 1 at 4; Well Testing Report 4 at 4-5; Well Testing Report 5 at 4-5.) It then uses average precipitation from prior to 2020 to calculate future recharge. (*Ibid.*)

None of this remains accurate, considering the new information above regarding California's changed water conditions. Climate change has caused increased water extremes—a boom and bust cycle between flooding and drought—that scientists predict will only get worse. (Polade et al. 2017; Swain et al. 2018.) During wet years, California has experienced increased run-off as more water falls than can recharge groundwater. (Becker 2024.) In this context, assuming that precipitation averages will remain consistent with pre-2020 averages and that a stable percentage of that precipitation will become groundwater ignores current reality. I27-8 cont.

Additionally, the significant new information is relevant to understanding whether a water supply shortfall is likely, and if so, what might be required from an offsite back-up supply well. (*See* PREIR at 26-27.) In our April 21, 2020 letter, the Center noted inconsistencies between the 2020 FEIR's assertion that a developer would build an off-site well to supply an unlimited, undisclosed "back-up" amount of water and the 2020 FEIR's insistence that on-site sources would sufficiently serve the Project. (*See* Center Comment, April 2020.) The PREIR's continued failure to adequately disclose the use and need for the off-site well is particularly egregious with the addition of new information.

C. The PREIR Fails to Incorporate New Information Relating to the Project's Wildfire Risks.

The PREIR also leaves out significant new information and changed circumstances regarding the Modified Project's increased wildfire risks. Not only does the revised Wildfire Prevention Plan fail to provide updated information on the recent Lightning Complex Fire in the Modified Project site, but it fails to update the Fire Hazard Safety Zones (FHSZ), which have drastically changed since 2020. Furthermore, significant new evidence reveals heightened wildfire risks for sensitive habitats, species, and the local community, requiring the PREIR's revision. In light of these changed circumstances and significant new information, the County should update mitigation measures to protect from the Modified Project's wildfire risks. I27-9

i. Fire Hazard Safety Zones Have Changed in the Modified Project Area Since the County Prepared the 2020 EIR.

Critically, the circumstances regarding the County's wildfire severity have substantially changed since the original EIR was issued, as CalFire has since updated its Fire Severity maps to reflect increased fire severity risk. (PREIR at 32.) As shown in the PREIR's Figure 3-1, the majority of the Guenoc Valley Site is now mapped as Very High FHSZ, whereas in the 2020 EIR, approximately half of the Guenoc Valley Site in the central and southeast was mapped as

Very High FHSZ, while the northeastern area was High FHSZ and the western portion Moderate FHSZ. (PREIR at 32.)

These changed circumstances require the County to update the FHSZ maps in the Wildfire Prevention Plan, as the Plan relies on FHSZ designations in mapping locations for vegetation breaks, grazing, and other measures. (PREIR, Appendix F at 13, 14.) In fact, the WPP specifically refers to the outdated map of FHSZs, assuring that "additional precautions will be taken along the property boundaries where the risk of fires spreading onto the site is greater." (PREIR, Appendix F at 14.) These outdated maps cannot support the PREIR's conclusions, and the County must revise the WPP in light of changed circumstances. I27-9 cont.

ii. The Revised WPP Leaves Out Assessment of the Most Recent Wildfire.

Beyond the changed FHSZs, the PREIR mentions, but fails to assess, significant new information regarding a recent wildfire in the Modified Project area. Specifically, the PREIR acknowledged the 2020 Lightning Complex Fire, a massive fire that affected Napa, Sonoma, Lake, Yolo, and Solano Counties for 47 days, destroying 1,490 structures and damaging 232 structures, as well as leading to five injuries and six deaths. (PREIR at 33.) This fire, which started just two months after the County's initial approval, was the *sixth fire* to burn in the project area since 2006, reinforcing high wildfire risks in this area. However, the revised Wildfire Prevention Plan's wildfire history leaves out this recent destructive fire, despite stating "[t]he scale, severity, and effects of the *most recent wildfires* are all *important considerations* in developing a rigorous wildfire prevention strategy." (PREIR, Appendix F at 6 [emphases added].) I27-10

The County must correct this oversight, considering that repeated wildfires at a site disrupt natural fire regimes and lead to a dangerous feedback loop of deadly fires and habitat destruction. Most destruction to human communities from fire has been caused by human-ignited fires in mixed shrubland habitats, such as those in the Modified Project area burned in the Lightning Complex Fire. (Syphard, 2018.) When fires occur too frequently in shrubland habitats, type conversion occurs, and the native shrublands are replaced by non-native grasses and forbs that burn more frequently and more easily, ultimately eliminating native habitats and biodiversity while increasing fire threat over time. (Keeley, 2005, 2006; Safford & Van de Water, 2014; Syphard et al., 2009, 2018.) This impacts not only public safety and health, but also special-status species like western pond turtles in the project area (PREIR at 105-6) and yellow-legged frogs (PREIR at 105, 120-21) that rely on native habitats for survival. (Sahagun, 2020.)

And stepping back, the PREIR also fails to take into account significant new information on increased wildfire risks throughout the state. From 2016-2023, wildfires killed more than 200 people in California, burned down more than 50,000 structures, spurred hundreds of thousands to

evacuate their homes, and exposed millions to unhealthy levels of smoke and air pollution. (CalFire 2023.)[3] The majority were ignited by human activity: for example, electrical transmission lines and electrical equipment caused the 2020 Silverado and Zogg Fires, vehicle sparks started the 2020 Apple Fire, pyrotechnics at a gender-reveal celebration started the 2020 El Dorado Fire, and a house fire likely ignited the 2020 Blue Ridge Fire. As a result, dismissing fire hazard zoning and placing more homes and people in high fire-prone areas undoubtedly increases the likelihood of these ignition sources, as the Center noted in 2020. (*See* Center Comments, April 2020 at 22-29; Center Comments, July 2020 at 21-29.)

I27-10 cont.

iii. New Information Reveals Heightened Public Health Risks from Wildfires.

Beyond assessing these changed circumstances, the revised EIR should take into account significant new information regarding wildfire impacts on local communities, as described below.

a. Increased Wildfire Risk Poses Health Concerns for the Surrounding Community.

I27-11

First, new studies reveal the severity of health risks from wildfire. For example, wildfires place local communities at higher risk of increased occurrences of poor outdoor and indoor air quality from $PM_{2.5}$ from smoke, which can have both acute and long-term health effects that disproportionately affect vulnerable populations, like children, the elderly, those with underlying chronic disease, low-income communities, and communities of color. (Reid-Wainscoat et al., 2024.) In addition, epidemiologists recently found that increased exposure to wildfire smoke may also be linked to higher rates of dementia. (B. Zhang et al., 2023; Z. Zhang et al., 2023.) Researchers further estimate that between 2008 and 2018 California wildfire smoke caused more than 50,000 premature deaths. (Connolly et al., 2024.)

b. New Information Suggests More Unintentional Ignitions Due to Development in Fire Zones Increases Firefighting Costs and Strain on Firefighters.

I27-12

Second, new information sheds light on the costs of wildfires for state and local authorities. Fire suppression costs in areas managed by the California Department of Forestry and Fire (Cal Fire) have skyrocketed from $114 million in the 2000-2001 fiscal year to close to $3 billion for the 2020-2021 and 2021-2022 fiscal years combined. (CalFire 2022.) During the 2022-2023 fiscal year, CalFire used an estimated $3.3 billion for wildfire protection and

[3] These data are from annual CalFire Incident Reports, available at https://www.fire.ca.gov/incidents.

suppression. (LAO 2023.) This does not include the cost of lives lost, property damage, or clean up.

Climate change only adds to extreme weather and fire conditions, which, in combination with poorly planned development, has led to more ignitions and longer fire seasons, increasing strain on over-burdened firefighters and first responders. Wildland firefighters suffer disproportionately high rates of cancer and other serious diseases, likely due to extreme smoke exposure. (Hwang et al., 2023; Johnson & Lam, 2023.) In addition, the physical and mental fatigue of endlessly fighting fires and experiencing trauma have spurred new reports indicating rising rates of suicide and substance abuse among firefighters. (Cart, 2022.) The revised EIR must assess these impacts and include appropriate mitigation. I27-12 cont.

iv. The PREIR's Description of Existing Wildfire Conditions on the Project Site is Inadequate.

The PREIR's assessment also fails to adequately describe the project site's existing wildfire conditions in light of these changed circumstances described *infra*. As the Center previously noted in 2020, it is standard practice when preparing an EIR for a development project of this size and scope for experts to use modeling software, such as the industry-standard FlamMap, BehavePlus, or similar programs, to provide fire behavior modeling for the project site. The analysis typically includes descriptions of the project site's topography, fuel loads, and wind patterns, and uses those inputs to anticipate wildfire conditions under various scenarios. But here, in sharp contrast, the Wildfire Prevention Plan simply provides a map of how previous fires moved through the project area—but not even the most *recent* fire. (PREIR, Appendix F at 6.) And although it makes general references to wind patterns in the region, it does not explain how the development on the site will affect wind-driven fire behavior. (PREIR, Appendix F at 9-10.) Taking into account the Lightning Complex Fire's movement, the County must correct this deficiency. I27-13

v. The PREIR Fails to Adequately Evaluate the Modified Project's Cumulative Wildfire Impacts.

The PREIR's outdated analysis of the Modified Project's cumulative wildfire impacts also overlooks changed circumstances, failing to assess new projects proposed in the Modified Project's vicinity since the 2020 EIR. CEQA requires an EIR to analyze a project's significant "cumulative impacts," defined in the CEQA Guidelines as two or more individual effects, which, when considered together, are considerable or that compound or increase other environmental impacts. (CEQA Guidelines § 15355; *see also* § 15130(a).) The CEQA Guidelines further state that individual effects may include changes resulting from a single project or a number of separate projects, or the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. (CEQA Guidelines § 15355.) CEQA

Guidelines specifically identify wildfire risk as a likely cumulative impact, stating that EIRs "should evaluate any potentially significant direct, indirect, or cumulative environmental impacts of locating development in areas susceptible to hazardous conditions (e.g. . . .wildfire risk areas)." (CEQA Guidelines § 15126.2(a).)

Despite this requirement, the PREIR provides only a single, conclusory paragraph dismissing cumulative wildfire impacts with virtually no analysis. The PREIR acknowledges that "[d]evelopment of these [other planned] projects [in the near vicinity] would introduce new people and infrastructure to the area. Increased development could potentially add more opportunities for igniting fires, more fuel, and make emergency response operations more complex." (PREIR at 206.) But then the PREIR's cumulative impacts analysis only mentions the same three projects it mentioned in 2020, despite listing several other newer projects in Table 4.13-1. (PREIR at 207-8.) And without further analysis, it concludes that its Wildfire Protection Plan and two mitigation measures that focus only on construction and emergency response (PREIR at 266-67 [MM 3.16-1 & 3.16-2]) will render cumulative wildfire impacts less than significant. (PREIR at 206.) I27-13 cont.

A lead agency must "identify facts and analysis supporting its conclusion" that a project's contribution to an environmental impact will be rendered less than cumulatively considerable. (CEQA Guidelines § 15130(a)(3).) The mere fact that the project proponent has prepared an outdated Wildfire Prevention Plan for the Modified Project itself does nothing to address cumulative wildfire impacts when considered along with the other projects proposed in the region. The PREIR simply gives no indication that the wildfire impacts from the cumulative projects have ever been considered collectively and must correct these deficiencies and assess cumulative impacts of all nearby projects.

vi. The PREIR's Mitigation for the Project's Wildfire Impacts Is Inadequate.

Finally, in light of the changed circumstances and new information regarding wildfire risks, the County should accordingly update the PREIR's mitigation measures for wildfire risks. The revised EIR must also provide substantial evidence that the adopted mitigation measures will effectively reduce the project's impacts. (*League to Save Lake Tahoe v. County of Placer* (2022) 75 Cal.App.5th 63, 120-21; *Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152, 1168-69.) I27-14

Here, the PREIR and revised Wildfire Protection Plan fail to adequately mitigate wildfire impacts for three reasons. First, the revised Wildfire Prevention Plan provides only the same boilerplate mitigation measures that have repeatedly failed to mitigate wildfire impacts throughout the state without any explanation of their effectiveness here under changed

circumstances. Second, the mitigation measures provide only a collection of aspirational strategies, goals, and suggestions, with few specifics, none of which are mandatory and binding and otherwise lack performance standards. And finally, the mitigation measures are incompatible with mitigation measures for sensitive habitats and wildlife.

a. The PREIR Fails to Demonstrate That the Wildfire Prevention Plan Will Reduce Wildfire Risks to Less Than Significant Under Current Conditions.

The Wildfire Protection Plan contains no data or analysis to support the PREIR's conclusions that implementing the plan will reduce wildfire risk under *current conditions* in any meaningful way. Instead, it contains only vague discussions of measures (many of which are aspirational and unenforceable) that it claims can ameliorate wildfire risk, without making any attempt to quantify these assertions or support them with evidence. Bare conclusions, even if true, cannot fulfill the informational purpose of an EIR. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 736.)

Here, at the landscape level, the Wildfire Prevention Plan proposes irrigated vineyards and grazing as two of three wildfire "prevention strategies" designed to reduce or prevent the spread of wildfire on the Modified Project site. (PREIR, Appendix F at 15.) But the Wildfire Prevention Plan supplies no detail or supporting evidence demonstrating how vineyards or grazing will effectively do so, given the site's updated wildfire history, and changed FHSZs. For example, the document states that "livestock grazing will be heavily relied upon to reduce fire risk" but provides no evidence that grazing and associated human activities (tractors, staging sites, etc.) will actually reduce the risk of wildfire ignition and spread, nor substantiates how it will do so in light of the revised FHSZ designations. (PREIR, Appendix F at 17.) Indeed, the historical and current grazing on the site appears to have done nothing to curtail the fires that have repeatedly swept over the site over the past sixty years, including the 2020 Lightning Complex Fire.

I27-14 cont.

The Wildfire Protection Plan also includes several other measures—building codes, underground powerlines, vegetation management, fire hydrants and communications systems—that it claims will reduce the Project's impacts to less than significant levels. (PREIR, Appendix F at 28.) However, while some measures can *reduce* fire risk, they do not make structures or communities *fireproof*. Significant new information provides that more than 40,000 structures exposed to wildfire between 2013 and 2018 in California deemed "firesafe" were destroyed. (Yap et al. 2021; Syphard 2020.) And while an analysis conducted in the aftermath of the 2017 Camp Fire showed that new building codes improved home survival, with 51% of homes built to code undamaged compared to 18% of homes built prior to 2008, the fire still destroyed about half of the homes built to fire-safety codes. (*Ibid.*)

b. The PREIR's Mitigation Measures Are Largely Aspirational and Not Enforceable.

What's more, even if the measures were updated to reflect changed circumstances, the PREIR provides no assurances that the revised Wildfire Prevention Plan's measures will actually be implemented or carried out. The document is rife with suggestions and aspirational strategies. (*See* PREIR, Appendix F at 28 [listing a "selection of strategies to prevent fires" none of which, except for exterior sprinklers, are required to be implemented by homeowners].) Thus, the measures in the Wildfire Prevention Plan are not enforceable through any legally binding means. (*Cf.* CEQA Guidelines § 15126.4(a)(2).) The PREIR's failure to include enforceable, concrete mitigation with measurable performance standards violates CEQA. (*City of Santee v. Cnty. of San Diego* (1989) 214 Cal.App.3d 1438, 1454-55.)

Specifically, at the landscape level, the revised Wildfire Prevention Plan provides little guarantee that measures will be implemented. As the Center noted in 2020, the irrigated vineyards and grazing that make up two of the Wildfire Prevention Plan's three wildfire "prevention strategies" remain vague, ill-defined, and lack enforcement mechanisms or meaningful performance criteria to evaluate their effectiveness. (PREIR, Appendix F at 15.) And there are still no assurances that the Plan's projected irrigated "fire breaks" which it relies on to "reduc[e] the spread of wildfires throughout the site" will happen because these are only "potential" vineyards. (PREIR, Appendix F at 2, 19 [identifying "potential irrigated vineyards fire breaks" that will be leased and managed by third parties].) I27-15

The revised Wildfire Prevention Plan is also vague and aspirational at the level of individual residential units. For example, the Plan states only that "[i]f a wildfire occurs, it poses a considerable risk to residential homes and their occupants. Homeowners *will be advised* to implement various wildfire prevention strategies." (PREIR, Appendix F at 23 [emphasis added].) The document then goes on to suggest "various [landscaping] strategies [that] can reduce wildfire risk where establishing a new landscape design." (*Id.* at 26.) Finally, the document notes that "residential buildings will abide by" state building codes (*id.* at 28) and suggests "interior strategies," such as smoke detectors, for reducing fire risk (*id.* at 29.) But as a recent study found, new construction built to state building codes "is not a panacea" and "many of the houses destroyed [in wildfires in California between 2013 and 2018] were newly built." (Syphard 2020.)

c. The PREIR Fails to Reconcile the Conflict between Its Wildfire Prevention Plan and Protection for Biological Resources. I27-16

The PREIR also largely ignores impacts to biological resources from the revised Wildfire Prevention Plan's proposals for vegetation management in light of the Lightning Complex Fire's

impacts, resulting in an outdated, as well as contradictory impact analysis and mitigation. There are two major inconsistencies that the PREIR never reconciles or explains. First, the PREIR fails to explain how the Modified Project can both implement the revised Wildfire Prevention Plan, which anticipates large-scale vegetation removal (PREIR, Appendix F at 2, 17), and Mitigation Measure 3.4-18, which prohibits the same to protect sensitive habitats. (PREIR at 233-34.) And second, the PREIR concludes that vegetation management strategies will potentially impact protected sensitive habitats (PREIR at 123-24), yet it also concludes that vegetation clearing for fire management *will not* impact *individual species of plants*. (PREIR at 114, 121-22 [emphasis added].)

On the first inconsistency, the PREIR provides numerous measures that will likely impact sensitive habitats, already impacted by the recent Lightning Complex Fire. The Wildfire Prevention Plan proposed to rely on three landscape-level wildfire prevention strategies to reduce the risk of fire ignition and spread: (1) fire breaks, (2) active landscape management by felling, cutting, grinding, chopping, mowing, and grazing, and (3) creation of an irrigated greenbelt. (PREIR, Appendix F at 15.) Specifically, the WPP states grazing will be "heavily relied upon" (PREIR, Appendix F at 17), and "[s]heep, goat, and cattle livestock will graze understory grasses and vegetation; the livestock will continuously rotate throughout the property." (PREIR, Appendix F at 15.) These clearing and vegetation removal activities are anticipated to occur across the Modified Project site, including within the ten sensitive terrestrial habitat types found on site and in areas where special-status plants grow. I27-16 cont.

However, despite this impact, the PREIR concludes that the Wildfire Prevention Plan's proposed vegetative management strategies will significantly impact sensitive habitats (PREIR at 123-24) but will somehow not impact special-status plant species. (PREIR at 114, 121-22.) These assertions lack substantial evidence. The PREIR bases its assumption on the unsupported 2020 assertion that grazing will not harm rare plants because "grazing occurs on a rotational basis, which would prevent overgrazing of the landscape." (2020 FEIR at 3.4-59.) As the Center previously commented, there is no evidence that rotational grazing avoids impacts to sensitive plant species; rather, grazing can result in take or other harm to a rare plant species, whether "overgrazing" occurs or not. The County abused its discretion by finding fire management grazing will not significantly impact special status plants without supporting evidence. (*See Friant Ranch*, 6 Cal.5th at 522 [EIR must contain facts and analysis, not just an agency's bare conclusions or opinions].)

On the second inconsistency, in contrast to its finding that the Wildfire Prevention Plan will not significantly impact special-status *species*, the PREIR admits that the plan's vegetation clearing would have a potentially significant impact on sensitive *habitats*. (PREIR at 123-24.) The County adopted Mitigation Measure 3.4-18 (Sensitive Habitat Impacts from Wildfire Clearing) to mitigate this impact. But MM 3.4-18 just requires avoiding sensitive habitat types I27-17

during clearing and vegetation removal for fire fuel load reduction, "to the degree feasible." (PREIR at 233-34.) And the DEIR supplies no evidence or analysis demonstrating that it is possible to concurrently remove enough vegetation to reduce fire risks to a less-than-significant level, while also avoiding the myriad extensive sensitive habitats onsite to ensure that impacts to the latter are less than significant. This problem is exacerbated by the PREIR's lack of detail or analysis necessary to understand which sensitive habitats may be significantly affected by vegetation clearing for fire management in the first place, how much sensitive habitat may be affected, and whether or not the recent fire impacted sensitive habitats.

The Court of Appeal rejected similar reliance in *San Joaquin Raptor*. There, the court held an EIR for an aggregate mine was inadequate because it disclosed an increase in peak production that was "entirely inconsistent with the assurances elsewhere that there would be no increase in production." (*San Joaquin Raptor,* 149 Cal.App.4th at 655-56.) The court reasoned that the EIR gave "conflicting signals to decisionmakers and the public about the nature and scope of the activity being proposed," rendering it "fundamentally inadequate and misleading." (*Id*. at 655-56.) The same is true here. The PREIR gives inconsistent and conflicting information to the public and decisionmakers as to whether sensitive habitats will be avoided to reduce biological impacts, or whether they will be cleared to reduce the Modified Project's fire impacts. Without reconciling these measures, the public and decisionmakers cannot ascertain basic facts about the Modified Project's mitigation including whether, how, and what sensitive habitat will be retained to protect biological resources versus removed to protect against wildfire ignition and spread. Without this critical information, the public cannot understand and evaluate the extent of the impacts or the measures' effectiveness. (*See City of Long Beach v. Los Angeles Unified School Dist.* (2009) 176 Cal.App.4th 889, 901 [proposed mitigation must contain sufficient information to enable the public to discern the analytic route traveled from evidence to action].) I27-17 cont.

In sum, development in and near high fire-prone areas should be avoided. If unavoidable, mitigation measures should require structures to have ember-resistant vents, fire-resistant roofs, and irrigated defensible space immediately adjacent to structures. External sprinklers with an independent water source could reduce structures' flammability. Rooftop solar and clean energy microgrids could reduce fire risk from utilities' infrastructure during extreme weather. In addition, mitigation measures should include equitably retrofitting existing communities near the Modified Project area with similar fire-resilient measures and providing wildfire personal protective equipment (e.g., N95 masks, air purifiers) to nearby communities. Education and awareness for workers, new residents, and nearby communities should be provided and include how to reduce ignition risk. The PREIR fails to adequately analyze and mitigate the Modified Project's wildfire risk. I27-18

III. THE PREIR'S REVISED SECTIONS REGARDING BIOLOGICAL RESOURCES REMAIN INSUFFICIENT UNDER CEQA.

The PREIR admits that the Modified Project will result in increased impacted habitat acres because (1) changes to the Connector Roadway alignments and Parcel Reconfiguration will result in impacts to areas not previously assessed in the 2020 EIR, and (2) the addition of the Grange Road Connector will result in impacts to an area adjacent to the Guenoc Valley Site that the 2020 EIR did not assess. (PREIR at 100.) There are 24 special-status wildlife species that have the potential to occur within the Modified Area of Potential Effects (PREIR at 104-5) and 51 special-status plant species. (PREIR at 106.) However, despite these new impacted areas, the PREIR fails to adequately assess numerous impacts to special status species from these Project Modifications and, as a result, fails to adequately mitigate these impacts.

A. The PREIR Overlooks Impacts of the Recent Lightning Complex Fire on Habitat Distribution.

The PREIR admits that precise boundaries of habitat types can shift in their distribution over time due to wildfire and that the project area recently experienced such a shift following the Lightning Complex Fire. (PREIR at 102.) It further acknowledges that ongoing vineyard development has resulted in some variation in habitat acreages as compared to the 2020 EIR. Specifically, "[a]pproximately *276 acres* of additional vineyard has been developed on the property, which has resulted in the conversion of other habitat types." (PREIR at 102.) However, the PREIR declined to assess these changes in habitat distribution because it claims the 2020 EIR broadly considered the *potential* for habitats and vegetative communities to shift over time. (PREIR at 102-3.) I27-19

The PREIR must provide an updated analysis of the Modified Project's impact on species, considering the specific impacts of the 2020 Lightning Complex Fire. Such analysis is critical, as when natural fire regimes are disrupted, habitats become degraded. (Keeley, 2005, 2006; Syphard et al., 2018.) As provided *supra*, when fires occur too frequently in shrubland habitats such as those in the Modified Project area, type conversion occurs and the native shrublands are replaced by non-native grasses and forbs that burn more frequently and more easily, ultimately eliminating native habitats and biodiversity while increasing fire threat over time (Keeley, 2005, 2006; Safford & Van de Water, 2014; Syphard et al., 2009, 2018.) This could have serious consequences for special-status species in the project area like mountain yellow-legged frogs, and western pond turtles that rely on native habitats for survival and exist in small, isolated patches due to overdevelopment (Sahagun, 2020.) In addition, large-scale landscape changes due to vegetation-type conversion from shifts in natural fire regimes could impact wide-ranging species like mountain lions (Blakey et al., 2022; Jennings, 2018), whose populations are already struggling in much of the state due to lack of connectivity and genetic isolation. (Benson et al., 2019; Gustafson et al., 2021.)

B. The PREIR Fails to Adequately Assess the Modified Project's Impacts on Habitat Connectivity.

Despite adding a nearly 4-mile roadway and reconfiguring buildings throughout the entire Modified Project site, the PREIR concludes, without assessment, that "[t]here are no changes to the wildlife movement setting as presented in the 2020 EIR." (PREIR at 104.) This conclusion lacks substantial evidence, as even the prior 2020 assessment failed to adequately assess and mitigate impacts to functional connectivity. As the Center previously noted, although identifying designated open space with a minimum width of 475 feet and proposing 300-foot wide habitat and residential habitat easements is a good start towards mitigating impacts to wildlife connectivity, it is insufficient and does not adequately consider the best available science. Again, no movement studies were conducted in the area to determine that animals would actually move through the proposed wildlife paths, and the PREIR again fails to consider edge effects of human activities on wildlife, wildlife movement, and habitat connectivity, considering the Modified Project design. I27-20

As mentioned in the Center's previous comments, edge effects of development in and adjacent to open space will likely impact key, wide-ranging predators, such as mountain lions and bobcats (Center Comments, April 2020 at 4-14; Crooks 2002; Riley et al. 2006; Delaney et al. 2010; Lee et al. 2012; Smith et al. 2015; Vickers et al. 2015; Smith et al. 2017; Wang et al. 2017), as well as smaller species with poor dispersal abilities, such as song birds, small mammals, and herpetofauna (Cushman 2006; Slabbekoorn and Ripmeester 2008; Benítez-López et al. 2010; Kociolek et al. 2011.) Negative edge effects from human activity, such as traffic, lighting, noise, domestic pets, pollutants, invasive weeds, and increased fire frequency, have been found to be biologically significant up to 300 meters (~1000 feet) away from anthropogenic features in terrestrial systems. (Environmental Law Institute 2003.) In addition, the PREIR fails to consider, assess, or mitigate impacts to identified riparian and terrestrial least-cost pathways adjacent to the Project area (FEIR Habitat and Connectivity Assessment Appendix at 19-21.) Thus, it is unclear if wildlife would move through the proposed wildlife paths and if or how the 4-mile Grange Road connector would impede movement.

C. The PREIR Again Fails to Adequately Mitigate Impacts to Aquatic Resources.

The PREIR again fails to adequately describe or consider the best available science when discussing the Modified Project area's aquatic resources. The Modified Project is located in an area identified by scientists as having high terrestrial and riparian permeability and linkage potential (Gray et al. 2018; PREIR at 104), with heterogeneous habitats associated with aquatic resources: almost 200 acres of riparian stream habitat [if not more] as well as over 400 acres of emergent wetlands and over 650 acres of ponds and reservoirs in the Modified Project area. (PREIR at 122.) I27-21

Riparian habitats perform a number of biological and physical functions that benefit wildlife, plants, and humans, and loss of what little is left will have severe, harmful impacts on special-status species, overall biodiversity, and ecosystem function. Natural riparian systems slow water and allow for infiltration into the ground water, while providing habitat and connectivity for rare plants and animals. Yet the PREIR fails to adequately assess and mitigate impacts to riparian habitats, including streams and upland habitat consisting of woodlands/scrub, due to the Modified Project.

I27-21 cont.

A literature review found that recommended buffers for wildlife often far exceeded 100 meters (~325 feet), well beyond the largest buffers implemented in practice (Robins, 2002). For example, Kilgo et al. (Kilgo et al., 1998) recommends more than 1,600 feet of riparian buffer to sustain bird diversity. In addition, amphibians, which are considered environmental health indicators, have been found to migrate over 1,000 feet between aquatic and terrestrial habitats through multiple life stages. (Cushman, 2006; Fellers & Kleeman, 2007; Semlitsch & Bodie, 2003; Trenham & Shaffer, 2005.) Accommodating the more long-range dispersers is vital for continued survival of species populations and/or recolonization following a local extinction. (Cushman, 2006; Semlitsch & Bodie, 2003.) In addition, more extensive buffers provide resiliency in the face of climate change-driven alterations to these habitats, which will cause shifts in species ranges and distributions. (Cushman et al., 2013; Heller & Zavaleta, 2009; Warren et al., 2011.) This emphasizes the need for sizeable riparian and upland buffers around streams and wetlands in and adjacent to the Project area, as well as connectivity corridors between heterogeneous habitats. To protect the Modified Project area's highly diverse ecosystems and the services they provide, the EIR should require a minimum buffer of 300 feet or more (depending on the needs of the species present or potentially present) from all reservoirs and ponds throughout the Project area.

I27-22

In addition, the PREIR should implement 300-foot setbacks from perennial and intermittent streams, and wetlands (including vernal pools) that are within designated critical habitat, support or have the potential to support special-status and/or sensitive species, or provide connectivity and linkages to support multiple species. If the aquatic resources are not located within designated critical habitat, do not support or have the potential to support special-status or sensitive species, and do not provide essential habitat connectivity, as determined by a qualified biologist, then a minimum 200-foot buffer should be required.

Despite the vast amount of science highlighting the importance of these aquatic resources and adjacent upland habitat to native plants and animals as well as water resources, the PREIR fails to adequately mitigate impacts to less than significant. MM 3.4-17 Aquatic Resources Protection and Management provides grossly insufficient mitigation. (PREIR at 230-32.) Setbacks of 30 feet from perennial streams and 20 feet from ephemeral streams, wetlands, ponds, lakes, and reservoirs will not adequately mitigate impacts to these resources due to the proposed Project. (PREIR at 230-31.) In addition, a setback "to the outer extent of a riparian corridor"

(PREIR at 231) is unclear and does not allow the reader to understand how that would be defined or implemented. Similarly, mitigation ratios of 2:1 for preservation or restoration/enhancement and 1:1 for created habitat are insufficient and do not align with current scientific knowledge. (PREIR at 231-32.) Such mitigation should be at least 5:1 for these sensitive habitats, and any created habitat should have a much higher mitigation ratio of at least 10:1. I27-22 cont.

D. The PREIR Provides Insufficient Measures to Protect Yellow-Legged Frogs and Northwestern Pond Turtles from the Modified Project.

The PREIR's assessment of the Modified Project's impacts to the yellow-legged frog and northwestern pond turtle remains insufficient. The PREIR admits that impacts could occur to these species "though habitat conversion . . . and habitat degradation through impaired runoff." (PREIR at 119.) And it admits to 1) habitat conversion from the Lightning Complex Fire, and 2) habitat degradation from the Grange Road Connector, which would result in construction adjacent to Bucksnort Creek, a waterbody where foothill yellow-legged frogs and northwestern pond turtles have previously been identified. (PREIR at 119, 120.)

The PREIR's adopted mitigation for impacts to these species should take further measures to mitigate these harms. As mentioned *supra*, setbacks of 20-30 feet from aquatic resources do not support these species' entire life cycles and metapopulation dynamics, both known to occur in and adjacent to the Modified Project area. (PREIR at 230-31.) As mentioned in the Center's 2020 comments, larger setbacks at aquatic resources that take into account connectivity with heterogeneous habitats, especially where special-status species are known to occur, have the potential to occur, or historically occurred would adequately minimize impacts to the species, populations, and ecosystems. (Center Comments, April 2020 at 13-14.) Western pond turtles can nest as far as 1,312 feet from aquatic habitat and can overwinter up to 1,640 feet from aquatic habitat, as well as migrate over 3,280 feet (1 km) (Holland 1994; Zaragoza et al. 2015), and Bury and Germano (2008) found that "most individuals rapidly depart basking sites when disturbed by either visual or auditory stimuli of people (e.g., waving an arm, shouting) at distances of over 100 m [(328 feet)]." Adult foothill yellow-legged frogs have been observed in abandoned rodent burrows and under logs as far as 100 m (328 feet) from streams (Morey 1988), and juveniles have been found up to 600 feet upslope from their natal stream channel (Twitty et al. 1967). Especially in light of recent impacts to these species, the PREIR fails to adequately assess and mitigate impacts. I27-23

E. The PREIR Fails to Adequately Assess and Mitigate Impacts to Special-Status Plants.

The PREIR still fails to adequately assess and mitigate the impacts to special-status plants that occur or have the potential to occur in the Modified Project area. The proposed Modified Project is within the California Floristic Province, one of 34 global biodiversity hotspots, named so because of the area's rich plant diversity and high levels of endemism. I27-24

Special-status and rare plants occur throughout the County's diverse habitats, with a high concentration of species in chaparral/shrubland, serpentine chaparral and grasslands, oak woodlands, riparian woodlands, wetlands, and rock outcrops. Appendices BRA1 and BRA2 in Appendix D to the PREIR identify 500 native vascular plant taxa within the larger Guenoc Ranch property and 131 special-status plant species in or adjacent to the property (PREIR, Appendix D [DEIR BRA1 at 28].) However, the main text of the PREIR misleadingly states that only 51 special-status plant species have the potential to occur. (PREIR at 106.) The PREIR again fails to explain this inconsistency and must do so to adequately assess impacts on special-status plants. I27-24 cont.

F. The PREIR Fails to Take Into Account Impacts to Species from Constructing Nearly Four Miles of Road.

The PREIR relies on the Grange Road Connector's construction for evacuation purposes. However, the PREIR fails to analyze the environmental impacts of constructing nearly four miles of a road in order to mitigate the Modified Project's impacts. This road construction will undoubtedly result in habitat destruction and impaired wildlife connectivity, and the final PREIR must fully assess and mitigate these impacts. I27-25

G. The PREIR Fails to Assess Impacts to Biological Resources from Helicopter and Seaplane Flight Noise.

The PREIR locates a float plane dock and helicopter landing pad near the Detert Reservoir, which could impact species and the surrounding ecosystem through noise pollution. (PREIR at 10, 22.) Specifically, the Guenoc Valley Mixed Use Project Air Transportation Technical Memo estimates two arrivals and two departures per day for the Detert Reservoir Heliport and two arrivals and departures per day for the float plane dock in the same area. The PREIR admits that "[h]igh levels of noise during operation could impact special-status wildlife, particularly near the proposed float dock and helicopter landing pads" (PREIR at 122); however, neither the 2020 EIR nor the PREIR provide any further analysis. Instead, they just refer to mitigation measures 3.10-3 and 3.10-4, which restrict flights to only 7 am to 7 pm, as well as require a future noise study. (PREIR at 261.) Time restrictions undoubtedly will do little to protect wildlife in the area, as species are present at all times of the day, and nothing in the assessment provides evidence that time restrictions will mitigate impacts on wildlife. And a future noise study provides only improperly deferred mitigation. (*See San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670 [EIR inadequate where the success or failure of mitigation efforts "may largely depend upon management plans that have not yet been formulated and have not been subject to analysis and review within the EIR"].) I27-26

Undoubtedly, ongoing noise from these flights will impact wildlife. Impacts from noise include altered vocal behavior to mitigate masking, changes in vigilance and foraging behavior, and impacts on individual fitness and the structure of ecological communities. (Shannon et al.,

2016.) For example, Shannon et al. (2016) highlights two studies in which noise levels of more than 80 dBA from military aircrafts elicited alert responses and behavioral shifts in several duck species. (Conomy et al., 1998; Goudie & Jones, 2004.) Additionally, Goudie & Jones (2004) found that increasing noise levels resulted in more intense behavioral shifts, including more aggressive behavior up to 120 minutes after over-flights and decreased courtship behavior up to 90 minutes after over-flights. The authors noted:

> "Such residual effects are cause for concern, because they are potentially more detrimental than immediate responses and may not be detected in studies that focus on readily observed overt behaviours. The alert and aggressive responses we documented are indicative of 'fight or flight' responses, and imply that harlequin ducks perceived loud military jet noise as a stressor. Chronic exposure to military jet noise could have negative consequences for individuals." (Goudie & Jones, 2004.)

The researchers further postulated that some species in areas with chronic noise pollution may become *more* sensitive to noise stressors like military aircraft over-flights instead of becoming habituated or less sensitive to them. (Goudie & Jones, 2004.) Therefore, special-status and sensitive species and other native wildlife around the reservoir could be significantly adversely affected by frequent take offs and landings.

I27-26 cont.

Additionally, many other studies have shown that high levels of anthropogenic noise harm wildlife and plants across diverse taxa. For example, field observations and controlled laboratory experiments have shown that traffic noise can significantly degrade habitat value for migrating songbirds. (Ware et al., 2015.) Subjects exposed to 55 and 61 dBA of traffic noise, less than the 65-92 dBA at a distance of 1000 feet for floatplanes here (FEIR at 3.10-6), exhibited decreased feeding behavior and duration, as well as increased vigilance behavior. (Ware et al. 2015.) Such behavioral shifts increase the risk of starvation, thus decreasing survival rates. Another study found a 28% decrease in bird abundance in areas when traffic noise was present compared to when there was no traffic noise (McClure et al., 2013.) In addition to noise produced by flights, the Modified Project would also result in increased traffic, suggesting the Modified Project's noise could have significant adverse impacts on special-status and sensitive species in and near the Modified Project area. The PREIR fails to adequately analyze the Modified Project's noise impacts on biological resources. The County should further assess impacts to wildlife from daily float planes and helicopters and require all feasible mitigation measures to protect wildlife.

IV. THE COUNTY FAILED TO UPDATE THE ALTERNATIVES ANALYSIS TO PROVIDE ALTERNATIVES TO THE MODIFIED PROJECT.

The PREIR does not provide an alternatives assessment, instead incorporating the 2020 EIR's alternatives assessment in Appendix D. As the Center commented in 2020, this alternatives assessment remains insufficient. And furthermore now, considering the changes to the Project, the 2020 EIR's comparison of the original Project to alternatives no longer applies. The County should therefore complete a revised alternatives assessment, considering the Modified Project, changed fire conditions in the Modified Project area, and the significant new information the Center provided *supra*.

CEQA mandates that significant environmental damage be avoided or substantially lessened where feasible. (Pub. Res. Code § 21002; Guidelines §§ 15002(a)(3), 15021(a)(2), 15126(d).) Moreover, although "an EIR need not consider every conceivable alternative to a project . . . it must consider a reasonable range of potentially feasible alternatives that will foster informed decision decision-making and public participation." (Guidelines § 15126.6(a).) Additionally, the "key to the selection of the range of alternatives is to identify alternatives that meet most of the project's objectives but have a reduced level of environmental impacts." (*Watsonville Pilots Assn. v. City of Watsonville* (2010) 183 Cal.App.4th 1059, 1089.) I27-27
Accordingly, a rigorous analysis of reasonable alternatives to the Modified Project must be provided to comply with this strict mandate. Unfortunately, the PREIR fails to meet this requirement on two levels: the PREIR analysis of the alternatives proposed is inadequate, and the PREIR fails to include a reasonable range of alternatives.

A. The PREIR Should Have Analyzed a Range of Alternatives and Included Meaningful Analysis of the Impacts of These Alternatives.

The PREIR should have analyzed a wider range of alternatives. As courts have made clear, "[a] potential alternative should not be excluded from consideration merely because it would impede to some degree the attainment of the project objectives, or would be more costly." (*Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal. App. 4th 1437, 1456-57 (quotations omitted).) The PREIR only incorporated the three alternatives to the original Project from 2020, one of which was the no project alternative. (PREIR, Appendix D [FEIR at 5-5].) Beyond the no project option, the analysis only discussed lessening density within the proposed development footprint (Alternative B), and a reduced footprint with increased densities and consolidation of facilities within that new footprint (Alternative C). (*Ibid.*) The PREIR should have included a larger range of alternatives from which decision-makers could choose.

The PREIR should also include quantitative and meaningful comparisons between the *Modified* Project's impacts and proposed alternatives' likely impacts, including analysis of

estimated GHG emissions, quantified impacts to biological resources, water resources including water quality and water availability, and air quality resulting from each proposed alternative. Under CEQA, "the public agency bears the burden of affirmatively demonstrating that, notwithstanding a project's impact on the environment, the agency's approval of the proposed project followed meaningful consideration of alternatives and mitigation measures." (*Mountain Lion Foundation v. Fish & Game Com*. (1997), 16 Cal. 4th 105, 134.) The PREIR's general statements regarding these topics are both insufficient and no longer apply, as the Project has been revised. Specifically, Table 5-2 of the 2020 FEIR's alternatives section, incorporated here, presents an "impact comparison between the proposed project and alternatives," but this purported "comparison" is not only comparing the original Project to alternatives, but it merely categorizes the alternative impacts as "similar" or "lesser" as compared to the proposed Project. (PREIR, Appendix D [FEIR, at 5-15].) Nowhere does the PREIR quantify any potential impacts of the alternatives considered; nor does it attempt to provide qualitative detail to the comparisons offered. These findings are conclusory and lack the necessary evidentiary support that CEQA requires. (*See Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935 ["To facilitate CEQA's informational role, the EIR must contain facts and analysis, not just the agency's bare conclusions or opinions."].)

I27-27 cont.

B. The County Improperly Rejected the Environmentally Superior Alternative.

CEQA requires that before approving a project with significant environmental impacts, the agency must make findings identifying the specific considerations that make the environmentally superior alternative infeasible. (Pub. Res. Code § 21081; *Preservation Action Council v. City of San Jose* (2006) 141 Cal.App.4th 1336, 1351-52.) As the Center commented in 2020, the County improperly rejected Alternative C for not meeting "all the project objectives." (DEIR, Appendix D [FEIR at 5-15].) Specifically, it determined that Alternative C would not be financially and economically feasible. (*Ibid*. ["Alternative C would not provide enough resort amenities or large enough lots for a financially viable luxury resort."].) But under CEQA, determining that an alternative "may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible." (*Preservation Action Council, supra,* 141 Cal.App.4th at 1352.) Instead, the agency must present "evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the [alternative]." (*Id.*) This evidence may include, for example: total estimated costs, total projected income, total expenses, and the change in the per unit cost of a project that results from a project alternative or mitigation measure. (*Citizens of Goleta Valley*, *supra*, 197 Cal.App.3d at 1180.) The findings of infeasibility must be supported by substantial evidence. (*Id*. at 1176-77.) In other words, the 2020 EIR and the PREIR failed to include evidence as to why Alternative C would be financially *infeasible*, only that it would be *less profitable*. This is not enough. (*See Preservation Action Council*, *supra*, 141 Cal.App.4th at 1352.)

I27-28

V. CONCLUSION

Thank you for the opportunity to submit comments on the Draft PREIR for the Guenoc Valley Mixed Use Planned Development Project. We urge the County to prepare a new EIR for the Modified Project that fully complies with CEQA and recirculate following the appeal's resolution. Moreover, the Center again emphasizes that should the Court of Appeal find additional deficiencies, any new CEQA process cannot be limited to a reexamination of only those portions. Because significant new information has become available on many other impacts, the County must also reevaluate and incorporate new circumstances as well as new research and studies on those impacts that have become available in the last four years.

Given the possibility that the Center will be required to pursue legal remedies in order to ensure that the County complies with its legal obligations including those arising under CEQA, we would like to remind the City of its statutory duty to maintain and preserve all documents and communications that may constitute part of the "administrative record" of this proceeding. (§ 21167.6(e); *Golden Door Properties, LLC v. Superior Court* (2020) 53 Cal.App.5th 733, 762.) The administrative record encompasses any and all documents and communications that relate to any and all actions taken by the County with respect to the Project, and includes "pretty much everything that ever came near a proposed [project] or [] the agency's compliance with CEQA . . . ." (*County of Orange v. Superior Court* (2003) 113 Cal.App.4th 1, 8.) The administrative record further includes all correspondence, emails, and text messages sent to or received by the County's representatives or employees, that relate to the Project, including any correspondence, emails, and text messages sent between the County's representatives or employees and the Applicant's representatives or employees. Maintenance and preservation of the administrative record requires that, inter alia, the County (1) suspend all data destruction policies; and (2) preserve all relevant hardware unless an exact replica of each file is made. I27-29

Please add the Center to your notice list for all future updates to the Modified Project and do not hesitate to contact the Center with any questions at the number or email listed below.

Sincerely,

Meredith Stevenson
Staff Attorney
1212 Broadway, Suite #800
Oakland, CA 94612
mstevenson@biologicaldiversity.org

Frances Tinney
Associate Attorney
1212 Broadway, Suite #800
Oakland, CA 94612
ftinney@biologicaldiversity.org

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I28

From: Linda <pinkywink05@gmail.com>
Date: September 11, 2024 at 7:03:17 AM PDT
To: Mireya Turner <Mireya.Turner@lakecountyca.gov>
Subject: Other Thoughts

Hi

It also says in the EIR the well water is to be used for water features and ponds. What size is a pond? How many? Could putting a fountain in Detert be considered a water feature? Is the water from the well going into Detert and then pumped into water system or is water going into water system and then pumped into Detert? The verbiage is not clear and muddy waters is where we can be blind sided
If this were my project and I wanted to sell multi million dollar homes and I had a lake those prospective buyers would drive by, I would want it full year round. I28-1

I can tell that you take your job very seriously and your heart is to do the best you know how to move Lake County forward so it is a win win for everyone, I trust you have this and this special well permit to move water from the source property is being scrutinized very carefully to ensure the Callayomi Valley Water Basin is protected as this is the only water source for an entire town and the proposed usage of the off site well is for non potable purposes.

This is the County's last chance to modify or remove anything in this EIR and the future of the Middletown community's water source is in your hands.

Linda DD
707-355-4747

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COUNTY OF LAKE

COMMUNITY DEVELOPMENT DEPARTMENT, Planning Division

Courthouse – 255 N. Forbes Street

Lakeport, CA 95453

To: Laura Hall, Senior Planner Date: Sept. 11, 2024

This letter is in regard to the proposed Guenoc Valley Mixed Use Planned Development Project.

We appreciate the numerous changes that have been incorporated into the overall design of the project. The reduced project footprint, emergency access and interior 'looped road' improvements, building development clustered further away from potential wildfire interface, and the new emergency evacuation and access route connecting Grange Road are ideal safety improvements, IF Grange Road is to be improved.

I29-1

The changes noted in the PREIR pertain to the project area out at the Guenoc site, however, there are concerns with the off-site housing that should be addressed and with the off-site proposed well and water pipeline.

Water is a valuable resource.

The depletion of that resource or inaccessibility to a water resource can be critical to the Middletown area community. The project applicant is requesting "approval for the development of an off-site water supply well and pipeline along Butts Canyon Road to the Detert Reservoir within the Guenoc Valley Site."

I29-2

First question, is it appropriate to extract water from a well located on a parcel in a community and move it to another location six miles away?

Have the short-term and long-term potential impacts to the Middletown area been assessed and mitigated especially with regard to the impacts to the Middletown Municipal Water system.

Are there known or unknown risks to the groundwater supply in Long Valley and throughout the Butts Canyon area that have or have not been considered? What are the potential impacts to the PG&E GI land fill site, the plume, and the water quality in Long Valley when this project reaches full capacity and is drawing groundwater from both the west and east ends of the PG&E GI site? I29-2 cont.

While it is important to have water and back up water supplies at the site of the Guenoc Valley Planned Development, it is equally important for water to be accessible to the community of Middletown especially when the water source originates within the Middletown community boundary.

Environmental (and safety) concerns with regard to the off-site worker housing are as follows:

- Public transit/reduction of vehicle emissions – We understand that a shuttle service will be provided for the workers living at the worker housing site. But will safe bike lanes and sidewalks for access to the town of Middletown be provided as improvements to the area? And how about a bike lane/walking path directly from Middletown proper to the Guenoc site? I29-3
- Infrastructure -- What impacts will the increase in workers and their families have on the school system, roads and other infrastructure including power? What will the impacts be to communication systems, fiber optics, and cell towers both at the site of development and surrounding areas? I29-4

Regarding the proposed Santa Clara Workers Housing. The proposed site for the workers housing is located in a 'Flood Hazard Area 'and borders a 'Very High Fire Hazard Zone,' per the Middletown Area Plan adopted in 2010. The site is surrounded by large, spacious rural lots. The applicant is requesting to increase the density of the housing on this parcel.

The parcel is currently zoned R1. The applicant references a previous project that was approved in 2006 for an increase in density totaling 50 units. It is our belief, that the permit previously issued in 2006 has long since expired AND since 2006, much has changed. Namely with fires in our area. Additionally, 50 units approved in 2006 was individual homes on the 12+-acre parcel. The Guenoc Project proposes a total of 79 homes of which 29 are approx. 1858 sq. ft. Additionally, the Guenoc Project has asked for 3.5 acres on this parcel to be approved for higher density to accommodate 29 duplexes, each less than 1,000 sq ft with four (4) bedrooms. And the 21 houses are planned to be just shy of 1300 sq ft, five (5) bedrooms. How many people are we putting in harm's way on a 12-acre parcel located in a flood zone, in a fire hazard area with limited road access? I29-5

In 2010, the current Middletown Area Plan was adopted. It speaks to the environmental and safety issues mentioned above—fire and floods—and it proposes that higher density should or may be considered on parcels more centrally located within the unincorporated area of Middletown. This parcel is not centrally located in Middletown proper.

The increased density on this parcel will unintentionally place people at risk.

We respectively recommend conforming to the current R1 zoning or finding a more suitable location for a higher density worker housing development. Additionally, should the Worker Housing site be approved as part of the Guenoc Valley Project, we would like assurances that the project includes safety elements such as sidewalks, not only within the site boundaries, but to and from the downtown areas and local schools.

However, the two aspects of the project directly impacting the Middletown Area – the property with the well at the corner of Butts Canyon and the site proposed for Santa Clara workers housing are alarming and unsafe for the residents of Middletown.

Bottomline, it appears that the impacts of the off-site housing have not been thoroughly considered, investigated or reviewed.

I29-5 cont.

Thank you again for listening to our concerns.

Respectively submitted,

Monica Rosenthal, 707-355-2762,

Terry Hoberg, 707-987-3053

I30

From: DENNIS SMITH
To: Lake County CDD - GuenocValleyComments
Subject: [EXTERNAL] Ultra Luxury?
Date: Friday, August 16, 2024 8:26:22 AM

Building housing of this type is not what Lake County needs. Middle class housing and low income housing is more appropriate. I30-1

I31

From: ktmcobb@aol.com
To: Laura Hall; Monica Rosenthal; Gail Wright
Subject: [EXTERNAL] Dumping Stations/Pipeline down Butts Canyon Rd
Date: Friday, August 9, 2024 10:36:37 AM

Morning Laura,

As you know Math met last night and, as you suggested, we will be drafting another letter expressing our concerns with the project.

An issue came up for me that I had forgotten about and that is the proposed pipeline down Butts to Dletert and the pumping stations for it. Could you tell me where the map is that has the proposed pipe line and where the pumping stations are and where the EIR for them can be found?

I31-1

Thank you,

Jud

From: Ruby Mitts
To: Laura Hall
Subject: FW: [EXTERNAL] Fw: Guenoc Project
Date: Friday, July 26, 2024 2:07:13 PM

Hello Laura.

This gentlemen would like some assistance navigating through the revised EIR. He has a specific question. Please read email chain below. Thank you!

Ruby E. Mitts
Office Assistant III
Community Development Department
Planning Division – 3rd Floor
255 N. Forbes St.
Lakeport, CA 95453
Phone: (707) 263-2221
Fax: (707) 263-2225
Email: Ruby.Mitts@lakecountyca.gov

From: ktmcobb@aol.com <ktmcobb@aol.com>
Sent: Friday, July 26, 2024 1:58 PM
To: Ruby Mitts <Ruby.Mitts@lakecountyca.gov>
Subject: Re: [EXTERNAL] Fw: Guenoc Project

I32-1

Thank you Ruby. I look forward to hearing from Laura.

Jud

On Friday, July 26, 2024 at 01:26:16 PM PDT, Ruby Mitts <ruby.mitts@lakecountyca.gov> wrote:

> Good afternoon.
>
> I am going to forward your email to the Planner currently on the project, Laura Hall; she is out of the office today. She will be in next week, and I will follow up with her to let her know you are requesting information on the project. Thank you for your patience and I hope you have a wonderful weekend.
>
> **Ruby E. Mitts**
>
> **Office Assistant III**

Community Development Department

Planning Division – 3rd Floor

255 N. Forbes St.

Lakeport, CA 95453

Phone: (707) 263-2221

Fax: (707) 263-2225

Email: Ruby.Mitts@lakecountyca.gov

From: ktmcobb@aol.com <ktmcobb@aol.com>
Sent: Thursday, July 25, 2024 2:46 PM
To: Ruby Mitts <Ruby.Mitts@lakecountyca.gov>
Subject: [EXTERNAL] Fw: Guenoc Project

I32-1 cont.

Here is the letter I sent.

Sent from AOL on Android

---- Forwarded Message ----

From: "ktmcobb@aol.com" <ktmcobb@aol.com>

To: "mireyaturner@lakecounty.ca.gov" <mireyaturner@lakecounty.ca.gov>, "Monica Rosenthal" <rvineyards@sonic.net>, "Gail Wright" <gailright@earthlink.net>

Cc:

Sent: Tue, Jul 23, 2024 at 3:14 PM

Subject: Guenoc Project

Hi Mireya,

My name is Judson Hodges and I am one of the neighbors of the Guenoc project. My neighbors and I sent a letter to you along with the letter from MATH, expressing some concerns with the project. We sent this during the agency review/RFR stage.

I have received the your letter notifying us of the revised EIR and combed through it to see if our concerns have been addressed. I don't see or can't find anything about our issue with the helipad next to Dietert and Butts Canyon Rd. Air traffic, Noise and the impact/safety the helicopters will have on the bird population are some of our primary issues. Can you tell me where/if this has been addressed? Has there been an written response to the concerns in the Math letter?

I32-1 cont.

As thorough as the report is I cant imagine these concerns aren't addressed or mitigated somewhere in the report

Your prompt attention is appreciated . Thank you.

Judson Hodges

September 18, 2024

County of Lake
Community Development Department
Courthouse- 255 N. Forbes Street
Lakeport, CA 95453
Planning Department- Building Department- Code Enforcement

Re: GUENOC VALLEY MIXED USE PLANNED DEVELOPMENT PROJECT
AM 24-01, DA 24-01, GPAP (Map) 24-01, GPAP (Text) 24-02, RZ 24-01, GPD 24-01, SD 24-01, SD 24-02, SD 24-03, SD 24-04, UP 24-05, UP 24-08, GPAP (Map) 24-03, GPAP (Text) 24-04, RZ 24-02, SD 24-05)

PROJECT SITE: APN's: (013-015-28, 013-015-29, 013-016-04, 013-016-05, 013-016-06, 013-016-08, 013-019-05, 013-019-09, 013-021-05, 013-021-06, 013-021-09, 013-021-10, 013-022-01, 013-022-02, 013-022-05, 013-022-08, 013-022-09, 013-022-10, 013-022-11, 013-022-12, 013-022-13, 013-022-14, 013-022-15, 013-023-06, 013-023-07, 013-023-09, 013-023-10, 013-023-11, 013-023-12, 013-023-13, 013-023-14, 013-023-15, 013-024-12, 013-024-28, 013-024-29, 013-024-30, 013-024-31, 013-024-33, 013-024-34, 013-024-35, 013-024-36, 014-004-25, 014-310-014-310-07, 014-310-09, 014-320-08, 014-320-10, 014-330-09, 014-340-04, 014-380-09, 014-430-13, 014-430-12)

Dear County of Lake,

Thank you for giving us the opportunity to review the subject plans. The proposed GUENOC VALLEY MIXED USE PLANNED DEVELOPMENT PROJECT is within the same vicinity of PG&E's existing facilities that impact these properties. I33-1

PG&E operates both electric transmission and distribution facilities bordering and within the project areas as identified in the project documents. Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E's facilities and its existing rights.

The applicants are to provide development plans to PG&E's Plan Review Team for comment when they are available. The applicant may contact PG&E's Plan Review Team via email at PGEPlanReview@pge.com.

Following our review, PG&E recommends the following language be expressly stated for the offer to dedicate Public Utility Easements (PUE):

I/We the undersigned, as Owner(s) of the land shown hereon, do hereby state that I/we am/are the only person(s) whose consent is necessary to pass clear title to said land and do hereby consent to the preparation and recordation of this map and offer for dedication and do hereby dedicate for public uses the Public Utility Easements (PUEs) shown on this map for public utility purposes including electric, gas, communication facilities and all other public utility purposes; together with any and all appurtenances thereto, including the right from time to time to trim and to

cut down and clear away or otherwise control any trees or brush. The PUEs hereby offered for dedication are to be kept open and free of buildings, structures and wells of any kind.

The final map must contain a statement setting forth dedications and offers to dedicate interests in real property for public utility purposes. If the offer of dedication has terminated, or the local agency declines to accept it, the applicant maybe required to provide an easement in gross satisfactory to PG&E. Please note that this is our preliminary review and PG&E reserves the right for future review as needed.

Please contact the Building and Renovation Center (BRSC) for facility map requests by calling 1-877-743-7782 and PG&E's Service Planning department at www.pge.com/cco for any modification or relocation requests, or for any additional services you may require.

I33-1 cont.

As a reminder, before any digging or excavation occurs, please contact Underground Service Alert (USA) by dialing 811 a minimum of 2 working days prior to commencing any work. This free and independent service will ensure that all existing underground utilities are identified and marked on-site.

If you have any questions regarding our response, please contact me at Brian.Callaghan@pge.com.

Sincerely,

Brian Callaghan
Land Management
(925) 204-4074

Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E's facilities and its existing rights.

Below is additional information for your review:

1. This plan review process does not replace the application process for PG&E gas or electric service your project may require. For these requests, please continue to work with PG&E Service Planning: https://www.pge.com/en/account/service-requests/building-and-renovation.html.

2. If the project being submitted is part of a larger project, please include the entire scope of your project, and not just a portion of it. PG&E's facilities are to be incorporated within any CEQA document. PG&E needs to verify that the CEQA document will identify any required future PG&E services.

3. An engineering deposit may be required to review plans for a project depending on the size, scope, and location of the project and as it relates to any rearrangement or new installation of PG&E facilities.

Any proposed uses within the PG&E fee strip and/or easement, may include a California Public Utility Commission (CPUC) Section 851 filing. This requires the CPUC to render approval for a conveyance of rights for specific uses on PG&E's fee strip or easement. PG&E will advise if the necessity to incorporate a CPUC Section 851filing is required.

This letter does not constitute PG&E's consent to use any portion of its easement for any purpose not previously conveyed. PG&E will provide a project specific response as required.

Sincerely,

Plan Review Team
Land Management

Attachment 1 – Gas Facilities

There could be gas transmission pipelines in this area which would be considered critical facilities for PG&E and a high priority subsurface installation under California law. Care must be taken to ensure safety and accessibility. So, please ensure that if PG&E approves work near gas transmission pipelines it is done in adherence with the below stipulations. Additionally, the following link provides additional information regarding legal requirements under California excavation laws: https://www.usanorth811.org/images/pdfs/CA-LAW-2018.pdf

1. Standby Inspection: A PG&E Gas Transmission Standby Inspector must be present during any demolition or construction activity that comes within 10 feet of the gas pipeline. This includes all grading, trenching, substructure depth verifications (potholes), asphalt or concrete demolition/removal, removal of trees, signs, light poles, etc. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required. Ensure the USA markings and notifications are maintained throughout the duration of your work.

2. Access: At any time, PG&E may need to access, excavate, and perform work on the gas pipeline. Any construction equipment, materials, or spoils may need to be removed upon notice. Any temporary construction fencing installed within PG&E's easement would also need to be capable of being removed at any time upon notice. Any plans to cut temporary slopes exceeding a 1:4 grade within 10 feet of a gas transmission pipeline need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

3. Wheel Loads: To prevent damage to the buried gas pipeline, there are weight limits that must be enforced whenever any equipment gets within 10 feet of traversing the pipe.

Ensure a list of the axle weights of all equipment being used is available for PG&E's Standby Inspector. To confirm the depth of cover, the pipeline may need to be potholed by hand in a few areas.

Due to the complex variability of tracked equipment, vibratory compaction equipment, and cranes, PG&E must evaluate those items on a case-by-case basis prior to use over the gas pipeline (provide a list of any proposed equipment of this type noting model numbers and specific attachments).

No equipment may be set up over the gas pipeline while operating. Ensure crane outriggers are at least 10 feet from the centerline of the gas pipeline. Transport trucks must not be parked over the gas pipeline while being loaded or unloaded.

4. Grading: PG&E requires a minimum of 36 inches of cover over gas pipelines (or existing grade if less) and a maximum of 7 feet of cover at all locations. The graded surface cannot exceed a cross slope of 1:4.

5. Excavating: Any digging within 2 feet of a gas pipeline must be dug by hand. Note that while the minimum clearance is only 24 inches, any excavation work within 24 inches of the edge of a pipeline must be done with hand tools. So to avoid having to dig a trench entirely with hand tools, the edge of the trench must be over 24 inches away. (Doing the math for a 24 inch

wide trench being dug along a 36 inch pipeline, the centerline of the trench would need to be at least 54 inches [24/2 + 24 + 36/2 = 54] away, or be entirely dug by hand.)

Water jetting to assist vacuum excavating must be limited to 1000 psig and directed at a 40° angle to the pipe. All pile driving must be kept a minimum of 3 feet away.

Any plans to expose and support a PG&E gas transmission pipeline across an open excavation need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

6. Boring/Trenchless Installations: PG&E Pipeline Services must review and approve all plans to bore across or parallel to (within 10 feet) a gas transmission pipeline. There are stringent criteria to pothole the gas transmission facility at regular intervals for all parallel bore installations.

For bore paths that cross gas transmission pipelines perpendicularly, the pipeline must be potholed a minimum of 2 feet in the horizontal direction of the bore path and a minimum of 24 inches in the vertical direction from the bottom of the pipe with minimum clearances measured from the edge of the pipe in both directions. Standby personnel must watch the locator trace (and every ream pass) the path of the bore as it approaches the pipeline and visually monitor the pothole (with the exposed transmission pipe) as the bore traverses the pipeline to ensure adequate clearance with the pipeline. The pothole width must account for the inaccuracy of the locating equipment.

7. Substructures: All utility crossings of a gas pipeline should be made as close to perpendicular as feasible (90° +/- 15°). All utility lines crossing the gas pipeline must have a minimum of 24 inches of separation from the gas pipeline. Parallel utilities, pole bases, water line ‘kicker blocks’, storm drain inlets, water meters, valves, back pressure devices or other utility substructures are not allowed in the PG&E gas pipeline easement.

If previously retired PG&E facilities are in conflict with proposed substructures, PG&E must verify they are safe prior to removal. This includes verification testing of the contents of the facilities, as well as environmental testing of the coating and internal surfaces. Timelines for PG&E completion of this verification will vary depending on the type and location of facilities in conflict.

8. Structures: No structures are to be built within the PG&E gas pipeline easement. This includes buildings, retaining walls, fences, decks, patios, carports, septic tanks, storage sheds, tanks, loading ramps, or any structure that could limit PG&E’s ability to access its facilities.

9. Fencing: Permanent fencing is not allowed within PG&E easements except for perpendicular crossings which must include a 16 foot wide gate for vehicular access. Gates will be secured with PG&E corporation locks.

10. Landscaping: Landscaping must be designed to allow PG&E to access the pipeline for maintenance and not interfere with pipeline coatings or other cathodic protection systems. No trees, shrubs, brush, vines, and other vegetation may be planted within the easement area. Only those plants, ground covers, grasses, flowers, and low-growing plants that grow unsupported to a maximum of four feet (4’) in height at maturity may be planted within the easement area.

11. Cathodic Protection: PG&E pipelines are protected from corrosion with an “Impressed Current” cathodic protection system. Any proposed facilities, such as metal conduit, pipes, service lines, ground rods, anodes, wires, etc. that might affect the pipeline cathodic protection system must be reviewed and approved by PG&E Corrosion Engineering.

12. Pipeline Marker Signs: PG&E needs to maintain pipeline marker signs for gas transmission pipelines in order to ensure public awareness of the presence of the pipelines. With prior written approval from PG&E Pipeline Services, an existing PG&E pipeline marker sign that is in direct conflict with proposed developments may be temporarily relocated to accommodate construction work. The pipeline marker must be moved back once construction is complete.

13. PG&E is also the provider of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E’s facilities must be reviewed and approved by PG&E to ensure that no impact occurs which may endanger the safe operation of its facilities.

Attachment 2 – Electric Facilities

It is PG&E's policy to permit certain uses on a case by case basis within its electric transmission fee strip(s) and/or easement(s) provided such uses and manner in which they are exercised, will not interfere with PG&E's rights or endanger its facilities. Some examples/restrictions are as follows:

1. Buildings and Other Structures: No buildings or other structures including the foot print and eave of any buildings, swimming pools, wells or similar structures will be permitted within fee strip(s) and/or easement(s) areas. PG&E's transmission easement shall be designated on subdivision/parcel maps as "**RESTRICTED USE AREA – NO BUILDING."**

2. Grading: Cuts, trenches or excavations may not be made within 25 feet of our towers. Developers must submit grading plans and site development plans (including geotechnical reports if applicable), signed and dated, for PG&E's review. PG&E engineers must review grade changes in the vicinity of our towers. No fills will be allowed which would impair ground-to-conductor clearances. Towers shall not be left on mounds without adequate road access to base of tower or structure.

3. Fences: Walls, fences, and other structures must be installed at locations that do not affect the safe operation of PG&'s facilities. Heavy equipment access to our facilities must be maintained at all times. Metal fences are to be grounded to PG&E specifications. No wall, fence or other like structure is to be installed within 10 feet of tower footings and unrestricted access must be maintained from a tower structure to the nearest street. Walls, fences and other structures proposed along or within the fee strip(s) and/or easement(s) will require PG&E review; submit plans to PG&E Centralized Review Team for review and comment.

4. Landscaping: Vegetation may be allowed; subject to review of plans. On overhead electric transmission fee strip(s) and/or easement(s), trees and shrubs are limited to those varieties that do not exceed 10 feet in height at maturity. PG&E must have access to its facilities at all times, including access by heavy equipment. No planting is to occur within the footprint of the tower legs. Greenbelts are encouraged.

5. Reservoirs, Sumps, Drainage Basins, and Ponds: Prohibited within PG&E's fee strip(s) and/or easement(s) for electric transmission lines.

6. Automobile Parking: Short term parking of movable passenger vehicles and light trucks (pickups, vans, etc.) is allowed. The lighting within these parking areas will need to be reviewed by PG&E; approval will be on a case by case basis. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications. Blocked-up vehicles are not allowed. Carports, canopies, or awnings are not allowed.

7. Storage of Flammable, Explosive or Corrosive Materials: There shall be no storage of fuel or combustibles and no fueling of vehicles within PG&E's easement. No trash bins or incinerators are allowed.

8. Streets and Roads: Access to facilities must be maintained at all times. Street lights may be allowed in the fee strip(s) and/or easement(s) but in all cases must be reviewed by PG&E for proper clearance. Roads and utilities should cross the transmission easement as nearly at right angles as possible. Road intersections will not be allowed within the transmission easement.

9. Pipelines: Pipelines may be allowed provided crossings are held to a minimum and to be as nearly perpendicular as possible. Pipelines within 25 feet of PG&E structures require review by PG&E. Sprinklers systems may be allowed; subject to review. Leach fields and septic tanks are not allowed. Construction plans must be submitted to PG&E for review and approval prior to the commencement of any construction.

10. Signs: Signs are not allowed except in rare cases subject to individual review by PG&E.

11. Recreation Areas: Playgrounds, parks, tennis courts, basketball courts, barbecue and light trucks (pickups, vans, etc.) may be allowed; subject to review of plans. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications.

12. Construction Activity: Since construction activity will take place near PG&E's overhead electric lines, please be advised it is the contractor's responsibility to be aware of, and observe the minimum clearances for both workers and equipment operating near high voltage electric lines set out in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety (https://www.dir.ca.gov/Title8/sb5g2.html), as well as any other safety regulations. Contractors shall comply with California Public Utilities Commission General Order 95 (http://www.cpuc.ca.gov/gos/GO95/go_95_startup_page.html) and all other safety rules. No construction may occur within 25 feet of PG&E's towers. All excavation activities may only commence after 811 protocols has been followed.

Contractor shall ensure the protection of PG&E's towers and poles from vehicular damage by (installing protective barriers) Plans for protection barriers must be approved by PG&E prior to construction.

13. PG&E is also the owner of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs that may endanger the safe and reliable operation of its facilities.

Notes for MAHA
These notes pertain primarily to the development within Middletown.

Who is the housing actually for?
WE ARE LOOKING AT 300-350 people in a town currently of about 1000 that means they will represent over ¼ of the population.
Will there be families? (realistically)
Will it mostly be 300 single men/people living together in close quarters?
Do they primarily speak a second language other than Spanish?

- What language will most workers speak?
- Happy to welcome, but do we have the infrastructure to support such a large and concentrated influx of people, and language barriers in our small town?
- How will we address their needs?
- We are all still learning how to support our Spanish speaking friends and neighbors.
- What kind of support will MAHA give us to address these needs?

What does the long-term impact look like

- Schools
- Community dev
- Alcoholism
- Clinics
- Do we have infrastructure to fulfill people's basic needs for well-being?

Impacts to school district

- Second language impacts: MUSD has many issues to address
- Additional low income demographic may benefit free and reduced lunch stats
- Will overall financial stats of high income residents at MAHA impact local stats that enable school (and non profit) grant applications?

What is the bus shuttle schedule?
How will that impact residents?

MAHA said they were trying to help us with property prices, please explain.
I see no help here, **nor did they ask** the community what they prefer

I34-1

Environmental impacts:
Flood plain
Flooding soil build up
Bringing Dirt in
Cannot build land up
Park avenue dig lower because if you raise it up neighbors flood.
40 year residents impacted
What kind of mitigations will you be doing?
No full EIR has been done

I34-2

Make it a separate project.
Pool in back of Mini Cannon was graded to collect water runoff
Soil analysis–fear that some is contaminated.
Dirt imports will impact the neighbors.
Building any soil up for flood mitigation

Flood plain notes:
Per Chapter 25 of code ordinances, new projects cannot change the lay of the land. Houses, roads and sidewalks will flood.

Did the Middletown housing proposal go through the complete required process for flood safety, grading, and impacts on neighbors? See Chapter 25 code ordinances

I34-2 cont.

Excerpt from Article 35 or 36 https://www.lakecountyca.gov/460/Zoning-Ordinance

Within the "FW" combining district, no development shall take place except in accordance with the regulations of the base zoning district, with the additional regulations of this Article, and the regulations of Chapter 25, Floodplain Management. Where the "FW" imposes a greater restriction upon the use of buildings, structures or premises than are required by the base zoning district, the provisions of the "FW" district shall control. All uses shall be reviewed by the Director of the Lake County Flood Control and Water Conservation District for compliance with Chapter 25 prior to any development or issuance of any permit pursuant to this Code. Only those uses permitted in both the base zoning district and the "FW" combining district are permitted uses.

Sec. 25-4. - Administration.

4.1 *Development Permits.* Any development or placement of structures in a Special Flood Hazard Area shall conform to the requirements of this chapter. No development permit required by the Lake County Ordinance Code shall be issued without a review by the Floodplain Administrator.
4.3 *Duties and Responsibilities of the Floodplain Administrator:* The duties and responsibilities of the Floodplain Administrator shall include, but not be limited to the following:

(a) *Permit Review.* Review all development permits for development in Special Flood Hazard Areas to determine that:
(1) Permit requirements of this chapter have been satisfied;
(2) All other required state and federal permits have been obtained;
(3) The site is reasonably safe from flooding; and
(4) The proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. For purposes of this chapter, "adversely affects" means that the cumulative effect of the proposed development when combined with all other existing and anticipated development will increase the water surface elevation of the base flood more than one foot at any point.
(5) The public is not being victimized or defrauded.

This is a real question as we need more information about what will really happen to determine that.

I34-3

Was there a current EIR done for this property only specifically re flooding and soil tests?

5.3 *Standards for Subdivisions and Divisions of Land.*
(a) This article applies to all Subdivisions and Divisions of Land as defined in Chapter 17 of the Lake County Ordinance Code.
(b) All tentative maps shall identify the flood hazard area and the elevation of the base flood.
(c) All tentative maps shall provide the elevation of any proposed structure(s) and pad(s). If the site is to be filled above the base flood elevation, the developer shall obtain a Conditional Letter of Map Revision prior to the placement of fill. On completion of the development, the developer shall obtain a Letter of Map Revision.
(d) All subdivisions and divisions of land shall be consistent with the need to minimize flood damage.
(e) Public utilities and facilities such as sewer, gas, electrical and water systems shall be located and constructed to minimize flood damage.
(f) Adequate drainage to reduce exposure to flood hazards shall be provided.

I34-3 cont.

As described in the February 2020 EIR—

Off-Site Improvements
2.6 identifies the off-site improvements— power, water, access roadway & Off-site working housing

2.6.1 OFF-SITE WORKFORCE HOUSING
Off-Site workforce housing would include the development 21 single family units and 29 duplexes, and a community center with connection roadways on the approximately 12.75 -acre Middletown Housing Site (refer to the description of the site in Section 2.2.3 above, and Figures 2-16 and 2-17). The single family units would typically be approximately 1,297 SF and each include five bedrooms. Some of the single family units will have an ADU option in place of one of the bedrooms. Duplexes would be approximately 1,858 SF and each include four bedrooms. All housing structures would be two-stories. The community center would be constructed on an approximately 1-acre area.

I34-4

Note— Duplexes 1,858 SF meaning each individual unit is 929 SF — four bedrooms.

This describes low-income high-density housing for 300-350 people which is of grave concern to many Middletown Residents. We need more. It is impossible to determine impacts without additional details. This could potentially be a very large influx of long-term temporary “residents” in a very small rural town. Perhaps their housing should simply be at the MAHA Guenoc property outside of town.

Sincerely,
Lisa Kaplan
Hidden Valley Lake resident and Middletown-based non-profit Director.
Lisakaplan.art@gmail.com

From: Kristina Colon
To: Lake County CDD - GuenocValleyComments
Subject: [EXTERNAL] Old documents of Middletown project
Date: Monday, October 7, 2024 8:18:03 AM

Hi there I am a born and bred local and I have some paperwork that you might want to view that may have some information on it that would be helpful to your project. I am part of the Hartmann family, we used to own the land in and around hidden valley and Middletown. The paperwork I have is not in the museum yet but they would like to get them and I plan on donating them soon. The paperwork includes the easement rights from when the hwy was established also various deeds and other documents. They are from the 1800s and on. I just saw the project ,which is totally amazing, and I thought of these papers and their importance to something like that. Feel free to call me or text at 17076876044 thank you
Kristina Ann
Sent from my iPhone

I35-1

From: Maria Rutenburg
Sent on: Tuesday, March 18, 2025 10:53:22 AM
To: Lake County CDD - GuenocValleyComments
Subject: [EXTERNAL] Guernoc Valley comments

I36

Hi,
I own Middletown Mansion. I fully support this development. Please approve. I36-1

Regards,
Maria Rutenburg a trustee of Dave foundation

From: shannon sanders <allnovato@gmail.com>
Sent: Thursday, April 24, 2025 3:38 PM
To: Mireya Turner <Mireya.Turner@lakecountyca.gov>
Subject: [EXTERNAL] Support for Guenoc Valley project Middletown

Hi Mireya,

I wanted to express my strong support for the Guenoc Valley project in Middletown.

I am extremely excited about the job creation aspect of this project that puts an emphasis on hiring local workers.

I was very much impressed by the projects fire safety programs, specifically the early warning detection system for a wild fires as well as The creation of a new Fire House.

It is rare to see a project that puts such an emphasis in keeping the developed area In harmony with surrounding the environment. I believe that the scenic beauty of the site will be enhanced by the development and protected and maintained for generations to come.

I37-1

Sincerely

Shannon Sanders

Cell: 415-717-8953

Butts Canyon

Middletown

April 30, 2025

Mireya G. Turner, Director
Community Development Department
255 N. Forbes St.
Lakeport, CA 95453

RE: Letter of Support, Guenoc Valley Project

Dear Ms. Turner,

Visit Lake County, CA is writing to express our strong support for the Guenoc Valley Project. As an organization dedicated to generating economic growth and opportunity in our region, we believe that this project will be critical to securing a sustainable economic future for Lake County.

The Guenoc Valley Project presents an opportunity to create lasting economic benefits for the local community by creating much-needed jobs and providing new opportunities for Lake County businesses and residents. The project will be an economic engine for the region, immediately creating well-paying jobs during its construction phase and continuing to employ Lake County residents through ongoing operations. The project would also serve as a central venue for local commerce, enabling locally owned businesses, resident farmers and artisans to reach a broader customer base and grow their businesses. Additionally, the increase in economic activity brought about by the Guenoc Valley Project will lead to a substantial increase in tax revenues for Lake County. These new funds brought about by the project will play a critical role in supporting essential public services such as education, infrastructure improvements, public safety and healthcare. Additionally, there will be more resources available to market Lake County to visitors; a historically significant source of jobs and lifeline for our small businesses.

I38-1

Beyond job creation and revenue generation, the Guenoc Valley Project will implement workforce training and development programs that will directly benefit local residents and help them grow in their careers. This commitment to workforce development will ensure that the benefits of this project extend beyond economic growth and result in long-term career opportunities for members of our community.

In addition to the many economic benefits this development will bring, the Guenoc Valley Project will support increased fire safety and resiliency in the region. Wildfire mitigation measures in the project's design – including new early wildfire detection systems, active year-round fuel load management throughout the project site and strategic fire breaks – will make the area safer and more resilient than it is today.

We are confident that this project will serve as a catalyst for sustainable growth and prosperity in Lake County while keeping Lake County residents safe and we strongly support this project moving forward.

Sincerely,

Brian Fisher
Executive Director, Visit Lake County Ca.

From: Denise Scoles Olson <scolesolson68@gmail.com>
Sent: Wednesday, April 30, 2025 6:37 PM
To: Mireya Turner <Mireya.Turner@lakecountyca.gov>
Subject: [EXTERNAL] Guenoc Valley in Middletown

Dear Mireya,

I live in the Middletown area, and I strongly support the Guenoc Valley project in Middletown.

I believe this project will bring forth lots of positive changes to Middletown in the form of jobs for the local community and tourism. I am very excited about the changes this project will bring. It is a win-win for Middletown and Cobb as I believe Guenoc will bring people to our wonderful little town, and they will spend money and explore our area. Thank you for your time in this matter. I39-1

Sincerely,

Denise Scoles

415-827-4152

LAKE COUNTY
CHAMBER OF COMMERCE

ELEVATING THE BUSINESS OF LAKE COUNTY

May 1, 2025
Mireya G. Turner, Director
Community Development Department
255 N. Forbes St.
Lakeport, CA 95453

RE: Letter of Support, Guenoc Valley Project

Dear Ms. Turner,

The Lake County Chamber of Commerce is writing to express our strong support for the Guenoc Valley Project. As an organization dedicated to generating economic growth and opportunity in our region, we believe that this project will be critical to securing a sustainable economic future for Lake County.

The Guenoc Valley Project presents an opportunity to create lasting economic benefits for the local community by creating much-needed jobs and providing new opportunities for Lake County businesses and residents. The project will be an economic engine for the region, immediately creating well-paying jobs during its construction phase and continuing to employ Lake County residents through ongoing operations. The project would also serve as a central venue for local commerce, enabling locally owned businesses, resident farmers and artisans to reach a broader customer base and grow their businesses. Additionally, the increase in economic activity brought about by the Guenoc Valley Project will lead to a substantial increase in tax revenues for Lake County. These new funds brought about by the project will play a critical role in supporting essential public services such as education, infrastructure improvements, public safety, and healthcare.

I40-1

Beyond job creation and revenue generation, the Guenoc Valley Project will implement workforce training and development programs that will directly benefit local residents and help them grow in their careers. This commitment to workforce development will ensure that the benefits of this project extend beyond economic growth and result in long-term career opportunities for members of our community.

In addition to the many economic benefits this development will bring, the Guenoc Valley Project will support increased fire safety and resiliency in the region. Wildfire mitigation measures in the project's design – including new early wildfire detection systems, active year-round fuel load management throughout the project site and strategic fire breaks – will make the area safer and more resilient than it is today. We are confident that this project will serve as a catalyst for sustainable growth and prosperity in Lake County while keeping Lake County residents safe and we strongly support this project moving forward.

Sincerely,
Amanda Martin
CEO, Lake County Chamber of Commerce

President
Don Smith
Adventist Health Clear Lake

Board of Directors

Kendall Fults
Fults Family Vineyards

Weston Seifert
Saw Shop Public House

Alex Nuñez
Nala's Cleaning Expertise

Robert Boccabella
Business Design Services

Diane Tomkins Plante
Tomkins Tax Consultants

Greg Folsom
Consultant

Lora Horn
Sutter Lakeside Health

Alyssa Mingo
BiCoastal Media

Autumn Karcey
Artemis Co-Pack

Chief Executive Officer
Amanda Martin

Operations Manager
Coleen Yorba Lee

Address | 875 Lakeport Boulevard, Lakeport, California, 95453 • **Phone** | 707.263.5092 • **Fax** | 707.263.5104
Web | www.lakecochamber.com • **E-Mail** | info@lakecochamber.com



CALIFORNIA NATIVE PLANT SOCIETY



May 2, 2025

Lake County
Attn: Laura Hall, Senior Planner
244 N. Forbes Street
Lakeport, Ca 95453

Submitted via email to: laura.hall@lakecountyca.gov

Re: California Native Plant Society Comments on Guenoc Valley Mixed-Use Planned Development Project 2025 DPREIR Amendments

Dear Ms. Hall:

Thank you for the opportunity to comment on the 2025 amendment to the Guenoc Valley Mixed-Use Planned Development Project Draft Partially Revised Environmental Impact Report (2025 DPREIR). The following comments are submitted on behalf of the California Native Plant Society (CNPS), a non-profit environmental organization with more than 13,000 members in 36 Chapters across California and Baja California, Mexico. CNPS's mission is to protect California's native plants and their natural habitats, today and into the future, through science, education, stewardship, gardening, and advocacy. We work closely with decision-makers, scientists, and local planners to advocate for well-informed policies, regulations, and land management practices. The Sanhedrin Chapter of the California Native Plant Society comprises the inland part of Mendocino County and all of Lake County, and has been active in the area since 1981. Our members are composed of land managers, plant scientists, both amateur and professional. I41-1

On September 3, 2024, CNPS submitted a comment (September 3 Comment) on the 2024 Draft Partially Revised Environmental Impact Report (2024 DPREIR). The 2024 DPREIR included an updated Biological Resources Assessment (BRA) for 333 acres that were not analyzed in the 2020 EIR (2024 DPREIR, p. 100; BRA, p. 1.) CNPS's September 3 Comment noted that the BRA did not survey 55 of the 333 new acres. (See BRA, p. 1 ["Approximately 55 acres . . . are desktop assessed and no field work has been conducted in those areas."]).

The 2025 DPREIR has now added an updated special status plant survey (WRA Survey) for the previously omitted 55 acres. (2025 DPREIR, p. 132, Appx. I-2.) As discussed below, the WRA Survey falls short of standard survey protocols. As a result, the 2025 PRDEIR still fails to adequately establish the baseline conditions on the Project Site and fails to provide decision makers with adequate information to determine the extent of the impacts resulting from the

Project's modifications. I41-1 cont.

Botanical Survey Report Adequacy

As with previous surveys, the WRA Survey provided in appendix I-2 of the amended DPREIR does not include sufficient information to determine if surveys were performed in a manner that accurately establishes the project site's baseline conditions. The survey report claims that the survey followed the California Department of Fish and Wildlife's (CDFW) Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (Protocols)[1], however does not include sufficient information to substantiate this claim. The CDFW Protocols make several recommendations regarding not only the survey protocols but also for information that should be included regarding the documentation of the surveys. The following should have been included in WRA Survey and the amended PREIR:

- The names and qualifications of the surveyors;
- The dates and locations of surveys, names surveyors on each date, and person hours spent on each date;
- Description of the reference sites used and phenology of target plants at reference sites;
- Description of the area surveyed relative to the project area;
- A discussion of how climatic conditions may have affected survey results;
- A discussion of how timing of surveys may have affected survey results;
- A discussion of the potential for a false negative survey;
- 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; and
- A discussion of the degree of impact, if any, of the project on unoccupied, potential habitat for special status plants.

I41-2

This survey report indicates that there was a single unidentified WRA biologist that surveyed the multiple disjunct blocks of land totaling 69.76 acres in a single day, although the total man hours spent are undisclosed. Given the complexity of habitats, botanical diversity, time needed to census and map the encountered special status species, and time needed to travel between sites we are concerned that these surveys were not protocol level for the entire area. Many annual and herbaceous perennial species may not have been identifiable at the time of this survey and may not be present in years without optimal climatic conditions. For these species it is essential that known populations are checked prior to project surveys to ensure that target species would be identifiable during surveys, the use of reference sites is recommended in the CDFW Protocols, as is a discussion of reference site checks in the survey report. This survey report should be updated

I41-3

[1] California Department of Fish and Wildlife, Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities, 2018 (rev 2021), https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline

to indicate reference sites used and the phenology of target species at reference sites. The WRA Survey also indicated the need for additional surveys in April and May of 2025 to accurately "capture other special-status plants that have the potential to occur in the habitats observed." We request that these surveys be included in a future amendment to the DPREIR that be circulated for public review prior to the issuance of the FEIR to ensure that this informational document adequately discloses the baseline conditions of the project site to the public and to decision makers. I41-3 cont.

The DPREIR and the survey reports in orignal BRA (Appendix I-1) and new WRA Survey (Appendix I-2) did not indicate how many individuals of each of the special status species encountered during surveys would be impacted. The total population numbers of each special status species present on the project site, and the number of each (in terms of individual plants and acreage lost) that would be impacted by project activities should be made clearly available in the DPREIR. I41-4

In conclusion, we feel that an additional supplemental DPREIR should be prepared and circulated for public comment prior to the development of the FEIR. This supplemental document should include the results of additional surveys and an expanded description of previous surveys including a detailed discussion of survey results, including the information outlined above and as recommended by CDFW Protocols. This supplemental DPREIR should include the population numbers of each special status species encountered during surveys, and the number of individuals that would be impacted. Thank you for the opportunity to comment on this project and please contact me if you have any questions. I41-5

Sincerely,

Nick Jensen
Conservation Program Director
California Native Plant Society
njensen@cnps.org

Jennifer Riddell and Andrea Davis
Co-Presidents
Sanhedrin Chapter of the California Native Plant Society
jenariddell@gmail.com, wrecodesign@gmail.com

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*

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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

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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.

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

To: Senior Lake County Planner Laura Hall, Lotus Land Developers
Subject: Middletown Resident Concerns and Demand for Resituation of Worker Co-Housing outside of Central Middletown for the Guenoc Valley Mixed Use Planned Development Project
From: Revs. Julia and Charles Bono of The Rainbow Church of Living Light
Date: 5/2/2025

To Ms. Hall, Lotusland Investment Holdings Inc. (developers of the Guenoc Valley Mixed-Use Planned Development Project), and Whomever Else it May Concern,

We are writing again during the latest public comment period to express the general concerns and strong opposition that have arisen within the residential community of Middletown where we live and work about the planned worker co-housing location(s) to be situated in the central Middletown area that are associated with Parts I and II, as well as any subsequent planned phased developments, of the Maha development project centered in Guenoc Valley, known as the "Guenoc Valley Mixed-Use Planned Development Project", henceforth referred to here at The Project. Specifically, these comments refer to the "Middletown Site", identified on the Lake County website as related to: I42-1

-Use Permit UP 24-08
-General Plan Amendment GPAP (Map) 24-03
-General Plan Amendment GPAP (Text) 24-04
-Rezone RZ 24-02
-Subdivision Map SD 24-05

You will find our previous letter dated September 3rd, 2024 on this subject copied below and attached in PDF format, along with a copy of this letter. To date, we have not yet received any substantial reply addressing our questions and concerns, so we can only assume they have not yet been addressed in any meaningful manner by either the County or The Project's developers Lotusland Investment Holdings Inc. On behalf of the concerned people of Middletown, we ask again that these matters be fully addressed by the County and by The Project developers themselves in a written response sent to us at this email address or the mailing address below that we can share with other concerned Middletown residents. I42-2

We also note that a recent court decision requested another Environmental Impact Report for this project, but after reviewing the new material made available at the Middletown Library, we still do not see any significant documentation regarding mitigating the severe environmental impact this large worker co-housing development will have on the environment and people of Middletown itself that will likely include serious fire evacuation, infrastructure, water and sewer service availability and cost, schooling, religious, social, business, nonprofit and cultural impacts. I42-3

Given the irresponsibly excessive magnitude of the worker co-housing project planned for the Middletown Site relative to the existing population size of Middletown, we are very concerned that this portion of The Project will seriously adversely impact safety and living conditions for existing central Middletown residents who have collectively invested their hearts, souls and funds in this small town over the past 151 years of its existence. Furthermore, since Middletown I42-4

is a community consisting largely of single-family homes, from a community planning perspective, this sort of mass occupancy co-housing development seems entirely inappropriate for this small-town community, its fragile fire-prone environment, and its long-established small-town culture, so it should never have been permitted at all.

I42-4 cont.

Accordingly, on behalf of the concerned people of Middletown, we now demand that the Middletown Site's Use Permit UP 24-08 be revoked and that this portion of The Project be removed entirely from the central Middletown area and instead be re-situated upon the 16,000 or so other acres that The Project intends to develop 3.5 miles from Middletown on Butts Canyon Rd known as the "Guenoc Ranch Site". If this requested re-situation of the worker co-housing project outside of central Middletown is not promptly reflected in an amendment to The Project's planning documents and notification is not duly given to us that this has been done within the coming month (i.e. by June 1st, 2025), you are all hereby notified that we will take steps to escalate the matter using various legal methods available to us.

I42-5

Sincerely,

Revs. Julia and Charles Bono
The Rainbow Church of Living Light
P.O. Box 1408, Middletown, CA
(707) 881-7573 (vm and text)
rainbowchurchoflivinglight@gmail.com

COPY OF PREVIOUS LETTER

To: Senior Lake County Planner Laura Hall
Subject: Request for Information on Worker Housing Locations for the Guenoc Valley Mixed-Use Planned Development Project and Possible Water Table Implications
From: Revs. Julia and Charles Bono of The Rainbow Church of Living Light
Date: 9/3/2024

Dear Ms. Hall and Whomever Else It May Concern,

We hope this letter finds you well. We are Revs. Julia and Charles Bono, representing the Rainbow Church of Living Light based in Middletown, CA. We are writing to request more detailed information and to express concerns regarding the Middletown worker housing locations and groundwater requirements associated with Parts I and II, as well as any subsequent planned phased developments, of the Maha development project centered in Guenoc Valley, known as the "Guenoc Valley Mixed-Use Planned Development Project." See here: https://www.lakecountyca.gov/1762/Guenoc-Valley-Mixed-Use-Planned-Developm

Specifically, we would like to know the following:

1. **Number of Sites and Size:** The total number of worker housing sites to be developed near central Middletown, the size of each site, and their planned locations within Middletown.
2. **Number of Dwellings and Occupancy:** The exact number of dwellings planned for each site and the maximum and expected occupancy at each location.

In addition, we are concerned about the potential adverse impact of this development on our community, particularly in light of Middletown's history of devastating wildfires, such as the 2015 Valley Fire. Therefore, we seek detailed information on the following:

- **Fire Evacuation Plans:** How are fire evacuations being planned for these Middletown worker housing sites? What measures are being put in place to ensure the safety of all of Middletown's residents in case of a wildfire given such a huge planned population expansion?
- **Infrastructure and Facilities:** What provisions are being made regarding parking, traffic flow, and utilities such as water, sewer, and power? Also, how will the greatly increased Middletown population impact local facilities, such as the Senior Center, schools and low-income food distribution services? Finally, how are accompanying infrastructure and facility expansions that may arise from the presence of these Middletown worker housing sites being planned for and funded?

Considering the substantial expansion of Middletown's population that this project appears to intend, we estimate that the population growth could be as high as 33% or more just for Part I of this project based on official documents we have reviewed. This raises significant concerns about the potential social and quality of life impacts on our tightly-knit historical community, which is

known for its unique small-town character—a characteristic that many residents deeply value and wish to preserve. We would also like to know if and how the will of local residents has been considered in the planning process, and what steps are being taken to mitigate any negative impacts on our community.

Furthermore, we question why these worker housing facilities are being placed in or near central Middletown, where they could potentially place an overwhelming burden on local infrastructure and services. It seems more appropriate that these facilities be located at the larger Guenoc Valley site, where the impact could be more effectively managed and funded by the project developers.

Finally, we are concerned about the potential impact of the proposed water well for this large development, planned to be located at the junction of Highway 29 and Butts Canyon Road, just north of Middletown. Specifically, we are worried that this increased water usage could lower the water table in the central Middletown area. Many people in Middletown have made a significant investment in fruit and nut trees and bushes, and we are concerned that a drop in the water table could prevent these plants from accessing the groundwater they need to thrive without regular watering, which is both expensive and time-consuming.

We appreciate your attention to these concerns and look forward to your prompt response. Your insights will greatly assist us in understanding the implications of this development on our community and in planning for the future.

Thank you for your time and consideration.

Sincerely,

Revs. Julia and Charles Bono
The Rainbow Church of Living Light
P.O. Box 1408, Middletown, CA
(707) 881-7573 (vm and text)
rainbowchurchoflivinglight@gmail.com

From: **Brandon Skinner** <skinner.electric22@gmail.com>
Date: Fri, May 2, 2025 at 9:48 AM
Subject: Guenoc Valley Project
To: allnovato@gmail.com <allnovato@gmail.com>

To Whom It May Concern,

My wife and I are lifelong residents of Middletown, and we're proud to be raising our son in the same community where we both grew up. We are strong supporters of the Guenoc Valley project and believe it represents a valuable opportunity for the economic development our county truly needs.

I43-1

I am a licensed electrician with three years of experience running my own business, primarily serving clients throughout Lake County. Before becoming licensed, I worked in construction with a local contractor, helping to build homes right here in our community.

I would welcome the opportunity to contribute to the Guenoc Valley project and hope to hear from you soon.

Sincerely,

Brandon Skinner

--
Brandon Skinner
Owner
Skinner Electric
License # 1091466
707-322-7869

CENTER for BIOLOGICAL DIVERSITY Because life is good.

May 2, 2025

Sent via email

Laura Hall
Senior Planner,
255 N. Forbes Street
Lakeport, CA 95453
guenocvalleycomments@lakecountyca.gov

Re: Comments on the Draft Partially Revised Environmental Impact Report for the Guenoc Valley Mixed Use Planned Development Project (State Clearinghouse No. 2019049134)

Dear Ms. Hall:

This letter is submitted on behalf of the Center for Biological Diversity ("Center") regarding the Draft Partially Revised Environmental Impact Report ("DEIR") for the Guenoc Valley Mixed Use Planned Development Project ("Project"), State Clearinghouse No. 2019049134. These comment follow our September 11, 2024 comments on the DEIR, which are incorporated herein by reference.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people throughout Lake County. I44-1

As we explained in our previous comments, the Center recognizes the County's efforts to modify the original Project to reduce wildfire risks and greenhouse gas emissions—which efforts came as a result of the Center's successful challenge to the adequacy of the County's environmental review in the trial court and the Court of Appeal. However, the Project modifications and DEIR do not cure the deficiencies in the County's environmental review of the Project's potentially significant environmental impacts, which review remains inadequate under CEQA.

These deficiencies include, but are not limited to:

- The DEIR's project description is inadequate, and does not describe the full extent or scope of the changes to the Project. I44-2
- The DEIR fails to disclose, analyze, or mitigate potentially significant environmental impacts resulting from changes to the Project, including but not limited to impacts to biological resources from the additional hardscaping and buildout. I44-3
- The revisions to the EIR's disclosure, analysis, and mitigation of wildfire hazard and evacuation impacts do not remedy or correct the deficiencies identified by the trial court and the Court of Appeal. I44-4
- The DEIR fails to disclose or consider significant new information regarding impacts to biological resources, wildfire and community safety, greenhouse gas emissions, and water supply since the EIR was originally prepared and the Project approved in 2020. I44-5
- The Project modifications, commitments, and/or design features to address wildfire and community safety do not substitute for effective, enforceable mitigation measures as required by CEQA. I44-6
- The DEIR omitted an analysis of alternatives to the Project. I44-7

The Center urges the County to remedy the deficiencies in the DEIR and circulate the document for additional public review prior to considering approval of the Project. I44-8

Sincerely,



Peter J. Broderick
Attorney
2100 Franklin St., Suite 375
Oakland, CA 94612
pbroderick@biologicaldiversity.org

May 2, 2025

County of Lake
Community Development Department
255 N. Forbes Street
Lakeport, CA 95453

Attn: Senior Planner Laura Hall

Submitted via email: guenocvalleycomments@lakecountyca.gov

Subject: Guenoc Valley Mixed-Use Planned Development Project – Public Comment, Partially Revised Environmental Impact Report (PREIR) (EIR 24-01)

Dear Ms. Hall,

LakeCAP, a local grassroots community group, offers community members an organized voice in important policy matters impacting the economy, environment, and quality of life in Lake County. As the Lake County 2050 General Plan Update is a LakeCAP priority, LakeCAP submits this letter expressing concerns about the Partially Revised Environmental Impact Report (PREIR) for the Guenoc Valley Mixed Use Planned Development Project, hereafter noted as project.

LakeCAP Aligned With Community Groups on Guenoc Valley District PREIR

LakeCAP shares the sentiment expressed by Lake County residents, Middletown Area residents, Lake County General Plan Advisory Committee (GPAC) and the Scotts Valley Community Advisory Council.

- In a county-wide survey for the General Plan update, Lake County residents identified the county's rural and agricultural nature with its small-town charm as key appealing traits.
- At the hearing[1] for this project, Middletown Area residents shared their concerns with Lake County Planning Commissioners about the project's impact on housing density and detracting from the county's bucolic and small-town feel; increased fire risk; adequacy of water supply; adequacy of current roads for egress and ingress during wildfire.
- GPAC's Statement of Values for the 2050 General Plan includes support for sustainable agriculture and preserving the rural nature and small-town charm of the county.
- At its March 2025 meeting, GPAC agreed to recommend to the Lake County Board of Supervisors that the county preserve land in the county for agricultural purposes
- In a letter to Board of Supervisors and Community Development Director Mireya Turner (dated 17 March 2025), the Scotts Valley Community Advisory Council voiced support for preserving agricultural lands and resisting development pressure to rezone agricultural lands and expand Community Growth Boundaries into lands zoned or suitable for agricultural purposes

I45-1

When many county residents face food insecurity and Lake County per capita income in the past 12 months (in 2023 dollars) for the period 2019-2023 is $34,768[2], Lake County leaders should weigh the decision to remove land from

I45-2

[1] Lake County Planning Commission meeting minutes, June 17, 2020, p. 4-7.
[2] US Census, census.gov, 2024.

agricultural production very seriously. The project's rezoning agricultural lands, especially prime agricultural lands, to Commercial Resort to form Guenoc Valley District is especially troubling. Consider that the planned equestrian center will take 57 acres of prime and unique agriculture out of production.[3] Once agricultural lands are removed from production or are rezoned, it is almost impossible to resume agricultural operations on those lands.

Specifically, the PREIR for this project notes that "*While Mitigation Measure 3.2-2 would reduce the level of impact, there would still be a net loss of Important Farmland as a result of Phase 1 of the Proposed Project, and the impact was identified as significant and unavoidable in the 2020 EIR."* (PREIR, PDF p. 138) The declaration that the project impact is "unavoidable" appears to be based in opinion and not fact.

The mitigation measure to preserve agricultural lands is not clear; the map for the proposed swapped or replacement acres is not apparent. "*Mitigation Measure 3.2-2 requires acre for acre long-term permanent protection of farmland of equivalent quality, so every acre of Prime and Unique Farmland converted would result in the same number of acres of Important Farmland preserved elsewhere on the property or in the vicinity."* (PREIR, PDF p. 136)

Where are the swapped or replacement acres for the agricultural lands repurposed for the project? And are the replacement acres truly suited for agriculture with adequate water supply? Middletown Area Plan observes that availability of quality water limits agricultural activity in the area.[4] The Middletown Area Plan also states, *"Other factors such as the existence of alkali soils in the area south of Grange Road in the Coyote Valley and serpentine soils in the area's eastern portions present localized limitations to agriculture.*[5]*"*

"*… the Agricultural Preserve Combining District would be reduced by approximately 90 acres to accommodate the Parcel Reconfiguration. Nevertheless, the overall size of the Agricultural Preserve Combining District would be 1,653 acres under the Project Modifications, which is roughly 556 acres more than the area of currently zoned agricultural land within the overall Guenoc Valley Site." (PREIR, PDF p. 142)* I45-2 cont.

Despite the project's designed increase in agricultural lands by exchange, smart development is in question for the newly formed Guenoc Valley District (GVD). Lands formerly designated as agricultural are now among GVD's 16,000 acres of land now designated as Commercial Resort. Development constraints on agricultural lands no longer apply to GVD. With a blank canvas of Commercial Resort, development sprawl and density can easily spread throughout GVD. This would undermine the priority of Lake County residents to preserve the county's rural and agricultural nature.

The Middletown Area Plan's recognition for the need for open spaces challenges piecemeal development and sprawl: "*…there is pressure to subdivide agricultural lands. Large ranches are of great value. They provide:*

- *areas for aquifer recharge*
- *scenic vistas*
- *open space and the feeling of wilderness*
- *significant wildlife habitat,*
- *recreational opportunities in some limited cases*[6]*"*

Continuing, the Middletown Area Plan advises, *"Lands capable of agricultural production should be preserved with the minimum parcel size limited to existing parcels or, if allowed to be subdivided, no less than 20 acres in size. Adjacent rural lands that can not (sic) be developed with economically viable agricultural uses should be maintained as buffers to the more intensive agriculturally productive lands. Efforts to preserve productive agricultural lands include tax incentives*[7] *…"* Clearly, the Middletown Area Plan supports preservation of agricultural lands and buffers for agricultural activity.

LakeCAP and others realize that wildfire risk can be reduced by utilizing buffers and open space. Among solutions for open space are land trusts and zoning land for resource conservation. LakeCAP urges the exploration of these potential solutions. I45-3

Grange Road Connector - Concerns

The loss of agricultural land to construct the Grange Road Connector is characterized in land use conflict terms; the impact of the removal of agricultural land from production is not addressed. The impact information equivalent of an Initial Study for the Grange Road Connector does not seem to be available. Since the Grange Road Connector is I45-4

[3] Partially Revised Environmental Impact Report (PREIR) March 2025, hereafter PREIR, Figure 4-4, PDF p. 137.
[4] Middletown Area Plan (approved 2010), p. 3-33.
[5] Ibid.
[6] Middletown Area Plan, p. 3-35.
[7] Ibid.

proposed as a solution to shortcomings identified in the draft Environmental Impact Report (EIR), information on environmental impacts to the Grange Road Connector area is of great interest. The proposed road will involve "*approximately 2.2 miles (8 acres of disturbance)... Approximately 25,000 cubic yards of cut and 23,250 cubic yards of fill are estimated to be generated."*[8] I45-4 cont.

The PREIR references rock outcrops and blue oaks[9] in the Grange Road Connector area. Before ground is disturbed or further disturbed in this area, it should be determined whether the outcrops contain serpentine. If it does, then the area must be treated as sensitive habitat as determined by California Department of Fish & Wildlife. Because a biological survey performed in the field was not done for the addition of the habitat type serpentine outcrop to the PREIR, the identification of special status species (rare, threatened, endangered) typically found in serpentine soils may be incomplete; these plants are usually identifiable only in the spring. I45-5

While PREIR Table 4.4-2 identifies special status wildlife with potential to occur within the modified Area of Potential Effects (APE), the PREIR does not identify mitigation should special status species be destroyed or damaged. Mitigation Measure 3.4-3 is generic and unsatisfactory; it "*includes a preconstruction survey for special-status plants within a reasonable timeframe prior to development and includes avoidance measures where possible and options for transplanting and/or compensatory planting when plants cannot be avoided, which reduces this impact to less-than-significant levels*[10]*."* This measure is unsatisfactory because the preconstruction survey for special status plants is done within a reasonable timeframe which may not be when special status species are visible—in the spring. When special status species aren't identified, mitigation measures for their damage and destruction cannot be designed. I45-6

PREIR Table 4.4-4 lists habitat type Leather Oak Chaparral[11] (2,529.8 acres) on the Guenoc Valley site and Grange Road Connector as non-sensitive. This listing may contain an error that masks special status species. The presence of Leather Oak and Leather Oak Chaparral indicates the presence of serpentine, a sensitive habitat. (Leather Oak is a strict endemic to serpentine.) Serpentine soils are host to special status species and indicate a need for further study to determine whether special status species are present. I45-7

PREIR Table 4.4.1 identifies 18.9 acres of serpentine outcrop[12] as a habitat type in the Grange Road Connector area. If development calls for disturbing serpentine soils, health and safety protocols are required by the state (e.g. CA Air Resources Board, CA OSHA, CA EPA), federal government (e.g. OSHA, EPA), and Lake County Air Quality Management District. I45-8

Because Lake County Board of Supervisors (BoS) values Lake County trees, each month since 3 May 2022, the BoS renews its proclamation of the existence of a local emergency due to pervasive tree mortality. Consequently, the welfare of blue oaks in the Grange Road Connector area is a concern.

PREIR Table 4.4-4, referenced above, identifies Blue Oak woodland and Blue Oak savanna habitats[13] as sensitive. The former occupies 3,454.5 acres on the Guenoc Valley site and Grange Road Connector; the latter occupies 1,215.2 acres in the same area. Within the modified APE, Blue Oak woodlands comprise 153 acres and Blue Oak savanna consists of 96 acres.

Blue Oaks are not numerous and grow slowly; their destruction undermines the county's economic development based on its tourism draw as a regional outdoors destination. The plans for the Grange Road Connector are silent on potential impact to area habitat and species. The PREIR identifies 153 acres as the maximum for Blue Oak woodlands to be impacted; this is <u>all</u> of the Blue Oak woodlands in the modified APE. This is an alarming figure taken with the maximum project impacts[14] to other woodlands: I45-9

- *96 acres of blue oak savanna*
- *58 acres of interior live oak woodland*
- *1 acre of valley oak woodland*

[8] PREIR, PDF p. 48.
[9] PREIR, p. 104, PDF p. 128.
[10] PREIR, p. 146, PDF p. 170.
[11] PREIR, p.144, PDF p. 168.
[12] PREIR, p.133, PDF p. 157.
[13] PREIR, p. 144, PDF p. 168.
[14] PREIR, p.159, PDF p. 183.

While the PREIR identifies the scope of the Grange Road Connector as for emergency use only by a few authorized parties, cumulative impact of traffic and road conditions are not described. Should use of Grange Road Connector expand beyond the few who initially be granted access, a thorough review of impacts and cumulative impacts is needed. I45-10

Water use, Maha (off site) Well and Drought Management Plan

On the subject of water use and drought management plan, Lake County is still subject to the California governor's drought state of emergency and Executive Order N-3-24. The California Water Commission (hereafter commission) defines drought: "Drought is not simply a lack of precipitation: It is a period of constrained supply when demand for water outstrips its availability."[15] The commission's white paper released January 2024 declares, "In California, droughts need to be dealt with as a chronic phenomenon and not an occasional emergency. Attention to drought should be consistent, not sporadic." [16] I45-11

Given that long-time residents within the Middletown Area Plan boundaries have wells that run dry and must truck water in for survival, the project's plan for a golf course does not seem congruent with state efforts to conserve and use water responsibly. Golf courses, as are lawns, are infamous for their high water demand. The project's plans should reflect best practices for water management as a default, not as measures to be triggered by a declaration of drought.

In terms of smart development, the project competes for land reserved for growth of the town of Middletown. Allowing a planned development project take the space for planned town expansion doesn't allow Middletown many options for growth, where infrastructure exists. The question remains, who is to benefit from smart development? The town of Middletown or the project?

Smart development applies to the plan for and impact of the project's off site well[17]. LakeCAP supports the suggestion of the project gifting or otherwise making an arrangement with Callayome Water District for the district to manage the offsite well holistically for the benefit of Middletown Area residents and project residents. It would not be smart development to allow the project to tax the Callayome water supply by the water draw of the project's off site well. Before the project is approved, LakeCAP recommends that the plan and status of the project's off site well be finalized and documented (e.g. memorandum of understanding, condition of approval). I45-12

LakeCAP appreciates the opportunity to comment on this project's PREIR. LakeCAP's recommendations could function as conditions of approval for the project. We look forward to assisting the County of Lake navigate sustainable development while preserving characteristics valued by county residents and voters: rural and agricultural nature with small-town charm. We urge county leaders and decision-makers to stand up for these values identified by county residents and voters. I45-13

Sincerely,

Peter Luchetti
Angela Amaral
Jesse Cude
Holly Harris
Margaux Kambara
Tom Lajcik
Chuck Lamb

LakeCAP website: https://lakecap.org

[15] California Water Commission, "Potential State Strategies for Protecting Communities and Fish and Wildlife in the Event of Drought," January 2024, p. 5; hereafter "State Drought Strategies".
[16] "State Drought Strategies", p. 21.
[17] PREIR, p. 30, PDF p. 54.

From: Iris Behn <mrsbehn3@gmail.com>
Sent: Friday, May 2, 2025 2:05 PM
To: Mireya Turner <Mireya.Turner@lakecountyca.gov>
Subject: [EXTERNAL] Maha Guenoc Resort

Mireya Turner, Director
Lake County Community Development Dept.
225 N Forbes Street
Lakeport, CA 95453

Dear Ms. Turner,

As a Lake County resident, I am writing this letter to show my support for the Maha Guenoc Resort development.

I recently had the opportunity to view the plans for this development as well as ask questions regarding water and fire safety concerns. I was very impressed with the extensive work done by the Maha Guenoc group to not only mitigate these concerns but also provide increased protection for our community, especially in terms of an early-warning fire detection program. In addition to this, I believe this project will supply Lake County with needed long-term job creation as well as increased tourism.

I was happy to learn that the majority of the land will be left undisturbed and great care has been taken for the incorporation of nature in the planned development. Although I reside in Clearlake, I fully believe that this resort will not only benefit Middletown but will enact a spillover effect to improve all of Lake County through the hiring of local workers, tourism, not to mention providing residents with a beautiful locale to visit as a portion of the resort will be open to the public.

I wholeheartedly support the continued development of the Maha Guenoc Resort.

I46-1

Sincerely,

Iris Behn
Clearlake, CA

From: Richard Derum <rsderum@gmail.com>
Sent: Wednesday, May 7, 2025 2:02 PM
To: Mireya Turner <Mireya.Turner@lakecountyca.gov>
Subject: [EXTERNAL] To whom it may concern,

To whom it may concern,
I am writing regarding the project at the end of Butts Canyon the Maha development . As a realtor for the past 20 some years, I've always had the interest of Lake County. I went on a tour of the Maha project and was thoroughly impressed. Their plans are to spend $9 billion to develop their project that will bring many jobs to Lake County. Not to mention the tax revenue for the county so as a realtor, I would be very interested in seeing this project. Go forward thank you.

I47-1

CERTIFIED COPY

DRAFT PARTIALLY REVISED ENVIRONMENTAL IMPACT REPORT PUBLIC REVIEW MEETING

GUENOC VALLEY MIXED USE PLANNED DEVELOPMENT PROJECT

TRANSCRIPT OF PROCEEDINGS

MONDAY, SEPTEMBER 9, 2024

5:01 P.M.

CALPINE GEOTHERMAL VISITOR CENTER

15500 CENTRAL PARK ROAD

MIDDLETOWN, CALIFORNIA

KATHLEEN M. SOLOAGA CSR License Number 6957
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(800) 222-1231 Carlsbad
(800) 222-1231 Monterey
(516) 277-9494 Garden City
(914) 510-9110 White Plains
001+1+800 222 1231 Hong Kong

written comments, as well.

Thank you.

MS. TURNER: Thank you, Annalee. Yes, we'll go ahead and leave that slide up so that you do have an email address where we are collecting all of the comments for this project.

Also, the email address is kind of standard in its format, 'cause all of the County employees have a similarly worded address with our first name, dot, our last name. So if you needed to reach out to Laura Hall, who is our senior planner for this project, you could do so by emailing her at laura.hall. It's Laura, L-a-u-r-a, dot, Hall, H-a-l-l, @lakecountyca.gov. My email address Mireya, M-i-r-e-y-a, dot, turner@lakecountyca.gov, as well.

You are welcome -- this gets us to the -- why we're all here tonight, is this starts hearing questions and input from people. If you wouldn't mind approaching the microphone at the front, we'll be happy to get this meeting going.

Thank you.

MR. HODGES: Hi. So, Annalee, let me first just clear up what you said. So the public comment is going to be restricted just to the revisions of the EIR? PH-1

MS. SANBORN: (Nodding head.)

MS. SAWYER: I'm sorry. Mireya, do you want to answer?

MS. TURNER: You said you were gonna wave or yell at me. Sorry, I forgot that.

Yes. As described, according to the state law, when everything about a project except a certain part has been approved, but that certain part is found deficient by the judge, then we are working now, when it comes back, to address and analyze the changes that came as a result of fixing what the judge said was the deficiency.

MR. HODGES: Okay. So any other comment about the airport that's going in on Detert Lake, you're not going to accept questions about things like that? PH-1 cont.

MS. TURNER: Well, you're welcome to give us your input; however, that's not within the realm of what's being actually considered.

MR. HODGES: Okay.

MS. TURNER: Yeah.

MR. HODGES: So, Mireya, I met with you before, and I pointed out that --

MS. TURNER: Could you also state your name for our record.

MR. HODGES: Oh, I'm sorry.

MS. TURNER: Thanks.

MR. HODGES: My name is Judson Hodges, and I'm

the project's neighbor.

So our concern is, of course, the wildlife, in addition to us living in an airport and a flight path, and so I had reached out to the staff about finding out how the revised plan is taking into account the bald eagles and the ospreys and the Canadian geese that live out there. There's legacy bald eagles' nests.

And in your -- Laura's effort to clear that up for me, she referred me to -- I think it's page 22, this is on the revised, isn't it, 3.10-4? And I don't feel like it adequately addresses -- you know, it talks a little bit about the noise, but all the wildlife issues are -- that were referenced didn't even mention an eagle. PH-1 cont.

So can you -- can you clarify how you can move forward without, you know, bringing this into account?

MS. SAWYER: Right. So that table that you're looking at there is the Executive Summary Table, which was the first part of the Partially Revised EIR. It's a very -- just brief, single-sentence statements about potential for impacts, and then single-sentence descriptions of the mitigation measures.

The 2020 EIR had a much lengthier discussion of these issues, including noise impacts from the use of the floatplanes and the heliports, as well as how those would impact wildlife. So it was a bit of a two-part

discussion, because we addressed noise as a unique environmental issue in the noise chapter of the 2020 EIR; and then separately in the biological resources section, we describe a little bit more about how noise could impact wildlife.

And the wildlife chapter of the EIR refers back to the mitigation measures in the noise section, and so I think that that's most likely why Laura pointed you to that specific mitigation measure related to limiting the operational hours of the floatplane dock, because it would prohibit floatplane activity in the evening hours; so that would have some benefits to the -- to wildlife.

PH-1 cont.

Separately, there was a study related to the average noise levels anticipated as a result of the air traffic that was appended to the Final EIR, and that provides a little bit more scientific background on how we looked at impacts as a result of the air traffic; and then in the biological resources section, we relate to that study.

So but as Mireya mentioned, we appreciate, you know, any additional information you have to share on this topic. We'll be considering it and doing our best, you know, to address it through this process, even though it's not explicitly required because it was not found during the legal challenge to the EIR to be inadequate.

But that doesn't mean that we're going to completely dismiss the issue, we'll be looking at whatever comments you provide on that, on that topic, so ...

MR. HODGES: Okay. So the -- as I pointed out to you briefly on the noise chapter, what you have listed is less than what the manufacturer of the seaplane lists as a maximum of decibels out there, so I think it -- there wasn't enough attention to detail, given that; and then also the attention of detail that went into the protection of the wildlife is not adequate.

So I won't take up a lot of time, I'll just make my statements that I want to come in and make public record. PH-1 cont.

So I met with Kevin. He came over to the house and met with the neighbors who are directly impacted, and he had indicated that he didn't feel that he will be bringing guests in via seaplane or helicopter, and we are greatly relieved to hear that.

And so my suggestion is, is that we delete that from the proposal, from the project; and then after phase one is done, or as he described, as market conditions necessitate, then that be added back in. But at this point, we don't want to live under the spectre of having a full-time airport down there.

Now, it's been revised down from ten to eight

flights a day. And again, this is right over our house, 7:00 in the morning to 7:00 in the evening, 365 days a week (sic). That is completely unacceptable.

And I don't want to have to keep fighting this battle every time this comes up, so I respectfully request that that be deleted from the project or amended somehow.

The other thing he also said, and gave us a lot of relief, is that you're not gonna draw the water and build a pump -- build a pipeline down Butts Canyon to fill up Detert Lake, which is great, too. That's also something that we would like to have deleted out of the project, or amended, so that, again, the town isn't worried about the project siphoning off our water.

PH-1 cont.

So those were -- are those our concerns?

MRS. HODGES: Those are the main ones.

MR. HODGES: Okay. Those are the main ones.

Thank you very much.

MS. SAWYER: Thank you.

MR. CASE: My name is Kevin Case. I'm one of the development directors on the project, and I wasn't planning to speak, but I'm going to address some of the comments that came up.

PH-2

We did meet, and one of the comments that came up was about the sea floatplanes. And as I had spoke to

them, I said -- we didn't say it would never happen, I don't remember making that statement, but what I did say was the frequency of those was not even close to what we believe was gonna happen; that we just don't really believe that our guests are going to be coming in on a frequent basis on a seaplane.

For us to take that away is not really on the table for us to do so because, again, we're trying to figure out every way we can to make our project be successful, again, taking very close into consideration, I appreciate them calling me, and we had a nice visit, and hopefully we'll continue to do just that and to communicate.

PH-2 cont.

On the pipeline, a little misconception on that point, too. I said the likelihood of that happening, because of the expense of us having to get the easements down, Butts Canyon is six-and-a-half miles of roadway, it's -- that's a very, very expensive venture; and that we always wanted to maintain that because it was for backup, redundancy, emergency purposes, and there's already so much -- and I'm sure Annalee can talk a little bit about that, too -- but there's a lot of monitoring. There's a lot of restrictions on the use of that well. We just can't go down at our discretion and say, "We need water, we're gonna pump it."

We've done a lot of reports, done a lot of research on the aquifer. We're not going to get into those details here this evening, but I just wanted to go on record and say we're going to continue to work with our neighbors. We respect their feelings a hundred percent. As I told them, I said -- the Hodges, I said, I'm gonna put myself in your position, I'm gonna sit in your living room as though I own this home, this is my home; and we'll continue to do that.

But, again, we want to make sure that our -- that our project obviously is successful, and I'm sure they want it to be successful, as well, and we do that by respecting each other. PH-2 cont.

But I just wanted to go on record to just clear that up, that I -- I didn't make the statement that we're gonna eliminate, we weren't gonna do one of those, so thank you.

MS. SAWYER: Yeah, and maybe just a quick clarification as it relates to the EIR analysis. We're always wanting to look at -- I don't want to say the worst-case scenario, that's not foreseeable, but we want to analyze the outer envelope of impact.

So the modeling as it relates to the air traffic, you know, kind of considered on a really busy day, you know, what could the air traffic potentially be

up to, and that's what it was based on; so I don't think we intended to say that we believe that would be the average number of trips that would occur every day. PH-2 cont.

MS. SCHMIDT-HOPPER: Good evening, and thank you so much for providing this opportunity for us to give you some more information from the community. My name is Kate Schmidt-Hopper.

I have some concerns about recent development and the lighting around the Grocery Outlet, and the lights go up. That destroys our dark sky, and also interrupts with migratory bird patterns. Bats are extremely affected by these tall lights that shine up into the sky. PH-3

So I wondered if you had -- because certainly these schematics are very broad. You're not showing where the lights are going to go or what direction they are going to be facing. I'm just hoping that you will consider that when you're putting your streetlights in, when you're making your requirements for homes, that people can't put big floodlights out and destroy not only the dark skies for all of the people who live around the area, but also for the wildlife, who were really here first.

So if you can just put that into a note, I would really appreciate it. Thanks.

MS. TURNER: Thank you. That is a very good comment. We will make note of that for this project specifically, but typically one of our frequent conditions of approval on any discretionary project is to make sure that the lighting outdoors is downward facing, the goal of which is to limit, as much as possible, maintaining the light effect within that project parcel and not outside in the neighbors'.

Occasionally, we do get complaints about somebody installing a floodlight. In Middletown, you know, like sometimes we have some real flat areas, and light really travels. If you ever have a situation like that, feel free to give us a call because we do follow up on that with our code enforcement personnel, yeah. PH-3 cont.

MS. SCHMIDT-HOPPER: So how did Grocery Outlet get their parking lot --

MS. TURNER: I don't know, I'm gonna find out.

MS. SCHMIDT-HOPPER: Thank you.

MS. TURNER: Yeah, my pleasure.

MS. SAWYER: And I -- just to add to that, I wanted to mention that, and I have to look some of this up because it's not fresh because this was written in 2020, but the project does adopt the dark sky -- the International Dark Sky Initiative as part of the design guidelines in the Guenoc Valley Zoning District that they

requested the County approve, so dark sky principles are an integral component of the project. PH-3 cont.

MS. KAPLAN: I also want to thank you for being here today. It's nice for us to have you here as opposed to all of us having to travel to Lakeport, so thank you.

I do want to piggyback on the helicopter situation. You know, when I go to Maine to visit my in-laws, I can only get there a couple times a day; and it seems to me that if we have to embrace whatever you want to do with helicopters and seaplanes, that there could be a way to write into that that it's only at certain times of the day, so that people at least know, and it's not just at all times flying in and disturbing their day. That seems to me like a really nice compromise and a way to make the community feel heard, so -- and not maybe five, maybe just two or three, you know, but whatever. PH-4

And also the route, making sure that the route is as far away from people's homes as is possible.

Thank you for writing that down.

Oh, they know me, that's the problem. Lisa Kaplan.

MR. SANDERS: Hi, my name is Shannon Sanders. I live here in Middletown on -- actually, on Butts Canyon, and I just wanted to address the concern regarding PH-5

flights and whatnot.

I was talking with a friend of mine, who is flier in the military, and he -- and it sort of ties in with what she was just mentioning earlier, the flight path is critical, so -- and probably with a slight modification, it wouldn't be much of an issue at all. I think everyone is concerned, they don't want aircraft flying over their homes, or whatnot, at low altitudes, so that was just a thought.

PH-5 cont.

And excited about the project, and I'm excited that they are listening to our concerns, too. I think that's important. I appreciate it.

Thank you.

MS. TURNER: Thanks, Shannon.

MS. DIEHL-DARMS: Hi, my name is Linda Diehl-Darms, and I did have the privilege of meeting with Kevin and JB. My concern is the monitoring of the well on -- the offsite well.

So in their hydrology report 3.9-39 on page 3.9-39, it says that use of the proposed high-capacity groundwater well has the potential to drawdown the Callayomi groundwater.

PH-6

And the way this was addressed, that it could possibly have a significant impact, was to have monitoring for ten years. What happens after the ten

years? And I did bring this up with them, and they are going to talk to the project people.

And I know that the County can make changes. Are they allowed to make changes, too, if they decide to do that, to have it monitored more than ten years?

MS. SAWYER: Absolutely.

MS. SANBORN: (Nodding head.)

MS. DIEHL-DARMS: That's okay?

MS. SAWYER: Mm-hmm.

MS. DIEHL-DARMS: Okay. I just wanted to have some clarity.

Thank you.

PH-6 cont.

MS. HOBERG: Hi, good evening. I'm Terry Hoberg, a Middletown resident. I'm gonna -- my comments are directed more towards the Middletown housing.

I'm not quite certain that I have understood or heard responses to what the workforce housing means on the Santa Clara, if there's going to be like buses every eight hours taking people back and forth?

There's piles of debris on the property, and I don't know what the results are from those, if they are contaminated or if it's just debris. And, again, I'm not certain about if there was an EIR directly done on the Santa Clara property.

My concerns still are the density of the housing

PH-7

for this project. I'm not quite certain that it really -- I know there's a Middletown plan, but I am not certain that it really fits Middletown.

And also, it's a flood-prone area or a flood-zone area, and we are neighbors to the property, so we are very concerned about changing the lay of the land and our property being affected by that. It would be a shame for it to happen and then flooding happen rather than not have it addressed prior to. So I would just like to bring those points up, and thank you.

MS. SAWYER: I did just want to mention, because you had a question as to whether or not it was addressed in the original EIR, and I wanted to clarify that it was.

PH-7 cont.

MS. HOBERG: Okay.

MS. SAWYER: So there was a full CEQA review during the original 2020 EIR of the offsite workforce housing, and I think a lot of the questions that you have, you know, related to the flood zone and the density, the number of units, it's all explained in the 2020 EIR.

MS. HOBERG: Okay. And the lighting, it sounds like, will comply with the night sky ...

MS. SAWYER: The dark sky principle, yes.

MS. HOBERG: Okay. Thank you.

MS. SAWYER: Mm-hmm.

MS. OWEN: Hello, my name is Helen Owen, and I too would like to thank all of you for being here tonight and giving us the opportunity to speak.

And I had actually met with Linda and Kevin Case and JB and -- BJ, JB?

MR. BREENE: JB.

MS. OWEN: Get it right.

So what we brought up at that time -- and I thought the meeting went really well. I still have a few concerns that we weren't able to work out, and I am kind of a -- I like to be a problem-solver.

PH-8

So I know that we need to grow here. I know that we need -- this is an amazing project. I'm not against the project, however, I feel the responsibility to take care of everybody. That's just kind of the way I am. It goes all the way back to being raised here and childhood.

So one of the issues, the Grange Road that we brought up, I had asked them, and I don't know if you had a chance to check it out, if it was feasible to connect into Morgan Valley Road through the canyon. Do you remember us bringing that up --

MR. CASE: Yes.

MS. OWEN: -- as an alternative, because 29 gets -- it can't handle Hidden Valley. They were backed

up through Hidden Valley, through the roads, and people could not get out onto 29 during the Valley Fire.

So that was one of the issues I wanted to look at, was is there another option, or what can we do to ratify that where people can actually exit?

We had talked about air traffic and if the routes could be relooked at so that we're not going over our neighbors on Butts Canyon Road, if that can be changed somehow so that it doesn't impact them, as well.

I really liked the comment that somebody just had about hours, specific hours, that was a great comment, for mitigation.

PH-8 cont.

I also spoke to them about hiring locally and buying locally as much as possible, and not just the lower-end jobs, but the higher-end jobs, as well, the training. It was expressed there's going to be training, and I know that that is touched on in the EIR, but that was something I really want to put to the forefront.

My biggest issue by far, of course, is the water well offsite on 29 and Butts Canyon. And so since then we've talked about it, and, of course, again, I'm trying to look for solutions. I have spoke with Mr. Todd -- right back there, with the Callayomi Water, and one of the solutions that I would like to see is if somehow Callayomi could buy the water wells in that area,

purchase and provide water, out -- all the way out, because there's also the threat of the plume, the GII plume that is also a portion of this that is horrendous, so where we could hook up people in case their wells do get contaminated. Of course, we would like to stop that before that happens. But if Callayomi Water could be the one to take water out for extra water that might be needed, if that's something that could be possibly entertained.

So the water well is within the Middletown growth boundaries. I was on the Area Plan Committee that wrote that out, so that could be a possible solution that we could get behind. PH-8 cont.

Thank you.

MS. SAWYER: And while we're waiting for our next speaker, I wanted to address the question as to the hours of operation for the air traffic.

We do have a mitigation measure on the EIR that limits the operational hours of the floatplanes and the helicopters to daytime from 7:00 to 7:00, so we have a starting point.

UNIDENTIFIED AUDIENCE MEMBER: Yeah, they wanted it restricted more.

MS. SAWYER: Oh, restricted more. I see.

MS. HODGES: That's not gonna work.

UNIDENTIFIED AUDIENCE MEMBER: That's a long day.

MS. SAWYER: All right. I'll write that comment down.

PH-8 cont.

MR. FIORA: I'm Todd Fiora. I'm the general manager for Callayomi County Water District, and my concern is the optional well, as it's put in the EIR, at the corner of 29 and Butts Canyon.

And I mean, that well is about 2200 feet from our primary-source well that feeds the town of Middletown, so it can affect, whether it's the plume or water availability, if the drawdown's -- it affects our drawdown, or if it draws down so much, it could affect our well. That's -- our only source of water is groundwater here, so I would like it to be relooked at or removed.

And also, we'd be open to discussion about purchasing the property or the well and -- with some sort of agreement that we will provide water to Butts Canyon -- I mean, to the Guenoc Valley Project, so that way we could oversee or monitor it or something of that sort, or at minimum, at least have the Callayomi County Water District in part of the oversight for the duration of the use of the well.

PH-9

But I would definitely like it to be relooked

at, and if we could sit down with somebody and talk about different options.

Thank you.

PH-9 cont.

MR. LESCHER: Hi, Hank Lescher. I also want to speak to the well issue. Kevin mentioned that there are restrictions, do you know -- there's a lot of restrictions. What are those restrictions?

MS. SAWYER: On the use of the well, specifically?

MR. LESCHER: Yes; mm-hmm.

MS. SAWYER: I don't have the exact language in front of me, but there is a mitigation requirement that any use of the well be monitored, and that -- for a period of ten years; but that if the monitoring shows that the use of that well is impacting groundwater within a certain radius of the well --

PH-10

I don't know, Annalee, if you could look?

MS. SANBORN: Three hundred feet.

MS. SAWYER: Three hundred feet.

So if there's a drawdown of groundwater within 300 feet of the well, that the well cannot be used, and that a groundwater management plan has to be put into place. That management plan has to be prepared by a qualified, you know, hydrogeologist, and approved by the County.

So after ten years of monitoring, we would expect that if there was -- if there will be impacts within a 300-foot radius of the well that those impacts will reveal themselves within that first ten years, and then the requirements to put in this management plan would go into effect, and that management plan would be permanent. You know, it wouldn't be limited to ten years. It could go beyond that, that initial requirement, so ...

MR. LESCHER: And who is the -- who is doing the monitoring?

PH-10 cont.

MS. SAWYER: I don't believe that has been identified at this point in time, but the monitoring reports are required to be submitted to the County for their review and verification.

MR. LESCHER: So it sounds like you would be open to Todd's suggestion of Callayomi Water perhaps being the oversight doing some -- being involved with the monitoring?

MS. SAWYER: That would be a question for the County as the lead agency and the decision-makers for the project, but yeah, I think that will be a comment that we're going to write down.

MR. LESCHER: Thank you.

MR. THORNE: I just heard a -- oh, Fletcher

PH-11

Thorne is my name. About eight years ago, Callayomi came to me, I was managing the property at the corner of Butts Canyon and 29, and they said they would enter -- like to talk to us about buying the well and having an easement going back and hooking up to their system.

So in order to do that, we did a test, a water test on it, and we pumped it. I think our maximum capacity for pumping was 2200 gallons a minute, and we pumped 2200 gallons a minute for, I think, 24 hours, and the drawdown was almost nil.

Callayomi said we'd like to make an offer, and the owner said, well, we will sell you a piece around the well so you will own the well and then an easement around the property hooking back up to Butts Canyon, and they said great. PH-11 cont.

So their offer was $2800 for a 2200-gallon well and about five acres of property, so that's why Callayomi doesn't have the water in that well now. It was such a ridiculous offer that the owner wouldn't even talk to them about it.

So the history of that water is, remember this, the water doesn't belong to the landowner, but the landowner has use of that water. If you don't have land over that aquifer, you have no primary claim on the groundwater, the water below it.

You can get -- ask for permission to get additional water, but it has to be through someone that has the property over the aquifer, that owns the property. The water belongs -- or has -- belongs to the use of the property owner, not to Middletown. Middletown has no claim on that aquifer at all. Callayomi has no claim on that water at all.

So we tried to help Callayomi, and it didn't work out.

Thank you.

PH-11 cont.

MR. COMSTOCK: My name is Jim Comstock. I live at 19955 Grange Road. My dad and mom came here 81 years ago, and we're on the ranch that's adjacent to the Guenoc Ranch, have been for 81 years. I'm not quite that old yet, but ...

UNIDENTIFIED AUDIENCE MEMBER: Close.

(Laughter.)

MR. COMSTOCK: Very close.

But having grown up, went to school, lived here, the only time I ever left was four years in the Navy to go to college. I love Lake County and love Middletown. I wouldn't be here with the brush, rocks, and rattlesnakes if I didn't.

And this project, I am intimately familiar with the Guenoc Ranch, being neighbors. Our cows would get

PH-12

over there, their cows would get over on us, and Randy and I have been dealing with that for 40-plus years, but it's -- this -- it was a cattle ranch, and then it's cattle and grapes, and now it's cattle and grapes, and now it's tourism, which is the number one product for Lake County.

The -- being intimately familiar with the south-county area, we have a couple of other things I would like to talk about. The geysers up here. When the geysers project was started in the '70s, there was quite a bit of opposition to that for various reasons; and it's been developed, and it's the largest geothermal facility in the world.

PH-12 cont.

And the job opportunities that have come -- we always graduated our kids and pretty much gave then a bus ticket out of here 'cause there weren't any jobs, and the jobs that have been provided by the geysers are multi-generation families that have gotten very high paying, very good jobs up there, and that's how communities grow. And if you do not grow, you die. And you have to change, and this is -- this is a change, and this is a big change for everybody.

Another big one is, right out here we have the casino. Probably there was a lot of opposition to that. It provides -- I think it provides like 300 jobs.

Gasoline. The most expensive gasoline anywhere used to be in Middletown. Now the most affordable anywhere, which is not cheap, is right out here because of that development. It's been good for us.

I support this project because it is good for the growth of our area. What they want to do is to provide jobs for people that live here, for the tourism industry, and it's another phase in the development of that property.

At one time it was talked about that it could all be divided up into five-acre parcels, and that would have been absolutely disastrous, but if they owned it, they probably could have done it. I am glad they didn't. I support what they are doing, and our ranch borders them for a -- we've got a lot of fence lines together. I know them well, and I support the project.

PH-12 cont.

The mitigation things that are being proposed and being done are very, very, very intensive, and none of them are being taken lightly.

And the fact that you are here listening to all of these concerns, you know, I know Jud, I -- when I am here hunting on my ranch, I can see his house a mile and a half away, and he's got concerns. Everyone has concerns. But I want to publicly voice my support for this project, and I'm a neighbor to it.

PH-12 cont.

Thanks.

MS. SCHMIDT-HOPPER: Different subject. Kate Schmidt-Hopper. I understand that there are development fees that would be applied to our school here in Middletown Unified School District.

I am wondering if you can parse out -- maybe Mireya has more information on this -- how the development fees would help our school system grow in terms of its budget so that we have a better, more active teacher base, maybe have an opportunity for maybe even providing teacher housing, because Middletown Unified School District could actually build some teacher housing.

PH-13

So I just wondered if you could give a general idea, because I know there are some people who are quite excited about the possibility of development fees coming into Middletown Unified School District and enhancing our children's education.

And if you have any kind of idea when we actually would see that come into play, whether it is ten years down the road, or does it -- we start to see it pretty immediately.

Thank you.

MS. TURNER: Thank you, Kate.

The main fee that comes to mind is typical of

any residential development. A lot of us who are -- or a lot of our residents who needed to rebuild after Valley Fire are aware of that. Before you can turn in your building permit fee for your house or any other type of residence like a -- your accessory dwelling unit, your granny unit, something like that, you're gonna stop by the fire district and you're gonna stop by the school district and make sure that those fees are paid. PH-13 cont.

Other than that, I am not familiar with the exact details of the developer's agreement, but I'm happy to take a look and see if it's reflected there; but I do know that it is a standard fee that's paid for all residential development in California.

MR. HESS: Good evening, my name is John Hess. At a recent MATH meeting, which was attended by Caltrans, we talked about the corridor plan from the south county lineup through Lower Lake, and specifically the idea of a roundabout at Butts Canyon and 29 came up. And it wasn't brought up by the community, but by Caltrans, the official that was there for a meeting, that that might be something that could be discussed with Guenoc. PH-14

The typical roundabout apparently costs between 5- and $6 million at this point, and I would just encourage all parties to consider being generous and helping us with that project. We're really gonna need it

as we grow.

MS. SAWYER: I will clarify that that -- construction of that roundabout is a mitigation requirement of the project, and that the mitigation was expanded in our most recent Partially Revised EIR as a result of the Wildfire Evacuation Analysis to include more capacity for southbound traffic and southbound movements in the event of a wildfire evacuation, so that is a requirement of the project.

UNIDENTIFIED AUDIENCE MEMBER: Caltrans alluded to that, yes.

MS. TURNER: Okay. I was expecting more.

Excellent. Thank you.

PH-14 cont.

MR. DARMS: Good evening. My name is Tom Darms. I was just looking over this list of the proposed -- on the proposed project. What changes are being done to the greenhouse gas emissions, and what was the problem before?

PH-15

MS. SAWYER: You want to take this one?

MS. SANBORN: So the project modifications pertaining to the greenhouse gas reduction measures include some limitations to the use of natural gas, so there's no more natural gas or propane use in any residential land uses and most commercial uses on the project site, the exception being commercial cook tops.

They can still have natural gas, and I believe the, like, outdoor patio heaters at restaurants. So that is one big change is the removal of any natural gas.

There's been an expansion in the amount of electric vehicle charging stations that will be required for parking on the site.

Additional carbon credits, so that was adopted for, I believe, a one-time carbon offset purchase from the 2020 EIR, and that has now been expanded to an annual purchase of carbon-offset credits.

And I sure do think that I'm missing one. Expanded on-site solar is another one.

PH-15 cont.

MR. DARMS: So they are gonna basically -- are they gonna have -- do you know if they are gonna have battery storage there, solar panels powering that, or is it gonna solar power the grid and then the grid will be charging up the car chargers?

MS. SANBORN: I believe there is some amount of battery associated with the systems, and that the exact details of it actually refer back to the California Green Building Code, because there could be, you know, newer developments that could occur between when writing this document and when the actual building happens.

MR. DARMS: Mm-hmm.

MS. SANBORN: So the most up-to-date CALGreen

Building Code is what's going to be followed.

MR. DARMS: Okay. And then just one other thing on my mind. I have -- I don't remember being on the -- reading the previous paperwork and stuff regarding the breaking of ground and moving dirt and everything like that regarding the Putah Creek Watershed District, and where is all the runoff gonna come when you put roads in and stuff? Are there going to be settling ponds? Is it going to be -- is it all just going to go into the lake, is it going to go into the streams and the rivers and stuff like that? Where is all that gonna go?

PH-15 cont.

MS. SANBORN: So any project greater than one acre in size, which obviously this will definitely be greater than one acre in size, must get what is called a NPEDS permit, National Pollution Elimination Discharge System, and that has an extensive stormwater control management plan that's going to be associated with that.

What will likely happen, what could be, you know, phased SWIPs, it's called a -- SWIP is the nomenclature, for each portion of the development, and that is going to be based on what is happening at that particular location. So a settling basin might be an appropriate measure in one area that's not really going to be helpful elsewhere, and that is it regulated through the state permitting process.

MR. DARMS: Okay. All right. Cool, 'cause I know that Yolo County has the rights to the water, the rainwater for this area, for the Putah Creek Watershed District, so just I was wondering what they -- have they negotiated with Yolo regarding that?

Because there's other property owners that can't build reservoirs or anything like that on their property because of the Yolo County.

PH-15 cont.

MS. SANBORN: There would be no surface water detainment. The only thing that could happen would just be those localized detention features, and those are intended to allow sediment to basically sit there for long enough and then dissipate, and the water will just go back into the watershed.

MR. DARMS: Thank you.

MS. OWEN: Okay. So Helen Owen again, and I remembered the next part of my question.

So first I want to reiterize -- reiterate that we wanted to try to get Callayomi to supply the water, so that I think would be huge if that is acceptable.

PH-16

Secondly, the water coming from Middletown, being piped out there, can you tell me where it's going and what it's being used for? It states in the EIR to Detert Lake, but beyond that, it -- we couldn't find where it went.

MS. SAWYER: I mean, the concept there is that the offsite well would just be used as a water supply source for the development generally, so there's a water supply system proposed within the site, and it would just basically feed that overall system of water treatment and storage facilities and pipelines.

MS. OWEN: Okay, but where? Where is it going to be pumped to? I don't understand. I don't know what it's being used for, and we couldn't find that, and we did look.

MS. SAWYER: A diagram? I don't know exactly. I'd have -- I'll have to look.

PH-16 cont.

MS. OWEN: So could it go --

MR. CASE: It shows Detert Lake.

MS. OWEN: I'm sorry?

MR. CASE: I said the exhibit showed that it was being pumped into Detert Lake, which is what the exhibit shows --

MS. OWEN: Into. Because it said "to" --

MR. CASE: Yeah.

MS. OWEN: -- but remember we discussed that.

MR. CASE: Or it says in that area, but --

MS. OWEN: Yeah, it showed "to." It stated "to Detert Lake," and then it showed the pipe going around to the back side by the dam, but we couldn't figure out

where or what it was being used for; so it is to and into Detert Lake; is that correct?

MR. CASE: We'll have to get back with you. We've inquired since our meeting. I haven't gotten the answer yet.

MS. OWEN: Okay. Thank you. Thank you so much, Kevin.

MR. HODGES: And the pumping stations, do we know where they are?

MS. OWEN: No.

MR. HODGES: Are there three pumping stations that are associated with that pipeline?

MR. CASE: I don't know that. There would have to be pump stations.

MS. TURNER: Hey, Lisa, just a second.

You will notice in the back of the room was a sign-in sheet with your name and an email address, so yeah, Helen, make sure that your email address is on that because we can find those answers out and definitely get back to you, as well. Thanks.

PH-16 cont.

Go ahead, Lisa.

MS. KAPLAN: Okay. Lisa Kaplan.

One is, I want to -- because I heard your answer about 7:00 to 7:00. Like, that's not at all what I meant. I meant like 1:00 p.m. and 3:00 p.m., something

PH-17

like that. So I just want to be strong on that.

The next thing is that you now own this -- or Guenoc now owns the property on the corner of Butts Canyon and 29. What do you plan to do with that? How could that be leveraged to benefit our community, and why is that not being used for this whole development rather than the infiltration onto the property that Terry Hoberg referenced before off 175? So there's multiple questions here.

And also I would like to know, with regards to that property, what is your long-term vision for it? After the building is complete, for example, what is going to happen with those buildings, who is gonna live there, and what kind of prospects are there for growth? PH-17 cont.

Because I -- as far as I can tell, they are very high density, and so how does that benefit us over time as a community, or do they become like half empty. Like, what is the story with that? Because people go where there's work, so if there's no more work here, they might leave, and then who is gonna live there? So just really the long-term vision is what I'm asking about.

And I want to be clear, I think that a lot of us sitting here are okay or in favor of the project. We have concerns, and those are in the details, and the devil's in the details, and we just want to be in

conversation about that. So thank you again for this opportunity.

Oh, do you have any answers about the properties?

MR. HODGES: Go ahead. You want to go ahead?

I just wanted to -- Jud Hodges again. I just wanted to follow-up with the question about the pumping station, and I have a technical memorandum from Sherwood Designs. This is back in 2019, and it talks about the stations and the pipeline, but it doesn't have anything on location.

Do you have that in any of your documentation?

MS. SAWYER: I'm look -- I'm looking now, but I don't -- off the top of my head, I just don't recall if we actually had a map produced of the pump stations; but we're certainly going to be responding to this question and getting back to you.

MR. HODGES: So there hasn't been an EIR on pump-station locations.

MS. SAWYER: You know, my only question is to whether or not we specifically identified the location of the pump station. I know that we described that they would be required and that they would have certain types impacts, but I don't know if the actual set location of those pump stations has been identified, other than to

PH-17 cont.

PH-18

say it would be within the right-of-way of the road.

So I'm doing -- I'm looking it up right now to see if I can find more details for you.

PH-18 cont.

MS. TURNER: But, if not, please make sure your email address is in the sign-up sheet.

And Lisa, also, just for clarification, sorry, one moment, I wasn't sure, as I was scribbling down notes to get answers for you, I know you were talking about the parcel that is currently at 29 and Butts Canyon.

MS. KAPLAN: Mm-hmm.

MS. TURNER: Okay. And questions about how could that be leveraged to benefit the community and -- and that going forward. But as far as the housing, were you talking about the workforce housing over --

PH-19

MS. KAPLAN: Yes.

MS. TURNER: -- on Santa Clara?

MS. KAPLAN: Yeah.

MS. TURNER: Okay. 'Cause so my understanding that's not for construction builders, workforce housing, it's more of ongoing supportive housing for the resort itself, in which case it wouldn't just be here while they're building and then nobody'd be living there.

MS. KAPLAN: Mm-hmm.

MS. TURNER: So and it also does address -- I think it has like a clubhouse or community center, things

that are ongoing as amenities for that particular neighborhood, so -- but I'd be happy to get you -- get you those maps and that sort of thing.

MS. KAPLAN: They are very high density, though.

MS. TURNER: The density is in accordance with the current high-density R3 zoning, but yeah, so it does seem a little -- it's definitely more dense than our surrounding, like, one-acre properties that are in the area. However, it is consistent with what was approved before.

PH-19 cont.

MS. KAPLAN: Right. Also, the units themselves are high density, is what I mean, like, they are for, like, multiple fam -- you know, multiple families or something. It's kind of like, where do you go from there?

Like, if we're trying to really develop, then, you know, like maybe you're living in high density and you're low income, and then where do you go from there, because we don't have the -- then you buy two? I mean, it's like -- you know, I mean, I really am curious.

MS. TURNER: Sure. No, I think it's an awesome question, and it actually is a question that transcends this project itself.

We're currently working on a Housing Action and Implementation Plan to sort of gather community vision on

how we can improve our county's situation for housing, and a lot of that does address sort of that, here's your starter home; then, as we improve our housing inventory, the people who were in what can be a starter home can move into other options, 'cause we'll have other options.

So I think that may be kind of where the more holistic answer is coming, rather than just being limited to this specific project, which that housing would be in existence to help support the ongoing operations of the resort.

But, no, I love that question. Thank you. Thanks.

PH-19 cont.

MR. SANDERS: Hi. Shannon Sanders. Quick follow-up.

Regarding the offsite well, would that have any benefit for fire suppression in the area, Middletown, Butts Canyon?

PH-20

MS. SAWYER: You know, that -- I don't believe that that specific use was proposed as part of the project originally, so I don't -- I don't think we address that currently in the Environmental Impact Report documents, but yeah, that's a good suggestion.

MR. SANDERS: Okay. Thank you very much.

MS. SAWYER: Mm-hmm.

MS. ROSENTHAL: Hi. Thank you so much for

PH-21

putting this meeting on and for giving everybody the opportunity to speak and ask some questions about this project and to understand the process. My name is Monica Rosenthal.

And in regard to the housing, I think what Lisa was referring to is that the housing on this particular property is a little bit beyond the density that was described for that parcel in the first place, so it's a little higher density overall, but the houses themself, I believe, within your plan is described to be something like five-bedroom houses that are about 1200 square feet, so it's five bedroom, 1200 square feet, so I believe that's what Lisa is referring to. And maybe -- I may be wrong on the 1200, it may be 1300 square feet, but still that's pretty high density for an individual house, and that kind of gives a definition of that house itself.

PH-21 cont.

A couple of other things I just wanted to mention was, again, like many of the people in the room, you know, the project is great. Everything about the project out at Guenoc is absolutely beautiful, designed really nicely, but for Middletown, it's just a question of, you know, yes, we've talked about taxes, you know, how that might benefit the school, jobs, hopefully that would benefit with jobs here in Middletown itself; but with Middletown proper, we have a number of things that

are being taken from the Middletown area.

It has been shown, I think, over the course of time that the majority of people here like the rural feel of the town. One of our problems then, as we're moving into the general plan and the area plan development, I think, over time, as we have tried to increase density in the area of Middletown, one of the problems, one of the ongoing problems over the last years, has been that people, generally, they have a lot that maybe has higher density and they are not developing it because here in this area, I believe, anyway, a majority of the people like a little elbow room around their place.

PH-21 cont.

So, and then again, going back to the housing, this housing, it's talked about it being very centralized, where it's not. It's on the outskirts of town, and there's no walking provided, sidewalks, on this -- this development goes directly to the highway, to Highway 175.

How are -- if we've got four -- let's say we call them four-bedroom houses, which typically would lead to families there, how are those people going to get -- are you gonna bus everyone every -- you know, everywhere?

When we talk about emissions, you know, what can we do to make this a healthier community and provide access, safe access, for family housing if we're calling

this to be in the central (sic) of town.

The other thing is with the water, of course. As other people have said, the water, the well that's located on that lot, and again, this was done in the last area plan that was developed, a number of people in this room really wanted that parcel -- I shouldn't say "a number." There was a few people that are currently in this room that really wanted that parcel in Middletown growth boundary, so it's in the Middletown growth boundary, but the problem is, is that it doesn't have access to the water and it doesn't have access to sewer, so -- and if it's going to be part of the growth boundary, it should have access to that. PH-21 cont.

But nonetheless, it's a parcel that is part of the community growth boundary, and now not knowing, again, reading some of the materials, it sounded like Guenoc has no -- or this development has no plans of developing that parcel, so that's a big chunk of land in our community growth boundary that can't be developed.

And then, of course, then the water that is part of that land is -- might be gone and piped down. For -- again, for health of community, I would also suggest that if a pipeline is put in, it goes from Middletown and you're buying easements and putting in a pipeline, wouldn't that be a great walking/biking trail, you know,

from Middletown to Guenoc? So, again, that is something that you can give back to the community, so really appreciate you taking a look at that.

Oh, and then the other question that I had is there was talk about the monitoring of the well. With the monitoring of the well as a ten-year plan, when does that start? Is it when the -- when the well goes into use, is that when the ten years starts, or does it start just when the project starts, and well's -- so anyway.

MS. SAWYER: When the well starts being utilized, yes.

MS. ROSENTHAL: Okay. Thank you. That's all I got.

MS. TURNER: I appreciate the clarification on that housing issue, too. Thank you.

PH-21 cont.

MR. BREENE: Hi, my name is Jonathan Breene. I'm one of the developers with Kevin Case. I just want to sort of answer the question in regards to the housing.

So when we looked at -- let me turn this around so I can face you. When we looked at the housing, we were looking at staff housing. We were also concerned that in order to staff the project that we would be putting pressure on the local community if we came and we let our staff come in and try to rent houses or buy houses.

PH-22

So the other thing that we looked at was, we could have built the staff housing on site. It was free land. We've got a lot of land, and it was very easy. But the reason why we wanted to bring the staff housing to Middletown is because we felt that in Middletown -- and we're off the main road, so we're tucked away, in a way; and then we designed this according to what designing allowed for, so we weren't trying to push the boundaries.

But we wanted our staff to be in your community. We wanted them to go to the coffee shop. We wanted them to go to the restaurants. We wanted the community to benefit from people. So we could have had them on our property, build our own little village, but we didn't feel that was the right thing for our staff, and also for the community. So the staff housing to be in Middletown was a conscious decision of really trying to work with the community.

PH-22 cont.

Also, by providing housing, it took away pressure, so we didn't -- we did not want to come in and start raising rents and sales prices for houses, so that's why we put the housing in Middletown.

We're looking at -- some of the staff were gonna be younger kids, so we were looking at some of them, you know, they share, you know, the bedrooms and they share a

kitchen. So, again, we tried to put more density with that, so we, again, would take away pressure. We would -- instead of kids also, you know, driving to the property every day, we will have buses to alleviate traffic concerns, so I just wanted to address the housing.

And we're happy to -- as you see tonight, we're very open. We are coming into your community, and we want to be good neighbors, and so we are open to listening to all of the suggestions and working together, because the way I look at it we're going to be here for a long time working with your community. PH-22 cont.

MS. OWEN: Mr. JB?

MR. BREENE: Yes.

MS. OWEN: Are you planning on busing, from the housing project, the people to work like the --

MR. BREENE: Yes. We will -- well, the last thing we want then is to have 50 cars coming back and forth, so we will be planning buses for -- and will have shifts, and so we will try to do that to alleviate traffic concerns.

MS. OWEN: Thank you.

MR. BREENE: Yes, yes.

Thank you, everyone, for your support, also. We appreciate it.

MS. DIEHL-DARMS: Linda Diehl-Darms again. I forgot to say this part, and I want to say this: I am for the project. My only concern is the community water, making sure that we're good stewards.

And I'm kind of curious how you came up with just ten years, because a lot can happen after ten years, and if it's not being monitored, you know, how do we know that things aren't going downhill until it's done and then we're trying to, you know, backpedal, trying to fix it, so ...

UNIDENTIFIED AUDIENCE MEMBER: Or a drought, a drought.

PH-23

MS. DIEHL-DARMS: Yeah, or whatever.

And I'm really happy because these guys really are willing to try to work and compromise. And one of the things that Kevin said, he goes, you know, it's got to be a give-and-take, and it's true. You know, they own that property. They own the water rights to that well, absolutely, 110 percent, but yet they are still willing to try to make sure -- 'cause they don't want to take all our water either. So anyway, I just wanted --

MR. BREENE: And technically, I believe, you just correct me, but I believe the usage that we were looking at --

MR. SABATIER: If you could speak on the

microphone so we can get it on the video --

MR. BREENE: Yes.

MR. SABATIER: -- please?

MR. BREENE: Technically, again, I think you can confirm it, I think the usage of what we were looking was 1.8 percent of the water that's in that, so it was a very minute thing, and obviously the testing, and we will work to extend that to make sure -- the last thing we want to do is come in and take water. If there's a drought, we're not stealing people's water, okay? So we can work through that, but again, we've had it all tested properly, and we'll work together to make sure that it's fair and reasonable for the well.

PH-23 cont.

UNIDENTIFIED AUDIENCE MEMBER: But at this point you don't feel like you're gonna need the water.

MR. BREENE: No, we're using this for redundancy, but we don't need it. We've got enough wells on it, but we need it to have redundancy backup for the size of the project.

MS. DIEHL-DARMS: So, on -- in the EIR, I heard what you said. It says the new well would be designed with a relatively large diameter 12-inch casing and fitted with either a high-capacity turbine or submersible-type pump to yield high flows over 1,000 gpms, so ...

MS. OWEN: Helen Owen. We had spoke with them about this, as well, and I just want it on the record.

What we had stated is though they are here, they are not the owners, and we believe that they actually 100 percent are for what's in the best interest of the whole community, but what if somebody comes along later on? So that's what we have to protect.

MS. TURNER: Absolutely. And according to state law, the use permits, once approved, follow the land, regardless of who owns them or who is running the business, and so that's why the mitigations that you will see reflected in the Final EIR are also going to be integrated into the final conditions and mitigations of the project; so that way, the County has a set of regulations that are beyond who owns the land or runs the project. PH-24

MS. OWEN: Okay. So Mireya, Ms. Mireya, so the question is, the water -- Guenoc's bought Sullivan's property, Joe Sullivan's property where the well -- and actually, the well is actually on the Mansion's property.

MR. THORNE: No.

MS. OWEN: Right?

MR. THORNE: No.

MS. OWEN: Okay. That's what it stated in the EIR.

MR. THORNE: No, it's not.

MS. OWEN: It stated that it was an easement, but it was on the Mansion property, and that's in the EIR, Mr. Fletcher, just so you -- I can send you a copy.

MS. TURNER: We'll go ahead and make note of that for clarification.

MS. OWEN: So, but it said it was on the easement for them to come in. So, and actually, I've spoke with the owner of the Mansion, and he stated that he did own the well, as well.

So getting back to -- my question is, the water is owned by that piece of property there, but is it legal and -- that they can take it and move it? When, for instance, in Calistoga, when they were taking water, they had to have permits to take it from another location to be processed and sold, so that's my question.

PH-24 cont.

MS. TURNER: That's a great question. I know that we do have county regulations regarding the exportation of water outside the county, as well as limitations on who can be transporting water, but I think that's limited to cannibis permits, I'm not sure.

Anyway, we do have regulations regarding water, and I don't know about any state law of -- within the county jurisdiction moving it from parcel to parcel, but we'll make sure that that's covered.

PH-24 cont.

I do appreciate your question. Thank you.

MS. DIEHL-DARMS: One of the things that it says in the EIR is that they may not use the existing well, that they have the option to build another well, which I would assume would be on their property at that point; is that correct?

MR. CASE: (Nodding head.)

MS. TURNER: Thank you.

MS. ANDERSON: This is good. Keep them coming. I just -- I have a comment, it's regarding the well, that's my main concern. And I tend to be prickly, so I'm just gonna be me, you know. PH-25

MS. TURNER: Could you state your name.

MS. ANDERSON: Eileen Anderson.

MS. TURNER: Thank you.

MS. ANDERSON: Anyway, so the Valley Fire, we had meetings when we were down, evacuated, and the officials come in, and they make big promises; and then, you know, we had a big meeting here at the high school, and they brought in a guy, you know, "Oh, I played football on this here field, and I have your best interests at heart," and, you know, then years later, they didn't have our best interests at heart.

It cost my mom almost $19,000 to get her almost half-acre lot cleared. You know, they were gonna take

care of us, they were gonna do the right thing because "their heart's in the right place," but it never is.

And so I know you guys aren't the owners, you are representatives, and I just hope that you don't burn this community like we've been burned a few times. I just wanted to say that.

PH-25 cont.

UNIDENTIFIED AUDIENCE MEMBER: Good job, prickly.

MR. HODGES: Great impression.

MS. ANDERSON: "I feel your pain."

MR. HODGES: Jud Hodges again.

So if we run that pipeline down Butts Canyon, can we tap into it, the neighbors? Can we all get water?

UNIDENTIFIED AUDIENCE MEMBER: You have to get an easement.

(Overlapping crosstalk by audience members.)

MS. TURNER: I know folks can't say yes if you don't ask, but there are -- there are regulations that I would actually defer to, special districts, regarding a water pipe becoming a community water source, so, yeah, that's -- that's not a simple yeah, but ...

PH-26

MR. HODGES: All right.

MS. TURNER: But bless your heart.

(Laughter.)

MS. HOBERG: Terry Hoberg. I'm back to the

PH-27

Middletown housing.

And again, density is a concern for me, and I think that the plans were something that a previous owner of the property had kind of set up, and I believe that you guys had adopted it, and it -- when they originally came up, I'm not sure everybody was in agreement. I mean, I understand it complies to plans, but again, I'm not sure it's really what the whole community wants.

MR. CASE: Okay.

MS. HOBERG: And, you know, nobody wants anything in their backyard, right, that doesn't suit them, and that's my concern. I mean, I think the things that are going out at the Guenoc Valley, I mean, I think that's really nice and, yes, I'm hoping that it will benefit our community and help us out financially and everything, but -- but again, I think the density is an issue.

PH-27 cont.

Again, the bus commute is, you know, is that every eight hours, and so I just want to go on record with those things, please. Thank you.

UNIDENTIFIED AUDIENCE MEMBER: This has been great. Thank you.

UNIDENTIFIED AUDIENCE MEMBER: Thank you so much.

MS. TURNER: This is great, and I want to

encourage any leftover questions out there to come forward. I won't give you as hard a time as I just gave Jud.

And also thanks, Sally. After you leave here tonight and you think about something that you meant to ask and forgot, still feel free to take a picture of that email address and send it in. We really want to hear it. PH-27 cont.

Thanks.

MS. PETERSON: Hi. (Speaking foreign language.)

My name is Sally Peterson. I'm an enrolled member at Middletown Rancheria. This property that is being developed is the original home of my people. My three times great-grandmother is listed on some old BIA census rolls, and she was called Guenoc stock, kind of like cattle, but -- but that's just what -- that's just the way it was back then. PH-28

So she lived there on the land, along with my two times great-grandmother, my great-grandmother, and my grandmother, and they also lived on the Comstock land, as well, yeah, so ...

So we are in support of the development, and we are in support because of the MAHA group and the -- and this development, and the folks that are involved in that are -- have been open and willing to work with the tribe to protect our cultural resources and mitigate with us,

because we know that there are a lot of sites, villages, ceremony houses, and cemetery, grave -- grave sites that were out there from where our people were.

So we are grateful that we're able to work with you on that, and had we not, we'd been fighting tooth and nail, and if anything should change, we'll fight tooth and nail. But right now, everything seems very smooth going, and we're anxious to work with you on that when it does come forward, moving the dirt and the ground and so forth.

As far as the community, I have lived here now, my -- you know, all my relatives have lived here for a long time, but I have actually lived here for about 25 years now, and I'm seeing a lot of change in the community in that time. PH-28 cont.

And, you know, our casino, when we did the expansion, we were real happy about that, and we have a hard time finding people to work because there's not enough housing, and so housing is a huge problem in our community. And the tribe has property that we purchased right after the Valley Fire, when the apartments burned down, and we purchased that in the hopes of rebuilding right away because the community needed it. But then building costs got so high, and we couldn't get the funding, and we're still struggling to get that funding

for that, um, and perhaps we could partner on something like that to bring housing to our area 'cause it is needed, and it would help to bring jobs if we had adequate housing in our area. It is a huge problem. So I'm hoping that, you know, we could work together on that.

So -- and I -- I'm also grateful for the forum that you have put together so that everybody can voice their concerns and their questions and so forth, so thank you, (Speaking foreign language.)

MS. TURNER: Okay. I feel like we're getting to a good ending point, but I just want to double check. PH-28 cont.

Anybody? Anybody?

All right. Well, I want to thank you again so much for taking, like, prime dinnertime to be here to share your input with us. It's very important.

UNIDENTIFIED AUDIENCE MEMBER: And it's football.

MS. TURNER: Yeah, did you see that on Facebook? People were mad that we planned a meeting now, like on the first night of Monday Night Football.

So thank you for all the sacrifices you have made to be here tonight.

(The meeting concluded at 6:28 a.m.)

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Section 3 | Response to Comments

3.1 INTRODUCTION

Responses to comments are organized below in four sections. General comments about the project and issues that were raised by multiple commenters are addressed first in **Section 3.2**. **Section 3.3** provides responses to each comment received from a governmental agency. **Section 3.4** responds to comments received from individuals and organizations or nonprofit groups. In **Section 3.5**, responses to comments raised verbally at the public meeting are provided. All of the comments, which have been bracketed and numbered in the letter margin for ease of reference, are provided in **Section 2.0** of this document. Refer to **Table 2-1** for an index of all of the comments received on the July 2024 Draft PREIR and/or the March 2025 Draft PREIR. Once an issue is addressed, either in the General Responses (**Section 3.2**) or in an individual response to a comment (**Sections 3.3** through **3.5**), subsequent responses to similar comments may reference the initial response. This format eliminates redundancy where multiple comments have been submitted on the same issue.

3.2 GENERAL RESPONSES

General Response 1: Expressions of Opinion / Non-Substantive Comments

Summary of Comments

Many of the comments received were expressions of opinion either for or against the development of the Proposed Project, as modified, on the Guenoc Valley Ranch property (Guenoc Valley Site). Some comments did not raise a substantive environmental issue. Several other comments were statements of information related to the commenter, such as a mailing address.

Response

To warrant a detailed response in the Final PREIR, comments must fulfill two minimum requirements: 1) the comments must raise a substantive environmental issue, and 2) they must be related to either the decisions to be made by the Lead Agency based on the Draft PREIR or to the expected result of these decisions. Pursuant to CEQA Guidelines Section 15204, “when responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR.” Therefore, responses have not been provided to comments that do not raise significant environmental issues; however, all comments are in the administrative record for the project and will be considered by the County in making its decision.

General Response 2: Scope of the Draft PREIR and Issues Analyzed within the 2020 EIR

Summary of Comments

Many comments were related to environmental issue areas or topics that were analyzed in the 2020 EIR and were not related to wildfire evacuation, wildfire ignition risk, or the Project Modifications.

Response

As described in detail in Section 1 of the Draft PREIR, this PREIR was specifically prepared to (1) provide an expanded analysis of community wildfire evacuation in order to comply with the Superior Court's Ruling and Order issued in January 2022; (2) to provide an expanded analysis of wildfire risk to comply with the First Appellate Court decision issued in October 2024; and (3) to provide an analysis of the Project Modifications that post-date the 2020 EIR. As stated in Section 1.1.6 of the Draft PREIR, "[w]here a court finds that CEQA violations have occurred, judicial remedies must only include the mandates needed to comply with CEQA." (Public Resources Code [PRC] Section 21168.9(b); *see also* CEQA Guidelines Section 15234.) To that end, CEQA Guidelines Section 15234 provides that an agency revising its environmental document per a court's order "need not expand the scope of analysis on remand beyond that specified by the court." (CEQA Guidelines Section 15234(d).)

The Superior Court upheld every analysis area within the 2020 EIR that was challenged, with the exception of the potential impacts to community evacuation during a wildfire. The First Appellate Court further determined that the analysis of wildfire ignition risk was inadequate. All other challenged analysis areas were upheld by the First Appellate Court. Therefore, other than community evacuation, wildfire ignition risk, and effects resulting from the Project Modifications, no additional analysis is required associated with the project components and impacts previously analyzed in the 2020 EIR. The Draft PREIR is intended to correct the deficiencies identified by the Superior Court's writ of mandate and the First Appellate Court decision. Further challenges to the 2020 EIR based on issues that were raised or could have been raised in the prior litigation are barred by the legal doctrine of res judicata. This is described more fully in Section 1.1 of the Draft PREIR. As the totality of the 2020 EIR was subject to public review, the legal doctrine of res judicata is inclusive of the full analysis presented in the 2020 EIR, including those issue areas that were specifically subject to legal challenges as well as the balance of the analysis that was subject to public review but for which no specific legal challenge was brough forth.

CEQA Guidelines Section 15088.5(c) states that if revisions to an EIR are "limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified." The County's direction to reviewers to limit their comments to the information contained in the Draft PREIR that was revised and recirculated is consistent with CEQA Guidelines Section 15088.5(f)(2), which provides:

> When the EIR is revised only in part and the lead agency is recirculating only the revised chapters or portions of the EIR, the lead agency may request that reviewers limit their comments to the revised chapters or portions of the recirculated EIR. The lead agency need only respond to (i) comments received during the initial circulation period that relate to chapters or portions of the document that were not revised and recirculated, and (ii) comments received during the recirculation period that relate to the chapters or portions of the earlier EIR that were revised and recirculated. The lead agency's request

> that reviewers limit the scope of their comments shall be included either within the text of the revised EIR or by an attachment to the revised EIR.

Accordingly, page 7 of the Draft PREIR includes such a request and the County is not required to respond to comments pertaining to issues beyond the scope of the revised and recirculated analysis in the Draft PREIR; however, all comments received are part of the administrative record and will be considered by the County in making its decision on the project.

General Response 3: Community Evacuation

Summary of Comments

Several commenters did not understand the methodology used to model community evacuation impacts and presented concerns about the applicability of the analysis to the local road network and specific intersections in the vicinity. In addition, other issues were raised relating to the adequacy of evacuation plans to safely accommodate the increased population, including the development proposed at the off-site Middletown Workforce Housing (Off-Site Workforce Housing) site.

Response

Section 3 of the Draft PREIR provides additional, revised community wildfire evacuation analysis for the Proposed Project as required by the Court's Ruling in Lake County Superior Court Case Number CV 421193 (Appendix A of the Draft PREIR). The analysis within Section 3 is supported by a technical study 'Community Wildfire Evacuation Analysis', included as Appendix H of the Draft PREIR.

The analysis of community evacuation in the event of a wildfire in Section 3 of the Draft PREIR provided estimates of total evacuation times for a No-Notice evacuation of the South Lake County communities of Middletown, Hidden Valley, Cobb, Loch Lomond, and surrounding areas. The primary and secondary evacuation routes for South Lake County communities that were analyzed are identified in the *South Lake County Wildland Fire Preparation and Emergency Plan* and shown on Figure 3-3 of the March 2025 Draft PREIR, and project evacuation routes on the Guenoc Valley Site are depicted in Figure 3-4 of the March 2025 Draft PREIR. Two primary hypothetical wildfire events were evaluated based on a review of South Lake County wildfire history. Evacuation time estimates (ETEs) were prepared for current and cumulative year 2040 conditions. The eight evacuation scenarios that were analyzed assume a mandatory evacuation order is issued for the evacuation area on a typical Friday afternoon (i.e., at approximately 4:00 P.M.) during the summer season (i.e., August). The evacuation analysis assumes that 100 percent of homes are occupied for community population groups and project population groups, and that 100 percent of occupants evacuate. Additionally, the analysis assumes that 100 percent of project employees are at their place of employment and 100 percent of project hotels are occupied. Evacuation time estimates, which are defined as the elapsed time between the evacuation notice and the time the last evacuee leaves the evacuation area, were provided for the eight evacuation scenarios that were analyzed. The evacuation time estimates are provided for scenarios in which both 90 percent and 100 percent of the community population are evacuated. The methodology for this analysis and the conservative assumptions that were included are described in more detail in Section 3.4.1 of the Draft PREIR.

For the assessment, evacuation time estimates were prepared using the Lake County Area-Wide Microsimulation Model (LAMM) that spans most of Lake County and was originally prepared for the Lake County/City Area Planning Council (Lake Area Planning Council, 2013). LAMM is a 450-square-mile

microscopic traffic simulation model spanning most of Lake County and is specific to the road network in the South Lake County communities that are of concern within the Evacuation Area. The model study area includes 720 road miles, 120 of which are on State Routes (SR) 20, 29, and 53. The model also includes road network details in local communities. LAMM was prepared using a simulation-based Dynamic Traffic Assignment package called TransModeler (Caliper Corporation, 2024). Calibration and validation criteria published by the Federal Highway Administration (FHWA) and Caltrans were used in the calibration and validation phases of model development. An extensive traffic count data collection effort to inform the evacuation time assessment was conducted in September 2011. The LAMM met all standards set by Caltrans for micro-simulation projects for both the A.M. and P.M. peak periods overall and within each of their three hours. The LAMM also met all of Caltrans' standards for both the A.M. and P.M. peak period volume comparisons.

To ensure that the evacuation study accounted for current roadway configurations that were altered by Caltrans subsequent to the publication of this model, the road network within this model was manually adjusted for this Community Evacuation Analysis to include the roundabout at SR 29 and Hartmann Road. Current roadway geometrics and traffic signal phasing/timing data were updated for all signalized intersections in the road network and turn movement counts collected at 14 intersections on Friday, August 19, 2022 were compared to the updated LAMM to confirm that the new model is accurately representing observed field conditions. A complete description of the methodology is found in Section 4 of the Wildfire Risk and Evacuation Assessment Report (Appendix H-1 of the Draft PREIR).

The Community Evacuation Assessment first modeled the Baseline (No Project) scenario to quantify the evacuation time estimate for community members to evacuate in two different wildfire scenarios, including existing residents, potential visitors in existing hotels within the community, and existing employees at community businesses (see Table 3.4-2 of the Draft PREIR for a full quantification of these input parameters). Then, the additional population growth associated with Proposed Project Phase 1 including employees and visitors to the Guenoc Valley Site were added to the model (model input assumptions for these persons and their associated trips are also presented in Table 3.4-2 of the Draft PREIR). This allowed the Community Evacuation Assessment to present a pre- and post-Project assessment and allow direct comparison of potential impacts to the evacuation time estimate due to the Proposed Project. This same methodology was utilized in the cumulative condition of Year 2040 and 'Full Buildout' of Future Phases of the Proposed Project. The results are presented in Table 3.4-3 of the Draft PREIR and the supporting analysis is included in its entirety within Appendix H-1.

Without mitigation, increases in the evacuation time estimate for the community would occur and this was identified as a potentially significant impact. Therefore, the Draft PREIR Section 3.4.4 includes Mitigation Measures 3.16-3 through 3.16-6 to reduce the potential impacts to community evacuation time for Phase 1 of the Proposed Project, and Mitigation Measures 3.16-7 and 3.16-8 to reduce the potential impacts to the community from full buildout of Future Phases of the Proposed Project. The Phase 1 mitigation measures include specific, tangible, and enforceable measures to reduce Project-related traffic on SR 29 thereby reducing evacuation time impacts to community members. Planning measures for community-wide evacuation are required, as well as on-the-ground improvements to roadways such as the installation of variable message signs at the outbound lanes of the three project egress roads that connect to Butts Canyon Road and Grange Road that would be connected to the on-site Emergency Response Center so that evacuation-related messages can be controlled by fire personnel managing the evacuation. The mitigation measure also requires deliberate routing of project traffic, including directing project traffic south on Butts Canyon Road to minimize backlogs on SR 29 that would be more likely to interfere with community members evacuating on SR 29. The mitigation measure specifies that it would

not apply if Butts Canyon Road were closed due to wildfire. Mitigation Measure 3.16-4 requires that the roundabout that will be constructed by the project applicant at the SR 29/Butts Canyon Road intersection will include a southbound bypass lane to increase intersection capacity to better accommodate evacuating trips that may need to travel north along either Butts Canyon Road or the Grange Road Connector, and ultimately to the south along SR 29, in the event that Butts Canyon Road to the south of the Project Site were closed due to wildfire.

This analysis of potential impacts to community evacuation in response to wildfire evaluated the Middletown Workforce Housing in conjunction with employees at the Guenoc Valley Site. The 2020 EIR and Community Wildfire Evacuation Analysis within the Draft PREIR assessed a maximum of 221 persons could reside in the proposed Off-Site Workforce Housing. The original analysis presented in Table 4-6 of the Community Evacuation Assessment (Appendix H-1) included a footnote clarifying that the 221 persons who could reside in the Off-Site Workforce Housing were modeled in the category of 'Employees' of the Proposed Project for the purpose of assessing their potential to increase community wildfire evacuation time. However, this footnote was not included below Table 3.4-3 of the July 2024 Draft PREIR where the results of Appendix H-1 were summarized and presented. While the populace associated with the Off-Site Workforce Housing was included in the potential modeling efforts described above and no changes are required to the analysis, Table 3.4-5 was updated in the March 2025 Draft PREIR to add a footnote to more explicitly confirm the inclusion of these 221 persons within the model.

Section 3.4 of the Draft PREIR describes the parameters and assumptions used in the evacuation analysis. As explained therein, the analysis utilized extremely conservative occupancy rates and assumed that 100 percent of residents in both the existing community and Proposed Project population groups within the Evacuation Area would evacuate. Thus, the potential impacts of increased population specific to the Off-Site Workforce Housing in Middletown has been thoroughly considered and included in all evacuation scenarios. Potential impacts to community evacuation from the Proposed Project, including development on the Guenoc Valley Site and the Off-Site Workforce Housing, were found to be significant. New Mitigation Measures 3.16-3 through 3.16-8 were provided within Section 3.4.4 of the Draft PREIR to reduce total evacuation times for community members, thereby reducing potential impacts to less-than-significant levels.

General Response 4: Wildfire Risk

Summary of Comments

Several comments received during the July 2024 Draft PREIR circulation expressed concern about wildfire risks associated with the location of the Guenoc Valley Site in a fire-prone area and development within the Guenoc Valley Site. Although not involving any of the Project Modifications and therefore not included in the scope of issues analyzed in the Draft PREIR, concerns were also raised about wildfire risks associated with the Off-Site Workforce Housing in Middletown.

Response

Comments related to the Proposed Project's potential to increase wildfire risk were received on the July 2024 Draft PREIR that was circulated prior to the First Appellate Court decision and the recirculated March 2025 Draft PREIR that included additional wildfire risk analysis. Many of the concerns related to development on the Guenoc Valley Site were addressed in the revised and recirculated March 2025 Draft

PREIR. Nevertheless, the County is responding to all comments received during both public circulation periods.

Wildfire Risks of Development on the Guenoc Valley Site

The 2020 EIR and Draft PREIR acknowledge the potentially significant fire hazards at the Guenoc Valley Site, including its location within Moderate to Very High Fire Hazard Severity Zone (FHSZ) and the potential to expose the environment and community to significant wildfire risks. Section 3 of the updated March 2025 Draft PREIR includes analysis of both the potential community evacuation and wildfire risks associated with the Proposed Project. The methodology for the analysis is summarized starting on page 53 of the Draft PREIR, and described in detail in Appendix M. One of the items that affected the wildfire risk analysis was the First Appellate Court determination that some of the measures contained within the WPP were not design features as originally presented, but would be better characterized as mitigation measures due to the long-term maintenance associated with implementation. Therefore, the wildfire risk analysis separated the various components of the WPP into measures that are best characterized as design features and those measures that would be considered mitigation measures per the direction of the First Appellate Court. Table 3.4-4 of the Draft PREIR indicated which measures could be modeled quantitatively for the wildfire risk analysis as design features and mitigation measures. Wildfire risk was analyzed via quantitative and qualitative assessment of the three factors that exacerbate wildfire risk: Likelihood, Intensity, and Susceptibility.

Impact 3.16-5 assessed the potential for the Proposed Project to change any of the three factors that influence overall wildfire risk. Likelihood was assessed via an analysis of ignition frequency, which determined that the Proposed Project could slightly increase the number of ignitions on the Project Site compared to baseline conditions, resulting in a potentially significant impact to likelihood. Fire intensity was assessed using computer modeling software that estimated fire behavior and growth in the baseline (pre-project) condition, the Proposed Project with only design features, and the Proposed Project with design features and additional mitigation measures. The model indicated very modest reductions in fire intensity with only design features, and substantial reductions in wildfire intensity when landscape-level maintenance activity mitigation measures from the WPP were included. Wildfire susceptibility was assessed qualitatively by reviewing the various design features and industry best practices and quantitatively by estimating emergency first responder response time changes due to the new Emergency Response Center. Taken altogether, the Draft PREIR Impact 3.16-5 determined that "Phase 1 of the Proposed Project with design features alone (Case I) may lead to a small decrease in wildfire risk. However, due to the highly unpredictable nature of severe wildfire events and the location of the project within a predominantly Very High FHSZ, the potential for the Proposed Project to expose people or structures to a significant risk of loss due to the uncontrolled spread of wildfire was still determined to be potentially significant with design features only. With the implementation of Mitigation Measure 3.16-9, which includes the implementation of the long-term and ongoing measures contained within the Wildfire Prevention Plan, Case 2 modeling results depict a large decrease in wildfire risk for the Project Site and a small decrease in risk to the surrounding community compared to existing baseline conditions." Therefore, with the Proposed Project's wildfire-conscious design features integrated into the Updated WPP and the measures within the Updated WPP that involve long-term operational maintenance activities, now required as **Mitigation Measure 3.16-9**, the Wildfire Risk Analysis concluded that the Proposed Project with design features and mitigation "greatly reduces projected increases in wildfire ignition *likelihood* due to the project, greatly decreases modeled wildfire *intensity,* and greatly decreases community susceptibility due to improved fire response times and increased resilience of the built environment on site."

Wildfire Risks of Development on the Middletown Workforce Housing Site

Regarding wildfire risks at the Middletown Workforce Housing location, Section 3.4 within the updated March 2025 Draft PREIR provides an analysis of these wildfire impacts as required by the First Appellate Court decision. As described in Impact 3.16-2, the potential ongoing wildfire risks at the Middletown Workforce Housing would be less than significant because the housing would be constructed according to California Fire Code and California Building Code (CBC) standards and would incorporate fire resistant building materials and smoke detectors. Section 3.3 of the Draft PREIR described the new or updated fire-related laws and regulations that have been adopted since 2020; the State has been amending building and fire codes to increase fire resiliency for new construction, and the Middletown Housing portion of the Proposed Project would comply with all applicable and adopted building codes at the time of construction. Because the site is in an area adjacent to open space with a high fuel source, a Wildland Fire Management Plan must be prepared according to the General Plan and Community Wildfire Protection Plan (CWPP). Furthermore, firefighting infrastructure would be expanded to the Middletown Housing Site, which could include either extension of the existing water main to hydrants on the site or the development of new onsite water storage if required due to flow rates. Altogether, these measures ensure that the ongoing operation of the Proposed Project would not exacerbate wildfire risks. The potential for temporary construction activities to increase wildfire risk was determined to be potentially significant in Impact 3.16-3, and the implementation of Mitigation Measures 3.16-1 would reduce potential wildfire impacts during the construction phase to less-than-significant levels.

General Response 5: Off-site Well Groundwater Use

Summary of Comments

Comments raised concerns about the potential impacts of the off-site water well at the intersection of Highway 29 and Butts Canyon Road. Key issues included groundwater depletion in the Collayomi and Long Valleys, which could affect wells, agricultural operations, and water availability in Middletown, as well as concerns about the potential movement of a toxic plume from the PG&E Geothermal Inc. Dump Site, which could lead to groundwater contamination. Additionally, the adequacy of the proposed 10-year groundwater monitoring period was questioned, with requests for lifetime monitoring to better address the risks of contamination and depletion in these areas. Further concerns were expressed regarding the use of Detert Reservoir for water storage, particularly due to significant water loss from evaporation, and legal and regulatory questions were raised about the transfer of water across community boundaries and the clarity regarding the use of water from the off-site well for the Project.

Response

The potential use of groundwater at the off-site well to meet the water supply needs of the Proposed Project was a component of the Original Project analyzed in the 2020 EIR and was not part of the revised analysis mandated by the Superior Court ruling or the First Appellate Court decision, and has not been changed as part of the Project Modifications. Although no response is required for comments pertaining to the use of the off-site well as explained in **General Response 2**, the County is choosing to address the topics described below to further clarify issues of importance to the local community.

Groundwater Supply and Water Resource Infrastructure for Off-Site Well

The First Appellate Court decision upheld the 2020 EIR's analysis of the off-site well's impacts related to groundwater supply. The Court found that the 2020 Final EIR "was 'prepared with a sufficient degree of

analysis' and specificity under the rule of reason regarding the amount of water the offsite well would draw" and that its "discussion of the off-site well's potential impact is reasonable." (First Appellate Court decision at p. 27 [quoting CEQA Guidelines Sections 15151 and 15146]).

The 2020 EIR identified groundwater depletion as a potentially significant impact of the Original Project, and the 2020 Final EIR Volume II Section 3.9 provided a detailed analysis of the potential for groundwater drawdown caused by pumping of the on-site wells and the off-site well. The Draft PREIR further assessed these impacts, taking into account potential changes due to the Project Modifications or new or changed circumstances in the environment. In response to commenter feedback on the Draft PREIR, a new technical memorandum has been prepared to provide additional clarifying information related to groundwater impacts, including concerns about groundwater depletion, contamination risks, and the sustainability of the proposed off-site well. The memorandum, included as **Appendix O** to this Final PREIR, reviewed various groundwater studies and technical data from local sources, as well as data used in the 2020 EIR, to address concerns related to the use of the off-site well.

The off-site well is proposed as a future, optional, and backup water supply source. The Water Supply Assessment (WSA) Addendum memorandum prepared for the Draft PREIR (Appendix G-1) detailed the results of additional well drilling and testing that has been occurring on the Guenoc Valley Site since the circulation of the 2020 EIR. As discussed therein, sufficient water supplies exist on the Guenoc Valley Site currently to support the water demands of Phase 1 of the Proposed Project (731 acre-feet per year [afy]). However, the off-site well remains a component of the proposed development that could be utilized in the future for backup water supply redundancy or to meet the water demand of Future Phases (1,946 afy), consistent with the description in Section 3.9.4 of the 2020 Final EIR Volume II (specifically on pg. 3.9-40).

As further explained in **Appendix O**, the California Department of Water Resources reports that the Collayomi Valley Groundwater Basin has a storage capacity of 29,000 acre-feet, and a usable storage capacity of 7,000 afy, and only a small fraction of that (1,414 afy) is put to beneficial use currently. To ensure the use of the off-site well would not cause potential impacts on groundwater supply in the Collayomi basin, Mitigation Measure 3.9-3 was established to reduce the identified impact to less-than-significant levels. This mitigation measure included:

- A safe yield analysis to ensure the well does not cause groundwater drawdown beyond 300 feet from the wellhead.
- Pump testing by a Registered Professional Engineer or Geologist.
- Ongoing quarterly groundwater monitoring for the first ten years of operation, with annual reporting to Lake County authorities.

These features ensured that the operation of the off-site well would not cause groundwater drawdown beyond 300 feet, thereby protecting surrounding wells and the Collayomi Valley Groundwater Basin from adverse impacts. **Appendix O** explains that the safe yield is the average amount of groundwater recharge and that limiting pumping, whether seasonal or continuous, to this safe yield will prevent any impacts to nearby wells or to the underlying aquifer. Furthermore, **Appendix O** confirms that the aquifer has sufficient capacity to support the use of the off-site well, based on a review of groundwater data and technical studies. This evaluation verified that the aquifer could mee1t the additional water demand without significant depletion and that the off-site well's impact on local water supplies would not negatively affect existing water users. The memo further concluded that the cumulative impacts of the

off-site well were unlikely to affect neighboring wells, as the baseline groundwater levels demonstrated stability, and the projected water usage for the project was determined to be within sustainable limits.

Some commenters have requested that the monitoring in Mitigation Measure 3.9-3 be extended beyond the initial 10-year period, specifically for the life of the well. While extending the monitoring is not required to reduce a significant impact pursuant to CEQA Guidelines Section 15126.4, the Project proponent has voluntarily agreed to extend the monitoring for the lifetime of the well. This has been added as Project Commitment 2.13 within the Mitigation Monitoring and Reporting Program (MMRP) in **Table 5-2** of this Final PREIR, which will be made a condition of the County's approval. Furthermore, Lake County authorities will continue to oversee routine groundwater monitoring for the Collayomi Valley Groundwater Basin as part of the County's groundwater management practices. Given the continued groundwater monitoring by the County throughout the basin, extending the project well monitoring beyond the mandatory 10 years, and the assessment of the basin's capacity to support the project without affecting neighboring wells, the impacts to groundwater supply in the Collayomi Valley Groundwater Basin, as well as the Town of Middletown's groundwater wells, would remain less than significant.

Water Quality and Contamination Concerns

The 2020 Final EIR Volume II, Section 3.8 and Section 3.9 examined potential water quality issues as a result of the Original Project, including the contamination plume associated with the PG&E Geothermal Inc. Dump Site approximately 2.5 miles from the off-site well. As discussed in the 2020 Final EIR Volume II, Section 3.8, the 2017 Plume Delineation Report concluded that the plume has not grown beyond its defined boundaries for over two decades and semi-annual water quality reports are submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB) for continued oversight. The containment measures of capping the landfill site and planting eucalyptus trees to control groundwater levels, combined with ongoing monitoring, have thus far proven effective in preventing the plume from moving off the property and posing a significant threat to the surrounding areas. Furthermore, Mitigation Measure 3.9-3 requires no significant drawdown of more than 300 feet from the pumping of the off-site well; given that the distance to the PG&E Geothermal Inc. Dump Site is 14,000 feet—more than forty-six times the mitigation distance for no drawdown, the existing mitigation measures presented in the 2020 EIR will avoid the potential for the off-site well to influence the PG&E Geothermal Inc. Dump Site contamination risk to the surrounding community (**Appendix O**). Therefore, Mitigation Measure 3.9-3 intended to protect water quantity in the groundwater basin will also ensure the Proposed Project's groundwater extraction activities do not influence the migration of contaminants from the PG&E Geothermal Inc. Dump Site into local drinking water supplies.

Water Loss Due to Evaporation in Detert Reservoir

As stated in the 2020 Final EIR Volume II, Section 2.2.4, the off-site well for the Proposed Project water supply would require a pipeline system to convey the water to the Project Site, located primarily along Butts Canyon Road. This would require issuance of a grading permit prior to construction (see 2020 Final EIR Volume II, Section 2.7.1). The proposed pipeline route is shown in Figure 2-5 of the 2020 EIR and Figure 1-1 of the Draft PREIR. Section 2.5.2.5 of the 2020 EIR specifies that water from the off-site well would likely be discharged to and stored within Detert Reservoir. Some comments raised concerns about water loss from evaporation if water is stored at Detert Reservoir. For the Proposed Project, Appendix Water of the 2020 EIR calculated the evaporation potential for recreational and non-recreational water features on the Guenoc Valley Site. The water loss due to evaporation was accounted for in the overall water demand of the Proposed Project, which can be seen in Table 3.9-1 and 3.9-2 of the 2020 EIR. While evaporation is a potential factor any time water is stored in a reservoir, such as Detert Reservoir, it does not rise to the

level of a significant environmental impact under current CEQA thresholds. A significant impact would occur under CEQA if there were an adverse impact to the water supply, and evaporation is not considered an issue on its own unless local, State, or federal regulations or plans specifically include measures related to water waste that account for evaporation as a contributing factor. Although there are no explicit State or County laws prohibiting water loss through evaporation that are applicable to the Proposed Project, the Proposed Project's Drought Management Plan (DMP), prepared in accordance with Lake County Ordinance 3106 and included as Appendix G-2 to the Draft PREIR, addresses water conservation and efficiency during drought conditions. The DMP requires that, during declared drought emergencies, water use is managed responsibly. While not directly addressing evaporation loss, the DMP includes measures specifically designed to reduce water loss and improve efficiency during declared droughts. This project-specific DMP will further ensure that water resources are used efficiently.

Finally, future phases of development that may involve additional wells or increased reliance on the off-site well will be subject to their own CEQA review. Furthermore, the DMP will be updated as needed to further address water conservation and efficient use, ensuring that water use remains compliant with any new regulations or standards aimed at preventing wasteful practices.

Regulatory Compliance in Water Transfers and Clarity Regarding Use of Off-Site Well Water

Several commenters raised concerns about the legality and appropriateness of transferring water from the off-site well near Middletown to the Guenoc Valley Site. The off-site pipeline, which would transport water approximately 6 miles from the off-site well, would be installed within the public right-of-way along Butts Canyon Road. Permitting for the pipeline's installation would follow State and local regulations including grading and encroachment permits, ensuring minimal environmental disruption and compliance with mitigation measures related to water quality, air quality, and traffic during construction. The 2020 EIR assessed the Original Project's conformance with the California Water Code and other applicable regulations, confirming that the Original Project's water transfers comply with these regulatory frameworks. There are no specific State or County regulations preventing the conveyance of water from one basin to another between parcels under common ownership. As stated in the water supply information above, the Proposed Project would not result in a significant impact to water supply with mitigation.

Several comments also requested clarification on the uses of water extracted from the off-site well. Water extracted from the well could be stored in Detert Reservoir or other water storage features on the Project Site as deemed necessary and primarily used for non-potable purposes, such as irrigation, fire protection, and augmenting water levels in on-site water features and ponds (2020 Final EIR Volume II, Section 2.5.2.5), including but not limited to constructed wetlands, and fountains (Appendix Water of the 2020 EIR).

General Response 6: Aircraft Noise

Summary of Comments

Commenters expressed concerns about helicopter and aircraft noise from the Proposed Project, citing impacts on community tranquility and wildlife impacts. The comments focused primarily on the seaplane and helipad landing proposed at Detert Reservoir for non-emergency guest use, and not the emergency helipad proposed in the central portion of the Guenoc Valley Site associated with the proposed Emergency Response Center.

Response

The proposed float plane dock and helipad at Detert Reservoir were components of the Original Project analyzed in the 2020 EIR, which would not be affected by the Project Modifications, and were not part of the revised analysis mandated by the Superior Court ruling or the First Appellate Court decision. Although no response is required for comments pertaining to the proposed float plane dock and helipad at Detert Reservoir as explained in General Response 2, the County is choosing to address the concerns raised during the public review periods for the July 2024 Draft PREIR and March 2025 Draft PREIR to further clarify issues of importance to the local community.

The 2020 Final EIR Volume II Section 3.10 provided a thorough assessment of potential noise impacts from helicopter and float plane operations due to the Original Project. The 2020 EIR specifically examined how the proposed flight operations might affect community tranquility and local wildlife, including species that rely on quiet environments. The 2020 EIR noted that without proper mitigation, noise from helicopter and float plane operations could create significant disturbances to both human populations and wildlife, particularly areas closest to operational flight paths.

Noise Generation to Human Sensitive Receptors

The nearest sensitive receptor to the float plane dock and helipad at Detert Reservoir is a residential unit located approximately 3,500 feet to the west, which was analyzed in the 2020 EIR for potential noise impacts from both helicopter and float plane operations. Appendix ATTM of the 2020 EIR Volume III analyzed up to eight total operations per day at Dietert Reservoir, which includes four operations a day of the seaplane base (two take offs and landings) and four operations at the Detert Reservoir Heliport (two take offs and landings). Section 2.5.2.4 of the 2020 Final EIR Volume II states that "this is a conservative estimate of operations with average operations expected to be lower." Additionally, this is specific to guest helicopter or sea plane use, not any emergency flights to the Dietert Reservoir helipad or the other proposed helipad associated with the on-site Emergency Response Center. As stated in Impact 3.10-2 of the 2020 Final EIR, "according to CA Pub Util Code § 21662.4, noise generated emergency aircraft are exempt from all local ordinances that restrict flight departures and arrivals to particular hours of the day or night, that restrict the departure or arrival of aircraft based upon the aircraft's noise level, or that restrict the operation of certain types of aircraft."

Representative noise levels from various types of float planes were summarized in Table 3.10-2 of the 2020 EIR, ranging from 65 to 92 A-weighted decibels (dBA) maximum noise level (Lmax) at a distance of 1,000 feet during takeoff. Appendix ATTM of the 2020 EIR specified the models of sea planes and helicopters anticipated to be used on the Guenoc Valley Site. These specific float planes, the Cessna 208 "Caravan" and de Havilland Canada DHC-2 Beaver were modeled to determine the level of noise that would be anticipated from use of these specific planes. Noise contours were based on the specifications of the aircraft that would utilize the sea plane docks. The noise contours at the proposed helipad were based on the specific types of guest helicopters, Sikorsky S-76D Executive Helicopter and Bell 427, that are anticipated to be used on the Guenoc Valley Site.

The noise study conducted for the 2020 Final EIR estimated that noise levels from non-emergency float plane operations could range from 55 to 65 dBA community noise equivalent level (CNEL) along the linear runway path based on modeling. These noise contours are confined to a short distance on either side of the runway and do not extend beyond the lake surface onto the shore in any direction (refer to the figure within Section 5.3 of Appendix ATTM, Final EIR Volume III). The proposed helipad location on Detert Reservoir is a small piece of land that juts out into the lake and Butts Canyon Road is located immediately

north. Modelled noise contours associated with the helipad also ranged from 55 to 65 dBA CNEL and are similarly limited to the area immediately surrounding the helipad area and over the lake surface. Due to the nearest sensitive receptor's distance and the infrequent use of the float plane dock, the overall noise impacts at this residence were determined to remain below the acceptable threshold of 55 dBA CNEL, as outlined in the Lake County General Plan per Impact 3.10-2 of the 2020 Final EIR Volume II. Furthermore, the natural sound barriers provided by the hilly and forested landscape surrounding the float plane dock and helipad would help to buffer and reduce noise exposure at nearby residences.

However, the 2020 EIR found that there could be potential significant impacts resulting from sleep disturbance. To address the potential for significant impacts resulting from sleep disturbance, Mitigation Measure 3.10-4 would be implemented to ensure that potential temporary disturbances during sensitive periods (such as early mornings or late evenings) are minimized except for emergency helicopter operations. These flights would be exempt from flight time or noise restrictions because they would be critical for public safety. Beyond the restrictions set forth in Mitigation Measure 3.10-4, the Applicant has voluntarily agreed to limit non-emergency flight times to land no earlier than 8 A.M., which has been added as Project Commitment 2.14 in **Table 5-2** of this Final PREIR. For additional information on aircraft noise impacts, please refer to 2020 Final EIR Volume II, Section 3.10 and Appendix ATTM within the 2020 Final EIR, Volume III.

Wildlife Impacts Due to Aircraft Noise

Some commenters expressed concerns that float plane and helicopter noise may harm nesting birds and local wildlife, potentially damaging environmentally sensitive areas like Detert Reservoir. Section 3.4 of the 2020 EIR analyzed the potential for helicopter and sea plane noise to disrupt wildlife, including wildlife near Detert Reservoir. The analysis stated that noise could disturb important activities such as nesting and foraging, particularly for birds. Appendix ATTM of the 2020 Final EIR Volume III described the type of aircraft and frequency of use of the sea plane dock and helipad. Based on this report, it is anticipated that the guest helipad at Detert Reservoir would serve helicopters such as the Sikorsky S-76D Executive Helicopter with two arrivals and two departures per day. It is anticipated that the seaplane base would serve planes such as the Cessna 208 “Caravan” also with two departures and two arrivals per day. As discussed above, noise contours of 55-65 decibels (dB) CNEL could be generated from the arrival and departure point (Section 5.3 of Appendix ATTM), but terrestrial habitat outside of the built environment would be below 55 dB CNEL. At this level, no significant impacts to wildlife were identified.

As explained further in **Response to Comment I27-26**, there is cursory evidence that air traffic resulting in noise of less than 55 dB CNEL may result in changes in frequency components and timing of vocalizations in birds, or general preference for quieter areas for birds and mammals (Shannon et al., 2016). Specific concerns relating to the applicability of Shannon et al. (2016) cited in Comment I27-26 to the Guenoc Valley Site are explained in response to that comment, but even if it is assumed that changes in bird vocalization could occur on the Guenoc Valley Site, shifts in vocalization would not constitute a significant impact under CEQA. Shifts in vocalization would not impact individuals or the species as a whole. Shifts in habitat preference are not likely at the noise levels anticipated, and given the attenuation of noise across space (even without considering the shielding of vegetation or topography, or baseline noise associated with the existing roadway), the distance wildlife may shift would be nominal given that 55 dB is less than the noise levels associated with human conversation (60 dB) and is not considered a significant level of noise. The Nature Conservancy generally recommends that noise levels not exceed 55 dB at 300 feet from the source in order to be protective of wildlife (The Nature Conservancy, 2015). This recommendation is not targeted towards a specific species or location and is a generalized recommendation. In the case of the Proposed Project, noise levels would be 55 dB CNEL at the

natural/built interface and would be significantly lower than this recommendation at 300 feet from the source due to noise attenuation.

General Response 7: Flight Paths and Float Plane Dock/Helipad Location

Summary of Comments

Concerns were raised about the flight paths, frequency of helicopter and float plane operations, and the location of the proposed passenger float plane dock and helipad on Detert Reservoir. Flight paths over residential areas were seen as intrusive, with suggestions to relocate the aerial site to other locations, such as the existing airstrip near Langtry Winery. The frequency of flights was also highlighted as a major issue, with requests for flight paths to avoid neighboring properties.

Response

Helicopter and Float Plane Frequency

The proposed helicopter and float plane operations, including frequency, noise, and flight paths, were a component of the Original Project analyzed in the 2020 EIR, would not be affected by the Project Modifications, and were not part of the revised analysis mandated by the Superior Court ruling or the First Appellate Court decision. Although no response is required for comments pertaining to helicopter and float plane operations as explained in **General Response 2**, the County is choosing to address the concerns raised during the public review period for the July 2024 Draft PREIR and March 2025 Draft PREIR to further clarify issues of importance to the local community.

Air transportation activities would occur at a low frequency, with a conservative estimate of four daytime operations (two arrivals and two departures) for float planes at the Detert Reservoir seaplane base, and four daytime operations (two arrivals and two departures) for helicopter operations at the Detert Reservoir heliport. This conservative estimate of operations was used to model potential noise levels, although average daily operations are expected to be lower.

Concerns have been raised about flight paths potentially crossing over neighboring properties. Potential flight paths were identified in the 2020 Final EIR Appendix ATTM Section 5.1; however, the ultimate flight paths will be subject to Federal Aviation Administration (FAA) airspace regulations, with a focus on avoiding low-level flights over homes where possible. As noted in Appendix ATTM, a modification of the assumed traffic patterns, especially far away from the landing/departure areas, is not anticipated to substantially alter the study results. Furthermore, Mitigation Measure 3.10-4 would restrict non-emergency flights during sensitive periods, such as early morning and late evening hours, to further reduce overflight impacts. Beyond the restrictions set forth in Mitigation Measure 3.10-4, the Applicant has voluntarily agreed to limit non-emergency flight times to land no earlier than 8 A.M., which has been added as Project Commitment 2.14 to the MMRP provided in **Table 5-2** of this Final PREIR. Implementation of the MMRP would be required as a County condition of approval, and therefore enforceable.

However, concerns have been raised about flight paths potentially crossing over neighboring properties. While the 2020 Final EIR Volume II, Section 3.10 acknowledges that flight paths would pass over areas outside the Project Site as they approach or leave from the landing facility, flight paths have been designed with FAA noise abatement guidelines to minimize disturbances to residential areas. Additionally, flight paths will be subject to FAA airspace regulations, with a focus on avoiding low-level flights over homes where possible. Furthermore, Mitigation Measure 3.10-4 would restrict non-emergency flights during

sensitive periods, such as early morning and late evening hours, to further reduce overflight impacts. Beyond the restrictions set forth in Mitigation Measure 3.10-4, the Applicant has voluntarily agreed to limit non-emergency flight times to land no earlier than 8 A.M., which has been added as Project Commitment 2.14 in **Table 5-2** of this Final PREIR.

The Draft PREIR reaffirmed the findings of the 2020 Final EIR Volume II, Section 3.10 and concluded that the Project Modifications, including adjustments to roadways and parcel reconfigurations, would not result in new or substantially more severe noise impacts than those analyzed in the 2020 EIR. Therefore, no additional analysis of flight paths or related noise impacts is necessary.

Proposed Relocation of Aerial Site

The suggestion to relocate the helipad and float plane dock to another location, such as the existing airstrip below Langtry Winery has been noted. However, the proposed location near Detert Reservoir was carefully selected based on comprehensive environmental considerations and operational requirements outlined in the 2020 EIR with mitigation to reduce impacts to less than significant levels. All potential construction and operational impacts of the proposed location at Detert Reservoir have been assessed in the 2020 EIR and mitigated to less-than-significant levels.

3.3 RESPONSE TO AGENCY COMMENTS

3.3.1 Comments Received on July 2024 Draft PREIR

Comment Letter A1: Central Valley Regional Water Quality Control Board

Response to Comment A1-1

Comment noted. The Proposed Project would be required to comply with all applicable permitting requirements of the CVRWQCB. An analysis of surface and groundwater quality related to the components of the Original Project that are unchanged since the 2020 EIR was included in Appendix D of the Draft PREIR. Section 4.9.4 of the Draft PREIR analyzed the potential for Project Modifications to result in new or substantially more severe significant impacts to surface and groundwater quality compared to the Original Project. No new or substantially more severe significant impacts were identified as compared to the 2020 EIR.

Response to Comment A1-2

Comment noted. Anticipated permits and approvals required from the CVRWQCB and State Water Resources Control Board (SWRCB) are listed in Section 2.7 of the 2020 EIR and include:

- Clean Water Act Section 401 Water Quality Certification prior to placement of fill in waters of the U.S. and State;
- Approval of coverage under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit;
- Master Reclamation Permit that regulates the reuse of recycled water from the proposed on-site water reclamation plants;
- Approval of the Water System Plan and Operation and Maintenance Plan prior to the startup and commissioning of the new water systems; and

- Domestic water supply permit for operation of the public water systems within the Guenoc Valley Site.

Additionally, Mitigation Measure 3.9-1 from the 2020 EIR requires that a dewatering plan and treatment controls be included within the Stormwater Pollution Prevention Plan (SWPPP) prepared for NPDES compliance, and the 2020 Final EIR Volume II, Section 3.9.5 requires that operation of the proposed aggregate and concrete production facility must comply with permit requirements of the CVRWQCB.

Comment Letter A2: California Department of Transportation (Caltrans)

Response to Comment A2-1

As discussed in **General Response 2**, aside from community evacuation during a wildfire, the Draft PREIR did not re-evaluate other topics analyzed in the 2020 EIR including level of service (LOS) or other traffic-related issues that were found to be adequately addressed by the Superior Court ruling, the First Appellate Court decision, and/or that would not be affected by the Project Modifications. The LOS and traffic-related topics raised in this comment were addressed in 2020 Final EIR Volume II, Section 3.13 'Transportation and Traffic'.

Please refer to **General Response 3** for additional details pertaining to the modeling methodology that supported the Community Evacuation Analysis (Appendix H-1 of the Draft PREIR). As discussed in more detail in **General Response 3**, the LAMM was utilized and manually adjusted where needed to reflect current roadway geometrics and traffic signal phasing/timing data to confirm that the model accurately represented observed field conditions. A complete description of the methodology is found in Section 4 of the Wildfire Risk and Evacuation Assessment Report (Appendix H-1 of the Draft PREIR).

The roundabout improvement at the SR 29/Butts Canyon Road intersection is identified as Project Mitigation Measure 3.13-1 from the 2020 EIR, and Mitigation Measure 3.16-4 within the Draft PREIR ensures the proposed roundabout would have a southbound bypass lane. The additional (second) southbound travel lane of the roundabout is being proposed to accommodate emergency evacuations; a second northbound travel lane would not be needed because most evacuation trips would be traveling in the southbound direction. The southbound bypass lane is recommended for the planned SR 29/Butts Canyon roundabout because a large share of the evacuating vehicles from the project would be destined to the south where residents or guests would be returning to homes in the Bay Area or to access airports or hospitals. If Butts Canyon Road were closed to the south and the evacuating vehicles from the project are directed to go north on Butts Canyon Road, a large share would turn left onto southbound SR 29 as that would be the most direct route to their destinations. The element of Mitigation Measure 3.16-4 that includes adding a southbound bypass lane, designed to allow southbound traffic on SR 29 to proceed through the roundabout unimpeded by evacuating vehicles turning left onto southbound SR 29 from Butts Canyon Road, was designed to address the addition of project evacuation trips under a scenario where Butts Canyon Road to the south is closed. The community evacuation analysis modeled the roundabout in its single-lane configuration, identified potential impacts to community evacuations and recommended mitigation to add a bypass lane to reduce impacts to less-than-significant levels. Accordingly, potential impacts related to community evacuation would be adequately reduced without the need for a full two-lane roundabout.

Response to Comment A2-2

All major and minor evacuation routes in the South Lake County communities identified in the *South Lake County Wildland Fire Preparation and Emergency Plan* were analyzed in the evacuation assessment using the LAMM described in **General Response 3**. The LAMM is validated to current roadway conditions, including capacity, of the evacuation routes. For the Draft PREIR evacuation assessment, a reduced capacity of approximately 40 percent below road capacity levels in the LAMM was applied to reflect the effects of smoke and other wildfire evacuation conditions on driver behavior. The commenter is correct that paved shoulders are lacking on the area roadways, however this existing baseline condition was incorporated into the modeling conducted for the Proposed Project. Mitigation measures were recommended to reduce potential impacts to community evacuation to less-than-significant levels, but widening all area roadways to add shoulders for multi-modal access would not be required to reduce impacts to less-than-significant levels.

A multimodal analysis was conducted in Section 3.13 Transportation and Traffic of the 2020 Final EIR Volume II and was not re-evaluated in the Draft PREIR because it was found to be adequately addressed by the Superior Court ruling and First Appellate Court decision, and/or that it would not be affected by the Project Modifications. Please refer to **General Response 2** regarding the scope of the Draft PREIR.

Response to Comment A2-3

The requested detail regarding access control on the Grange Road Connector was added to Section 2.2.2 of the updated March 2025 Draft PREIR and reads:

> "Access to this new roadway would be controlled via a locked gate; only the Applicant, the Comstock property owner, and local fire district and emergency first responders would be able to unlock the gate, ensuring that non-emergency access would be restricted."

While not a component of the Proposed Project, the County will consider the commenter's suggestion to incorporate Grange Road into the Lake County Maintained Road System.

Response to Comment A2-4

A multimodal analysis was conducted in the 2020 Final EIR Volume II, Section 3.13 and not re-evaluated in the Draft PREIR because it was found to be adequately addressed by the Superior Court ruling and First Appellate Court decision, and that it would not be affected by the Project Modifications (refer to **General Response 2**). A comprehensive multimodal analysis of SR 29 was conducted as part of the SR 29 South Corridor Engineered Feasibility Study, which identified a series of planned improvements along SR 29 between the Lake County/Napa County line and Lower Lake (Caltrans and Lake Area Planning Council, 2014). Project-induced changes in pedestrian or bicycle facilities were found to be less than significant, although Mitigation Measure 3.13-5 pertaining to vehicle miles traveled (VMT) reduction measures includes fair-share payments toward pedestrian and bicycle improvement projects, which could include those identified within the SR 29 South Corridor Engineered Feasibility Study. Pursuant to CEQA Guidelines Section 15126.4, this impact has been reduced to less-than-significant levels and further mitigation requiring the Applicant to upgrade all intersections crossing SR 29 would not be considered "roughly proportional" to the impacts of the project.

Response to Comment A2-5

The County acknowledges that the proposed roundabout improvements at SR 29 and Butts Canyon Road identified in Mitigation Measure 3.13-1 of the 2020 EIR and Mitigation Measure 3.16-4 in Section 3.4.4 of the Draft PREIR will require approval by Caltrans and issuance of all required permits prior to construction.

3.3.2 Comments Received on Updated March 2025 Draft PREIR

Comment Letter A3: California Department of Transportation

Response to Comment A3-1

Caltrans provides an introductory summary of the Draft PREIR and its comment letter . These comments are noted. This comment further requests that Caltrans staff be invited to participate in the preparation of the *South Lake County Evacuation Traffic Management Plan* to reduce near-term evacuation times that would be incorporated into the Updated Lake County Emergency Operations Plan (EOP) as required under Mitigation Measure 3.16-3 of the Draft PREIR. Caltrans will be consulted during the drafting of this plan and is acknowledged in Section 3.4.3 of the Draft PREIR as an agency that will review and approve the plan.

Response to Comment A3-2

This comment is related to the intersection improvement required in Mitigation Measure 3.16-4. At the time of preparation of the Draft PREIR, this improvement would have required preparation of an Intersection Control Evaluation (ICE). As this comment notes, the ICE process has been replaced with the Intersection Safety and Operational Assessment Process (ISOAP). This affects Mitigation Measures 3.13-1, 3.13-2, and 3.16-4, all of which have been updated to clarify that the ISOAP process, or currently adopted agency evaluation process, will be completed at the time of future intersection improvements. The revised mitigation measures are included in **Section 4.3** and the updated MMRP within **Section 5** of this Final PREIR.

Response to Comment A3-3

Comment noted. The necessary agency review and approval processes will be completed at the time of implementation of traffic improvements required by Mitigation Measure 3.16-5, including the review and approval of intersection and signal modifications by Caltrans.

Response to Comment A3-4

Comment noted.

Response to Comment A3-5

Comment noted. It is acknowledged that Caltrans has other transportation improvement projects underway and that additional projects may occur that would alter local roadway conditions at the time of traffic development improvements associated with the Proposed Project. The two projects listed in Comment A3-5 were considered during the preparation of the Evacuation Analysis, as described on page 79 of Appendix H-1 of the Draft PREIR:

> Other improvements identified in the Caltrans Milestone Report along SR 29 in South Lake County include widening of a 1.5 mile segment of SR 29 between Butts Canyon Road and Grange Road to provide wider shoulders (end construction date December 2028), widening and channelizing of a 0.8 mile segment of SR 29 in south Middletown between Central Park Road and Young Street (end construction date January 2029), and widening of a 0.4 mile segment of SR 29 south of Lower Lake to provide left turn channelization at C Street (end construction date December 2027). These are among improvements identified in the State Route 29 South Corridor Engineered Feasibility Study.

Providing wider shoulders on SR 29 between Butts Canyon Road and Grange Road would provide a benefit during an evacuation as disabled vehicles could pull over in this section, but Appendix H-1 of the Draft PREIR did not assume it would increase road capacity as the number of through lanes does not change. The same is true for the segment in south Middletown that widens the road to create space for median and shoulder widening.

Comment Letter A4: California Department of Fish and Wildlife (CDFW)

Response to Comment A4-1

Comment noted.

Response to Comment A4-2

This comment summarizes the specific comments that are provided as Comments A4-3 through A4-9. Please refer to **Responses to Comments A4-3** through **A4-9**. Impacts to special-status plants will be identified by a biologist prior to impacts as outlined in Mitigation Measure 3.4-3. Special-status plants were not included within the worker environmental awareness training as impacts to plants will be quantified prior to construction and plants will not have potential to migrate out of or through the work area during construction. Additionally, it would not be feasible to train construction personnel to consistently identify plant species given these plants may not be conspicuous during the construction window and would require intensive botanical training to be properly identified consistently. Thus, mitigation does not rely on the ability of construction personnel to perform botanical identification.

Response to Comment A4-3

This comment correctly notes that Table 4.4-3 of the Draft PREIR disclosed there is the potential for 61 special-status plant species to occur on the Guenoc Valley Site, 9 of which are State or federally listed species. As shown in Figure 4-7, two have been identified within the Modified Area of Potential Effects (APE): Lake County western flax (*Hesperolinon didymocarpum*) and Keck's checkerbloom (*Sidalcea keckii*). Impacts to special-status plants, including these two species, were assessed in Impact 3.4-1 of the 2020 EIR and Draft PREIR and found to be potentially significant. **Mitigation Measure 3.4-3**, which includes a preconstruction survey for special-status plants within a reasonable timeframe prior to development, avoidance measures where possible, and options for transplanting and/or compensatory planting when plants cannot be avoided, reduces this impact to less-than-significant levels. This comment provides additional information regarding the Incidental Take Permit (ITP) process that would be required to implement transplanting and/or compensatory planting for State or federally listed species. Although the analysis of impacts associated with special-status plants in the 2020 EIR was upheld by the First Appellate Court and is conclusively deemed to be adequate under the doctrine of res judicata, as further explained

in **General Response 2**, the suggested clarifications have been added to the revised **Mitigation Measure 3.4-3** presented in **Section 5** of this Final PREIR below.

Response to Comment A4-4

Impact 3.4-1 of the 2020 EIR and Draft PREIR assesses potential construction impacts to all special-status and migratory birds that have the potential to nest throughout the Guenoc Valley Site and Grange Road Connector, and the analysis is not limited to eagles and falcons as implied in this comment. The impact is potentially significant but reduced to less-than-significant levels with the implementation of **Mitigation Measure 3.4-8** that requires preconstruction surveys and establishment of avoidance buffers around any active bird nests that are identified. This comment recommends several language updates that provide additional specifics about timing and methodology for these preconstruction surveys. The analysis of impacts associated with special-status and migratory birds in the 2020 EIR is protected by the doctrine of res judicata, as further explained in **General Response 2**. However, language updates as recommended by this comment have been added to the revised **Mitigation Measure 3.4-8** presented in **Section 5** of this Final PREIR below.

Response to Comment A4-5

Tricolored blackbird has a high potential to occur on the Guenoc Valley Site, as first analyzed in the 2020 EIR, and potential impacts to this species were assessed within Impact 3.4-1 under the heading 'Special-Status, Nesting, and Migratory Birds.' The tricolored blackbird is one of the species included in the worker environmental awareness training required in **Mitigation Measure 3.4-2** and is included in the preconstruction nesting bird surveys required by **Mitigation Measure 3.4-8**. With implementation of these measures, potential impacts were determined to be reduced to less-than-significant levels, and that determination is protected by res judicata, as further explained in **General Response 2**. However, CDFW has provided additional language specific to tricolored blackbird survey methodology that clarifies the timing and location for where focused surveys for this species should occur. This language has been added to **Mitigation Measure 3.4-8** (presented in **Section 5** of this Final PREIR) to provide additional clarification as it relates to this species.

Response to Comment A4-6

Potential impacts to ringtail cat were assessed in Impact 3.4-1 of the 2020 EIR, which determined that potential loss of habitat was less than significant but direct mortality due to construction activities near dens could be significant. As a result of the Project Modifications, potential habitat loss would be further minimized, but potential direct impacts remain the same with the Project Modifications, as assessed in the Draft PREIR. **Mitigation Measure 3.4-5** requires preconstruction surveys and the establishment of exclusionary buffers around active dens, if any are identified. This comment provides recommendations on agency notification and coordination in the event that any active dens are identified. Although the analysis of impacts associated with ringtail cats in the 2020 EIR is protected by res judicata, as further explained in **General Response 2**, the recommendations in this comment have been incorporated into **Mitigation Measure 3.4-5** presented in **Section 5** of this Final PREIR.

Response to Comment A4-7

Potential impacts to burrowing owls were assessed in Impact 3.4-1 of the 2020 EIR, which determined that potential loss of habitat was less than significant but direct mortality due to construction activities

near burrows could be significant. As a result of the Project Modifications, potential habitat loss would be further minimized, but potential direct impacts remain the same with the Project Modifications, as assessed in the Draft PREIR. **Mitigation Measure 3.4-9** requires preconstruction surveys and the establishment of exclusionary buffers around active burrows, if any are identified. On October 10, 2024, the California Fish and Game Commission granted the western burrowing owl candidate species protections under the California Endangered Species Act (CESA), which temporarily affords burrowing owls broad CESA protections. As a result, while CDFW conducts a species status review over the next 12 to 18 months to confirm whether listing is warranted, additional protective measures and specifications have been incorporated into **Mitigation Measure 3.4-9** presented in **Section 5** of this Final PREIR.

Response to Comment A4-8

Potential impacts to special-status bats were assessed in Impact 3.4-1 of the 2020 EIR, which determined that potential loss of habitat was less than significant but direct mortality due to construction activities near maternity roosts could be significant. As a result of the Project Modifications, potential habitat loss would be further minimized, but potential direct impacts remain the same with the Project Modifications, as assessed in the Draft PREIR. **Mitigation Measure 3.4-6** requires a focused bat habitat assessment and prescribes construction techniques to remove potential bat habitat (if identified) without causing impacts to bat maternity roosts. This comment recommends additional specificity on the construction methods and adds agency notification and coordination to mitigation language. Although the analysis of impacts associated with special-status bats in the 2020 EIR is protected by res judicata, as further explained in **General Response 2**, the recommendations in this comment have been incorporated into **Mitigation Measure 3.4-6** presented in **Section 5** of this Final PREIR.

Response to Comment A4-9

This comment provides information on how to submit observations of special-status species to the California Natural Diversity Database (CNDDB) and filing fees for CEQA documentation. This comment is noted.

Response to Comment A4-10

Comment noted.

3.4 RESPONSES TO INDIVIDUAL AND ORGANIZATION COMMENTS

3.4.1 Comments Received on July 2024 Draft PREIR

Comment Letter I1: Keith Donaldson

Response to Comment I1-1

Comment noted. As explained in **General Response 1**, comments that do not raise substantive environmental issues are not required to be responded to in the Final PREIR. However, this comment has been included in the administrative record and will be considered by Lake County in its decision. An analysis of greenhouse gas (GHG) emissions and consideration of climate change was presented in the

2020 Final EIR Volume II, Section 3.7.4, included as Appendix D of the Draft PREIR. The 2020 EIR determined that a significant and unavoidable environmental impact would occur even after implementation of all feasible mitigation measures for the following impact assessments:

- Impact 3.7-1 of the 2020 EIR: generate greenhouse gas emissions either directly or indirectly, that may have a significant impact on the environment
- Impact 3.7-2 of the 2020 EIR: conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases

The Draft PREIR assessed whether the Project Modifications would result in a new impact or substantially increase in the severity of an impact related to GHG emissions and climate change. The analysis presented in Section 4.7 of the Draft PREIR determined that no new or significantly more severe impacts related to GHG and climate change would occur as a result of the Project Modifications.

Comment Letter I2: MaryPat Noeker

Response to Comment I2-1

Comment noted. As explained in **General Response 1**, comments that do not raise substantive environmental issues are not required to be responded to in the Final PREIR. However, this comment has been included in the administrative record and will be considered by Lake County in its decision.

Comment Letter I3: Maria Rutenburg

Response to Comment I3-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I4: Judson Hodges

Response to Comment I4-1

Please see **General Response 1** regarding non-substantive comments and **General Response 2** regarding the scope of the Draft PREIR. Specific concerns regarding helicopters are addressed in **General Response 6** and **General Response 7**.

Response to Comment I4-2

Please refer to **General Response 6** and **General Response 7** for information regarding information about helicopter and float plane usage, noise impacts, and effects on wildlife.

Comment Letter I5: Gail Right

Response to Comment I5-1

Comment noted. As explained in **General Response 1**, comments that do not raise substantive environmental issues are not required to be responded to in the Final PREIR. However, this comment has

been included in the administrative record and will be considered by Lake County in its decision. Please refer to **General Response 6** regarding the analysis of helicopter noise.

Comment Letter I6: Felix Droz

Response to Comment I6-1

Comment noted. Construction of the Proposed Project has not started as the Superior Court vacated the 2020 County approvals, and additional court direction was issued by the First Appellate Court decision in 2025. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I7: Judson Hodges, Gail Wright, Butts Canyon Residents

Response to Comment I7-1

Comment noted. Please refer to **General Response 6** and **General Response 7** for responses to this and other similar comments regarding concerns about helicopter and float plane frequency, flight paths and their impact on neighboring properties, noise, helipad/seaplane dock location, and effects on wildlife.

Response to Comment I7-2

This comment raises issues beyond the scope of the Draft PREIR; therefore, as explained in **General Response 2**, no response is required. However, the following information briefly addresses the issues raised in the comment.

Section 4.4.2 of the Draft PREIR acknowledges that numerous bird species have the potential to nest on and near the Guenoc Valley Site, including within the Modified APE. Section 4.4.4 of the Draft PREIR analyzed the potential for Project Modifications to result in new or substantially more severe significant impacts to nesting birds compared to the Original Project. An analysis of impacts to nesting birds related to the components of the Original Project that are unchanged was provided in the 2020 EIR, which was included in Appendix D of the Draft PREIR.

As discussed within the sections and appendices identified above, WRA conducted a raptor study in April and May of 2018 that covered the Guenoc Valley Site and vicinity, including Detert Reservoir and other reservoirs and water bodies on the Guenoc Valley Site. During these surveys, one active bald eagle (*Haliaeetus leucocephalus*) nest was observed at Detert Reservoir, and three other bald eagle nests were detected at two nearby reservoirs and along Bucksnort Creek. This raptor study was included as Attachment H within Appendix BRA1 of the 2020 EIR. Observations in eBird from 2008 to 2024 for the reservoir indicate detection of adult and immature eagles at the site, but no reports of pairs or active nests are included in the record (Cornell Lab of Ornithology, 2024). The identification of eagles and other special-status or nesting birds on and adjacent to the Project Site is not a new condition or new information within the Draft PREIR, and mitigation measures contained within the 2020 EIR to reduce impacts to less-than-significant levels remain applicable to the Modified Project and would reduce significant impacts to less-than-significant levels. Specific comments on the analysis presented within the Draft PREIR were not provided; therefore, no revisions to the Draft PREIR are warranted.

Response to Comment I7-3

Please refer to **General Response 3** for additional details pertaining to the modeling methodology that supported the Community Evacuation Analysis (Appendix H-1 of the Draft PREIR). **General Response 3** explains that the analysis of community evacuation in the event of a wildfire in Section 3 of the Draft PREIR provided estimates of total evacuation times for a No-Notice evacuation of the South Lake County communities, including Hidden Valley. Mitigation Measure 3.16-3, which is described in Section 3.4.4 of the Draft PREIR, specifies that unless precluded by wildfire, evacuating Project traffic shall be directed to the planned egress intersections on Butts Canyon Road and to the south on Butts Canyon Road. This avoids altogether the intersection of Grange Road and SR 29 mentioned in this comment. Butts Canyon is a low-volume rural road that provides access to Napa and Solano counties. Traveling to the south on Butts Canyon Road would be the most direct route for evacuating trips from the Proposed Project's residential and hotel uses whose primary destination would be to the south, where residents or guests would return to their homes in the Bay Area or access airports or hotels. This mitigation measure would be implemented by staff in the on-site Emergency Response Center.

The Grange Road Connector would be used only if evacuating project trips could not travel to the south on Butts Canyon Road due to wildfires south of the Project Site that closed that road, which is enforced through Mitigation Measure 3.16-3 which requires that "Unless precluded by wildfire, evacuating project traffic shall be directed to the planned Project egress intersections on Butts Canyon Road and to the south on Butts Canyon Road". If Butts Canyon Road were closed due to wildfire, evacuating project trips would be directed to travel north on Butts Canyon Road (or via Grange Road as needed), south on SR 29 to Middletown, and then north on SR 175 (presuming that SR 29 to the south over Mt. St. Helena was also closed). To facilitate an evacuation under a condition in which Butts Canyon Road to the south of the Project Site is closed due to wildfire and project traffic must evacuate to the north on Butts Canyon Road, the roundabout that will be constructed by the Proposed Project at the SR 29/Butts Canyon Road intersection will include a southbound bypass lane to increase intersection capacity.

The Grange Road Connector would provide an alternative evacuation route for both outbound evacuating project trips and inbound access by first responders to the Project Site. It also would provide an alternative route for existing residents living along Grange Road to evacuate through the Project Site to Butts Canyon Road as well as a more direct route for firefighters at the Proposed Project's on-site Emergency Response Center to reach residents along Grange Road or in the Hidden Valley community.

With implementation of Mitigation Measure 3.16-3, the only Proposed Project evacuation trips that would use the Grange Road evacuation routes to access SR 29 would be those with destinations to the north (e.g., Lower Lake, Clear Lake, Kelseyville, etc.) which is estimated to be about 25 percent of estate unit residents and 35 percent of hotel guests. Furthermore, Mitigation Measure 3.16-3 includes the preparation and adoption of a South Lake County Evacuation Traffic Management Plan, which will take into account the road network configuration that will include the Grange Road Connector and any areas with potential capacity issues. This may include the intersection of Grange Road and SR 29 as well as other areas that are concerns for the approving agencies (e.g., Lake County Office of Emergency Services [OES], the Lake County Sheriff, the South Lake County Fire Protection District, Caltrans, and California Highway Patrol [CHP]) at the time of preparation and adoption of the Plan.

Response to Comment I7-4

Comment noted. Please refer to **General Response 5** for information regarding contamination risk due to potential plume migration, groundwater capacity, and potential water loss from evaporation as a result of the Proposed Project.

Comment Letter I8: Butts Canyon Neighbors, Judson Hodges

Response to Comment I8-1

The commenter references information that appears to be partially correct, but it is unclear which specific document or section they are citing. The transportation approach emphasized in the 2020 EIR would manage transportation-related impacts through careful planning and the implementation of sustainable transportation solutions. This includes the implementation of the Transportation Demand Management (TDM) program, outlined in Appendix TDM in the 2020 EIR, which encourages visitors and employees to use project-funded private shuttles operating between the San Francisco Bay Area and Sacramento airports, as well as from nearby communities like Middletown. The shuttle service is expected to accommodate approximately 40 percent of resort patrons, helping to reduce VMT and limiting personal vehicle use on the project site. Additionally, the Proposed Project will provide a direct weekday shuttle service specifically for employees during peak morning and evening commute periods. This shuttle is intended to operate between the Guenoc Valley Site and Off-Site Workforce Housing, with a stop at the Lake Transit bus transfer point in Town of Middletown. Furthermore, management will offer a free on-call dial-a-ride transportation service connecting the Guenoc Valley Site to the Town of Middletown and to regional transit services. This service will be available to the general public within a 15-mile radius, as well as to employees, patrons, and residents of the Proposed Project.

The remaining employees and visitors would arrive through other means, including private vehicles, carpooling, and ride-matching programs, but air transportation activities would be limited to a low frequency. Float planes are expected to utilize Detert Reservoir on a limited basis, with an estimated two take offs and two landings per day for special events or project-related needs. Similarly, helicopter operations will also be infrequent (up to three take offs and three landings per day, including a conservative assumption of one arrival and departure for the Emergency Heliport) and are primarily intended for emergency services or special transportation needs related to the project. Both the float plane and helicopter activities will be minimal to limit noise and other potential impacts on the surrounding areas.

For more information regarding flight paths and times, please refer to **General Response 7**.

Comment Letter I9: Butts Canyon Neighbors: Judson and Connie Hodges, Sue Steiner, Sally Beckner, Arlene Hockanson, Bill and Gail Wright

Response to Comment I9-1

Comment noted. Please refer to **General Response 6** and **General Response 7** for information regarding the potential impact of the proposed seaplane/helicopter operations on Detert Reservoir, wildlife, noise pollution, and public safety in additional to information regarding flight paths.

In response to concerns raised about the clarity of flight path visuals in the Appendix ATTM of the 2020 EIR (Appendix ATTM), these maps were large-scale to capture the overall scope of aviation impacts on a regional basis. While necessary to show broader flight paths, it may make it challenging to clearly identify smaller features such as individual houses or parcels. Despite this limitation, as described above, flight paths would be designed with FAA noise abatement guidelines in mind to minimize disturbances to residential areas. These measures ensure that the aviation impacts are carefully managed while balancing operational needs.

Comment Letter I10: Jennifer Shay

Response to Comment I10-1

Comment noted. Please refer to **General Response 7** for information regarding flight paths. Therein, it is noted that a flight map can be seen in 2020 EIR Appendix ATTM.

Comment Letter I11: Reverends Julia and Charles Bono

Response to Comment I11-1

Please refer to **General Response 2**. The Draft PREIR did not re-evaluate topics analyzed in the 2020 EIR that were found to be adequately addressed by the Superior Court ruling, the First Appellate Court decision, and/or that would not be affected by the Project Modifications, including the Off-site Workforce Housing at the Middletown Housing Site. Although beyond the scope of the Draft PREIR, the following information briefly addresses the issues raised in the comment.

The 2020 Final EIR Volume II, Sections 2.2.3 and 2.6.1 provide details on the Middletown Housing Site. As described therein, the Middletown Housing Site is approximately 12.75 acres located at 21000 Santa Clara in Middletown (Assessor's Parcel Number [APN] 014-380-09) and would include the development of 21 single-family homes on 21 lots, 29 duplex units on 15 lots, one lot for a community center, and one green space lot, totaling 50 off-site workforce housing units. The single-family units would be approximately 1,297 square feet (SF) with five bedrooms each, while the duplexes would be approximately 1,858 SF with four bedrooms each. In total, the Middletown Housing Site will have 221 bedrooms, accommodating up to 221 employees and household residents.

Response to Comment I11-2

As further explained in **General Response 3** regarding the community evacuation analysis, the 221 persons who could reside in the proposed Off-Site Workforce Housing in Middletown were included in the evacuation analysis. Mitigation Measure 3.16-3 requires the project applicant to fund the costs for preparation of a South Lake County Evacuation and Traffic Management Plan. This plan, in combination with other mitigation measures identified in the Draft PREIR, is required to reduce overall evacuation times in South Lake County by 15 minutes, thereby reducing the 30-minute increase in evacuation time caused by Phase 1 Project trips, and effectively minimizing the Proposed Project's impact on evacuation efficiency.

Response to Comment I11-3

Please refer to **General Response 2**. The Draft PREIR did not re-evaluate topics analyzed in the 2020 EIR that were found to be adequately addressed by the Superior Court ruling and First Appellate Court decision, and/or that would not be affected by the Project Modifications, including the Off-site Workforce Housing at the Middletown Housing Site. Although beyond the scope of the Draft PREIR, the following information briefly addresses the issues raised in the comment.

Please refer to the following Sections of the 2020 Final EIR Volume II for discussions on the issues raised in this comment: Section 3.13 Transportation and Traffic, Section 3.14 Utilities, Section 3.11 Population and Housing, and Section 3.12 Public Services. As stated in the 2020 Final EIR Volume II Section 3.14, developer fees would fund improvements for solid waste, water, and wastewater services. Additional infrastructure improvements would be identified as needed, and fees paid by new development would contribute toward funding infrastructure improvements to meet growing regional demands. Further, as stated in the 2020 Final EIR Volume II Section 3.11, any population growth resulting from the Proposed Project would not exceed the County's anticipated increase of approximately 16,000 people between 2020 and 2030. Impacts to schools resulting from this growth would be less-than-significant, as stated in the 2020 Final EIR Volume II Section 3.12. Therefore, the projected population increases in Middletown align with the County's growth projections and would not lead to any significant impacts.

Response to Comment I11-4

Comment noted. Please refer to **General Response 5** for information regarding the potential impact on the water table in Town of Middletown, including concerns about access to groundwater and potential water loss as a result of the Proposed Project.

Comment Letter I12: Aukai Manson

Response to Comment I12-1

Comment noted. Please refer to **General Response 3** regarding potential community evacuation impacts and **General Response 4** regarding wildfire risk.

Response to Comment I12-2

This comment raises issues beyond the scope of the Draft PREIR; therefore, as explained in **General Response 2**, no response is required. However, the following information briefly addresses the issues raised in the comment.

Section 4.4.2 of the Draft PREIR acknowledges that special-status species, blue oak woodland, and aquatic habitats occur within the Guenoc Valley Site, including the Modified APE. Section 4.4.4 of the Draft PREIR analyzed the potential for Project Modifications to result in new or substantially more severe significant impacts to special-status species and sensitive habitats compared to the Original Project. Section 4.9.4 of the Draft PREIR analyzed the potential for Project Modifications to result in new or substantially more severe significant impacts to water resources compared to the Original Project. A cumulative analysis of the Project Modifications as it relates to biological resources and water resources is contained within Section 4.12.1 of the Draft PREIR. An analysis of impacts to biological resources and water resources related to the components of the Original Project that are unchanged was included in the 2020 EIR which

was provided as Appendix D of the Draft PREIR. No new significant effects or a substantial increase in the severity of previously identified effects were identified as it relates to the Project Modifications.

Please also refer to **General Response 5** regarding water supply issues.

Response to Comment I12-3

Comment noted. Please refer to **General Response 4** regarding wildfire risks and **General Response 1** regarding statements of opinion.

Comment Letter I13: Reverends Julia and Charles Bono

Response to Comment I13-1

Please refer to Section 1.3 of the Draft PREIR for information on the public review period. Please also see the **Responses to Comments 11-1** through **11-3** for additional information regarding the population at the Middletown Housing Site.

Comment Letter I14: Joanne Webster

Response to Comment I14-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I15: Keith Woods

Response to Comment I15-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I16: Mary Joan Bunce

Response to Comment I16-1

This comment raises issues beyond the scope of the Draft PREIR; therefore, as explained in **General Response 2**, no response is required. However, the following information briefly addresses the issues raised in the comment.

SWRCB Division of Water Rights (Division) has authorized the impoundment of Bucksnort Creek and surface water extractions from both Detert Reservoir and McCreary Lake, both of which are located upstream of the commenter's property. The storage of water within and extractions from Detert Reservoir and McCreary Lake are authorized by the Division to water rights holder Langtry Farms, LLC pursuant to License 2141 (A003069), License 2142 (A004889), License 6334 (A015706), and License 10422 (A020877). These water rights licenses limit the diversion season to September 15 to May 1 of the subsequent year, but do not have mandatory bypass flows requiring the metering of water into Bucksnort Creek for downstream users. Detert Reservoir is further regulated by the Division of Safety of Dams (DSOD) (Dam No. 392-0).

The commenter extracts water from Bucksnort Creek via riparian claims, which authorize direct diversion when the stream is flowing but no storage for later use, and reports them via Statement of Diversion and Use S024624.

Langtry Farms, LLC also operates other licensed stock ponds and larger reservoirs under eight additional water right Licenses and Permits, such as Amel Lake, Wildcat Lake, Lake Burgundy, Lake Bordeaux, Lower Bohn Lake, and Upper Bohn Lake within the Guenoc Valley Site that are not connected to Bucksnort Creek. The 2020 EIR (Draft EIR Section 1.4) explained that the Guenoc Water Rights Modification Project EIR (March 2009, SCH# 2003042171) was incorporated by reference into the 2020 EIR, and provided a general overview of the water rights modification project, and additional summary and description of approved and planted vineyard development was provided in Section 2.2.1 (Existing Uses) and again in Section 2.3.4. Where portions of the Proposed Project Phase 1 APE overlap with portions of the licensed place of use (POU) of the water rights, surface water may be used as a source of non-potable water. New surface water pump stations at reservoirs, including Detert and McCreary Lakes, would be located adjacent to existing pump stations to minimize impacts, as described in Section 2.5.2.5 of the 2020 Final EIR Volume II. The Proposed Project as analyzed in the 2020 EIR and this PREIR does not include modifications to the existing water rights licenses held by Langtry Farms, LLC whether to the POU, the amount of water to be diverted and beneficially used, or the purpose of use. Therefore, no Project-related changes to the limited summertime flows within Bucksnort Creek are anticipated as the use of water from Bucksnort Creek within the POU was authorized by the Division in the 2009 Guenoc Water Rights EIR, and no changes are proposed under this separate project.

Comment Letter I17: Arlene Hockanson

Response to Comment I17-1

Comment noted. As explained in **General Response 1**, comments that do not raise substantive environmental issues are not required to be responded to in the Final PREIR. However, this comment has been included in the administrative record and will be considered by Lake County in its decision. Impacts to wildlife were assessed in the 2020 Final EIR Volume II, Section 3.4.4. The 2020 EIR determined impacts to biological resources to be less than significant with inclusion of mitigation identified in Section 3.4.5 of the 2020 EIR. Section 4.4.4 of the Draft PREIR assessed the Project Modifications and determined that Project Modifications would not result in new significant effects or a substantial increase in the severity of impacts to biological resources identified in the 2020 EIR.

Response to Comment I17-2

Please refer to **General Response 1** regarding statements of opinion or non-substantive comments, and **General Response 3** and **Response to Comment I7-3** for additional information regarding the community wildfire evacuation analysis and how it includes existing background traffic. The Draft PREIR concluded that with mitigation, impacts associated with wildfire evacuation would be less-than-significant.

Comments regarding staffing levels or presence of police/California Highway Patrol in the area do not relate to the evaluation of impacts presented in the Draft PREIR. Impacts to public services, including police services, were assessed in the 2020 Final EIR Volume II, Section 3.12.1, included as Appendix D of the Draft PREIR. The 2020 EIR determined impacts to law enforcement to be less than significant. Section 4.1.1 of the Draft PREIR analyzed the Project Modifications and determined that they would not result in new significant effects or a substantial increase in the severity of impacts to law enforcement identified

in the 2020 EIR. The analysis of public services impacts (including impacts related to law enforcement services) in the 2020 EIR is protected by res judicata, as further explained in **General Response 2**, and would not be affected by the Project Modifications.

Response to Comment I17-3

Comment noted. Please refer to **General Response 5** for information regarding the potential depletion of the water table and concerns about the PG&E Geothermal Inc. Dump Site. There are existing water rights on the Guenoc Valley Site allowing the diversion, storage, and beneficial use of surface water. Langtry Farms, LLC operates licensed stock ponds and larger reservoirs such as Detert Reservoir, McCreary Lake, Amel Lake, Wildcat Lake, Lake Burgundy, Lake Bordeaux, Lower Bohn Lake, and Upper Bohn Lake within the Guenoc Valley Site under multiple water rights, which include but are not limited to: License 2141 (A003069), License 2142 (A004889), License 6334 (A015706), and License 10422 (A020877). The 2020 EIR (Draft EIR Section 1.4) explained that the Guenoc Water Rights Modification Project EIR (March 2009, SCH# 2003042171) was incorporated by reference into the 2020 EIR, and provided a general overview of the water rights modification project, and additional summary and description of approved and planted vineyard development was provided in Section 2.2.1 (Existing Uses) and again in Section 2.3.4. Where portions of the Proposed Project Phase 1 APE overlap with portions of the licensed POU of the water rights, surface water may be used as a source of non-potable water.

Response to Comment I17-4

Comment noted. Please refer to **General Response 7** for information regarding flight paths.

Comment Letter I18: Linda Diehl-Darms

Response to Comment I18-1

Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Response to Comment I18-2

Comment noted. Please refer to **General Response 5** for information regarding the potential decrease in groundwater levels in the Collayomi Valley Water Basin, concerns about the adequacy of the 10-year monitoring period, and the long-term sustainability of groundwater use. The monitoring period for the off-site well has been voluntarily extended pursuant to Project Commitment 2.13 (see **Table 5-2** within this Final PREIR) for the entire duration of use of the well and will not conclude after 10 years as originally proposed.

Response to Comment I18-3

Comment noted. Please refer to **General Response 5** for information regarding the potential movement of the untreated waste plume in the Collayomi Valley Water Basin, impacts on private wells and the Town of Middletown water supply, and the adequacy of the 10-year monitoring period for the off-site well. The monitoring period for the off-site well has been voluntarily extended pursuant to Project Commitment 2.13 (see **Table 5-2** within this Final PREIR) for the entire duration of use of the well and will not conclude after 10 years as originally proposed.

Comment Letter I19: Linda Diehl-Darms

Response to Comment I19-1

Comment noted. Please refer to **General Response 5** for information regarding the use of the off-site well, concerns about water being pumped to Detert Reservoir, and the potential impacts on the Collayomi Valley Water Basin as a result of the Proposed Project.

Comment Letter I20: Peter Luchetti

Response to Comment I20-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Response to Comment I20-2

As described in Section 2.1 of the Draft PREIR, the Proposed Project includes a General Plan amendment to designate the 16,000-acre Guenoc Valley Site as Resort Commercial and a Zoning Ordinance creating a new Guenoc Valley District (GVD) and rezoning the project site to GVD. The General Plan amendment and GVD would permit the development of a total of up to 850 hotel and resort residential units, 1,400 residential estates, workforce housing, resort amenities, and accessory uses within the Guenoc Valley Site.

While the proposed land uses and site plans for Phase 1 are defined in detail, land use plans have not been developed for the future phases that would be allowable under the proposed GVD zoning designation for the Guenoc Valley Site. Consistent with the 2020 EIR, this PREIR provides a project-level analysis for Phase 1 and a program-level analysis of future phases.

The white-shaded portions of Figure 2-1 in the Draft PREIR, referenced by the commenter, represent areas outside of the Phase 1 boundary that may be developed under future phases of consistent with the proposed GVD zoning designation. As described in the 2020 Final EIR Volume II, Section 2.5, the Proposed Project will be developed over multiple phases, with Phase 1 expected to be constructed in the near-term (approximately the next ten years) and future phases built out based on market demands. While no specific site plans have been developed for these future phases, each subsequent phase will undergo project-level CEQA review to ensure consistency with environmental regulations, project plans, mitigations, permitting, and other relevant factors.

Response to Comment I20-3

Please refer to **Response to Comment I20-2** and **General Response 2**. As explained therein, the program-level analysis of future phases has not changed from the 2020 EIR and because this comment raises issues beyond the scope of the Draft PREIR, no response is required. However, the following information briefly addresses the issues raised in the comment.

The 2020 EIR and Draft PREIR acknowledge that the Proposed Project will result in a change in land use from the existing condition of the Guenoc Valley Site and would include a General Plan amendment to designate the approximately 16,000-acre Guenoc Valley Site to Resort Commercial and a Zoning Ordinance to rezone it to GVD. The potential significant impacts of this General Plan amendment and

rezoning were assessed in the 2020 EIR, including potential conflicts with existing land use designations. Although the development of the Proposed Project represents a change in the primarily agricultural existing use of the Project Site, the analysis of Impact 3.2-1 in the 2020 Final EIR Volume II, Section 3.2 determined that the Proposed Project would not conflict with local land use planning efforts.

As referenced in **Response to Comment I20-2**, the white-shaded portions of Figure 2-1 of the Draft PREIR represent areas that may be developed under future phases of the Project that are analyzed at a programmatic level, while the colored portions represent the proposed Phase 1 development that is analyzed at the project level. As shown in Figure 2-1, none of the Phase 1 development components would be within approximately 2 miles of the commenter's property. Designated open space and habitat connectivity easements have already been identified to mitigate the impacts of Phase 1 development. As future phases undergo CEQA review, additional open space and habitat connectivity easements will be identified to mitigate the impacts of those phases, consistent with Mitigation Measure 3.2-2 for agricultural impacts and Mitigation Measure 3.4-20 for wildlife movement (future phases). As described in the 2020 Final EIR Volume II Impact 3.2-2:

> *"Future Phases may include development closer to the Guenoc Valley Site boundaries and therefore potentially closer to the Hidden Valley residential community and other rural residences. However, the Guenoc Valley Site is geographically separated from the Hidden Valley Community by topography and Putah Creek and there would still be approximately 0.9 miles between the site boundary and the closest edge of the Hidden Valley Community. Although the proposed residential areas would be clustered within resort communities, the overall density would still be low with an average lot size of five acres. This low density would be generally consistent with surrounding residential areas."*

The commenter is welcome to engage with the County and the developer during future phases of development to discuss land use coordination, including potential buffer zones and preserving habitat and agricultural land uses.

Response to Comment I20-4

Draft PREIR Section 2 discusses Project Modifications, including the construction of a third evacuation route to and from the Project Site (evacuation egress and emergency access only) with an all-weather surface providing access to SR 29 via Grange Road. The Grange Road Connector would provide an alternative evacuation route for both outbound evacuating project trips and inbound access by emergency responders to the Project Site. It also would provide an alternative route for existing residents living along Grange Road to evacuate through the Project Site to Butts Canyon Road as well as a more direct route for firefighters at the Proposed Project's on-site Emergency Response Center to reach residents along Grange Road or in the Hidden Valley community. As described in **General Response 3**, the current roadway configurations were modeled including the capacity of Grange Road, and a 40 percent reduction in assumed capacity was applied to reflect the effects of smoke and other wildfire evacuation conditions on driver behavior. Further, **Response to Comment I7-3** explains that Mitigation Measure 3.16-3 would limit Proposed Project evacuation trips such that the only evacuations that would use the Grange Road evacuation routes to access SR 29 would be those with destinations to the north (e.g., Lower Lake, Clear Lake, Kelseyville, etc.) which is estimated to be about 25 percent of estate unit residents and 35 percent of hotel guests. This comment was raised on the July 2024 Draft PREIR and pre-dates the updated March 2025 Draft PREIR. A clarification was made within Section 2.2.2 of the March 2025 Draft PREIR that, to restrict regular (e.g., non-emergency or non-evacuation) traffic from using the Grange Road Connector

and Grange Road, a locked gate would be installed per the terms of the easement with the Comstock Ranch.

As described on pp 63 and 64 of the Draft PREIR, Mitigation Measure 3.16-3 would require the Project applicant to fund the costs of the preparation by the Lake County OES, working in collaboration with other responsible agencies, of a South Lake County Evacuation Traffic Management Plan, which shall be adopted prior to the issuance of the first certificate of occupancy for Phase 1 of the Project. It would also require that the approved version of the South Lake County Evacuation Traffic Management Plan shall be incorporated into an updated version of the Lake County Emergency Operations Plan (Lake County EOP) and the Lake County CWPP, with evacuation management strategies and improvement measures to address major bottlenecks in the South Lake County evacuation network. Similarly, as explained in Section 3.4.4 of the Draft PREIR, Mitigation Measure 3.16-7 would require the Project applicant to fund the costs for preparation and adoption of a South Lake County Evacuation Plan that includes strategies to reduce overall cumulative evacuation time estimates for the Evacuation Area, which must be approved prior to issuance of the first certificate of occupancy for any use beyond those included in Phase 1. If they choose to do so, neighboring property owners would have the opportunity t

The route of the Grange Road Connector is not undefined. It is shown in various figures throughout the Draft PREIR, for example on Figure 2-5, Updated Roadway Plan; Figure 2-6, Updated Wildfire Prevention Plan; Figure 3-1, Fire Hazard Severity Zones; and Figure 3-4, Project Evacuation Zones.

Comment Letter I21: Arlene Hockanson

Response to Comment I21-1

Comment noted. Please refer to **General Response 3** regarding community wildfire evacuation, **General Response 5** regarding water supply, **General Response 7** regarding flight paths, and **General Response 2** regarding the scope of the Draft PREIR. This PREIR does not re-evaluate topics analyzed in the 2020 EIR that were found to be adequately addressed by the Superior Court ruling, the First Appellate Court decision, or that would not be affected by the Project Modifications, including the proposed water supply system and the Off-site Workforce Housing at the Middletown Housing Site. However, this comment has been included in the administrative record and will be considered by Lake County in its decision.

Furthermore, there are no regulations limiting pumping water from one parcel to another under common ownership, but selling water to users along Butts Canyon Road as suggested by the commenter would be considered a privately held public utility company regulated by the California Public Utilities Commission and the SWRCB. This is not proposed as part of the Project, not required to reduce a significant impact under CEQA, and is outside the scope of County approval at this time.

Comment Letter I22: Lisa Wittke Shaffner

Response to Comment I22-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I23: Ann Hackett

Response to Comment I23-1

The comment cites Chapter 4 of *Roundabouts: An Informational Guide*, US Department of Transportation, FHWA, and a Los Angeles Times article on the 2018 Camp Fire in Paradise, California. The referenced FHWA document was the first informational guide developed in 2000 for roundabouts based on established international and U.S. practices.

Regarding vehicle delay, the referenced FHWA document indicates that "roundabout intersections typically operate with lower vehicle delays than other intersection forms and control types." This is because it is unnecessary for traffic to come to a complete stop when no conflicts present themselves and when there are queues on one or more approaches, traffic within the queues usually continues to move, and this is typically more tolerable to drivers than a stopped or standing queue.

Regarding emergency vehicles, the referenced FHWA document indicates that "Roundabouts provide emergency vehicles the benefit of lower vehicle speeds, which may make roundabouts safer for them to negotiate than signalized crossings. Unlike at signalized intersections, emergency vehicle drivers are not faced with through vehicles unexpectedly running the intersection and hitting them at high speed."

As discussed in **General Response 3**, the existing and proposed roundabouts on SR 29 were included in the LAMM model that was used to assess potential impacts to community evacuation. The SR 29/Hartmann Road roundabout is a large radius, single-lane roundabout with a mountable apron around the perimeter of the central island that will accommodate oversized trucks or large emergency vehicles. With mitigation, these potential impacts were reduced to less-than-significant levels.

The comment also notes, according to a LA Times article (November 20, 2018), that one of the lessons learned from the Camp Fire in Paradise was the impact of hardened infrastructure on traffic during wildfire evacuations; the hardened infrastructure in Paradise was narrowing its main thoroughfare down by two lanes. The installation of roundabouts on SR 29, as an alternate to traffic signals, is not analogous to reducing the number of travel lanes on Skyway in Paradise from four lanes to two lanes. The SR 29 /Hartmann Road roundabout is a large radius, single-lane roundabout with a mountable apron around the perimeter of the central island that will accommodate oversized trucks or large emergency vehicles. The roundabout central island thus differs from the bulb-outs and other design features that are cited and were implemented in Paradise in conjunction with the reduction of Skyway from four to two lanes. As noted above, according to the FHWA informational guide, roundabout intersections typically operate with lower vehicle delays than other intersection forms and control types.

Response to Comment I23-2

The planned roundabout at SR 29 and Butts Canyon Road is 3.5 miles south of the existing roundabout at SR 29 and Hartmann Road. As such, these roundabouts will not be in close proximity. Recent wildfire evacuation research published in 2024 by North Dakota State researchers indicates that "While traffic signals are commonly used to regulate traffic flow, alternative options such as roundabouts, stop signs, and specialized evacuation strategies can offer distinct advantages in emergency evacuations" (Ali et al., 2024). They note that ensuring consistent power supply becomes a critical concern for traffic signals during emergency wildfire evacuation. As discussed further in **General Response 3**, the existing and proposed roundabouts on SR 29 were included in the LAMM model that was used to assess potential

impacts to community evacuation and impacts were reduced to less-than-significant levels with mitigation.

Response to Comment I23-3

Please refer to **General Response 3** for additional details pertaining to the modeling methodology that supported the Community Evacuation Analysis (Appendix H-1 of the March 2025 Draft PREIR). As discussed in more detail in **General Response 3**, the LAMM was utilized and manually adjusted where needed to reflect current roadway geometrics and traffic signal phasing/timing data to confirm that the model accurately represented observed field conditions. A complete description of the methodology is found in Section 4 of the Wildfire Risk and Evacuation Assessment Report (Appendix H-1 of the March 2025 Draft PREIR).

For the evacuation study, the road network in the LAMM was updated to include the roundabout at SR 29 and Hartmann Road. Current geometrics and traffic signal phasing/timing data was updated for all signalized intersections in the road network. Total population in Lake County grew between 2011, when the LAMM was originally developed, and 2022 from 64,300 to 68,200 for a total growth of 6.1 percent (U.S. Census Bureau, 2023). This indicates there was not a substantial change in population in Lake County over the period of time since the LAMM was originally developed and that it may be applied based on the original model development. To support this conclusion, turn movement counts collected at 14 intersections on Friday, August 19, 2022 were compared to the updated LAMM to confirm that the new model is accurately representing observed field conditions.

All major and minor evacuation routes in the South Lake County communities identified in the *South Lake County Wildland Fire Preparation and Emergency Plan* are analyzed in the evacuation assessment using the LAMM. The LAMM is validated to current roadway conditions of the evacuation routes. For this evacuation assessment, a reduced capacity of approximately 40 percent below road capacity levels in the LAMM was applied to reflect the effects of smoke and evacuation conditions on driver behavior.

Response to Comment I23-4

Grange Road is approximately 0.6 mile south of Hartmann Road on SR 29. The intersection of SR 29 and Grange Road is about 4 miles from Middletown and a similar distance to the closest portion of the Project Site. Under a full No-Notice evacuation of South Lake County with similar departure times, residents from Middletown traveling north on SR 29 would reach the SR 29 and Grange Road intersection prior to evacuees from the Project Site as vehicle speeds on SR 29 would be greater than speeds on the Grange Road Connector evacuation route. Additionally, evacuees using Grange Road must stop at a stop sign before turning right onto northbound SR 29 while evacuees traveling north on SR 29 from Middletown do not stop at the intersection with Grange Road. Please also see **General Response 3** regarding community evacuation and **General Response 4** regarding wildfire risk.

Comment Letter I24: Danielle Zalusky

Response to Comment I24-1

Comment noted. Please see **General Response 1** regarding non-substantive or non-CEQA-related comments. While construction bonds are often used as financial safeguards to ensure that large-scale projects are completed, this issue is not typically addressed within the scope of CEQA. CEQA focuses on

evaluating and mitigating a project's environmental impacts, while the requirement for a construction bond is usually a regulatory or contractual matter handled through local government permitting processes, subdivision improvement agreements, or other project agreements. The matter of a construction bond would be addressed prior to the commencement of construction as part of the project's regulatory approval process.

Response to Comment I24-2

A roundabout will be constructed at SR 29 and Butts Canyon Road, not a traffic signal as mentioned in this comment. Napa County did not submit any comments on the Draft PREIR. While they did submit a comment letter for the 2020 Draft EIR, which is included as Comment Letter A9 in Chapter 2 of the 2020 Final EIR Volume I, they did not raise any issues related to wildfire evacuations.

Response to Comment I24-3

Section 2.2 Project Modifications of the Draft PREIR outlines the revisions made to the Original Project as it was proposed and analyzed in the 2020 EIR. As described therein, the Parcel Reconfiguration would eliminate the remote camping area and the more remote parcels at the urban-wildland interface, providing additional buffers between Project-related uses and the off-site lands that are not actively managed. In total, 25 building sites within the Equestrian Center area and 39 building sites within the northeastern portion of the Project Site would be relocated further from the wildland/urban interface, with various connector roads and road buffers added as buffers. Please refer to **General Response 3** regarding the adequacy of the evacuation assessment and **General Response 4** regarding wildfire risk.

Comment Letter I25: Helen Owen

Response to Comment I25-1

Comment noted. Please refer to **Response to Comment I27-2** and **General Response 2** regarding the scope of the Draft PREIR.

Response to Comment I25-2

Comment noted. Please refer to **General Response 5** for information regarding the off-site water exportation from the Middletown Area Growth boundaries, concerns about evaporation loss at Detert Reservoir, the potential depletion of water needed for Middletown's growth, and the risk of plume contamination from the PG&E Geothermal Inc. Dump Site.

Regarding the commenter's proposed solution, the 2020 EIR indicated that the off-site well is intended as a supplementary water source for non-potable uses and to provide redundancy, but the current on-site water wells that have been drilled between the 2020 EIR and Draft PREIR are sufficient to meet the Phase 1 demands (see Appendix G-1 with the Draft PREIR). Section 2.2.4 of the Draft PREIR indicates:

> The Applicant may enter into an agreement with the Callayomi County Water District in the future such that the District would own and operate the Off-Site Well for the benefit of its customers and the Project. Thus, the operation of the Off-Site Well as a backup water supply source for the Proposed Project may be conducted directly by the Applicant, or by the Callayomi County Water District pursuant to a future agreement with the Applicant. However, any use of the Off-Site Well

> by the Callayomi County Water District to expand its water supply capacity and/or service area would be a separate and distinct project beyond the scope of this EIR, and may be subject to additional environmental review in accordance with CEQA.

There are no regulations limiting pumping water from one parcel to another under common ownership, but selling water to users along Butts Canyon Road as suggested by the commenter would be considered a privately held public utility company regulated by the California Public Utilities Commission and the SWRCB. This is not proposed as part of the Project, not required to reduce a significant impact under CEQA, and is outside the scope of County approval at this time.

Response to Comment I25-3

Comment noted. Please refer to **General Response 3** regarding community evacuation.

Response to Comment I25-4

Comment noted. Please refer to **General Response 1**.

Comment Letter I26: California Native Plant Society

Response to Comment I26-1

The first paragraph of this comment consists of introductory statements that do not provide substantive comments on the Draft PREIR, and the second paragraph makes generalized comments that are more specifically discussed in later comments throughout the letter, all of which are responded to below. Regarding California Rare Plant Rank (CRPR) 3 and 4 plants, the consideration of CRPR 3 and 4 plants was discussed in Response to Comment O10-16 of the 2020 Final EIR. Please Refer to **General Response 2** regarding issues addressed during the 2020 EIR process. Although a response to topics previously addressed in the 2020 EIR is outside the scope of the Draft PREIR, the following information briefly addresses the issues raised in the comment.

The definition of "special-status" for the purposes of the Draft PREIR is unchanged from the 2020 EIR and is provided within Section 3.4.2 of 2020 Final EIR Volume II (Appendix D of the Draft PREIR). As written in *Considerations for Including CRPR 4 Plant Taxa in CEQA Biological Resource Impact Analysis Technical Memorandum* by California Native Plant Society (CNPS) (2020):

> "Rank 4 taxa are of limited distribution or infrequent throughout a broader area in California, so that their vulnerability or susceptibility to threat appears low, from a statewide perspective. However, these taxa warrant regular monitoring for evidence of decline and subsequent transfer to a more sensitive rank. CEQA guidelines provide criteria for defining endangered, rare, or threatened taxa and when impacts on these taxa should be considered potentially significant. However, CRPR 4 taxa do not clearly meet CEQA standards and thresholds for impact considerations."

Individual counties have the authority to require an analysis of CRPR List 3 and 4 under CEQA. Lake County does not require this. Further, guidance written in *Considerations for Including CRPR 4 Plant Taxa in CEQA Biological Resource Impact Analysis Technical Memorandum* (CNPS, 2020), suggests potential reasons for

including Rank 4 taxa in CEQA analysis. Examples of impacts that may be considered significant under CEQA following this guidance include:

- Impacts to the type locality of a California Rare Plant Rank 4 plant;
- Impacts to populations at the periphery of a species' range;
- Impacts in areas where the taxon is especially uncommon;
- Impacts in areas where the taxon has sustained heavy losses; or
- Impacts to populations exhibiting unusual morphology or occurring on unusual substrates.

A review of the distribution of the observed Rank 4 species indicates that all occur in at least two other counties surrounding Lake County; therefore, none are likely to be at the periphery of the species' ranges, or in an area where the taxon is especially uncommon or has sustained heavy losses. All of the Rank 4 species observed occurred in habitats where they were expected to occur, and none exhibited unusual morphology. Furthermore, a query of the "Guenoc" locality in the California Consortium of Herbaria indicates that there have been 12 collections of eight Rank 4 species within or adjacent to the Guenoc Valley Site prior to WRA's surveys, and none of those collections is identified as a type locality. Therefore, the 2020 EIR (Appendix D of the Draft PREIR) and the Draft PREIR do not consider CRPR List 3 and 4 plants to be "special-status," and therefore do not include a full analysis of CRPR List 3 and 4 plants. The 2020 EIR acknowledges this and states: "While these plants are not considered special-status plants for the purpose of this EIR, their inherent value has been considered through the design and development of the Proposed Project. Known occurrences of CNPS list 3 and list 4 plants have been included within designated open space and, in this way, effects on these plants have been avoided where feasible."

The commenter provides several references to the Draft PREIR main body, however these references appear to be erroneous. It appears the commentor is referring to Appendix I-1 of the Draft PREIR. Section 7 of Appendix I-1 of the Draft PREIR does not further mention CRPR Rank 3 species as this section provides an updated account of species observed between 2017 and 2023 and no CRPR Rank 3 plants were observed. The purpose of the Draft PREIR was to identify new or substantially more severe environmental impacts resulting from the Project Modifications. As there were no observances of CRPR Rank 3 plants within the Modified APE, and the potential for impacts to CRPR Rank 3 species was fully addressed in the 2020 EIR (Appendix D of the Draft PREIR), no further analysis was necessary in the Draft PREIR. Therefore, no additional discussion of CRPR Rank 3 species is warranted for the Project Modifications. CRPR Rank 3 species identified in relation to the components of the Original Project that are unchanged since the 2020 EIR were included in Appendix D of the Draft PREIR. The statement that CRPR 4 plants are not afforded federal, State, or local protections is true for the Guenoc Valley Site for the reasons stated above.

Response to Comment I26-2

This comment raises issues beyond the scope of the Draft PREIR; therefore, as explained in **General Response 2**, no response is required. However, the following information briefly addresses the issues raised in the comment.

The CDFW protocols cited within this comment are recommendations for botanical surveys and not strict requirements, and they were developed after the commencement of surveys for the Guenoc Valley Site. The survey methods followed by WRA met the CDFW protocol survey objectives to maximize the likelihood of locating special-status plants and sensitive natural communities that may be present, as they were 1) floristic in nature, 2) conducted during seasonally appropriate times, and 3) conducted across several years. The survey extent encompassed the entire Modified APE (see **Response to Comment 126-**

3 below regarding the 55 acres reported as desktop-surveyed), across all potential habitats for special-status plant species. Therefore, the surveys accurately establish the baseline conditions.

Furthermore, as the comment suggests, the information detailed in bullet points is recommended but not required to be included in the Biological Resources Assessment (BRA) and Draft PREIR. Dates when floristic surveys were conducted are provided in **Table 3-1** below based upon the tables included in the 2020 EIR (Appendix D of the Draft PREIR) and Appendix I-1 of the Draft PREIR that previously identified these survey dates. As discussed therein, these surveys were conducted by qualified WRA plant biologists with a high level of field experience and botanical expertise in the region. A methodologies section describing field dates and field methodologies was included in each biological report included in the 2020 EIR (Appendix D of the Draft PREIR), and in Appendix I-1 of the Draft PREIR. If a plant was determined to have potential to occur within the Modified APE, it was assumed that this species may occur within an impact area, regardless of whether it was observed in the field or not.

Table 3-1: Survey Dates That Included Botanical Surveys

Survey Dates	Survey Description
June 5-8, 2017	Special-status plant surveys, vegetation mapping
August 25, 2017	Special-status plant surveys
March 29-30, 2018	Special-status plant surveys
April 16-20, 2018	Special-status plant surveys
May 1-4, 2018	Delineation of aquatic resources
May 15-17, 2018	Special-status plant surveys
May 30-June 1, 2018	Delineation of aquatic resources
June 13-16, 2018	Special-status plant surveys
August 21-22, 2018	Special-status plant surveys and delineation of aquatic resources
August 28, 2018	Special-status plant surveys
September 6-7, 2018	Special-status plant surveys and delineation of aquatic resources
April 24-26, 2019	Special-status plant surveys, vegetation mapping, and wetland delineation
May 2-3, 2019	Special-status plant surveys, vegetation mapping, and wetland delineation
May 7-9, 2019	Special-status plant surveys, vegetation mapping, and wetland delineation
May 28, 2019	Special-status plant surveys
June 17, 2019	Wetland delineation
June 20, 2019	Wetland delineation
November 17-18, 2019	Vegetation mapping
April 15-17, 2020	Special-status plant surveys

Survey Dates	Survey Description
May 18, 19, 21-22, 2020	Special-status plant surveys
June 16-18, 2020	Special-status plant surveys
August 7, 2020	Special-status plant surveys
April 27-29, 2022	Special-status plant surveys
May 17-19, 2022	Special-status plant surveys and wetland delineation
June 8-9, 2022	Special-status plant surveys
April 10, 18-19, 2023	Special-status plant surveys
May 10-12, 30, 2023	Special-status plant surveys
June 14-16, 27, 2023	Special-status plant surveys
June 18-21 2024	Special-status plant surveys and wetland delineation
May 8, 2025	Special-status plant surveys

Response to Comment I26-3

The 55 acres in question are shown as "Areas Only Desktop Assessed" in Figure 7-1, Special-Status Plants Mapped within the Modified APE (Overview), of Appendix I-1 of the Draft PREIR. The 55 acres are comprised of 19 relatively small patches of land across the entire Modified APE. Surrounding lands were thoroughly surveyed, and while these 55 acres were visible from surveyed areas, transects were not walked through these areas prior to preparation of the July 2024 Draft PREIR. Therefore, while general conditions in these areas were observed and habitats were mapped at the time of the July 2024 Draft PREIR, these areas were considered desktop assessed only for the sake of transparency.

This comment pre-dates the updated Draft PREIR. Concurrent with the completion of the July 2024 Draft PREIR, surveys were conducted in these areas in June 2024 and May 2025 as part of ongoing biological resources surveying efforts within the Guenoc Valley Site. A biological memorandum was prepared to document the results of the June 2024 surveys and was included as Appendix I-2 of the March 2025 Draft PREIR. The May 2025 survey results memorandum is included as **Appendix P** to this Final PREIR. As noted therein, the actual area surveyed was closer to 70 acres when accounting for the 55 acres and a buffer.

As described therein, no new habitat types were observed, and habitats observed have the same potential to support special-status plants as those habitats previously observed. Habitat distributions within the Modified APE and the potential for these habitats to support special-status plants are unchanged from the July 2024 Draft PREIR. Although no new special-status plant species were observed, additional individual special-status plants observed elsewhere within the Modified APE were observed within this area and include: green jewel flower (*Streptanthus hesperidis*; Rank 1B.2), which was observed in two patches; two carpellate flax (*Hesperolinon bicarpellatum*; Rank 1B.2), which was observed in four patches; Lake County western flax (*Hesperolinon didymocarpum*; Rank 1B.2, SE), which was observed in one patch; and Green's narrow-leaved daisy (*Erigeron greenei*; Rank 1B.2), which was observed in one patch outside of the Modified APE but within the buffer surrounding the 55 acre survey area. No special-status species were identified that were not previously addressed in the Draft PREIR, and no unique characteristics of these observances were identified that would constitute a new or substantially more severe significant

impact to special-status plants compared to what was evaluated in the 2020 EIR or the Draft PREIR. Mitigation Measure 3.4-3, which was identified in the 2020 EIR, still applies, does not require modification (other than clarifications requested by CDFW as explained in the **Response to Comment A4-3** and shown in **Section 5** of this Final PREIR below), and still would reduce impacts to special-status plants to less-than-significant levels.

Response to Comment I26-4

The commenter states that disturbance and loss of serpentine habitat is unacceptable. Please refer to **General Response 1** regarding statements of opinion. It is incorrect to state that an amended version of Mitigation Measure 3.4-15 was not provided in the July 2024 Draft PREIR. Section 5 of the July 2024 Draft PREIR contained an amended version of Mitigation Measure 3.4-15 that revises this mitigation to include serpentine rock outcrops, adding the following bullet (see Draft PREIR page 253):

> "Serpentine rock outcrop shall be enhanced through the removal of invasive species at an acreage ratio of 2:1 in similar habitat that has a dominant invasive species relative cover to achieve a percent native plant cover that meet or exceeds that of the habitat impacted."

It is also incorrect to state that an amended version of Mitigation Measure 3.4-18 was not provided in the July 2024 Draft PREIR. Section 5 of the July 2024 Draft PREIR contained an amended version of Mitigation Measure 3.4-18 that revises this mitigation to include the following bullet (see Draft PREIR page 257):

> "Serpentine rock outcrop - Due to the limited distribution and low vegetation cover, this habitat type does not require wildfire risk fuel reduction activities. This habitat shall be avoided to the degree feasible. Equipment and vehicles shall not be used or staged within this habitat type."

The Draft PREIR identified impacts on up to 3.9 acres of serpentine rock outcrop. As discussed in Section 4.4.4 of the Draft PREIR "This analysis conservatively presents a worst-case scenario and assumes the maximum potential impacts to sensitive biological resources. For example, similar to the 2020 EIR, the Design Guidelines would limit the developable space within residential lots,… This is consistent with the methodology for impacts to biological resources contained within Volume II, Section 3.4.4 of the 2020 EIR." Therefore, exact impact acreages to serpentine rock outcrop cannot be quantified at this time, and preservation areas would not be identified until the extent of the impact is known. However, Section 4.4.4 of the Draft PREIR goes on to state that "As up to 3.9 acres of serpentine rock outcrop would be impacted by the Modified Project, up to 7.8 acres of serpentine rock outcrop would be needed to satisfy mitigation through preservation. A total of 15.0 acres of serpentine rock outcrop occurs throughout the Guenoc Valley Site and outside of the Modified APE and would be sufficient to mitigate for the Proposed Project based on preservation alone."

In response to this comment, **Figure 4-11** has been added to this Final PREIR (see **Section 4**) to visually illustrate areas of serpentine rock outcrop across the Guenoc Valley Site and Grange Road Connector. It is noted that these areas are a subset of the rock outcrop habitat displayed visually in Figure 3.4-1 of the 2020 Final EIR Volume II (Appendix D of the Draft PREIR).

Response to Comment I26-5

This comment raises issues beyond the scope of the Draft PREIR; therefore, as explained in **General Response 2**, no response is required. However, the following information briefly addresses the issues raised in the comment.

When the commenter refers to "recipient sites of mitigation actions" it is assumed that this comment is referring to Mitigation Measure 3.4-15 as presented in Section 5 of the Draft PREIR, which sets forth mitigation for impacts to sensitive habitats; although serpentine rock outcrop habitat was added to this mitigation measure for the purposes of the PREIR, the methodology within the mitigation has been presented since the 2020 EIR. As explained in Section 4.4.2 of the Draft PREIR, serpentine rock outcrop was added due to updated natural communities descriptors published by the CDFW following publication of the 2020 EIR that include specific subtypes of rock outcrops that are considered sensitive. This measure prioritizes preservation of habitat, which would not require ground-disturbing activities. Should there be insufficient preservation acres, Mitigation Measure 3.4-15 outlines in-kind habitat enhancement or creation measures, which shall be developed and approved by the County. Mitigation Measure 3.4-15 further identifies monitoring, adaptive management, and success criteria for each sensitive habitat type to ensure that, following mitigation actions, restoration, enhancement, and creation areas meet specific standards. Finally, Mitigation Measure 3.4-15 specifies the type of areas in which habitat creation would occur to ensure suitability of such areas for the proposed habitat creation and to prevent habitat creation in an area of existing sensitive habitat. As the mitigation sets forth long-term management and success criteria for restoration, enhancement, and creation of habitat and specifies that additional sensitive habitats would not be converted in these efforts, no further action is warranted.

In regards to special-status plants in habitat enhancement, restoration, and creation areas, Mitigation Measure 3.4-15 would result in an overall improvement compared to existing conditions on the Guenoc Valley Site that would be a benefit to special-status plants within degraded habitats. Although a significant impact was not identified, in response to this comment Mitigation Measure 3.4-15 has been clarified to require supervision by a qualified biologist for any mitigation enhancement, restoration, or creation. Mitigation Measure 3.4-15 as originally written included monitoring by a qualified biologist and the intent was always to ensure oversight by that qualified biologist. This clarification would ensure that actions intended to benefit sensitive habitats and species would not inadvertently harm individual special-status plants. Impacts to special-status plants would be mitigated through the implementation of Mitigation Measure 3.4-3.

Response to Comment I26-6

This comment raises issues beyond the scope of the Draft PREIR; therefore, as explained in **General Response 2**, no response is required. However, the following information briefly addresses the issues raised in the comment.

While it is possible that purple needlegrass grassland, musk-brush chaparral, white alder grove, and brewer willow thicket may be fully avoided, the 2020 EIR and Draft PREIR both assessed the highest level of potential impacts (Section 4.4.4 and Appendix D of the Draft PREIR). As required by Mitigation Measure 3.4-15 in Section 5 of the Draft PREIR, sensitive habitats shall be avoided to the maximum extent feasible, thus ensuring avoidance of these habitats where possible.

Regarding success criteria, a similar comment was raised for the 2020 Final EIR and responded to as Response to Comment O10-13 and O10-17 in the 2020 Final EIR Volume I. Mitigation Measure 3.4-15 contains success criteria outlined by habitat type and includes mitigation monitoring and adaptive management requirements. Because completion of mitigation is contingent upon success criteria, it is ensured that mitigating activities are successful before being deemed complete. Concern over the success criteria outlined in Mitigation Measure 3.4-15 was also raised in comments on the 2020 Final EIR. As part of modifications to the 2020 Final EIR documented in the Final EIR Errata in July 2020, a clarification on the definition of in-kind was included in Mitigation Measure 3.4-15, which states that "In-kind" requires that habitats meet the classification criteria of their respective vegetative community as defined during the appropriate biological surveys. This clarification was maintained in the Draft PREIR Section 5 and remains within Mitigation Measure 3.4-15 unchanged from the 2020 EIR.

Response to Comment I26-7

This comment raises issues beyond the scope of the Draft PREIR; therefore, as explained in **General Response 2**, no response is required. However, the following information briefly addresses the issues raised in the comment.

While it is possible that special-status plants may be fully avoided, the 2020 EIR and Draft PREIR both assessed the highest level of potential impacts (Section 4.4.4 and Appendix D of the Draft PREIR). Mitigation Measure 3.4-3 in Section 5 of the Draft PREIR and as modified in Section 5 of this Final PREIR below would require that special-status plants shall be avoided to the maximum extent feasible with a 20-foot buffer, thus ensuring avoidance of these plants where possible.

Similar comments were raised during the 2020 EIR process and were responded to as Response to Comment O10-17 within the 2020 Final EIR Volume I. As stated therein, because the Draft EIR was able to identify species-specific impacts and suitable mitigation, no further mitigation measures are necessary. Other than clarifications requested by CDFW as explained in the **Response to Comment A4-3** and shown in **Section 5** of this Final PREIR below, Mitigation Measure 3.4-3 is unchanged from the 2020 EIR and states additional years of monitoring and management shall occur should mitigation fail to meet success criteria, with a minimum 3-year monitoring effort and 80 percent success standard for 2:1 mitigation plantings. While initial mitigation efforts may not be fully successful, adaptive management is included as a component of mitigation and consultation with CDFW and/or U.S. Fish and Wildlife Service (USFWS) as needed for those plants without demonstrated success. Mitigation would not be deemed complete until success criteria are met. Regarding serpentine endemics, additional surveys to identify suitable habitats are not necessary as the location of serpentine soils and the extent of habitats within the Guenoc Valley Site have been previously mapped (See Figure 3.8-2 and 3.4-1 of the 2020 Final EIR Volume II, included as Appendix D to the Draft PREIR).

Following completion of mitigation, natural variables such as shifts in climate that may affect the distribution of mitigation areas over time are not the responsibility of the project proponent. Therefore, mitigation is not required in perpetuity following the establishment of the mitigation areas per the monitoring and success criteria established.

Comment Letter I27: Center for Biological Diversity

Response to Comment I27-1

Comment noted; please refer to **General Response 2**. The writs of mandate issued by the Lake County Superior Court requiring the County to set aside the 2020 EIR Project approvals were described in Section 1.1 of the March 2025 Draft PREIR. This comment was provided on the July 2024 Draft PREIR and therefore pre-dated the First Appellate Court decision. It is noted that the First Appellate Court decision is discussed in Section 1.1 of the updated Draft PREIR. The March 2025 Draft PREIR limits its analysis to potential community wildfire evacuation impacts as required by the Superior Court, the analysis on wildfire risk required by the First Appellate Court, and the potential for new or substantially more severe significant impacts associated with the Project Modifications. No new or substantially more severe significant impacts were identified due to the Project Modifications. Some impacts remain significant and unavoidable, consistent with the analysis in the 2020 EIR, as stated by the commenter. The Executive Summary of the March 2025 Draft PREIR includes a complete list of all potential impacts of the totality of the Proposed Project, including those identified as significant and unavoidable in the 2020 EIR. An Updated MMRP has been included within **Section 5** of this Final PREIR.

Response to Comment I27-2

The Superior Court's Ruling and Order referenced by the commenter upheld all aspects of the 2020 EIR that were challenged other than the analysis of community wildfire evacuation impacts, which is described in Section 3 of the March 2025 Draft PREIR. At the time that **Comment I27-2** was made, the First Appellate Court had yet to issue its decision, and therefore the only applicable court order was the writ of mandate directing the preparation of a legally adequate analysis of the Project's community wildfire evacuation impacts. The First Appellate Court decision is discussed in Section 1.1 of the March 2025 Draft PREIR. Consistent with the First Appellate Court decision, the July 2024 Draft PREIR was revised to include an expanded analysis of wildfire risk within the March 2025 Draft PREIR. Thus, the Draft PREIR was recirculated to provide the public an opportunity to review and comment on revisions required by both the Superior Court and the First Appellate Court. Please also see the **Response to Comment I27-3** on related issues.

Response to Comment I27-3

It is noted that this comment predates the First Appellate Court decision. The First Appellate Court decision is discussed in Section 1.1 of the March 2025 Draft PREIR. Consistent with the First Appellate Court decision, the July 2024 Draft PREIR was revised and recirculated with an expanded analysis of wildfire risk within the March 2025 Draft PREIR. Thus, the Draft PREIR was recirculated to provide the public an opportunity to review and comment on revisions required by both the Superior Court and the First Appellate Court. However, the entirety of the 2020 EIR does not need to be recirculated pursuant to CEQA Guidelines Section 15088.5, as no "signification new information" has become available or been added. Section 15088.5(a) provides:

> New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement.

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

Additionally, CEQA Guidelines Section 15088.5(b) provides that "[r]ecirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR." Further, CEQA Guidelines Section 15088.5(c) states that "[i]f the revision is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified." Finally, as explained in Section 1.1.6 of the Draft PREIR, CEQA Guidelines Section 15234 provides that when, as here, a court has issued a peremptory writ of mandate requiring an agency to take specific action necessary to bring its consideration of a project into compliance with CEQA, "the agency need not expand the scope of analysis on remand beyond that specified by the court."

As explained in the responses to the commenter's more detailed comments making arguments that new information about climate change impacts (see **Responses to Comments I27-5 to I27-7**), water supply/drought (see **Response to Comment I27-8**), biological resources (see **Responses to Comments I27-19 to I27-26**), and cumulative impacts (see **Response to Comment I27-13**) require recirculation of other portions of the 2020 EIR, none of the purported new information discussed by the commenter indicates that new or substantially more severe impacts would occur that were not analyzed in the 2020 EIR and/or the Draft PREIR, that feasible project alternatives or mitigation measures considerably different from those analyzed are available but have been declined to be adopted by the Project's proponents, or that the 2020 EIR or the Draft PREIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. Therefore, it does not fall within the above definition of "significant new information." Accordingly, and consistent with CEQA Guidelines Sections 15088.5(c) and 15234, the County only recirculated the portions of the 2020 EIR that were modified pursuant to the Superior Court's Ruling and Order, the First Appellate Court decision, and/or to analyze any changes to the Project's impacts resulting from the Project Modifications.

As discussed further in **General Response 2**, the County's direction to reviewers to limit their comments to the information contained in the Draft PREIR that was revised and recirculated is consistent with CEQA Guidelines Section 15088.5(f)(2), which provides:

> When the EIR is revised only in part and the lead agency is recirculating only the revised chapters or portions of the EIR, the lead agency may request that reviewers limit their comments to the revised chapters or portions of the recirculated EIR. The lead agency need only respond to (i) comments received during the initial circulation period that relate to chapters or portions of the document that were not revised and recirculated, and (ii) comments received during the recirculation period that relate to the chapters or portions of the earlier EIR that were revised and recirculated. The lead agency's request that reviewers limit the scope of their comments shall be included either within the text of the revised EIR or by an attachment to the revised EIR.

The Draft PREIR included the 2020 EIR as Appendix D in order to provide context for the analysis of the Project Modifications, and to facilitate access to the 2020 EIR for reviewers. No changes or alterations were made to the documents included in Appendix D, and adding them as an appendix does not alter the context and interrelation of the incorporated prior analyses. As explained in Section 1.3 of the Draft PREIR. the Final EIR will consist of the 2020 EIR (including the Draft EIR, Final EIR, and Final EIR Errata), the July 2024 Draft PREIR, the March 2025 Draft PREIR, and this Final PREIR, including comments and written responses to comments on the Draft PREIRs and any resulting text changes to the PREIR. The County will then consider whether to certify the EIR, as revised by the PREIR, and whether to reapprove the Project.

The fact that the 2020 EIR will need to be included in the certification does not render CEQA Guidelines Section 15088.5(f)(2) inapplicable; collective certification of the revised and recirculated portions of an EIR together with the original EIR is always required when an EIR is revised only in part and only the revised portions are recirculated for public review and comment. Members of the public, agencies, and organizations had ample opportunity to comment on the 2020 EIR, and all of the comments were responded to in the 2020 EIR and/or in the record before the County at the time it certified the 2020 EIR.

The CEQA Guidelines do not require that a lead agency respond to comments received on a Final EIR prior to certification, but the County chose to respond to comments received on the Final EIR and prepare a Final EIR Errata. It is noted that this comment was made on the July 2024 Draft PREIR and therefore predates the First Appellate Court's decision. As discussed in Section 1.1 of the March 2025 Draft PREIR, the First Appellate Court determined that the 2020 EIR's analysis on wildfire ignition risk was insufficient, including the analysis in the Final EIR Errata, for reasons related to both the substance of the analysis and the timing of the publication of the Final EIR Errata. Therefore, the updated March 2025 Draft PREIR provides an expanded analysis of impacts related to wildfire risk.

This PREIR has been prepared under the supervision and direction of County staff and reflects the County's independent judgement. The March 2025 Draft PREIR's revised analysis addresses all potential impacts resulting from the Project Modifications, and also provides an analysis of the Project's community wildfire evacuation impacts as directed by the Superior Court's Ruling and Order and a revised analysis of wildfire risk impacts as directed by the First Appellate Court.

The 2020 EIR and this PREIR together provide a full and adequate analysis of the potential environmental impacts related to the Project, including cumulative impacts. The County's 2050 General Plan Update is a separate, unrelated project. There is no reason to delay consideration of approval of the Modified Project until the County has received public comments on the 2050 General Plan Update.

Response to Comment I27-4

The County has complied with all of CEQA's requirements for public review in circulating the Draft PREIR. As shown on the State Clearinghouse's CEQAnet website (available at https://ceqanet.opr.ca.gov/2019049134/5), the July 2024 Draft PREIR was received by the State Clearinghouse on July 19, 2024. The public review and comment period for the July 2024 Draft PREIR also began on July 19, 2024 and originally was set to end on September 3, 2024, 46 days later (to account for the Labor Day holiday on September 2). The County then extended the public review and comment period another 8 days to September 11, 2024, resulting in a total of 55 days, exceeding the 45-day minimum public circulation required by CEQA Guidelines Section 15105. The March 2025 Draft PREIR was received by the State Clearinghouse on March 18, 2025. The public review and comment period for the Draft PREIR began on March 18, 2025 and ran through May 2, 2025, for a total of 45 days

(https://ceqanet.opr.ca.gov/2019049134/9). The County has considered, and this Final PREIR responds in detail to, all public comments it received on both the July 2024 Draft PREIR and March 2025 Draft PREIR.

Please see the **Response to Comment I27-3** as well as **General Response 2** for a complete description of the requirements for a revised EIR and the definition of "significant new information" under CEQA Guidelines Section 15088.5. As explained in that response, and in the responses below to the commenter's more detailed comments making arguments that new information about climate change impacts (see **Responses to Comments I27-5** to **I27-7**), water supply/drought (see **Response to Comment I27-8**), biological resources (see **Responses to Comments I27-19** to **I27-26**), and cumulative impacts (see **Response to Comment I27-13**) require recirculation of other portions of the 2020 EIR, none of the purported new information discussed by the commenter indicates that new or substantially more severe impacts would occur that were not analyzed in the 2020 EIR and/or the March 2025 Draft PREIR, that feasible project alternatives or mitigation measures considerably different from those analyzed are available but have been declined to be adopted by the Project's proponents, or that the 2020 EIR or the March 2025 Draft PREIR were so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. Therefore, the information referred to by the commenter does not fall within the above definition of "significant new information."

Response to Comment I27-5

The commenter suggests that the Draft PREIR should consider new scientific findings on climate change in its analysis. While recent reports, such as the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report cited in this comment, highlight the urgency of addressing climate change, the updated reports do not constitute a new significant environmental impact that was not previously analyzed in the 2020 EIR and Draft PREIR. See **Response to Comment I27-3** for a discussion on the type of new information that would necessitate the recirculation of an EIR.

Section 3.7 of the 2020 Final EIR Volume II and Section 4.7 of the Draft PREIR evaluated the Proposed Project's GHG emissions and their contribution to climate change based on the data and thresholds available at that time. Specifically, GHG emissions, as quantified in the 2020 EIR, were evaluated against the most recent 2022 Bay Area Air Quality Management District (BAAQMD) GHG significance thresholds in the Draft PREIR. Table 4.7-2 of the Draft PREIR details the Modified Project's consistency with these thresholds, which are designed to align with the climate goals established by AB 32. By adhering to these thresholds, the Proposed Project supports state and local targets for carbon neutrality. As such, the analysis in the Draft PREIR remains applicable and valid, as it is based on the current regulatory framework that accounts for foreseeable changes in climate policy. Since then, updated climate data, such as the IPCC's Sixth Assessment Report, reinforces the need for GHG reductions but does not substantially alter the analysis of the project's impacts. Furthermore, the mitigation measures included in the 2020 EIR, in addition to new Greenhouse Emission Reduction Measures included in the Draft PREIR as part of the Project Modifications, continue to address the project's GHG emissions and climate change impacts in line with state and local goals.

Response to Comment I27-6

The decision to use the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was based on its accuracy and availability at the time of the circulation of the 2020 EIR. The 2020 EIR Volume II, Section 3.7.4 provides a detailed discussion of the methodology used to estimate GHG emissions from both construction and operation of the Proposed Project, while Section 4.7 of the Draft PREIR evaluates

emissions against the most recent 2022 BAAQMD GHG significance thresholds. The continued reliance on the GHG emissions modeling from the 2020 EIR was assessed within the Draft PREIR and substantial evidence was provided in Section 4.3.4 documenting the appropriateness of the continued reliance on the 2020 EIR modeling. Because CalEEMod includes emission factors that decrease over time, assuming earlier construction and operation of the project leads to a more conservative assessment of potential criteria air pollutant (CAP) emissions, even with advancements in newer models. As such, the County determined that the 2020 GHG emissions modeling was more conservative. However, due to the updated thresholds adopted by the BAAQMD, the Draft PREIR updates the assessment of the emissions with the new thresholds.

As modeled and compared to thresholds, GHG emissions resulting from operation of the Proposed Project would exceed BAAQMD thresholds, resulting in a significant impact, consistent with the findings in the 2020 EIR. The implementation of mitigation measures from the 2020 EIR and Greenhouse Gas Emission Reduction Measures from the Draft PREIR would reduce GHG emissions during the operation of the Proposed Project, however, emissions would remain above threshold after mitigation and result in a significant and unavoidable impact. Therefore, using the most updated model and the latest science on GHG emissions, as suggested by the commenter, would not alter the significant and unavoidable conclusion reached by the 2020 EIR.

As outlined in CEQA Guidelines Section 15088.5, the entirety of the 2020 EIR does not need to be recirculated, as no "significant new information" has been presented that would necessitate such action. See **Response to Comment I27-3** for a discussion on the type of new information that would necessitate the recirculation of an EIR.

Response to Comment I27-7

See **Response to Comment I27-3** and **I27-5** for a discussion on why new scientific findings related to climate change do not necessitate a recirculation of the EIR or substantially alter the findings contained within the updated March 2025 Draft PREIR. The March 2025 Draft PREIR acknowledges that since the issuance of the 2020 EIR, state and local climate goals have evolved. As such, the Proposed Project's GHG emissions, as quantified in the 2020 EIR, have been reevaluated against the most recent thresholds in the March 2025 Draft PREIR and aligned with the latest State standards, including the 2022 Title 24 Energy Efficiency Standards and the 2022 Green Building Code Standards. These 2022 BAAQMD thresholds comply with AB 32 and the State's updated GHG reduction targets. The Project Modifications described in Section 2.2 of the Draft PREIR include additional Greenhouse Emission Reduction Measures which have been identified to reduce the GHG emissions of the Original Project and in some cases exceed GHG reductions as calculated in the 2020 EIR. Further, Mitigation Measure 3.7-1 was updated within the Draft PREIR to better align the mitigation with the State's recently adopted California Green Building Standards (CALGreen) Tier 2 standards for off-street electric vehicles.

In response to this comment, the referenced California Air Pollution Control Officers Association (CAPCOA) *2022 Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* guidance was reviewed. It is noted that the "Handbook should be viewed as a *planning resource* [emphasis in original]. It provides strategies, tools, and analytical methods to facilitate integrated and resilient decision making, despite potential future planning uncertainty. The Handbook should not be used to dictate public policy or provide legal advice" (CAPCOA, 2021). It further explains that the GHG reduction measures presented in the Handbook are diverse and may not all be applicable

to a project; users are directed to carefully review "to determine which measures are most applicable to their project and capable of achieving their GHG reduction goals" (CAPCOA, 2021).

Not all of the measures are applicable to this Proposed Project, however multiple mitigation strategies identified in the Handbook are applicable and in fact have already been incorporated into the Proposed Project. For instance, Handbook Measure T-6 recommends implementation of commute trip reductions, Handbook Measure T-21-B recommends electric carshare, and Handbook Measure T-8 recommends ridesharing programs, which were incorporated into the TDM Plan circulated with the 2020 Final EIR Volume III. Handbook Measure T-14 recommends providing electric vehicle charging infrastructure, which was included in the Original Project and further expanded upon as part of the Greenhouse Gas Reduction Measures included within the Project Modifications. Handbook Measure T-19-A recommends neighborhood design include bike facilities, which have been included in the project design as analyzed in the 2020 EIR. Other Handbook measures that are already included in the Proposed Project either by building standards, mitigation, or project design are energy efficient appliances and boilers (Measures E-2 and E-3-A), onsite renewable energy systems (Measure E-10-B), using reclaimed water (Measure W-1), low-flow water fixtures and water efficient landscapes (Measures W-4 and W-5), and all-electric developments and zero net energy buildings (Measures E-15 and E-16). Some of the measures within the Handbook, such as Measure N-3 to improve the health and function of natural and working lands, are being accomplished through the grazing and vegetation management within the Updated WPP (required now by **Mitigation Measure 3.16-9**).

The mitigation measures from the 2020 EIR, along with the new measures in the Draft PREIR, continue to address the Project's GHG emissions and climate change impacts. GHG Emission Reduction Measures have been incorporated into the Modified Project and mitigation measures have been updated, the March 2025 Draft PREIR concludes that, consistent with the 2020 EIR, the climate change impacts remain significant and unavoidable. Although significant and unavoidable, it is noted that the regulatory environment surrounding GHG reduction efforts continues to evolve, and the Proposed Project would be subject to new regulations, as applicable. For example, it is noted that restrictions on gas powered landscaping equipment and use of zero-emission gardening tools mandated under AB 1346 would apply to the Proposed Project. Although future regulations regarding GHG reduction efforts are likely to apply to operation of the Proposed Project, these reductions are conservatively not considered in the analysis presented in the Draft PREIR; thus, the conclusion regarding GHG impacts is considered significant and unavoidable.

Response to Comment I27-8

Contrary to the commenter's assertion, the Proposed Project's water analysis does account for the impacts of climate change. Drought conditions are a prevailing feature of California's climate, and the IPCC study cited in this comment does not constitute a new significant environmental impact that was not previously analyzed in the 2020 EIR and Draft PREIR. As stated in the discussion of Impact 3.9-2 from the Draft PREIR:

> "The 2020 EIR and WSA included additional analyses of water supply sufficiency in normal, dry and multiple dry years in accordance with SB 610 using the Basin Characterization Model (BCM) of California developed by the USGS. As discussed in Appendix WSA to the 2020 EIR (Appendix D) and Appendix G-1, the BCM simulates watershed hydrologic processes based on recorded precipitation, potential evapotranspiration, soil data, and geologic conditions. Recognizing that climate change presents the potential to alter water availability in the future, the WSA analysis

> further incorporated a range of possible groundwater availabilities to account for potential variation due to climate change. The BCM outputs provided by the USGS include projected future runoff and recharge at the model cell level developed by running the BCM with inputs for future meteorological conditions, including precipitation and air temperature, provided by global climate models."

See **Response to Comment I27-3** for a discussion on the type of new information that would necessitate additional analysis. For information regarding the use of the off-site well and the long-term sustainability of groundwater use as a result of the Proposed Project, please refer to **General Response 5.** A DMP in compliance with Lake County Ordinance 3106, which was enacted after the circulation of the 2020 EIR, has been included as Appendix G-2 of the March 2025 Draft PREIR. The DMP provides a framework for water use reduction, monitoring, and management, which would allow the Modified Project to meet local or State objectives for water reduction measures in the event of a declared drought. The Proposed Project remains compliant with both existing water resource regulations and Ordinance 3106, with the necessary updates included in the March 2025 Draft PREIR.

Response to Comments I27-9 through I27-15

These comments were made on the July 2024 Draft PREIR and therefore predate the First Appellate Court's decision. As discussed in Section 1.1 of the March 2025 Draft PREIR, the First Appellate Court determined that the 2020 EIR's analysis of impacts related to wildfire ignition risk was insufficient, including the analysis in the Final EIR Errata, for reasons related to both the substance of the analysis and the timing of the publication of the Final EIR Errata. Therefore, the updated Draft PREIR provides an expanded analysis of wildfire risk impacts, which addresses the requests contained within these comments. Specifically, the wildfire risk analysis (Section 3 and Appendix M of the updated Draft PREIR) includes the following as requested in these comments:

- Updated FHSZ maps that were adopted in June 2023 (Figure 3-1 of the Draft PREIR) (**Comment I27-9**)
- Consideration of the most recent fire as part of the baseline and analysis of its effects via fire modeling calibrated to onsite conditions (**Comment I27-10**)
- Impact 3.16-2 assessing potential health risks associated with pollutants caused by wildfire was recirculated in the updated Draft PREIR (**Comment I27-11**)
- The analysis of potential impacts due to wildfire susceptibility – which includes emergency first responder response times – was revised and recirculated in Impact 3.16-5 of the updated Draft PREIR (**Comment I27-12**)
- The requested fire modeling software was utilized and the results are presented in their entirety in Appendix M of the Draft PREIR (**Comment I27-13**)
- As described in **General Response 4** and Section 3.1.1 of the Draft PREIR, the First Appellate Court decision determined that measures within the Updated WPP that involve long-term operational maintenance activities should be characterized as mitigation and not design features. As such, Mitigation Measure 3.16-9 was added to ensure these long-term maintenance measures are implemented (**Comment I27-14** and **I27-15**)

The Wildfire Risk Analysis concludes that the Proposed Project with design features and mitigation "greatly reduces projected increases in wildfire ignition *likelihood* due to the project, greatly decreases modeled wildfire *intensity,* and greatly decreases community susceptibility due to improved fire response times and increased resilience of the built environment on site."

Response to Comment I27-16

Wildfire management methods raised in this comment are unchanged since the 2020 EIR. See **General Response 2** regarding the scope of the Draft PREIR. While this comment is in reference to the analysis of the Original Project and is not related to the Project Modifications and Draft PREIR and therefore does not require a response, a brief response is provided herein. It is noted that these concerns were rejected in both the Superior Court's Ruling and Order and the First Appellate Court decision. Changes in baseline conditions resulting from the Lightning Complex Fire are addressed in **Response to Comment I27-19**.

Fire Breaks

Fire breaks were conservatively considered a direct and total impact to any special-status plants or sensitive habitat within the fire breaks. For example, Mitigation Measure 3.4-3 in the 2020 EIR, which other than clarifications requested by CDFW, as explained in the **Response to Comment A4-3** and shown in **Section 5** of this Final PREIR below, is unchanged in the Draft PREIR, addresses fire management impacts to special-status plant species, under Item A, which states:

> "Initial vegetation clearing along roadways for fire management shall also be subject to pre-construction surveys; if special-status plants are found, they are subject to items 1 or 2 under the mitigation measure to mitigate potential impacts."

As this was conservatively considered a worst-case total impact that is subject to the same special-status plant and sensitive habitat mitigation as grading areas, this impact has been both identified and mitigated.

Active Landscape Management: Grazing

Active landscape management is a component of the WPP that has been unchanged since the 2020 EIR analysis, and includes grazing with livestock, and two mechanical methods discussed below. Animal grazing would be utilized to remove excess vegetation that is preferential for goats, sheep, and cattle to forage on. It is not practical to rely on livestock grazing for tree management. The use of targeted animal grazing is a well-documented method to reduce fuel loads, but there are numerous variables that can affect the effectiveness of grazing for fire protection. Studies are attempting to document and quantify these variables that include the type of animals (cattle, goats, sheep), time of year that grazing is occurring, the amount of time the animals spend in an area, the size of targeted grazing units, and the effectiveness of grazing in various habitat types. A foundational component to these studies and the use of animal grazing for fire protection is that it must be a deliberate type of grazing called 'rotational' in its broadest sense, although it is commonly referred to as 'targeted' grazing in fire science literature. Continuous grazing, like what is currently occurring in the baseline condition on the Guenoc Valley Site, allows animals to have "unrestricted and uninterrupted access throughout the grazing season" while in rotational grazing "only one section of pasture is grazed at a time" (Oregon State University, 2024). Rotational grazing is proposed under the Wildfire Prevention Plan, and is a more actively managed and effective type of grazing for fire protection than the existing continuous grazing practices on the Project Site. Grazing is a preexisting condition on the Guenoc Valley Site. As stated in the Specific Plan of Development (Appendix SPOD of the Final EIR, included in Appendix D of the Draft PREIR), historically the Guenoc Valley Site has been grazed by cattle and sheep for centuries. Maps of designated pastures were provided in Appendix SPOD, and as described therein this is a long-standing site-wide baseline condition. Therefore, continued use of grazing across the Guenoc Valley Site in the context of wildfire management rather than solely for agricultural purposes is not considered a significant change from baseline conditions. Thus, as explained on page 3.4-59 of the 2020 Final EIR Volume II, while grazing animals may incidentally

consume special-status plants, this is simply part of the existing conditions, and it is therefore not an impact of the Proposed Project. These grazing practices have not precluded establishment of special-status plants within the Guenoc Valley Site, as numerous special-status plants were observed within the site and determined to have potential to occur.

It is noted that grazing under the Proposed Project would be structured and coordinated with a professional grazing consultant to ensure that grazing is well managed and would not result in overgrazed lands and to ensure that the appropriate livestock and number of livestock are used to manage fuel loads. Targeted grazing is a common wildfire management practice (California Department of Forestry and Fire Protection [CAL FIRE], 2007; Berkeley Rausser College of Natural Resources, 2020; Siegel et al., 2022). This is in contrast to existing and historical practice, which is at the discretion of the landowners and was conducted with the intent of providing the maximum amount of feed the land was able to provide for the most animals over time. In addition to an increase in grazing management on site, evidence suggests that not only would this not increase impacts, but that managed grazing may benefit special-status plant and animal species (University of California Agriculture and Natural Resources [UCANR], 2021), which states:

> "While species may be negatively impacted by grazing that is excessive or unmanaged, managed grazing can control vegetation and maintain habitat structure and ecosystem function to support a variety of species. Controlling non-native species, mostly non-native annual plants, is the most frequent reason that grazing benefits both federally listed flowering plant and animal species in California."

Because grazing is a baseline condition across the Guenoc Valley Site, and because grazing would be subject to improved management under the Proposed Project, grazing was not considered an impact to special-status plants or sensitive habitats beyond baseline conditions.

Active Landscape Management: Lop & Scatter and Masticate

Lop & scatter and mastication are two mechanical types of active landscape management that have been proposed since the original WPP analyzed within the 2020 EIR, and were assessed for potential impacts within the 2020 EIR. Therefore, the analysis of potential impacts to special-status plants from all Proposed Project activities, including implementation of the WPP, was included within the 2020 EIR and found to be adequate under CEQA by the Superior Court and First Appellate Court.

Special-status plants can occur in a variety of habitats across the Guenoc Valley Site, as shown in **Figure 4-7** of the Final PREIR, revised to show additional locations of special-status plants observed during 2024 and 2025 botanical surveys. Special-status plants with potential to occur on the Guenoc Valley Site include a variety of herb/forb species and seven shrub species, and they may occur within the sensitive habitats or habitats that are not designated as sensitive. Management of dead and dying shrubs and trees would be accomplished with machinery via lop & scatter or mastication techniques. The Updated WPP was further amended after the July 2024 Draft PREIR in response to public comments and to incorporate additional clarification suggested by wildfire experts, and is attached as Appendix F to the March 2025 Draft PREIR. The description of lop & scatter and mastication in the Updated WPP clarifies that only dead and dying vegetation will be selectively targeted for mechanical removal and thinning.

Sensitive habitats include purple needlegrass grassland, serpentine rock outcrop, musk brush chaparral, white alder grove, Brewer willow thicket, Sargent cypress woodland, and oak woodlands and savanna. As discussed in Mitigation Measure 3.4-18 in Section 5 of the Draft PREIR, sensitive habitats are a mixture of habitats that are either of such a limited distribution that active landscape management is not necessary,

riparian habitats already associated with natural surface water fire breaks, oak woodlands, and/or have little to no brush or tree cover. Thus, Mitigation Measure 3.4-18 prohibits use or staging of equipment or vehicles in these habitats and would not inhibit the implementation of the WPP as a whole. Therefore, the 2020 EIR and Draft PREIR determined that implementation of the WPP would have a less-than-significant impact on sensitive habitats with inclusion of mitigation. Under current conditions, fewer protections are afforded to sensitive habitats and any special-status plants occurring within these habitats, as there is no prohibition against equipment and vehicles entering these areas, and foot traffic is acceptable as part of ranch management and recreation. Therefore, no significant impacts were identified to special-status plants that may occur within sensitive habitats.

Non-sensitive habitats that exist on the Guenoc Valley Site include the following categories:

- Rock outcrop: This habitat has minimal vegetative cover and is not practical to mow. The type of mechanical equipment-based vegetation management described in the WPP is predominantly related to brush clearing and removal of larger dead vegetation that is not present within this habitat type. Therefore, vegetation management would be limited to grazing (considered a baseline condition per discussion above) and would not cause a significant impact to special-status plants that may occur in rock outcrop habitat.
- Non-native annual grassland: The type of mechanical equipment-based vegetation management described in the WPP is predominantly related to removal of larger dead vegetation (brush and trees) that is not a dominant component of this habitat type. Therefore, vegetation management activities in this habitat would primarily be grazing (considered a baseline condition per discussion above), or mowing. Mowing is a common practice for improving non-native annual grasslands habitats to more native type grasslands. While mowing may serve to beneficially impact special-status plants (Valliere et al., 2019; Forest Park Forever, 2024; Nguyen et al., 2023), this benefit is speculative, and the frequency of mowing likely would not be frequent enough for a significant benefit to be realized. It is possible that special-status plants, particularly the smaller herb/forb species, may fall within the tire tracks of mowers during mowing activities; however, it is anticipated that vegetation would not be stripped by mower tires and would recover following mowing activities. These activities further would not affect the seed bank and survivability of special-status plant populations. This is especially important for seed banks, which can suffer under unnaturally high fire regimes (Hu et al., 2019; UCANR, 2021; Shi et al., 2022). Therefore, no significant impacts are identified for special-status plants that may occur in non-native grassland habitat.
- Chaparral and scrub habitat: This includes leather oak chaparral, chamise chaparral, whiteleaf manzanita chaparral, California Yerba Santa scrub, and deer weed scrub. The seven special-status shrub species that can occur on the Guenoc Valley Site may occur within these chaparral and scrub habitats. Based on the vegetative cover of these habitats, it is anticipated that vegetation management would include use of mechanical equipment for brush management, either by lop & scatter or mastication. As described in the WPP, grazing is the first option in vegetation management. While it is possible additional management would not be necessary, it is reasonable to assume some level of manual vegetation removal would be necessary, where accessible by equipment. The herbaceous layer would not be altered, and as discussed under non-native annual grassland, equipment driving through the herbaceous layer of this habitat would not strip soils, affect seed banks, or permanently damage herb-layer vegetation that may include special-status herbs/forbs. As discussed above, the Updated WPP specifies that only dead or dying vegetation would be targeted by equipment for manual removal, and therefore no significant impacts to special-status shrubs would occur.

- Other tree-dominated habitats: This includes Douglas fir forest and Foothill pine woodland. The understory of Douglas fir forest within the Guenoc Valley Site is described as open and sparse (Appendix BRA1 of the Draft EIR). No special-status plants were determined to have the potential to occur within this habitat type; therefore, vegetation management actions in Douglas fir forest would not impact special-status plants. Foothill pine woodland vegetation management would be achieved through grazing and use of equipment for brush management. As described in the Updated WPP, grazing is the first option in vegetation management. While it is possible additional management would not be necessary, it is reasonable to assume some level of manual vegetation removal would be necessary, where accessible by equipment. The herbaceous layer would not be altered, and as discussed under non-native annual grassland, equipment driving through the herbaceous layer of this habitat would not strip soils, affect seed banks, or permanently damage herb-layer vegetation that may include special-status herbs/forbs. Although shrubs are not a dominant component of Foothill pine woodland, the special-status shrubs that can occur on the Guenoc Valley Site could occur within this habitat type, but would not be significantly impacted by the mechanical removal because only dead or dying vegetation would be targeted per the Updated WPP (**Appendix N**).

It is not possible to predict the exact metrics of wildfire prevention activities across the totality of the Guenoc Valley Site as vegetation management activities will depend upon factors such as the amount of dead vegetation which is affected by fluctuating climatic factors that would be speculative to predict. Additionally, exact tire track lines equipment may take during management activities cannot practically be assessed as vehicle routes will vary across wildfire management areas in response to those future conditions. This assessment has made reasonable assumptions as to where equipment is reasonably likely to occur and the type of impact such activities would incur. Those metrics that cannot be reasonably predicted and are speculative in nature are not further evaluated. Speculation is considered inappropriate per CEQA Guidelines Section 15145, and the Draft PREIR has included an analysis of facts, expert opinion supported by facts, and reasonable assumptions based on facts, but does not speculate on opinion without evidence. Based on the above, this potential for impact would not exceed specified significant impacts in CEQA Guidelines Section 15065(a)(1), such as fully eliminating a plant community, substantially reducing the number of or restrict the range of an endangered, rare or threatened species; or eliminating important examples of the major periods of California history or prehistory.

Irrigated Greenbelt

The irrigated green belt was described in Appendix F of the Draft PREIR and is unchanged from the 2020 EIR. As described therein, this would involve use of irrigated lands (vineyards, orchards, gardens, landscaping) as a defensive line against fire. The Draft PREIR, as with the 2020 EIR, considered the maximum potential impacts to sensitive habitats and special-status plants from development. Operational use of irrigation as a defensive line against fire would not result in further conversion of sensitive habitats or loss of special-status plants and would rather provide defense for these resources from damage by fire. Therefore, no impacts to sensitive habitats or special-status plants were identified.

Response to Comment I27-17

Please see **Response to Comment I27-16**.

Response to Comment I27-18

Many of the specific wildfire defense strategies mentioned in this comment are already incorporated into the Proposed Project by design (e.g., ember resistant vents, fire resistant roofs, external sprinklers, rooftop solar) or by mitigation (e.g., construction fire prevention). The measures within the Updated WPP for a 'Zone 0' defensible area around homes with zero vegetation exceed the request of the commenter for "irrigated defensible space immediately adjacent to structures," which could place flammable vegetation adjacent to residential and commercial structures. As a result of the First Appellate Court decision, the wildfire risk analysis was revised and recirculated in the March 2025 Draft PREIR, which concluded that with design features integrated into the Updated WPP and implementation of **Mitigation Measure 3.16-9**, the Proposed Project with design features and mitigation "greatly reduces projected increases in wildfire ignition *likelihood* due to the project, greatly decreases modeled wildfire *intensity,* and greatly decreases community susceptibility due to improved fire response times and increased resilience of the built environment on site" (See March 2025 Draft PREIR page 66). No further mitigation as requested by the commenter (e.g., to retrofit communities outside of the Project Site or provide air purifiers and N95 masks to community members) is required to reduce a significant impact pursuant CEQA Guidelines Section 15126.4.

Response to Comment I27-19

The commenter incorrectly states that the Draft PREIR "admits" that the Modified Project would result in increased impacts to habitats. In fact, the Draft PREIR in Table 4.4-1 demonstrates the opposite and quantifies a reduction in impacts of 469.2 acres of terrestrial habitats within the Modified APE and a reduction of 25.1 acres of aquatic habitats within the Modified APE.

The 2020 EIR always considered vineyard development an ongoing state within the Guenoc Valley Site. Development of vineyard, as described in Appendix D of the Draft PREIR (See Figure 2-3 of Volume II of the Final EIR for those areas identified for future vineyard development) is being completed as part of a separate project that underwent a separate CEQA process and is not part of the Proposed Project. Areas of vineyard development are ongoing outside of the Modified APE. Therefore, the Draft PREIR discusses this ongoing development to clarify changes in habitat acreages throughout the Guenoc Valley Site to help the reader understand why habitats across the Guenoc Valley Site presented in the Draft PREIR differ from those presented in the 2020 Final EIR Volume II. These areas are outside of the Modified APE and have no effect on the analysis of impacts to habitat resulting from the Proposed Project as presented within the Draft PREIR.

Regarding the Lightning Complex Fire, the Updated WPP has been updated to describe the extent of the Lightning Complex Fire (see Appendix F of the March 2025 Draft PREIR). The Draft PREIR provides an updated distribution of habitat and includes the results of numerous surveys of the Guenoc Valley Site completed between 2020 to 2024 following the Lightning Complex Fire (See **Response to Comment I26-2**). The Draft PREIR re-iterates what was explained in the 2020 EIR regarding how habitat distributions may change over time, especially given the long timeframe for project development. This acknowledgement frames the analysis for impacts to sensitive habitats and provides the reasoning for why precise impacts to habitats can only be quantified at the time of development. The Draft PREIR provides as updated of an account as possible on current habitat distributions across the Guenoc Valley Site and, consistent with the 2020 EIR, maintains the requirement that sensitive habitat impacts be quantified at the time of impacts. It is outside the scope of the Draft PREIR to analyze impacts of the

Lightning Complex Fire on the environment. The purpose of the Draft PREIR is to assess impacts of the Project Modifications on the environment.

The mountain-yellow legged frog (*Rana muscosa; R. sierrae)* occurs within the southern and central Sierra Nevada range, San Jacinto Mountains, San Bernardino Mountains, and the San Gabriel Mountains in Southern California. It does not occur in Lake County. For the purpose of this response, we assume the commenter intended to write foothill yellow-legged frog, which does occur in the region of the Project Site. While it is outside of the scope of the Draft PREIR to assess impacts that the Lightning Complex Fire may have had on this species and others mentioned within the comment, it is noted that foothill-yellow legged frog, western pond turtle, and mountain lions are all wide-ranging species that occur in a variety of habitat types across much of California. These species are not low-vagility species that are isolated within small fragments of isolated habitat, and it is not expected that the Lightning Complex Fire would have eliminated the potential for these species to occur within the Guenoc Valley Site. The Draft PREIR conservatively does not consider areas affected by the Lightning Complex Fire to be degraded and conservatively assumes the potential for special-status species is not affected by potential natural habitat degradation that could lead to lower mitigation requirements.

Response to Comment I27-20

Comments on habitat connectivity and the Mayacamas to Berryessa Connectivity Network (M2B) study were raised during the 2020 EIR process as Comment O3-03 and responded to as Response to Comment O3-03 in the 2020 Final EIR Volume I. The Draft PREIR excerpt that was selectively quoted by the commenter reads in its entirety:

> "…the M2B study identified high levels of riparian permeability within the Guenoc Valley Site as well as multiple potential wildlife movement corridors and four least-cost pathways. There are no changes to the general setting as it relates to wildlife movement in the region, and no changes to the California Essential Habitat Connectivity Project and M2B study have occurred (Spencer, 2010; Pepperwood Preserve, 2018). Therefore, there are no changes to the wildlife movement setting as presented in the 2020 EIR. A complete description of the wildlife movement setting is provided in the 2020 EIR, Volume II, Section 3.4.2."

This information is provided in Section 4.4.2 "Environmental Setting," subheading "Wildlife Movement." This is not an impact assessment. The potential impacts of the Project Modifications, including the Parcel Reconfiguration and Grange Road Connector, on wildlife movement are assessed in Impact 3.4-4. The Draft PREIR determined that Project Modifications would not result in new or substantially more severe significant impacts to wildlife movement. This was determined because much of the proposed Grange Road Connector alignment is an improvement to existing roads, and because the road is not proposed for regular use, but for emergency ingress and egress only. With respect to reconfiguration of some of the housing, this reconfiguration is still in line with the Original Project and would consist of low-density impacts with minimal use of fencing that is subject to the wildlife-friendly requirements outlined in Mitigation Measure 3.4-19, included in Section 5 of the Draft PREIR and unchanged from the 2020 EIR. Neither addition of the Grange Road Connector, nor the reconfiguration of the proposed housing units would result in a change in determination of impacts to wildlife movement corridors relative to the 2020 EIR.

Response to Comment I27-21

Similar comments were previously made by the commentor as Comment O10-13 and O10-14 on the 2020 EIR and responded to as Response to Comment O10-13 and O10-14 of the 2020 Final EIR Volume I. The commenter claims that the Draft PREIR does not adequately describe aquatic resources in the Modified APE, but then cites the Draft PREIR for a description of those same aquatic resources. No substantive comment is provided to clarify why the commenter feels the description is inadequate. The commenter also states that the best available science was not considered, but does not provide further comment or explanation. Please refer to **General Response 1** for matters of opinion.

As shown in Table 4.4-4 of the Draft PREIR, overall impact acreages of the Modified APE to the collective riparian habitats on the Guenoc Valley Site are reduced compared to the Original Project. Therefore, the Modified Project would have fewer impacts to riparian habitats compared to the Original Project. Impacts to riparian habitats were addressed in the Draft PREIR in Section 4.4.4, and mitigation is included in Section 5 of the Draft PREIR (note that mitigation for impacts to riparian habitats is unchanged from the 2020 EIR). Specific concerns related to this analysis and mitigation are not provided by the commenter.

Response to Comment I27-22

A majority of this comment is verbatim of Comment O10-14 on the 2020 EIR and was responded to in Response to Comment O10-14 in the 2020 Final EIR Volume I (Appendix D of the Draft PREIR). Therefore, as explained in **General Response 2**, no response is required. However, the following information briefly addresses the issues raised in the comment.

As discussed further in Response to Comment O10-14 of the 2020 Final EIR Volume I, while the statements that the commenter makes may be true for a given species within a specific context, they generally do not apply within the context of the Proposed Project and Lake County on the whole. Literature cited therein is summarized below and includes:

- Kilgo et al. is a study about migratory birds in hardwood forests of South Carolina. The species that were studied do not occur in the Guenoc Valley Site.
- Simlitsch and Bodie 2003 is a study that reviewed literature for 65 species of amphibians and reptiles, only three of them occurring in California, and only one of them occurring on the Guenoc Valley Site. The overwhelming majority of this data is for species that occur in much more humid landscapes than the Guenoc Valley Site, including some tropical areas, which extends the biological capacity for distance transit for these species.
- Fellers and Kleeman 2007 is a study on California red-legged frog, a species with a particularly large dispersal capability, which does not occur on the Guenoc Valley Site and is not documented to occur in Lake County.
- Trenham and Shaffer 2005 is a study on California tiger salamanders, a species with a particularly large dispersal capability which does not occur on the Guenoc Valley Site or even in Lake County.
- Cushman 2006 is a study of habitat fragmentation on amphibians. It is a review paper. None of the species considered in the review occur in Lake County.

Additional citations are summarized below and include:

- Cushman et al., 2013: This is a chapter from a classroom textbook that outlines the state of modeling available at the time of its preparation and provides only generalized modelling information.
- Heller & Zavaleta, 2009: This document is a large-scale review document that covers generalized topics summarized from over 100 papers containing over 500 different opinions on biodiversity management in the face of climate change. It is a review paper that is non-specific.
- Warren et al., 2011: This paper is a global meta-analysis that is speculative of future conditions and does not generally discuss habitat connectivity or wildlife movement and is non-specific.

It is noted that the Draft PREIR in Table 4.4-1 quantifies a reduction in impacts of 25.1 acres of aquatic habitats within the Modified APE. Should an intermittent stream display a riparian corridor wider than 20 feet from the top of bank, Mitigation Measure 3.4-17 as presented within Section 5 of the Draft PREIR, which is unchanged from the 2020 EIR, would require setbacks to extended to the edge of riparian vegetation. Thus, setbacks for aquatic habitat would be equal to setbacks required by Lake County code, or to the edge of riparian vegetation. A larger, 30-foot minimum setback is prescribed for perennial streams. Please note that the setbacks prescribed in the 2020 EIR are minimums.

Setbacks prescribed in Mitigation Measure 3.4-17 meet precedent for the aquatic habitats in Lake County. These setbacks consider the conditions on the ground where they are applied and are designed to preserve the ecological function of habitats. For example, Appendix BRA1 of the 2020 Draft EIR Volume II (Appendix D of the Draft PREIR) discussed that many of these features are manmade, have no riparian corridor, or have steep and rocky slopes that limit amphibian dispersal. These setbacks provide a protective buffer between habitats and potential impacts of the Proposed Project. The setbacks, unchanged since the 2020 EIR, have been reviewed by a team of local biologists who have extensive experience assessing the natural resources both in the region and at the Guenoc Valley Site. The 2020 EIR and Draft PREIR determinations of significance and the mitigation measures contained therein represent the consensus of dozens of local experts and years of study of the Guenoc Valley Site.

Regarding setbacks to the outer extent of a riparian corridor, the Draft PREIR specifies how this setback would be defined and implemented. Mitigation Measure 3.4-17 (unchanged from the 2020 EIR) describes that the setback will be defined with high-visibility fencing or flagging and will be implemented by a qualified biologist prior to any construction activities occurring within 200 feet of the aquatic habitat features.

Additional comments on sensitive habitat mitigations are the same as Comment O10-13 on the 2020 EIR. This comment was responded to as Response to Comment O10-13 in the 2020 Final EIR Volume I (Appendix D of the Draft PREIR). See **General Response 2** regarding comments previously responded to regarding issues that are not within the scope of the Draft PREIR. As discussed in the prior Response to Comment O10-13, mitigation presented within Section 3.4.5 of the 2020 Final EIR Volume II includes defined success criteria to ensure that habitat restoration and creation activities fully mitigate for impacts. Because completion of mitigation is contingent upon success criteria such as vegetative cover and plant survivability, it is ensured that mitigating activities would be successful before being deemed complete. Increasing the ratio of required mitigation does not effectively guarantee offset of impacts as success criteria determines the final level of mitigation. Simply requiring mitigation to occur at high ratios with no scientific basis would not serve to ensure mitigation. Rather, a set mitigation ratio with monitoring, adaptive management, and minimum success criteria, as presented within Section 5 of the Draft PREIR, serves to effectively offset impacts.

It should be noted that the comment discusses critical habitat in multiple locations, but there is no critical habitat within the Guenoc Valley Site or Modified APE.

Response to Comment I27-23

These comments largely were previously raised regarding the 2020 EIR and responded to in the 2020 Final EIR; see Response to Comment O10-19 and Response to Comment O10-20 of the 2020 Final EIR Volume I. Therefore, as explained in **General Response 2**, no response is required. However, the following information briefly addresses the issues raised in the comment.

The Draft PREIR did not analyze the impacts of the Lightning Complex Fire on the environment and on foothill yellow-legged frog (FYLF), nor should it have under CEQA. As discussed in **Response to Comment I27-19**, the purpose of the Draft PREIR is to assess for impacts to the environment resulting from the Project Modifications.

The 2020 EIR included as Appendix D to the Draft PREIR evaluated the potential impacts to both FYLF and northwestern pond turtle (NPT) from the Original Project, and Section 4.4.4 of the Draft PREIR evaluated whether Project Modifications would result in new or substantially more severe significant impacts to biological resources, including special-status species. It is correct that this analysis determined that impacts to individuals could arise from construction activities, and that these impacts may be potentially significant under CEQA, if not mitigated. To mitigate these impacts to a less than significant level, the Draft PREIR included measures to minimize impacts during construction, including preconstruction surveys within 300 feet of suitable aquatic habitat to ensure that if FYLF or NPT are in the area, they are avoided. These measures are included as Mitigation Measures 3.4-10 and 3.4-11 and are presented within Section 5 of the Draft PREIR. In response to the Center for Biological Diversity's previous comments on the 2020 Draft EIR, these mitigation measures were refined in the 2020 Final EIR Volume II to better detail survey protocols for both FYLF and WPT to ensure that impacts to these species are minimized. The FYLF surveys and timing of mitigation are designed based on generally accepted methods for the species in parts of its range where it is CESA-listed, even though the clade on the Guenoc Valley Site is not CESA-listed. The NPT surveys are based on commonly used methods for identifying and mitigating impacts to this species throughout its range and meet or exceed precedence. Furthermore, Mitigation Measure 3.4-10 was updated for this PREIR to update the nomenclature for this species as it was reclassified from western pond turtle to northwestern pond turtle, and to include USFWS as a consulting agency as this species was proposed for federally threatened status following publication of the 2020 EIR. Based upon species status changes, Mitigation Measure 3.4-10 was also updated to require flagging of nests for avoidance and to remove discretionary relocation by the qualified biologist due to the need to consult with the resource agencies prior to handling of individuals. As such, the measures prescribed in Section 5 of the Draft PREIR would result in less than significant impacts to FYLF and NPT.

As discussed above in **Response to Comment I27-22**, most of the intermittent and ephemeral streams within the Guenoc Valley Site are small and have very narrow or non-existent riparian zones. As a result, the 20-foot minimum setback prescribed for ephemeral streams is conservative. Similarly, most of the intermittent streams have narrow or absent riparian areas and as such, the prescribed setback is appropriate. However, should an intermittent stream display a riparian corridor wider than 20 feet from the top of bank, Mitigation Measure 3.4-17 as presented within Section 5 of the Draft PREIR, unchanged from the 2020 EIR, would require setbacks to be extended to the edge of riparian vegetation. A larger, 30-foot minimum setback is prescribed for perennial streams. Though perennial streams on the Guenoc Valley Site often have riparian zones, they are narrow in comparison to similar streams in more coastal

areas or other locations with more well-developed soils. Therefore, the 30-foot setback is sufficient to protect them. These setbacks are protective of habitat of the most value for dispersing FYLF and NPT. Please note that the setbacks prescribed in the Draft PREIR, unchanged from the 2020 EIR, are minimums. Most of the perennial streams that have relatively higher habitat function for semi-aquatic special-status species (such as FYLF and NPT), are avoided by much larger setbacks due to the design of the open space areas, which is based in part on the presence of the streams. Additionally, the vast majority of riparian habitat on the Guenoc Valley Site falls outside of the Modified APE. As disclosed in Table 4.4-1 of the Draft PREIR, potential impacts to riparian and aquatic habitats decreased under the Project Modifications. No new or substantially more severe significant impacts would occur to NPT and FYLF, and Mitigation Measures 3.4-10 and 3.4-11 from the 2020 EIR, as updated in the July 2024 Draft PREIR and unchanged in the March 2025 Draft PREIR, reduce impacts to less-than-significant levels.

Response to Comment I27-24

The BRAs referenced contain lists of plant species observed within the Guenoc Valley Site, however, not all of these plants are special status. Similarly, a desktop review of special-status species that may occur on or in the vicinity of the Guenoc Valley Site was conducted for the referenced BRAs, however not every species had the potential to occur within the site. As discussed in Section 3.4.4 of the 2020 Final EIR Volume II (Appendix D of the Draft PREIR), 61 special-status plant species have the potential to occur within the Guenoc Valley Site. As confirmed within Section 4.4.2 of the Draft PREIR, these same 61 species have the potential to occur within the Modified APE, and no new special-status plant species were identified with the potential to occur. Please refer to Appendix D of the Draft PREIR for a definition of special-status species. It is noted that a typo occurred in Section 4.4.2 of the July 2024 Draft PREIR stating that "Appendix I identified 51 special-status plant species with the potential to occur within the Modified APE." Section 4.4.2 of the updated Draft PREIR was revised and corrected to 61 special-status plant species. All 61 species were correctly identified in the immediately following Table 4.4-3 of the July 2024 Draft PREIR, so no further revisions were made in the updated Draft PREIR.

Response to Comment I27-25

The Grange Road Connector is included within the Modified APE that is analyzed throughout the Draft PREIR, and therefore the updated March 2025 Draft PREIR does take into account impacts to biological resources, including special-status species, habitat connectivity, and impacts to habitat resulting from the Grange Road Connector. Please refer to the Draft PREIR Section 4.4.4 for this analysis. Where the need for revisions to the 2020 EIR mitigation measures were warranted, these revisions are included in Section 4.4.5 of the Draft PREIR. Appendix I-1 of the updated Draft PREIR contains the results of biological surveys of the Grange Road Connector and an analysis of potential impacts to biological resources resulting from the Grange Road Connector. As discussed in Section 4.4.4 of the Draft PREIR, the Grange Road Connector would not result in new or substantially more severe impacts to biological resources. This analysis considered that the alignment largely followed an existing dirt roadway and would only be used for emergency ingress/egress.

Response to Comment I27-26

The Modified Project does not include any changes to the proposed helipad or float plane operations from the Original Project analyzed in the 2020 EIR. This comment raises issues beyond the scope of the Draft PREIR; therefore, as explained in **General Response 2**, no response is required. However, the following information briefly addresses the issues raised in the comment.

The Draft PREIR focuses on the Project Modifications and therefore did not provide a detailed analysis of float plane noise impacts on wildlife, which was unchanged from and therefore included in the scope of the Original Project analyzed in the 2020 EIR. The 2020 EIR provided an analysis of noise impacts resulting from operational use of the float plane and helipad at Detert Reservoir in Section 3.4.4 and Section 3.10.4 of the 2020 EIR. To clarify, the future noise study identified in Mitigation Measure 3.10-3 in Section 5 of the Draft PREIR, unchanged from the 2020 EIR, is related to future phases of the Proposed Project, details of which are speculative and which were assessed at a programmatic level in the 2020 EIR. This measure is not related to Phase 1 of development or the sea plane and helipad at Detert Reservoir.

Please see **General Response 6** for additional information regarding the level of noise anticipated in connection with the sea plane dock and helipad. Appendix ATTM of the 2020 EIR described the type of aircraft and frequency of use of the sea plane dock and helipad. Based on this report, it is anticipated that the guest helipad at Detert Reservoir would serve helicopters such as the Sikorsky S-76D Executive Helicopter with two arrivals and two departures per day. It is anticipated that the sea plane base would serve planes such as the Cessna 208 "Caravan" also with two departures and two arrivals per day. Noise contours were provided in Section 5.3 of Appendix ATTM and demonstrate that noise levels of 55-65 dB would be realized at the point of arrival/departure, but that terrestrial habitat outside of the built environment would be below 55dB. At this level, no significant impacts to wildlife were identified.

The commentor provided several citations, which were reviewed and are summarized below:

- Shannon et al., 2016: This is a peer review paper that summarizes generalized data from across North America and Europe. As described therein, transportation (including air traffic) comprised approximately 32 percent of the data contained therein, and of that only approximately half of that data considered baseline noise data. Additionally, this paper extrapolated noise data in about one third of transportation studies where received sound levels either were not reported or had to be estimated and/or acoustic metrics were not reported. The data is not broken down enough to gather information specifically on air transportation impacts on wildlife. It is noted that in Table 4 of this report "Examples of reported mitigation methods for reducing the negative effects of noise on wildlife," a restriction on flight times to minimize flights three hours after sunset or before dawn is the only recommended mitigation measure identified for air transportation. This is consistent with Mitigation Measure 3.10-4 from the 2020 Final EIR Volume II, which limited non-emergency flight times to 7 A.M. to 7 P.M. Further, the applicant has voluntarily agreed to further limit flight times per Project Commitment 2.14 (see **Table 5-2**), which is even more conservative than the recommendations cited within this study. Although it is not clear which data presented therein is related to air traffic and what species were considered, it is further noted that at the <55 dB threshold this paper identifies impacts limited to changes in frequency components and timing of vocalizations in birds, and general preference for quieter areas for birds and mammals. Other impacts noted by the commentor in reference to this paper, such as impacts on individual fitness and changes in the structure of ecological communities, were not observed at these noise levels.
- Conomy et al., 1998: This paper specifically measured the response of black ducks and wood ducks to jet aircraft. The paper found habituation to noise in black ducks over a 17-day period. Cursory data showed that wood duck responses to jet noise did not decrease uniformly among experimental groups; however, this data was only collected over a period of 4 days, and it is not clear whether data is based upon the noise tolerance of this specific species, or if it was because data was only collected over a course of 4 days, which is not long enough to compare against the 17-day habituation study. Additionally, it is improper to compare the four ingress/egress

passenger trips of the Proposed Project with military jet training activity as the frequency and intensity of noise associated with a military base and jet aircraft, with jets capable of producing noise up to and over 100 dB, is vastly different than a passenger float plane or helicopter (Safe Skies Clean Water Wisconsin, 2020).

- Goudie and Jones, 2004: This paper is specific to harlequin ducks, which do not have a range that overlaps with the Guenoc Valley Site. This paper assesses impacts from low-altitude military jet passes at 30-100 meters above ground level with sudden onset noise in excess of 100 dB. This is vastly different than the four ingress/egress passenger trips associated with the Proposed Project as military jets produce much more sudden shifts in the noise environment, noise levels are much higher, the frequency of events can be much higher or sporadic (some days with no fly-overs, others with 10+ flyovers), and the area subject to this noise is much greater for low-level military training exercises. It is therefore not appropriate to associate impacts identified therein with the species and types of activities proposed on the Guenoc Valley Site (Goudie and Jones, 2004).
- Ware et al., 2015 and McClure et al., 2013: These papers are associated with roadway traffic and do not provide information on impacts to wildlife that may occur from use of a helipad or sea plane (Ware et al., 2015; McClure et al., 2013).

Based on a review of the literature provided, there is cursory evidence that air traffic resulting in noise of less than 55 dB may result in changes in frequency components and timing of vocalizations in birds, or general preference for quieter areas for birds and mammals (Shannon et al., 2016). It is not clear if these assumptions are appropriate to extrapolate to the Guenoc Valley Site as this data did not identify any specific species, inferred data, and likely evaluated air traffic points with greater than four ingress/egress trips per day. Even under the assumption that these changes could occur on the Guenoc Valley Site, shifts in vocalization would not constitute a significant impact as shifts in vocalization would not impact individuals or the species as a whole. Shifts in habitat preference are not likely at the noise levels anticipated, and given the attenuation of noise across space (even without considering the shielding of vegetation or topography, or baseline noise associated with the existing roadway), the distance wildlife may shift would be nominal given that 55 dB is less than the noise levels associated with human conversation (60dB) and is not considered a significant level of noise.

Response to Comment I27-27

As stated in Section 1.1.6 of the Draft PREIR, "Where a court finds that CEQA violations have occurred, judicial remedies must only include the mandates needed to comply with CEQA. (PRC Section 21168.9(b); *see also* CEQA Guidelines Section 15234.) To that end, CEQA Guidelines Section 15234 provides that an agency revising its environmental document per a court's order "need not expand the scope of analysis on remand beyond that specified by the court." (CEQA Guidelines Section 15234(d).) The Courts upheld the analyses of alternatives contained within the 2020 EIR, and therefore the Draft PREIR was not required to provide further analysis of alternatives.

As stated on page 5-4 of the 2020 Draft EIR, "In accordance with the alternatives analysis requirements of CEQA, two alternative projects and a no project alternative were identified and analyzed. Each alternative was chosen based on its ability to potentially reduce one or more environmental impacts, while still achieving some of the project objectives." CEQA Guidelines Section 15126.6 requires that an EIR "need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation."

Please refer to the Final EIR Volume I Section 3.2, Response to Comment O10-35, which consisted of similar comments made by the same commenter regarding the 2020 EIR.

Response to Comment I27-28

The Courts upheld the analyses of alternatives contained within the 2020 EIR, and rejected the argument that the Final EIR rejected Alternative C as infeasible without the properly supported findings that CEQA requires. Therefore, the Draft PREIR was not required to provide further information regarding the feasibility or infeasibility of Alternative C.

The commenter cites sections of the 2020 EIR stating that "the County improperly rejected Alternative C", however the EIR does not reject any of the analyzed alternatives. The EIR analyzes a reasonable range of alternatives in accordance with CEQA Guidelines Section 15126.6 and provides a comparison of these alternatives in a matrix format. This objective assessment within the 2020 EIR is not a rejection, approval, or any other decision; it is a comparison of distinct alternatives to allow future decision-making on those facts. Pursuant to CEQA a lead agency may reject a project alternative that is incapable of avoiding or substantially lessening a proposed project's potentially significant and unavoidable impacts (see *Laurel Hills Homeowners Association v. City Council* [1978] 83 Cal.App.3d 515, 521). Even if a project alternative is capable of avoiding or substantially lessening one or more potentially significant and unavoidable impacts of a proposed project, if the alternative will result in other potentially significant and unavoidable impacts not caused by the proposed project, then the lead agency may determine the alternative is not environmentally superior to the proposed project and reject it on that ground.

Contrary to the commenter's suggestion, CEQA does not require a lead agency to set forth its infeasibility determinations in an EIR; rather, evidence of infeasibility can be included in the record. (CEQA Guidelines, § 15131, subd. (c) ["If information [on infeasibility of mitigation measure or alternatives] is not contained in the EIR, the information must be added to the record in some other manner to allow the agency to consider the factors in reaching a decision on the project"].

In the CEQA Findings of Fact ultimately adopted by the County in 2020, it was found that Alternative C "only marginally lessens the Proposed Project's potentially significant and unavoidable impacts and does not avoid them, and given that the Reduced Intensity Alternative would result in significantly fewer economic benefits, the County finds that the Reduced Intensity Alternative does not warrant approval in lieu of the Proposed Project." The County will again review the EIR in its entirety, including the 2020 EIR, and if it decides to approve the Project will again make findings based on the available evidence. No alternative has as yet been adopted, rejected, or otherwise decided upon at this stage of the CEQA process.

Refer to Section 5 of the 2020 Final EIR Volume II and Response to Comment O10-37 of the 2020 Final EIR Volume I, which consisted of similar comments made by the same commenter, for additional details regarding Alternative C.

Response to Comment I27-29

As discussed further in **Response to Comment I27-27** and Section 1.1.6 of the Draft PREIR, judicial remedies must only include the mandates needed to comply with CEQA (PRC Section 21168.9(b)). The First Appellate Court's decision was issued subsequent to the receipt of this comment, and consistent with CEQA the Draft PREIR was recirculated in March 2025 to address the additional deficiency regarding

the 2020 EIR's analysis of impacts related to wildfire ignition risk identified by the Court. Therefore, the Count has complied with CEQA to ensure that all obligations are met. The administrative record is being maintained in accordance with all relevant laws and regulations.

Comment Letter I28: Linda Diehl-Darms

Response to Comment I28-1

Comment noted. Please refer to **General Response 5** for information regarding the intended use of the well water for water features and ponds and the process of pumping water between Detert Reservoir and the water system, and concerns about the Collayomi Valley Water Basin.

Regarding definitions for certain terms, a water feature refers to natural or man-made elements like ponds, streams, waterfalls, or fountains integrated into landscapes in this case. Ponds can vary greatly in size depending on their purpose and location. Generally, ponds range from small garden ponds of around 200 to 1,000 SF to larger bodies of water that can cover up to 5 acres or more.

Comment Letter I29: Monica Rosenthal and Terry Hoberg

Response to Comment I29-1

Please refer to **Response to Comments I29-2** and **I29-5** regarding the off-site water infrastructure and worker housing, **General Response 5** regarding issues related to the off-site well, and **General Response 2** regarding the scope of the Draft PREIR.

Response to Comment I29-2

Comment noted. Please refer to **General Response 5** for information regarding the extraction of water from an off-site well in the Middletown area, potential short- and long-term impacts on the Callayomi County Water District, risks to the groundwater supply in Long Valley and Butts Canyon, and concerns about the plume at the PG&E Geothermal Inc. Dump Site.

Response to Comment I29-3

As further explained in **General Response 2**, this PREIR does not re-evaluate other topics analyzed in the 2020 EIR including public transit and traffic-related issues that were found to be adequately addressed by the Superior Court ruling, the First Appellate Court decision, and/or that would not be affected by the Project Modifications. These topics were addressed in the 2020 Final EIR Volume II Section 3.13 'Transportation and Traffic'. The 2020 EIR analysis did not indicate the need for the improvements suggested by the commenter as mitigation for any of the Proposed Project's impacts, although Mitigation Measure 3.13-5 pertaining to VMT reduction measures includes fair-share payments toward pedestrian and bicycle improvement projects.

Response to Comment I29-4

As discussed in **General Response 2**, this PREIR does not re-evaluate topics analyzed in the 2020 EIR that were found to be adequately addressed by the Superior Court ruling, the First Appellate Court decision, and/or that would not be affected by the Project Modifications including the Middletown Housing Site.

Please refer to **Responses to Comments I11-1, I11-2 and I11-3** for details on the impacts of population increase on infrastructure and public services resulting from the Proposed Project, including the Off-Site Workforce Housing in Middletown.

Response to Comment I29-5

As discussed in **General Response 2**, this PREIR does not re-evaluate topics analyzed in the 2020 EIR that were found to be adequately addressed by the Superior Court ruling, the First Appellate Court decision, and/or that would not be affected by the Project Modifications, including the Middletown Housing Site. The Tentative Subdivision Map referenced in the 2020 EIR expired in 2015 and Section 1.4 of the 2020 Final EIR Volume II states that it is used primarily to describe the environmental setting and provide general background material. It provides context showing that a similar density increase on this property to what is proposed as part of the Project is not unprecedented and has been previously considered by the County.

Please refer to the 2020 Final EIR Volume II, Section 3.2 regarding the Middletown Housing Site's compatibility with local land use and zoning designations as designated by the County. As described therein, housing on the approximately 12.75-acre Middletown Housing Site would include 21 single-family homes and 29 duplexes, for a total of 50 housing units which would accommodate up to 221 employees and household residents. The site's underlying land use designation is single-family residential (R1), with a maximum permitted density of 6,000 SF per unit. The 21 single-family homes, as proposed by the project, would be generally consistent with the underlying R1 designation. To accommodate the 29 duplexes, the Proposed Project would rezone 3.5 acres of the site to Two-Family Residential, with a maximum permitted density of 4,000-SF per unit. As such, the 29 duplexes, which are 4,261-SF per unit, would be generally consistent with the Two-Family Residential designation. With the County's approval of the Middletown Housing rezoning, the Proposed Project would comply with all applicable density regulations under the General Plan and Zoning Ordinance and would not place residents at risk. Furthermore, the development of the Middletown Housing Site under the Proposed Project would align with the goals of the County General Plan and Middletown Area Plan, including commitments to enhancing public safety and promoting community development.

Comment Letter I30: Dennis Smith

Response to Comment I30-1

As explained in **General Response 1**, comments that do not raise substantive environmental issues are not required to be responded to in the Final PREIR. However, this comment has been included in the administrative record and will be considered by Lake County in its decision.

Comment Letter I31: Judson Hodges

Response to Comment I31-1

The proposed pipeline route along Butts Canyon Road can be found in 2020 Final EIR Volume II, Figure 2-5. On-site pumping station locations can be seen in Figure 2-12 with a description included in Section 2.5.2.5 of the Final EIR Volume II. The exact location of any future pumping station(s) for the off-site well pipeline would be determined in later phases during the design and permitting for that system, but would be generally located along the pipeline route shown in Figure 2-5.

Comment Letter I32: Judson Hodges

Response to Comment I32-1

Please See **General Response 6** regarding aircraft noise and **General Response 7** regarding flight paths and float plane dock/helipad location.

Comment Letter I33: Brian Callaghan, PG&E

Response to Comment I33-1

It is noted that the Project Site is within the vicinity of existing PG&E infrastructure. It is further acknowledged that coordination with PG&E will be necessary for any modifications to existing PG&E natural gas and electrical lines.

Comment Letter I34: Lisa Kaplan

Response to Comment I34-1

As noted, this comment "pertain[s] primarily to the development within Middletown." The updated March 2025 Draft PREIR did not re-evaluate topics analyzed in the 2020 EIR that were found to be adequately addressed by the Superior Court ruling, the First Appellate Court decision, and/or that would not be affected by the Project Modifications, including the Off-site Workforce Housing at the Middletown Housing Site. In accordance with federal and state laws prohibiting discrimination, the developer will not screen purchasers and will not preferentially approve or deny buyers based on whether they are families, single men, Spanish-speaking, or other demographics. While it is likely there will be a mix of permanent and seasonal residents as well as a mixture of demographics, the developer has no intentions to manufacture the demographic profile of the residents. Refer to **General Response 2**, **Response to Comment I11-1**, and **Response to Comment I11-3** for additional information.

Response to Comment I34-2

This comment provides a list of environmental topics and states that no full EIR has been completed. The Draft PREIR is a supplemental document that was prepared as part of the environmental review process (Section 1.1 of the Draft PREIR). A full EIR was prepared in 2020 for the Proposed Project, which was included as Appendix D of the Draft PREIR. The Middletown Housing Site was analyzed in this EIR. Please refer to this Appendix to review the full EIR, which includes an analysis on necessary topics of analysis pursuant to CEQA. No comments were received on the analysis; therefore, no further response is required.

Response to Comment I34-3

Section 4.9 of the March 2025 Draft PREIR provided an analysis of potential flooding impacts associated with the Modified Project. As there are no Project Modifications pertaining to the Off-site Workforce Housing, the updated Draft PREIR did not reassess the potential impacts that were upheld by the Lake County Superior Court and First Appellate Court, or which were not raised in the litigation (refer to **General Response 2)**.

Response to Comment I34-4

A full EIR was prepared in 2020 for the Proposed Project, which was included as Appendix D of the Draft PREIR. The Middletown Housing Site was analyzed in this EIR, and the Lake County Superior Court and First Appellate Court did not require any revisions to that analysis (refer to **General Response 2)**.

Comment Letter I35: Kristina Ann Colon

Response to Comment I35-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project. The County will consider available information of relevance regarding real property when it makes its decision.

3.4.2 Comments Received on Updated March 2025 Draft PREIR

Comment Letter I36: Maria Rutenburg

Response to Comment I36-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I37: Shannon Sanders

Response to Comment I37-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I38: Brian Fisher

Response to Comment I38-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I39: Denise Scoles

Response to Comment I39-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I40: Amanda Martin

Response to Comment I40-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I41: California Native Plant Society

Response to Comment I41-1

Comment noted. Please refer to **Response to Comment I41-2** regarding the adequacy of the updated special-status plant survey.

Response to Comment I41-2

This comment states that additional information should have been included in the biological reports included in Appendix I of the March 2025 PREIR. These requests are similar to a previous comment received from CNPS on the July 2024 Draft PREIR. Please refer to **Response to Comment I26-2** regarding CDFW protocols and the content of the biological report appendices of both the July 2024 Draft PREIR and March 2025 Draft PREIR.

Response to Comment I41-3

Information regarding acreage surveyed as part of Appendix I-2 of the updated March 2025 Draft PREIR is included in **Response to Comment 126-3**. Appendix I-2 of the updated Draft PREIR noted that it was a summer bloom season survey only, consistent with this comment. Additional botanical surveys of the same area were conducted during the spring bloom season in 2025, and the results are included as **Appendix P** of this Final PREIR. The survey dates are provided in **Table 3-1** above and additional information about the 2024 and 2025 surveys, including names and person-hours, are included in **Appendix P**.

Reference site visits were conducted on the Project Site where established populations of special-status species have previously been mapped. These visits were conducted on the same day as the floristic surveys to ensure that target species were identifiable.

As stated in Appendix I-2 of the updated Draft PREIR, the survey did not identify any new habitat types and did not identify any new special-status plant species with potential to occur within the Project Site. As described in both the EIR and updated Draft PREIR, the timeframe for development is long; thus, presence is assumed for special-status plants with the potential to occur within appropriate habitat on the Project Site. Mitigation in Section 5 of the updated Draft PREIR, consistent with the 2020 EIR, requires current and appropriately-timed botanical surveys to be completed at the time of development in order to accurately mitigate for impacts. These surveys will be conducted as part of the ongoing documentation of biological resources on the Project Site, which will be used by the developer to avoid or mitigate for sensitive biological resources as conditions on the Project Site may change over the timeframe of development.

Response to Comment I41-4

The area and number of individual plants where special-status plant populations were observed in the various surveys conducted of the Guenoc Valley Site are provided in:

- Table 5 of the Phase I BRA (2020 Draft EIR, Volume II, Appendix BRA1);
- Table 5 of the Future Phases BRA (2020 Draft EIR, Volume II, Appendix BRA2);
- Table on page 26 of the Project Modifications BRA (Draft PREIR, Appendix I-1)
- Table 1 of the 2024 WRA Special-Status Plant Survey Memo (Draft PREIR, Appendix I-2), and
- Table 2 of the 2025 WRA Special-Status Plant Survey Memo (Final PREIR, **Appendix P**).

As discussed throughout the PREIR , the precise building footprints are not known at this time. Further, given the long timeframe for development, it is not possible to know the precise distribution and numbers of individuals of each plant species that will be present within a given area at the time of development. Therefore, Mitigation Measure 3.4-3 requires that current and appropriately-timed botanical surveys be completed prior to the time of development in order to accurately mitigate for impacts. The analysis of impacts to special-status plants in the 2020 EIR was upheld by the Superior Court and First Appellate Court. As stated in Impact 3.4-1 of the Draft PREIR, the Project Modifications would not result in any new significant effects or a substantial increase in the severity of previously identified significant impacts associated with special-status plants as compared to the 2020 EIR.

Response to Comment I41-5

The commenter requests that the PREIR be revised and recirculated with the results of the above 5 years of survey data presented in one consolidated report. Such recirculation is not required, because as explained in **Response to Comment I41-4**, the substantive information requested by the commenter is already provided in the appendices to the 2020 EIR, the July 2024 Draft PREIR, and the March 2025 Draft PREIR, that have already been circulated for public review and comment. The Draft PREIR does not need to be recirculated pursuant to CEQA Guidelines Section 15088.5, as the results of the survey data previously disclosed does not constitute "signification new information". Refer to **Response to Comment I27-3** for additional discussion of significant new information in the context of CEQA Guidelines.

Comment Letter I42: Reverends Julia and Charles Bono

Response to Comment I42-1

Comment noted. Please refer to **General Response 1** regarding expressions of opinion.

Response to Comment I42-2

This comment refers to the commentor's previous comment letter on the July 2024 Draft PREIR. This comment letter was bracketed as Comment Letter I11. Please refer to **Response to Comment I11-1** through **I11-4** for responses to these comments.

Response to Comment I42-3

As further explained in **General Response 2**, the March 2025 Draft PREIR did not re-evaluate topics analyzed in the 2020 EIR that were found to be adequately addressed by the Superior Court ruling, the

First Appellate Court decision, and/or that would not be affected by the Project Modifications, including the Off-site Workforce Housing at the Middletown Housing Site. Therefore, no further response is required. As further explained in **General Response 3** regarding the community evacuation analysis and **Response to Comment I11-2**, the 221 persons who could reside in the proposed Off-Site Workforce Housing in Middletown were included in the wildfire evacuation analysis.

Response to Comment I42-4

An analysis on potential impacts to population and housing was included in Section 3.11 (Population and Housing) of the EIR. Section 4.1.1 of the March 2025 Draft PREIR determined that Project Modifications would not increase population and housing impacts and thus did not warrant further analysis in the updated Draft PREIR. No comments were received on the analysis; therefore, no further response is required.

Response to Comment I42-5

The commentor requests that the workforce housing be relocated from the workforce housing site within Middletown to the Project Site. This comment has been noted and will be considered by the County in its decision-making process.

Comment Letter I43: Brandon Skinner

Response to Comment I43-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I44: Center for Biological Diversity

Response to Comment I44-1

Comment noted.

Response to Comment I44-2

Changes to the project were detailed in Section 2 of the March 2025 Draft PREIR and displayed visually on Figure 2-1 (Proposed Project Site Plan with Project Modifications), Figure 2-2 (parcel configuration analyzed in the 2020 EIR and the areas removed from the proposed parcel configuration). In addition, Tables 2.2-1 and 2.2-2 of the updated Draft PREIR summarized the proposed land uses and how they have changed from the 2020 EIR as a result of the Project Modifications. No specific comments were received on the Project Modifications; therefore, no further response is necessary.

Response to Comment I44-3

Section 4 of the Draft PREIR analyzes the potential impacts of the Project Modifications, including the 10 feet of hardscape on each side of roadways and changes to the buildout site plan (which were taken into account as part of the Modified APE), on various environmental areas, including biological resources (see Section 4.4). Table 4.4-1 specifically addressed the size of the impact area and demonstrated that overall

impacts would be reduced as a result of Project Modifications. Mitigation measures were contained within Section 5 of the Draft PREIR. No specific comments were received on the Project Modifications; therefore, no further response is necessary.

Response to Comment I44-4

Please refer to **General Response 1** regarding statements of opinion and **General Response 4** regarding the wildfire risk analysis. The wildfire risk analysis addresses the deficiencies identified by the First Appellate Court decision, and the commenter does not identify with any specificity how the commenter believes the wildfire risk analysis fails to do so. Therefore, no further response is necessary.

Response to Comment I44-5

The March 2025 Draft PREIR provides updated and clarifying information on the topics of biological resources (see Section 4.4, Appendix I-1, and Appendix I-2), wildfire and community safety (Section 3), greenhouse gas emissions (Section 4.7), and water supply (Section 4.9, Appendix G-1, and Appendix G-2). These technical appendices and Draft PREIR sections provide additional context to assess the impacts of the Project Modifications, but none qualify as "new information" that would trigger recirculation of the Draft PREIR. Refer to **Response to Comment I27-3** for additional discussion of significant new information in the context of CEQA Guidelines Section 15088.5.

Response to Comment I44-6

As described in **General Response 4** and Section 3.1.1 of the Draft PREIR, the First Appellate Court decision determined that measures within the Updated WPP that involve long-term operational maintenance activities should be characterized as mitigation and not design features. As such, Mitigation Measure 3.16-9 was added to ensure these long-term maintenance measures are implemented. The Wildfire Risk Analysis concludes that the Proposed Project with design features and mitigation "greatly reduces projected increases in wildfire ignition *likelihood* due to the project, greatly decreases modeled wildfire *intensity,* and greatly decreases community susceptibility due to improved fire response times and increased resilience of the built environment on site" (see March 2025 Draft PREIR, page 66).

Response to Comment I44-7

An alternatives analysis is not included as a component of the updated March 2025 Draft PREIR as an alternatives analysis was already completed in the EIR and upheld by the Superior Court and First Appellate Court. Please refer to **General Response 2** regarding the scope of the updated Draft PREIR and **Response to Comment 127-27**.

Response to Comment I44-8

Comment noted.

Comment Letter I45: LakeCAP

Response to Comment I45-1

The commentor provides a summary of the timeline of the updated March 2025 Draft PREIR and the commentor's previous comments to date. This comment is noted.

Response to Comment I45-2

The conclusion that the Proposed Project would result in a loss of Important Farmland is based upon the acres of this resource and the potential for the Proposed Project to result in impacts to these resources, as analyzed in Section 4.2 of the Draft PREIR. These impacts were assumed to be permanent as the Proposed Project does not anticipate future reuse of converted agricultural lands for agricultural production. While the loss of Important Farmland has been considered a significant and unavoidable impact since the 2020 EIR, it is noted that crop production on the Project Site is limited to vineyards intended for processing into wine. Therefore, loss of vineyards would not affect food security in the County as stated in this comment. An assessment of food security is outside the scope of analysis of the March 2025 Draft PREIR and CEQA in general. Please refer to **General Response 2** regarding the scope of the Draft PREIR.

To clarify, Figure 4-1a is not intended to show the exact mitigation areas, as precise impact acreages will not be determined until final building placement within parcels has been determined. Therefore, this figure shows the location of farmland across the entirety of the Project Site, regardless of its disposition. Mitigation Measure 3.2-2 requires the permanent protection of "farmland of equivalent quality to the farmland that would be converted" and that "This farmland shall also have access to necessary infrastructure for farmland operations." Accordingly, to meet the requirement of "equivalent quality," mitigation areas must have equivalent access to irrigation infrastructure as the farmland to be converted.

It is noted that the County's General Plan provides guidance regarding the preservation and subdivision of agricultural land. The Proposed Project includes a General Plan and zoning amendment. A consistency table with the General Plan was provided in the 2020 EIR (Appendix GPCT) included as Appendix D of the Draft PREIR.

Response to Comment I45-3

Wildfire risks were assessed in Section 3, Appendix F, and Appendix M of the Draft PREIR. Use of open spaces and buffers are two of the many components assessed as part of the overall project's wildfire risk, which was determined to be less than significant with mitigation.

Response to Comment I45-4

Designation under the Farmland Mapping and Monitoring Program (FMMP) as Prime Farmland or Farmland of Statewide Importance does not mean that the land is in current active agricultural production. The FMMP for the Grange Road Connector is displayed in Figure 4-1b, which shows that the majority of the Grange Road Connector is Grazing Land and not Important Farmland. Further, habitat types within the Grange Road Connector were detailed in Section 4.4 of the Draft PREIR and confirmed that there is no active agricultural crop production within the Grange Road Connector. This area largely follows an existing unpaved road and grazing land. All areas affected by the Project Modifications,

including the Grange Road Connector area, are included in the Modified APE analyzed in the Draft PREIR. Therefore, all environmental impacts related to the Grange Road Connector were analyzed in the Draft PREIR.

Response to Comment I45-5

Habitat type mapping, including the designation of rock outcrop, was the result of numerous biological resources studies completed in support of the Draft PREIR (Section 4.4). The Draft PREIR identifies serpentine rock outcrops and considers them a sensitive habitat in the Draft PREIR, and mitigation for impacts to serpentine rock outcrop is included in Section 5 of the Draft PREIR. A new **Figure 4-11** has been prepared for this Final PREIR (see **Section 4**) to illustrate serpentine rock outcrops. Please refer to **Responses to Comments I26-2**, **I26-3**, and **I41-3** regarding the past documentation of special-status plants and implementation of special-status plant mitigation requirements for preconstruction plant surveys.

Response to Comment I45-6

This comment expresses concerns for impacts to special-status wildlife, but refers only to the special-status plant mitigation measure. There are numerous mitigation measures intended to protect, avoid, or otherwise reduce impacts to special-status wildlife. Please see Mitigation Measures 3.4-1, 3.4-2, and 3.4-4 through 3.4-13 protective of special-status wildlife. Regarding the timing of preconstruction botanical surveys for special-status plants, Mitigation Measure 3.4-3 does in fact require that these surveys be conducted during the appropriate identification season. The appropriate identification season generally is the bloom window, but it should be noted that many plants have bloom windows outside of spring, and other plants are conspicuous year-round.

Response to Comment I45-7

The designation of sensitive habitat is based upon CDFW classifications based upon the rarity of a habitat, not based upon its potential to support special-status plants. Thus, the Draft PREIR contains separate mitigation for impacts to sensitive habitats (Mitigation Measure 3.4-15) and impacts to special-status plants (Mitigation Measure 3.4-3).

Response to Comment I45-8

The potential for naturally occurring asbestos to occur within serpentine soils or within older structures is analyzed in Impact 3.8-2. Mitigation Measures 3.8-3 and 3.8-5 were included in Section 5 of the Draft PREIR to reduce impacts related to asbestos.

Response to Comment I45-9

It is correct that the March 2025 Draft PREIR considers oak habitat to be sensitive. This comment emphasizes the sensitivity of this resource but does not provide specific comments on the analysis or mitigation related to impacts to oak habitat. This comment also confuses the Modified APE and assumes every blue oak within the Modified APE will be removed. As defined in Section 1.4 of the Draft PREIR, the "entire APE will not be disturbed, rather it represents the outer perimeter within which impacts may occur." Impacts to oak habitat within the Grange Road Connector area were analyzed as part of the Modified APE. Impacts to oak habitat would be subject to the Oak Mitigation Plan outlined in Mitigation Measure 3.4-16 of the Draft PREIR. This plan sets forth requirements for preservation and/or

compensatory plantings for impacted oak habitat as well as mitigation monitoring and minimum success criteria to ensure efficacy of mitigation. Therefore, no further response is necessary.

Response to Comment I45-10

It is incorrect to say that a cumulative analysis was not presented. Section 4.12.1 of the Draft PREIR provides a cumulative analysis related to the Project Modifications. Section 4.10 of the Draft PREIR discussed traffic in relation to the Grange Road Connector and includes updated traffic counts. There are no operational trips associated with the Grange Road Connecter because, as acknowledged in the comment, it will only be used for emergency ingress and egress as stated in Section 2.2.2 of the Draft PREIR. "Access to this new roadway would be controlled via a locked gate; only the Applicant, the Comstock property owner, and local fire district and emergency first responders would be able to unlock the gate, ensuring that non-emergency access would be restricted." Therefore, the Grange Road Connecter does not induce a cumulative contribution to operational vehicle trips.

Response to Comment I45-11

The commentor expresses the opinion that all the measures identified for drought times should be implemented even when there is not a drought. Please note that the DMP was completed in accordance with Lake County Ordinance 3106, which requires that all projects that require a CEQA analysis of water use include a DMP describing how the project will reduce water use during a declared drought emergency (Section 2.2.4 of the Draft PREIR). There are numerous other commitments and mitigation measures regarding water use (see Section 5 of the Draft PREIR). Water supply has been assessed throughout the environmental review process, including under Impact 3.9-2 of the 2020 Final EIR Volume II and in Section 4.9 of the Draft PREIR. As detailed within these sections, both the 2020 EIR and the Draft PREIR determined that impacts to water supplies would be less than significant with inclusion of mitigation. No comments were received on the analysis or determinations made within the Draft PREIR, and therefore no further response is necessary.

Response to Comment I45-12

An analysis for impacts regarding population and housing was provided in Section 3.11 of the 2020 EIR (Appendix D of the Draft PREIR) and determined that impacts would be less than significant. Regarding the potential to 'gift' the Off-site Well to the Callayomi Water District, Section 2.2.4 of the Draft PREIR indicates:

> The Applicant may enter into an agreement with the Callayomi County Water District in the future such that the District would own and operate the Off-Site Well for the benefit of its customers and the Project. Thus, the operation of the Off-Site Well as a backup water supply source for the Proposed Project may be conducted directly by the Applicant, or by the Callayomi County Water District pursuant to a future agreement with the Applicant. However, any use of the Off-Site Well by the Callayomi County Water District to expand its water supply capacity and/or service area would be a separate and distinct project beyond the scope of this EIR, and may be subject to additional environmental review in accordance with CEQA.

As further explained in **General Response 2**, the updated March 2025 Draft PREIR did not re-evaluate topics analyzed in the 2020 EIR that were found to be adequately addressed by the Superior Court ruling,

the First Appellate Court decision, and/or that would not be affected by the Project Modifications, including the Off-Site Well.

Response to Comment I45-13

Comment noted.

Comment Letter I46: Iris Behn

Response to Comment I46-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Comment Letter I47: Richard Derum

Response to Comment I47-1

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

3.5 RESPONSES TO PUBLIC MEETING COMMENTS

PH-1: Judson Hodges

Please refer to Response to **General Response 2** regarding the scope of the PREIR, **General Response 5** regarding issues related to the off-site well and pipeline, **General Response 6** for information on helicopter and aircraft noise and the potential impacts on wildlife, and **General Response 7** for information on flight paths and helicopter and float plane frequency. Please refer to **Response to Comment I7-2** regarding nesting birds, specifically eagles.

PH-2: Kevin Case

Comment noted.

PH-3 Ms. Schmidt-Hopper

As discussed in **General Response 2**, the Draft PREIR did not re-evaluate topics analyzed in the 2020 EIR that were found to be adequately addressed by the Superior Court ruling, the First Appellate Court decision, and/or that would not be affected by the Project Modifications, including the impact of new sources of lighting and glare. Impact 3.1-2 of the 2020 Final EIR Volume II addressed the potential of the Original Project to introduce new sources of lighting or glare. As stated therein, the Proposed Project would be required to comply with GVD design guidelines (described in Section 2.5.2.9 and included in Appendix DG of the 2020 Final EIR), and site-wide lighting design would preserve nighttime dark skies in accordance with the Dark Sky Initiative adopted by the County and CBCs. The potential for the Project Modifications to result in new or more severe significant impacts associated with lighting and glare was assessed in Impact 3.1-2 of the 2020 EIR and Impact 3.4-1 in Section 4.4.4 of the Draft PREIR, which determined that the "Project Modifications would result in a similar use artificial lighting, though it is noted that the reduction in the APE due to the Parcel Reconfiguration would reduce the geographical

scale of this impact. **Mitigation Measure 3.4-7** would continue to apply and would reduce impacts to less-than-significant levels for the same reasons stated in the 2020 EIR. The Project Modifications would not result in any new significant effects or a substantial increase in the severity of previously identified significant impacts associated with artificial lighting as compared to the 2020 EIR."

PH-4: Lisa Kaplan

Please refer to **General Response 7** for information on flight paths and helicopter and float plane frequency.

PH-5: Shannon Sanders

Please refer to **General Response 7** for information on flight paths.

PH-6: Linda Diehl-Darms

Please refer to **General Response 5** regarding groundwater depletion in the Collayomi Basin and the adequacy of the proposed 10-year groundwater monitoring period.

PH-7 Terry Hoberg

Please refer to **Response to Comment I29-5** regarding the density of the Middletown Housing Site and **Response to Comment PH-3** regarding lighting and glare impacts.

PH-8: Helen Owen

Please refer to **Response to Comment I25-3** regarding the Grange Road Connector. Further, please refer to **General Response 7** for information on flight paths and frequency and **General Response 5** regarding the off-site well and contamination concerns.

PH-9: Todd Fiora

Please refer to **General Response 5** for information regarding the off-site well and monitoring, groundwater availability, and contamination concerns.

PH-10: Hank Lescher

Please refer to **General Response 5** regarding the off-site well monitoring.

PH-11: Fletcher Thorne

Comment noted.

PH-12: Jim Comstock

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

PH-13: Ms. Schmidt-Hopper

As stated on page 3.12-18 of the 2020 Final EIR Volume II:

> Per California Government Code Sections 65995(h) and 65996(b), payment of school mitigation fees has been deemed by the State legislature to constitute full and complete mitigation of impacts of a development project on the provision of adequate school facilities. Therefore, the existing fee mechanisms would fully mitigate the environmental effects of the increased population and the public school-related impacts of future development. Although the Proposed Project would generate student enrollments at area schools, both the Proposed Project and future development would be required to fully mitigate impacts to schools by way of developer fees.

Please refer to **Response to Comment I11-3** for additional information regarding developer fees.

PH-14: John Hess

Please refer to **General Response 3** and **Response to Comment A2-1** regarding the construction of a roundabout at the SR 29/Butts Canyon Road intersection.

PH-15: Tom Darms

Section 2.2.1 of the Draft PREIR describes the GHG emission reduction measures that have been included among the Project Modifications. Please refer to **Response to Comment I27-7** for additional information regarding the GHG measures proposed in the Draft PREIR. Information regarding construction-phase runoff and the necessary SWPPP can be found in the 2020 Final EIR Volume II, Section 3.9.4, and as Mitigation Measure 3.9-1 in the 2020 Final EIR Volume II (Appendix D of the Draft PREIR). Mitigation Measure 3.9-1 is unchanged in Section 5 of the Draft PREIR.

PH-16: Helen Owen

Please refer to General **Response 5** for clarification on the uses of water extracted from the off-site well and **Response to Comment I31-1** regarding pumping station(s) for the off-site well pipeline.

PH-17: Lisa Kaplan

Please refer to **General Response 7** regarding flight paths and frequency. **Response to Comment I29-5** regarding the density of the Middletown Housing Site. Other than the Off-Site Well, the Project does not include any proposed development at the parcel located at the intersection of SR 29 and Butts Canyon Road.

PH-18: Judson Hodges

Please refer to **General Response 5** regarding the use of and infrastructure associated with the Off-Site Well and **Response to Comment I31-1** regarding pumping station(s) for the off-site well pipeline.

PH-19: Lisa Kaplan

Please refer to **Response to Comment I29-5** regarding the density of the Middletown Housing Site.

PH-20: Shannon Sanders

Please refer to **General Response 5** for clarification on the uses of water extracted from the off-site well.

PH-21: Monica Rosenthal

Please refer to **Response to Comment I29-5** regarding the density of the Middletown Housing Site and **General Response 5** regarding the off-site well monitoring. Other than the Off-Site Well, the Proposed Project does not include any proposed development at the parcel located at the intersection of SR 29 and Butts Canyon Road. Please also see **Response to Comment I29-3** regarding the commenter's suggestion for a pedestrian/bicycle trail. Information on the air quality impacts associated with the Middletown Housing Site can be found in the 2020 Final EIR Volume II, Section 3.3.4.

PH-22: Jonathan Breene

Comment noted.

PH-23: Linda Diehl-Darms

Please refer to **General Response 5** regarding the off-site well monitoring and drought concerns.

PH-24: Helen Owen

Please refer to **General Response 5** regarding water transfers.

PH-25: Eileen Anderson

Please refer to **General Response 5** regarding the off-site well. As detailed in **General Response 1**, comments that do not raise substantive environmental issues are not required to be responded to in the Final PREIR. However, the comment related to the Valley Fire has been included in the administrative record and will be considered by Lake County in its decision.

PH-26: Judson Hodges

As detailed in **General Response 1**, comments that do not raise substantive environmental issues are not required to be responded to in the Final PREIR. However, this comment has been included in the administrative record and will be considered by Lake County in its decision. Please also see **Response to Comment I21-1** regarding the suggestion to allow other Butts Canyon property owners to use water from the Off-Site Well.

PH-27: Terry Hoberg

Please refer to **Response to Comment I29-5** regarding the density of the Middletown Housing Site.

PH-28: Sally Peterson

Comment noted. Please refer to **General Response 1** regarding expressions of support for the Proposed Project.

Section 4 | Draft PREIR Revisions

The following changes are made to update the text of the Draft PREIR based on revisions in response to comments on the Draft PREIR. The revisions reflect changes identified in **Section 3**, Response to Comments; all of which clarify, expand, or update information and/or graphics presented in the Draft PREIR. The revised text does not provide new information that would result in any new significant impact not already identified in the Draft PREIR or a substantial increase in the severity of an impact identified in the Draft PREIR. Thus, none of the text revisions would require recirculation pursuant to CEQA Guidelines section 15088.5. The Draft PREIR, as modified in **Section 4** below, and this Response to Comments document together constitute the Final PREIR for the Guenoc Valley Mixed Use Planned Development Project.

In the revisions shown below, deleted text is shown in ~~strikethrough~~ and new text is underlined.

4.1 REVISIONS TO SECTION 3: WILDFIRE

Mitigation Measure 3.16-4 under Section 3.4.4 'Mitigation Measures' has been revised for clarification:

MM 3.16-4 Reduce Evacuation Time Impacts on SR 29 by Minimizing Project-Related Evacuation Traffic on SR-29

- Prior to occupancy of any Project uses, the applicant shall install variable message signs at the outbound lanes of the three Project egress roads that connect to Butts Canyon Road and Grange Road. Lake County shall be the Lead Agency to oversee installation of the variable message signs within the Project Site. The variable message signs shall be connected to the on-site Emergency Response Center so that evacuation-related messages can be controlled by fire personnel managing the evacuation. At the time of an evacuation order for a full South Lake County evacuation, evacuating Project traffic shall be directed to alternate routes to SR 29. Unless precluded by wildfire, evacuating Project traffic shall be directed to the planned egress intersections on Butts Canyon Road and to the south on Butts Canyon Road.
- The roundabout that will be constructed by the Project applicant at the SR 29/Butts Canyon Road intersection shall include a southbound bypass lane to increase intersection capacity after preparation of an Intersection Safety and Operational Assessment Process (ISOAP).

4.2 REVISIONS TO SECTION 4: ASSESSMENT OF ENVIRONMENTAL IMPACTS FROM PROJECT MODIFICATIONS

The paragraph below subtitle *Serpentine Rock Outcrop* in Section 4.4.2 has been revised due to the addition of a new **Figure 4-11** at the request of a commenter, which has been added to this Final PREIR:

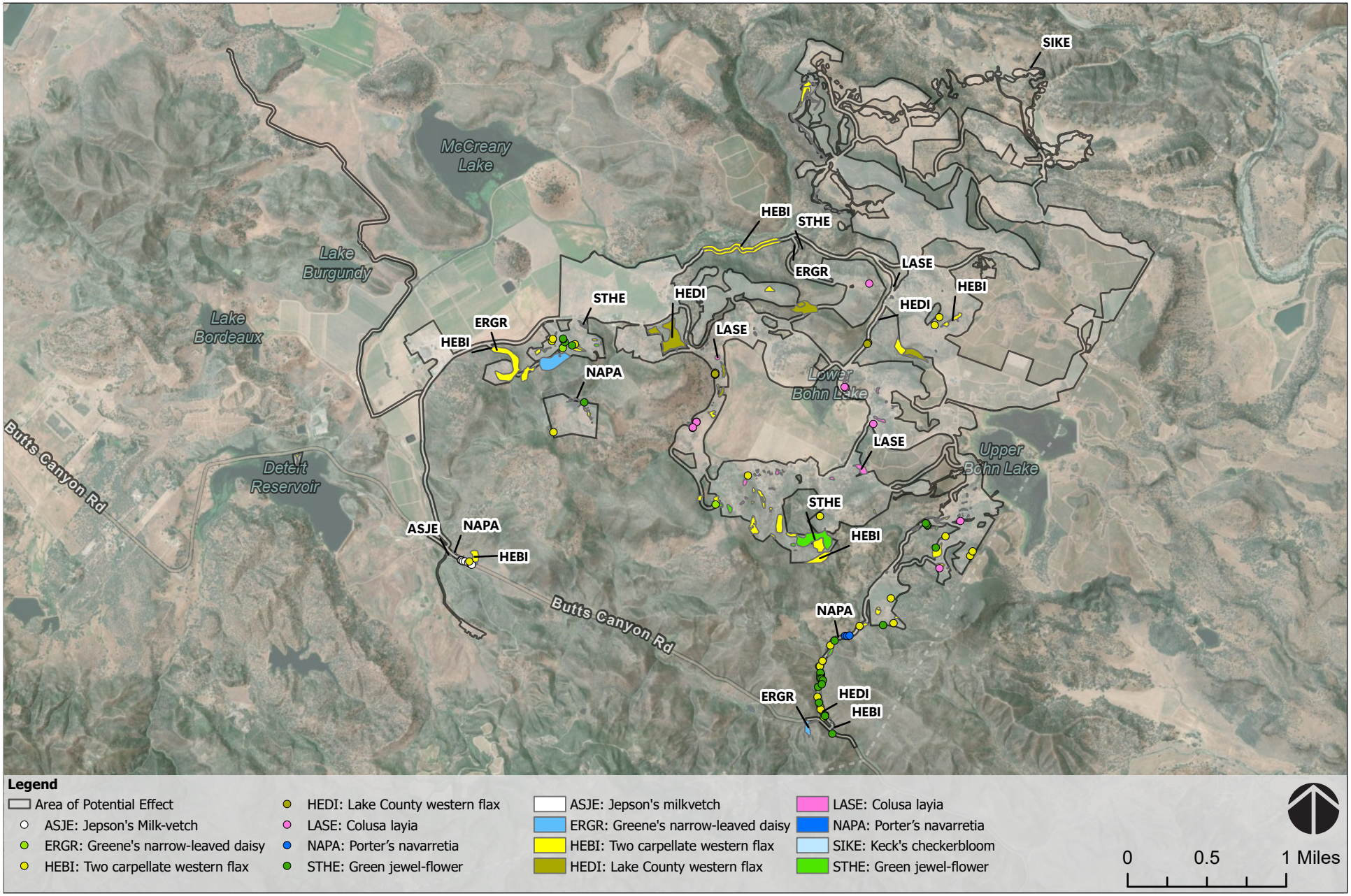
> This natural community occurs on rocky serpentine slopes, ridges, and outcrops in the California Coast Range, Klamath Mountains, Sierra Nevada Range and foothills, and southern Cascades (**Appendix I**). Vegetative cover is sparse. Where vegetation is present, plant species are characterized by serpentine indicator species (**Appendix I**). Within the totality of the Guenoc Valley Site and Grange Road connector, 18.9 acres of this habitat occurs (see **Figure 4-11** for a depiction of the serpentine and non-serpentine rock outcrops across the entirety of the Guenoc Valley Site). Plant species present include sickle leaf onion (*Allium falcifolium*), golden buckwheat (*Eriogonum luteolum* var. *luteolum*), western flax (*Hesperolinon* spp.), and Sonoma lessingia (*Lessingia ramulosa*).

The paragraph below the heading **Special-Status Plants** within Section 4.4.2 'Impacts' has been revised to include adjustments made to **Figure 4-7**, a revised version of which is included within this Final PREIR:

> In addition to the special-status wildlife identified above, **Appendix I-1** and **I-2** identified 61 special-status plant species with the potential to occur within the Modified APE. **Table 4.4-3** summarizes those special-status plant species that have the potential to occur within the Modified APE based on **Appendix I-1** and **I-2** and the data collected in support of the 2020 EIR. Additional springtime bloom surveys occurred in May 2025, the results of which are included in **Appendix P**. These plant populations are depicted in **Figure 4-7**.

The paragraphs discussing the following biological mitigation measures under Section 4.4.5 'Mitigation Measures' have been revised for clarification:

> **Mitigation Measure 3.4-3** provides measures to reduce potential impacts to special-status plant species. Additional information has been provided to ensure that, if any State or federally listed plants require removal, transplantation, or any "take", an ITP shall be obtained prior to activities that could cause take.
>
> Consultation with CDFW is now an additional requirement in **Mitigation Measure 3.4-5** to ensure that a site-specific buffer is developed if any active ringtail dens are identified during the preconstruction surveys.
>
> **Mitigation Measure 3.4-8** requiring preconstruction surveys for special-status, nesting, and migratory birds has been updated to incorporate language recommended by CDFW regarding appropriate survey distances, timing, and species-specific information for tricolored blackbird.
>
> **Mitigation Measure 3.4-9** requiring preconstruction surveys for burrowing owl has been updated to incorporate additional protective buffers as recommended by CDFW.
>
> Both **Mitigation Measures 3.4-15** and **3.4-18** relate to sensitive habitat mitigation. As serpentine rock outcrop has been recently described and classified as sensitive, it has been added to these mitigation measures. The mechanisms of mitigation remain unchanged. A clarification has been added to **Mitigation Measure 3.4-15** that habitat restoration, creation, or enhancement activities would be done under the supervision of a qualified biologist.



Source: Lake County Community Development and General Plan;
Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NLS,OS,NMA,Geodatastyrelsen,GSA,GSI and the GIS User Community, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

FIGURE 4-7

SPECIAL STATUS PLANTS WITHIN PHASE 1 APE

Source: Lake County Community Development and General Plan; Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NLS,OS,NMA,Geodatastyrelsen,GSA,GSI and the GIS User Community, Pictometry International, The County of Napa, Maxar; Acorn Environmental, 10/17/2024

FIGURE 4-11
ROCK OUTCROPS

The paragraph discussing traffic mitigation measures under Section 4.10.5 'Mitigation Measures' has been revised for clarification:

> No changes to the mitigation measures are warranted as a result of the Project Modifications, although minor updates have been made as a result of updated Caltrans review policies as described below. A full list of the mitigation measures is included in the MMRP in **Section 5** of this PREIR.
>
> **Mitigation Measures 3.13-1 and 3.13-2** previously referred to the Intersection Control Evaluation (ICE) process required by Caltrans. This process has been replaced by the Intersection Safety and Operational Assessment Process (ISOAP), and these mitigation measures have been updated accordingly.

Section 5 | Updated Mitigation Monitoring and Reporting Program

5.1 INTRODUCTION

CEQA requires that a Lead Agency establish a program to report on and monitor measures adopted as part of the environmental review process to mitigate or avoid significant effects on the environment. This MMRP is designed to ensure that the mitigation measures identified in the EIR for the Guenoc Valley Mixed Use Planned Development Project (Proposed Project) are fully implemented. The MMRP, as presented in **Table 5-1**, describes the implementation and timing of mitigation responsibilities and standards, and verification of compliance for the mitigation measures identified in the PREIR.

Table 5-1 presents all applicable requirements of the recommended mitigation measures and is organized in the same order as the contents of the 2020 EIR, as modified by the 2025 PREIR by topic. Monitoring responsibilities have been distributed between the County and the Applicant under this MMRP. All monitoring actions, once completed, would be reported (in writing) to Lake County staff, which would maintain mitigation monitoring records for the Proposed Project.

Any text revisions to the mitigation measure language compared to what was previously considered in the 2020 EIR are shown in ~~strikethrough~~ (to indicate deletions) or <u>underline</u> (to indicate additions). Some text has been moved from cultural mitigation measures to new tribal cultural mitigation measures; this moved text is shown with ~~double-strikethrough~~ and <u>double-underline.</u>

The components of the MMRP table are described below.

- **Mitigation Measure:** The mitigation measures are taken verbatim from the 2025 Final PREIR. Mitigation measures are assigned the same number as in the PREIR.
- **Implementation and Timing:** Identifies the timing for the implementation of each action.
- **Responsibility for Implementation:** Identifies the authority responsible for implementing the mitigation measure.
- **Responsibility for Monitoring:** Identifies the authority responsible for monitoring implementation of the mitigation measure.

5.2 PROJECT COMMITMENTS

In addition to mitigation responsibilities listed in **Table 5-1**, the Applicant has committed to certain actions that would reduce the environmental effects of the Project, including effects related to wildfire prevention and response. A number of project commitments are outlined in **Table 5-2**, along with the timing, responsible party for implementation, and responsible party of monitoring. It should be noted that **Table 5-2** is not inclusive of all of the project's environmental commitments. Other measures may be described in the 2020 Final EIR, Volume II, Section 2.0 Project Description, the 2025 PREIR, and the

appendices cited therein, including but not limited to the Design Guidelines (Appendix DG) and zoning ordinance requirements (Appendix GVD).

5.3 SETTLEMENT AGREEMENT MEASURES

In addition to mitigation responsibilities listed in **Table 5-1** and project commitments in **Table 5-2**, the Applicant voluntarily entered into a Settlement Agreement with the State to resolve the State's petition and appeal (Appendix C). The Settlement Agreement stipulated several Project Modifications that the Applicant has agreed to incorporate into the Project pertaining to wildfire prevention and protection, GHG emissions, and land use, which are listed in **Table 5-3**. The timing, responsible party for implementation, and responsible party of monitoring, are also listed in **Table 5-3**.

Table 5-1: Mitigation Monitoring and Reporting Plan

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
3.1	**Aesthetics**			
3.1-1	**Off-Site Workforce Housing Lighting Design** All exterior lighting shall be required to be of the fully-cut off and fully-shielded style to direct light downward (and not up or away) from the light source. The applicant shall coordinate with the County to ensure the lighting plan is consistent with the International Dark Sky Association Model Lighting Ordinance.	Lighting plans consistent with these requirements shall be submitted to **County prior to approval of building permit**. (Use Permit COA)	Applicant	County
3.2	**Land Use and Agriculture**			
3.2-1	**Right-to-Farm Disclosure** In accordance with the Lake County Code, the Applicant and/or HOA will inform prospective buyers of property, future owners, and current occupants of the project site of the County's Right-to-Farm Ordinance. This notification requirement will be included in the conditions, covenants, and restrictions (CC&Rs) for the Proposed Project. Additionally, buyers shall sign an acknowledgement of the disclosure statements once informed of the Right-to-Farm Ordinance, which shall be kept on file by an authorized agent of the Applicant and/or HOA. The notification shall include a description of adjacent agricultural operations so that buyers within the Proposed Project are aware of operational aspects of agricultural uses (e.g. noise, odors, and dust). The disclosure shall also state that operations from the agricultural equipment may routinely exceed the Lake County Noise Ordinance standards.	Applicant to put note on Final Maps. County to **require note to be recorded with Final Maps**.	Applicant/County	County
3.2-2	**Agricultural Conservation** For every acre of prime farmland and unique farmland identified by the Farmland Mapping and Monitoring Program that is converted to non-agricultural uses, the Applicant shall place an agricultural conservation easement, deed restriction, or other form of long-term permanent protection on farmland of equivalent quality to the farmland that would be converted. This farmland shall be permanently protected and located within 100 miles of the Guenoc Valley Site. This farmland shall also have access to necessary infrastructure for farmland operations, such as roads. There shall be at least a 100-foot buffer between the easement and residential development (a smaller buffer may be utilized if determined acceptable by the agricultural commissioner).	Applicant to record agricultural conservation easement, deed restriction, or other form of long- term permanent protection on farmland as required by County **prior to submittal of Final Maps, and provide proof of recordation with submittal of Final Maps**.	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	For Phase 1, this will require that approximately 86.7 acres ~~28.4 acres~~ of Prime Farmland, and approximately 193.6 acres ~~22.1 acres~~ of Unique Farmland are permanently preserved in accordance with this mitigation measure. The acreage requirements for future phases will be based on the specific development proposals and associated area of impacted farmland. The County shall verify the precise size of impact and therefore the relative size of land to be conserved prior to approval of the associated final phased tentative maps.			
3.3	**Air Quality**			
3.3-1	**Measures to Reduce Short-term Construction Related Emissions** The following measures will be implemented by the Proposed Project to reduce emissions of criteria pollutants and DPM from construction. a) Prior to approval of Grading or Improvement Plans- (whichever occurs first) the Applicant shall submit to LCAQMD a Construction Emission/Dust Control Plan within 30 days prior to groundbreaking. The following shall be listed on the improvement plans as standard notes: ▪ During construction, emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area, shall be controlled so that dust does not remain visible in the atmosphere beyond the boundary line of the emission source. ▪ When wind speeds result in dust emissions crossing property lines, and despite the application of dust control measures, grading and earthmoving operations shall be suspended and inactive disturbed surface areas shall be stabilized. ▪ Fugitive dust generated by active operations, open storage piles, or from a disturbed surface area shall not result in such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as No. 2 on the Ringlemann Chart (or 40 percent opacity). ▪ All exposed soils be watered as needed to prevent dust density as described above and in order to prevent dust from visibly exiting the property. ▪ Any visible tracked out dirt on a paved road where vehicles enter and exit the work area must be removed at the end of the workday or at least one time per day. Removal shall be accomplished by using wet sweeping or a HEPA	Applicant to submit to LCAQMD a Construction Emission/Dust Control Plan and other information conforming to this Mitigation Measure within 30 days prior to groundbreaking. County to review prior to issuing Grading or Improvement Plans- (whichever occurs first). (Use Permit COA)	Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
filter equipped vacuum device. Dirt from vehicles exiting the site shall be removed through the use of a gravel pad, a tire shaker, a wheel wash system, or a pavement extending for not less than 50 feet from the intersection with the paved public road. ▪ All haul trucks transporting soil, sand, or other loose material offsite shall be covered. ▪ All vehicle speeds on unpaved roads shall be limited to 25 mph. ▪ During construction the contractor shall, where feasible, utilize existing power sources (e.g., power poles) or clean fuel (i.e. gasoline, biodiesel, natural gas) generators rather than temporary diesel power generators. ▪ Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. Signs shall be posted in the designated queuing areas of the construction site to remind off-road equipment operators that idling time is limited to a maximum of 5 minutes. b) In conjunction with the submittal of the Construction Emission/Dust Control Plan, the prime contractor shall submit to the District a comprehensive inventory (i.e., make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower or greater) that will be used in aggregate of 40 or more hours for the construction project. If any new equipment is added after submission of the inventory, the prime contractor shall contact the LCAQMD prior to the new equipment being utilized. Except in the event of emergency work, when no notice shall be required, the project representative shall provide the District, at least one business day prior to the use of subject heavy-duty off road equipment with the anticipated construction timeline including start date, name and phone number of the property owner, project manager and on-site foreman. The equipment inventory shall meet the minimum requirements as specified in MM 3.3-1c, including the use of Tier 4 engines or better to the maximum extent feasible, and Level 3 Diesel Filters during all phases of development. c) To the maximum extent feasible, the contractors shall utilize Tier 4 engines or better, and Level 3 Diesel Filters during all phases of development. Compliance must be demonstrated with submittal of the equipment inventory, prior to			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	approval of dust control plans.			
3.3-2	**Project Measures to Reduce Operational Emissions** Prior to the issuance of the first certificate of occupancy for the relevant portion of the project (i.e., residential or commercial), as appropriate, the Applicant shall provide documentation to the County that the following measures have been achieved. It should be noted that these measures do not apply to on-going uses within the property that are not a component of the Proposed Project, including agricultural operations conducted under third party leases. *Transportation Demand Management Measures* Implement MM 3.13-4 to develop and implement a Transportation Demand Management (TDM) Program to achieve a reduction in vehicle miles traveled (VMT) as a result of the Proposed Project. At a minimum these measures will include: ▪ Dedicated on-site parking for shared vehicles (vanpools/carpools); ▪ Adequate, safe, convenient, and secure on-site bicycle parking and storage in the commercial portion of the project; and ▪ Use of an electric fleet for internal transport vehicles (excluding trucks and other ranch vehicles for on-going agricultural and grazing activities) to the extent feasible (no less than 75%), including the golf course. *Project Wide Measures* ▪ Use energy-efficient lighting that will reduce indirect criteria pollutants and greenhouse gas (GHG) emissions. Using energy-efficient lighting will reduce energy usage and, thus, reduce the indirect GHG emissions from the Proposed Project. Energy-efficient lighting includes adaptive lighting systems or systems that achieve energy savings beyond those required by Title 24 lighting requirements to the maximum extent feasible. ▪ Utilize low-flow appliances and fixtures; Use of state-of-the-art irrigation systems that reduce water consumption including graywater systems and rainwater catchment. ▪ Use of drought-tolerant and native vegetation. ▪ Low volatile organic compound paint shall be utilized for parking areas and the interiors and exteriors of ~~the~~ both the residential and non-residential	Applicant to prepare TDM Program compliant with this Mitigation Measure and submit to County. County to review and approve prior to issuance of the first certificate of occupancy. (Use Permit COA) Lighting plans consistent with these requirements shall be submitted to County prior to approval of building permit. (Use Permit COA) Improvement Plans consistent with these requirements shall be submitted to County prior to approval of Final Maps. (TM COA)	Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
buildings. *Residential Measures* ▪ Facilitate achievement of zero net energy buildings through installation of solar photovoltaic systems consistent with the 2019 Building Energy Efficiency Standards, CCR Title 24 Part 6. Compliance with this requirement must be demonstrated prior to issuance of occupancy permits for residential uses. ▪ Provide electrical outlets on the outside of the homes or outlets within the garages to encourage the use of electrical landscaping equipment. ▪ Use water efficient landscapes and native/drought-tolerant vegetation. ▪ Install smart meters and programmable thermostats. ▪ Use energy-efficient appliances in the residences where available. These include appliances that meet U.S. Environmental Protection Agency (USEPA) Energy Star Criteria. *Resort/Commercial Measures* ▪ Facilitate achievement of zero net energy buildings through the construction standards required under the 2019 Building Energy Efficiency Standards, CCR Title 24 Part 6 and the use of rooftop or on-site photovoltaic systems, with or without storage, or the acquisition of renewable energy or energy credits from another source, or generation onsite. Zero Net Energy shall mean that on a community-wide basis, the actual annual consumed energy will be less than or equal to the renewable generated energy utilized. It is the Project's goal to obtain enough renewable electrical energy for the Project's needs and to distribute it throughout the Guenoc Valley Site. Therefore, renewable energy supplies shall be secured and/or systems installed for each commercial structure prior to issuance of its final certificate of occupancy. ▪ Install on-site charging units for electric vehicles consistent with parking requirements in California Green Building Standards Code Section 5.106.5.2. ▪ Install electric water heating instead of gas water heating for some or all of the project's hot water needs, to the extent such technology is readily available and commercially practicable.			

<table>
<tr><th></th><th>Mitigation Measure</th><th>Implementation and Timing</th><th>Responsible for Implementing</th><th>Responsibility for Monitoring</th></tr>
<tr><td>3.4</td><td>Biological Resources</td><td></td><td></td><td></td></tr>
<tr><td>3.4-1</td><td>Construction Best Management Practices (BMP)
A) Construction and staging areas shall not be larger than necessary and to the degree feasible shall be within areas otherwise scheduled for development. These areas shall be visibly demarcated prior to construction activities to prevent unnecessary impacts. Equipment shall not be kept outside established areas.
B) Construction areas shall be kept serviceably clean. Sufficient closed bins shall be provided for trash and debris. Washout, track out, and dust control BMPs shall be implemented as necessary. Construction vehicles and equipment shall be clean and free of mud or vegetation that could introduce plant pathogens or propagules of non-native plants. This includes equipment hauled onto the site.
C) Pets shall not be allowed within construction areas.
D) Construction activities shall be carried out such that sensitive habitats are avoided. Materials shall not be placed where they may enter sensitive habitat, receiving waters, or a storm drain, or be subject to wind or runoff erosion and dispersion.
E) Equipment use shall be limited to the hours from 7:00 a.m. to 7:00 p.m. to the extent possible. Exceptions may be made if approved by the County for situations where a longer construction schedule would alleviate the potential for adverse environmental effects</td><td>The applicant shall include these requirements in construction contracts. (Use Permit COA)</td><td>Applicant</td><td>County</td></tr>
<tr><td>3.4-2</td><td>Work Environmental Awareness Training
Construction personnel working on the Proposed Project shall be provided with an Environmental Awareness Training tailored to the location they will be working on prior to the commencement of construction work by that personnel. This training shall include materials that describe the sensitive habitats and special status wildlife species with the potential to occur. Table 3.4-9 in Final EIR, Volume II, Section 3.4 dictates species for which environmental awareness training shall occur, based on location.
<table>
<tr><th>Species</th><th>Guenoc Valley Site (All Phases) and Grange Road Connector</th><th>Middletown Housing Site</th></tr>
<tr><td>Pallid bat (Antrozous pallidus)</td><td>X</td><td>X</td></tr>
<tr><td>Ring-tailed cat (Bassariscus astutus)</td><td>X</td><td></td></tr>
</table></td><td>The applicant shall include these requirements in construction contracts. (Use Permit COA)</td><td>Applicant</td><td>County</td></tr>
</table>

Mitigation Measure			Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
Townsend's big-eared bat *(Corynorhinus townsendii)*	X				
Western red bat *(Lasiurus blossevillii)*	X	X			
American badger *(Taxidea taxus)*	X				
Tricolored blackbird *(Agelaius tricolor)*	X				
Grasshopper sparrow *(Ammodramus savannarum)*	X				
Golden eagle *(Aquila chrysaetos)*	X				
Long-eared owl *(Asio otus)*	x	X			
Burrowing owl *(Athene cunicularia)*	X				
Northern harrier *(Circus cyaneus)*	X				
Olive-sided flycatcher *(Contopus cooperi)*	X	X			
White-tailed kite *(Elanus leucurus)*	X	X			
American peregrine falcon *(Falco peregrinus anatum)*	X				
Bald eagle *(Haliaeetus leucocephalus)*	X				
Yellow-breasted chat (*Icteria virens)*	X	X			
Least bittern *(Ixobrychus exilis)*	X				
Loggerhead shrike *(Lanius ludovicianus)*	X	X			
Purple martin *(Progne subis)*	X	x			
Yellow warbler *(Setophaga* [*Dendroica*] *petechia brewsteri)*	X	X			
Yellow-headed blackbird (*Xanthocephalus xanthocephalus)*	X				
Northwestern pond turtle *(Actinemys marmorata)*	X	X			
Foothill yellow-legged frog *(Rana boylii)*	X	X			

Topics covered shall include relevant biological information on these species, and the appropriate actions that shall be taken in the event of an occurrence. Training shall also include a description of construction best management practices and the importance of environmentally conscious construction. Training materials shall be prepared by a qualified biologist who shall train a member of the contractor's crew to provide follow-up trainings to newly hired employees during the construction period. The qualified biologist shall attend the Environmental Awareness Training quarterly,

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	at a minimum, to ensure that the training sufficiently covers the necessary materials. These materials may be updated as new information is available. Construction personnel shall sign a training log stating that they have received this training. Copies of this training log shall be maintained on the Guenoc Valley Site and shall be made available to inquiring agencies upon request. Construction personnel will also be trained to identify nesting bird behavior that indicates construction activities are causing a significant disturbance to nesting birds. This behavior includes vocalizing, making defensive flights at intruders, getting up from a brooding position, or flying off the nest. Should these behaviors be identified, construction workers will be trained to halt work in the vicinity of the nest until a qualified biologist determines a suitable nest buffer. Should a special-status species be observed by construction personnel, the qualified biologist will verify the observation and report the observation to CNDDB. The qualified biologist shall also report observations of special-status species identified during preconstruction surveys, if any.			
3.4-3	**General Special-Status Plant Mitigation** A) Pre-construction botanical surveys of herb-dominated habitats (i.e. grasslands, wetlands) with the potential to support special-status plants shall be conducted within those areas scheduled for groundbreaking during one of the two appropriate identification seasons prior to ground breaking. It should be noted that surveys conducted in 2018 and 2019 for Phase 1 would meet the requirements of this measure for construction activities occurring in 2020 and through a portion of 2021, depending on the exact timeframe of construction and the potential species impacted. Pre-construction surveys of shrub or woodland dominated habitats with the potential to support special-status plants shall be surveyed within one of the four appropriate identification seasons prior to groundbreaking for each specific component of the Proposed Project. Initial vegetation clearing along proposed roadways for fire management shall also be subject to these standards. Pre-construction surveys shall be completed by a qualified biologist during the appropriate identification period for plants with the potential to occur in the area scheduled for ground breaking. Results of the pre-construction survey shall be maintained on the Guenoc Valley Site and available to agencies upon request. B) In the event that the results of the pre-construction special-status plant surveys	The applicant shall perform pre-construction surveys prior to groundbreaking as described in Mitigation Measure 3.4-3, and implement mitigation for identified species within one year of identification and prior to occupancy. The County shall verify implementation of mitigation prior to issuance of certificates of occupancy (Use Permit COA)	Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
identify the presence of individual special-status plants within areas identified for ground disturbance activities, one of the following measures shall be conducted. 1) Individual occurrences of special-status plants shall be avoided by a minimum of 20 feet when possible. This buffer shall be demarcated by a qualified biologist with high-visibility fencing. Where ground disturbance would occur within 100 feet upslope of occurrences of special-status plants during the wet season (October 1 through April 1), silt fencing or straw wattles shall be installed between the work area and the 20-foot setback and shall not be removed until the disturbed areas have been revegetated or otherwise stabilized. OR 2) When avoidance of a special-status plant is not feasible, mitigation shall occur through transplanting or compensatory planting of in-kind species. Mitigation for special-status plants shall follow the general outline below. i. For compensatory plantings, in-kind species shall be planted at a minimum ratio of 2:1. Monitoring of mitigation activities shall be performed by a qualified biologist for a minimum of three years. The qualified biologist shall prepare an annual report on the progress of mitigation with recommended management actions. Mitigation shall be deemed complete once the qualified biologist has determined that the mitigation has achieved or exceeded 80 percent success following the minimum three years of monitoring. Additional years of monitoring and management shall occur should mitigation fail to meet success criteria. ii. Should transplanting of individual plants be considered, the transplanting shall be overseen by a qualified biologist. Plants shall be relocated to suitable habitats and shall be within designated open space as possible. A quantified biologist shall monitor all transplanted individuals for a minimum of three years to ensure successful establishment. The qualified biologist shall prepare an annual report on the success of transplanted plants. Should transplanting fail, compensatory actions shall occur as outlined			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	under (i). iii. Consultation with CDFW or USFWS shall occur as necessary, based on regulatory jurisdiction, should a special-status plant that does not have a history of successful transplantation and was not previously identified within the Phase 1 Area of Potential Effects be observed during preconstruction botanical surveys. For species with a demonstrated history of successful transplantation, then mitigation shall follow steps (i) and (ii) above. iv. <u>If project activities cannot avoid take of federally or state listed plant species, the applicant shall obtain a California Endangered Species Act (CESA) Incidental Take Permit (ITP) or a Consistency Determination (CD) through CDFW and/or USFWS prior to initiating any work that may result in take of State-listed species.</u>			
3.4-4	**American Badger Impacts** No more than 14 days before the start of ground disturbance activities on or within 200 feet of open grassland, a qualified biologist shall conduct pre-construction surveys to determine if American badger dens are present. If no dens are observed, no further mitigation is necessary. If American badger dens are determined to be present, the biologist shall monitor for activity to determine whether the den is active. If the den is determined to be occupied by a female with young, a 50-foot buffer shall be demarcated with high-visibility flagging until the qualified biologist has determined that young have matured and dispersed. No construction activities shall occur within the buffer while the den is actively supporting dependent young. If the den is determined to be active, but a female with young is not present, CDFW shall be contacted to determine if burrow exclusion using passive measures such as one-way doors or equivalent may be utilized. Exclusion activities shall be attempted for a minimum of three days to discourage their use prior to any project-related ground disturbance. If the biologist determines that the dens have become inactive as a result of the exclusion methods, dens shall be excavated by hand to prevent them from being re occupied during construction.	The applicant shall perform pre-construction surveys <u>no more than 14 days before</u> the start of ground disturbance activities on or within 200 feet of open grassland as described in Mitigation Measure 3.4-4, and implement avoidance measures if required as described in Mitigation Measure 3.4-4. The applicant shall include these requirements in construction contracts. (Use Permit COA)	Applicant	County
3.4-5	**Ringtail Impacts** No more than 14 days before the start of ground disturbance activities within open grassland, oak woodland, or riparian forest habitat, a qualified biologist shall conduct pre-construction surveys to determine if ringtail dens are present. If no active ringtail dens are observed, no further mitigation shall be recommended. If <u>active</u> ringtail dens	The applicant shall perform pre-construction surveys as described in Mitigation Measure 3.4-5 no more than 14 days before the	Applicant	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	~~with young~~ are determined to be present within the work area, the biologist shall notify Lake County and develop an avoidance plan using best available scientific practices, in consultation with CDFW, to ensure impacts to the species are avoided prior to the initiation of construction activities. The plan shall include an appropriately sized ~~establish a clearly marked exclusionary~~ avoidance buffer based on environmental conditions of the den site and project activities proposed in the vicinity ~~of no less than 50 feet with high-visibility flagging. No ground disturbance shall take place within the buffer until the biologist determines the den no longer supports dependent young~~.	start of ground disturbance activities within open grassland, oak woodland, or riparian forest habitat, and implement avoidance measures if required. The applicant shall include these requirements in construction contracts. (Use Permit COA)		
3.4-6	**Bat Maternity Roosts and Special-Status Bat Impacts** A habitat assessment shall be conducted by a qualified biologist for potentially suitable bat habitat within six months of the start of project construction activities. The habitat assessment shall include a visual inspection of suitable habitat features (e.g., trees, bridges, and other structures) for suitable bat roosting habitat within the project area and a minimum of a 500-foot radius adjacent to these areas that may be impacted by Project activities. ~~Pre-construction survey(s) for bat roosts shall be conducted no more than 14 days prior to the start of construction in locations suitable for roosts or tree removal. Surveys of potential bat roost habitat shall concentrate on large trees (DBH >12 inches) specifically looking for relevant bat use features such as loose bark or cavities, broadleaf trees in riparian woodland habitat, buildings, bridges, and cliffs/rocky outcroppings on or within 100 feet of any planned work areas.~~ ~~Prior to construction on the Middletown Housing Site, foliage suitable for western red bat roosting shall also be surveyed.~~ If no potential bat habitat is observed, no further mitigation shall be necessary. If the habitat assessment reveals ~~For trees proposed for removal that have been identified as~~ potentially suitable bat roost habitat ~~for special-status bat species, the following shall apply~~, then a qualified bat biologist shall do a presence/absence survey within 30 days of the start of construction. If bats are present, then the qualified biologist shall develop a bat avoidance plan that shall identify: 1. The location of the roosting sites; 2. The number of bats present at the time of assessment (count or estimate);	The applicant shall perform pre-construction habitat assessment and presence/absence surveys as described in Mitigation Measure 3.4-~~6 no more than 14 days prior to the start of construction in locations suitable for roosts or tree removal~~, and implement avoidance measures as described in Mitigation Measure 3.4-6 if required. The applicant shall include these requirements in construction contracts. (Use Permit COA)	Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
3. The species of bats present; 4. The type of roost: maternity, hibernaculum, or a roost; 5. Species specific measures to avoid and minimize impacts to bats. The bat avoidance plan shall evaluate the length of time of disturbance, equipment noise, and type of habitat present at the project. If an occupied bat roost is found and is occupied either during the maternity season (Apr 15 - Aug 31) or during the hibernaculum period (Nov 1 - Feb 28), the qualified bat biologist shall establish a no-disturbance buffer around the roost in consultation with CDFW. The width of the buffer shall be determined by the qualified biologist based on the bat species, site specific conditions, and level of disturbance. The buffer shall be maintained until the qualified bat biologist determines that the roost is no longer occupied or construction near the buffer has been completed. For structures that must be removed ~~Trees proposed for removal~~ that have been identified as containing an active bat roost, exclusion shall occur outside of the maternity or hibernaculum periods described above. The qualified bat biologist shall prepare a plan for the passive exclusion of the bats from the roost, in consultation with CDFW. Trees that must be removed that have been identified as potentially suitable ~~special-status~~ bat habitat shall be removed using the two-day phased removal method. ~~described below:~~ On day 1, branches and small limbs not containing potential bat roost habitat (cavities, crevices, exfoliating bark, etc.) shall be removed using chainsaws only. The remainder of the tree shall be removed on day 2. Removal shall occur during seasonal periods of bat activity. Removal shall occur as possible outside of maternity season. The maternity roosting season for bats is approximately February 1 through September 1 (but varies due to rainfall and temperature). The best time for removal of structures that may support maternity roosting is between March 1 ~~February 1~~ and April 15. If an active maternity roost or hibernaculum is detected, the tree(s) or structures shall be retained until after there is no longer a hibernaculum present, or until after the young bats are no longer dependent on their parents for care as determined by a qualified biologist. If a special-status bat roost is observed during preconstruction			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	surveys, appropriate avoidance or exclusion measures shall be developed in consultation with CDFW as described above.			
3.4-7	**Artificial Lighting Impacts** Lighting fixtures associated with the construction and operation of the Proposed Project shall be designed to ensure maximum efficiency, eliminate direct upward light, and reduce spill consistent with Design Guidelines and shall follow the general principles below: ▪ Site-wide lighting shall promote dark sky policies; ▪ Lighting along roadways, pathways, and within parking areas shall only be used to the extent necessary to guide nighttime navigation and ensure safety and security; ▪ Lighting shall not be placed or illuminate higher than necessary to provide efficient lighting for its intended purpose; ▪ Lighting shall be deliberately directed downward and away from sensitive habitat types; ▪ Nighttime lighting shall also be reduced to the maximum extent feasible by turning off lights from the hours of 11 p.m. to 7 a.m., unless they are essential for safety or security purposes and are properly designed and installed to reduce light spillage. Lights that must be used during these designated nighttime hours shall be dimmed in order to reduce the intensity of light projected by the Proposed Project as possible and shall be minimized as appropriate through motion-sensitive lighting, lower intensity lights, and appropriately programmed timed lights. Appropriate lighting consistent with these measures and the Proposed Project's Design Guidelines shall be adhered to for all phases of construction at project-related sites.	Lighting plans consistent with these requirements shall be submitted to County prior to approval of building permits. (Use Permit COA)	Applicant	County
3.4-8	**Special-Status Birds – Nesting** **General Nesting Bird Survey Requirements:** Should any groundbreaking or construction-related work begin within the general nesting season (February 1 through August 31), a pre-construction nesting bird survey on and within 500 feet ~~200 feet~~ of ground-disturbing activities shall be completed by a qualified biologist no more than five days prior to the start of work. If no active nests are observed, no further mitigation shall be recommended.	Should any groundbreaking or construction-related work begin within the general nesting season (February 1 through August 31), the applicant shall perform a pre- construction	Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
If active nests are observed during the pre-construction survey, a qualified biologist shall demarcate a protective, high-visibility buffer around the nest. Buffer size shall be determined by the biologist based on species, nest location, planned disturbance footprint, and presence of any visual or auditory buffers. The qualified biologist shall also consider any species-specific plans related to acceptable nest-avoidance measures compared to anticipated disturbance levels of construction. The exclusionary buffer shall remain in place until the chicks have fledged, are feeding independently and are no longer dependent on the nest as determined by a qualified biologist. The qualified biologist shall regularly monitor the nest and shall have stop work authority if construction activities are having an adverse impact on the nest. If a lapse in project-related work of fourteen (14) calendar days or longer occurs, the qualified biologist shall complete another focused survey before Project construction work can be reinitiated. Project Proponent Responsibility: It is the Project proponent's responsibility to comply with Fish and Game Code Sections 3503, 3503.5, and 3513, regardless of the time of year **Additional Raptor Survey Requirements:** Due to the known presence of several nesting raptor species, including eagles, on the overall Guenoc Valley Site primarily outside of the APE, targeted surveys for active raptor nests shall be conducted within 0.5 mile of groundbreaking or construction-related work. ~~For construction activities planned on the Guenoc Valley Site, Grange Road Connector, Middletown Housing Site, or the Off-Site Infrastructure Improvement Areas within 0.5 miles of a documented eagle or protected falcon species nest,~~ The pre- construction surveys shall be conducted in accordance with the most current guidance available from USFWS and CDFW. If a fully protected or otherwise listed bird species ~~special-status raptor nest~~ is determined to be present on or within 0.5 miles of the work area, consultation with the USFWS and/or CDFW, based on regulatory jurisdiction, shall occur and any measures recommended or required by those agencies shall be incorporated into the project design. **Additional Tricolored Blackbird Survey Requirements:** Prior to initiation of construction in areas containing or adjacent to tricolor blackbird (TRBL) habitat	nesting bird ~~survey on and within 200 feet of ground-disturbing activities~~ as described in Mitigation Measure 3.4-8 ~~no more than 5 days prior to the start of work~~, and implement avoidance measures as described in Mitigation Measure 3.4-8 if required. The applicant shall include these requirements in construction contracts. (Use Permit COA)		

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	(typically characterized by emergent vegetation) a qualified biologist shall conduct protocol-level surveys within a 0.25-mile radius of project work areas to evaluate the presence of TRBL breeding colonies, suitable nesting and foraging habitat. Surveys shall be conducted during the nesting season (March 15 to July 31). If construction is initiated in the project work area during the nesting season, three (3) surveys shall be conducted within fifteen (15) days prior to the construction activity, with one of the surveys within three (3) days prior to the start of the construction. The surveys shall be based on survey methods identified in the Results of the 2017 Tricolored Blackbird Statewide Survey, Appendix 1 (Meese 2017). If breeding colonies are found, the foraging behavior of the colony shall also be documented. Many TRBL breeding colonies expand over time as additional birds are recruited at the edges of established colonies. For this reason, it is important to reassess the extent of a breeding colony before the start of construction activities. If TRBL are found, no work shall begin until CDFW has been consulted with to determine the appropriate avoidance or minimization measures and compliance with CESA can be demonstrated.			
3.4-9	**Special-Status Birds – Burrowing Owl** A pre-construction survey shall be performed by a qualified biologist prior to the start of ground disturbing activities where suitable burrowing owl burrows (such as ground squirrel complexes) are present. The survey shall be performed according to the standards set forth by the Staff Report for Burrowing Owl Mitigation (CDFW, 2012). Pre- construction surveys shall occur no more than 14 days prior to ground disturbance. Should a burrow be observed in use by a burrowing owl, or if a burrow shows signs of use (pellets, whitewash, feathers), no work shall begin until appropriate burrowing owl avoidance or minimization measures have been established by the qualified biologist. The size of the no disturbance buffer shall be consistent with the Staff Report on Burrowing Owl Mitigation shown below: **Time of Year: / Low Disturbance / Medium Disturbance / High Disturbance** 4/1 – 8/15: 650 feet / 1,650 feet / 1,650 feet 8/16 – 10/15: 650 feet / 650 feet / 1,650 feet 10/16 – 3/31: 165 feet / 330 feet / 1,650 feet The no disturbance buffer shall be clearly marked with high-visibility flagging, signage,	The applicant shall perform a pre- construction survey as described in Mitigation Measure 3.4-9 no more than 14 days prior to ground disturbance, and implement avoidance measures as described in Mitigation Measure 3.4-9 if required. The applicant shall include these requirements in construction contracts. (Use Permit COA)	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	or other methods determined by the qualified biologist. To ensure the buffer is sufficiently sized to avoid take, the qualified biologist shall conduct a minimum of two days of baseline monitoring of burrowing owl behavior prior to the start of project activities and then be onsite to monitor the burrow during the start of project activities. No disturbance buffers shall remain in place until the qualified biologist determines the burrow is unoccupied by adults or young (occupation includes individuals or family groups using the burrow or foraging on or near the site following fledging). Should project activities cause burrowing owls to exhibit territorial or agitated behavior (e.g. flushing, vocalizing, making defensive flights at intruders, etc.) then the no disturbance buffer shall be increased such that activities are far enough from the burrow so that the bird(s) no longer display the agitated behavior. Any reductions or modifications to this buffer shall be approved by CDFW prior to its implementation. The buffer reduction request shall include relevant rationale and may propose new measures to further justify the buffer reduction. ~~project activities shall be excluded within a 250-foot high-visibility buffer until the qualified biologist determines the owls are no longer present.~~ ~~For active burrows within an area of impact, passive exclusion techniques, such as one-way doors, may be used to exclude burrowing owls from occupied burrows outside the nesting season or if the qualified biologist determines the burrow does not support an active nest. Once exclusion is completed and the biologist determines that the burrow is not occupied, the burrows shall be collapsed.~~			
3.4-10	**Northwestern Pond Turtle Impacts – Construction** To the extent possible, initial ground disturbance, vegetation clearing, and associated project activities within 300 feet of ponds, reservoirs, or wetted streams where northwestern pond turtle has been documented or may potentially occupy, as determined by a USFWS-approved qualified biologist, shall occur between July 1 and October 31 to avoid the peak nesting season and winter inactivity periods for northwestern pond turtle. If work must occur within 300 feet of occupied or potentially occupied aquatic habitat between November 1 and June 31, a qualified biologist will conduct a preconstruction survey and identify areas with potential to support nesting or occupation by overwintering turtles, as applicable, depending on the season. These specific areas will be avoided if feasible. If these areas cannot be avoided, a qualified biologist will	The applicant shall schedule initial ground disturbance per in Mitigation Measure 3.4-10. If such a schedule is not possible, the applicant shall perform a pre-construction survey as described in Mitigation Measure 3.4-10 ~~no more than 14 days prior to the start of~~ for work within 300 feet of ponds, reservoirs, or wetted streams with the	Applicant/County	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
conduct a pre-construction survey within 48 hours of the start of construction in these identified areas to survey for turtle nests. Any active nests will be flagged and avoided. If nests cannot be avoided, the USFWS-approved qualified biologist will contact the USFWS to determine next steps. Any measures prescribed by USFWS to avoid take of nesting northwestern pond turtle shall be adhered to. ~~If these areas cannot be avoided, a qualified biologist will monitor their initial disturbance and relocate any pond turtles or turtle eggs that are uncovered or install an exclusion fence around the area, whichever is determined to be the best option to ensure survival of the turtle via discretion of the qualified biologist. If relocation is deemed appropriate, the qualified biologist will coordinate with CDFW to develop the relocation strategy.~~ During the active period and outside of peak nesting (July 1 to October 31), a preconstruction survey for northwestern pond turtle shall be completed by a qualified biologist no more than 14 days prior to the start of work within 300 feet of ponds, reservoirs, or wetted streams with the potential to support northwestern pond turtle. If the species is observed, the biologist shall provide measures to avoid direct impacts based on the planned work. Such measures may include a protective no-work buffer, exclusion fencing, monitoring, or coordination with CDFW and USFWS if relocation is required. These measures shall be implemented in the following manner: ▪ If a no-work buffer of 300 feet is feasible, it shall be applied and no work shall occur within it. ▪ If a no-work buffer of 300 feet is not feasible, work may occur with an on-site biological monitor, or after the installation of an exclusion fence facilitated by the qualified biologist that encircles areas with potential to support pond turtles or otherwise prevents pond turtles from entering the impact area. Exclusionary fence shall be constructed of silt fence no lower than 24 inches in height and the bottom edge will be buried or otherwise secured to the ground to prevent turtles from crossing go under it. A qualified biologist will inspect the exclusion fence after its installation. ▪ If a pond turtle would be reasonably expected to incur injury from project work, a qualified biologist may relocate a pond turtle after coordinating with CDFW and USFWS.	potential to support northwestern pond turtle, and implement avoidance measures as described in Mitigation Measure 3.4-10 if required. The applicant shall include these requirements in construction contracts. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)		

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
3.4-11	**Foothill Yellow-Legged Frog Impacts – Construction** Work within 100 feet of any wetted stream feature or associated riparian area where foothill yellow-legged frog (FYLF) has been documented shall occur during the dry months (July 1 through October 31) as possible. Timing shall also occur outside of the FYLF breeding season (March 1 to June 30) to the extent possible. If work must occur between October 31 and June 30, a monitor shall be present, or FYLF shall be excluded from active work areas by an exclusionary fence that is at least 24 inches tall and has a no-climb barrier installed along the top. Prior to commencement of work, a qualified biologist will inspect the fence and work area to ensure proper installation and clearance of FYLF. Pre-construction surveys for FYLF within any wetted stream feature near a work area shall be conducted by a qualified biologist within 5 days of the onset of construction activities. Surveys shall cover between left and right bankfull at least 500 feet upstream and 500 feet downstream of the work area for presence of all life stages. Surveys shall extend up to 30 feet above bankfull within 100 feet of work areas when suitable, accessible habitat is present. Surveys shall be conducted during the day and under optimal conditions for detecting FYLF. Additional pre-construction surveys may be required as determined by the qualified biologist. If FYLF are detected, measures to avoid the species shall be implemented. Such measures may include, but are not limited to, a protective no-work buffer, exclusion fencing, monitoring, and/or coordination with CDFW. These measures shall be implemented in the following manner: ▪ If a work area is within 100 feet of a perennial or intermittent stream with potential to support FYLF and work must occur between November 1 and March 1, a monitor will be present during work and will ensure that no FYLF are harmed by project work. If FYLF are located during preconstruction surveys within 500 feet of a work area that is within 30 feet of a wetted stream between March 1 and July 1, a monitor will be present during work. If FYLF are located within 100 feet of a work area that is located within 30 feet of a stream between July 1 and November 1, a monitor will be present. Any FYLF detected will be avoided by construction activities by at least 50 feet unless the monitor is positioned between the FYLF and the construction activity. ▪ Work areas can optionally be enclosed with exclusion fence as described	The applicant shall schedule work within 100 feet of any wetted stream feature or associated riparian area where foothill yellow-legged frog (FYLF) has been documented per in Mitigation Measure 3.4-11. If such a schedule is not possible, the applicant shall perform a pre- construction survey as described in Mitigation Measure 3.4-11 no more than five ~~at least 14~~ days prior to the onset of construction activities, and implement avoidance measures as described in Mitigation Measure 3.4-10 if required. The applicant shall include these requirements in construction contracts. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	above and no monitoring would be required. ▪ If a FYLF is found to be in a work area and cannot be avoided, the qualified biologist will coordinate with CDFW to develop an acceptable relocation strategy.			
3.4-12	**Invasive Species Management – Operation** Non-native wildlife shall not be intentionally released onto the Project site, with the exception of approved stocking of fish within isolated waterbodies. In order to address the creation of bullfrog habitat as a result of the Proposed Project, a Bullfrog Management Plan shall be created. The Bullfrog Management Plan shall include the following provisions: ▪ Goals of the Bullfrog Management Plan; ▪ Identification of target areas for bullfrog management; ▪ Appropriate management actions designed to remove invasive bullfrogs such that an environmental benefit is achieved; ▪ A suitable method of monitoring, adaptive management, and reporting throughout the duration of management.	The applicant shall prepare a Bullfrog Management Plan that meets the requirements of Mitigation Measure 3.4-12 and submit to the County for review prior to issuance of the first grading plans. (Use Permit COA) The applicant shall ensure that implementation of the Bullfrog Management Plan and restrictions on the release of non-wildlife are included in the CC&Rs and is the responsibility of the HOA. (TM COA)	Applicant	County
3.4-13	**Aquatic Habitat Public Signage** Signage at primary public access locations in proximity to western pond turtle or foothill yellow-legged frog habitat shall be posted that describes the sensitive nature of these habitat types and their importance within the Guenoc Valley Site ecosystem. Signage shall also include action items for visiting public to encourage protection of these valuable resources. This may include, but is not limited to: ▪ Proper collection and disposal of trash; ▪ Leashing of pets to prevent harassment of wildlife; ▪ Passive activities to enjoy wildlife without disturbing natural behavior; ▪ Discouragement of removal of plants or other biological resources; and ▪ Restrictions on allowable transportation (vehicles, bicycles, horses, etc.) near sensitive habitat. Infrastructure shall also include waste receptacles sufficient in number and size to service public use of the Guenoc Valley Site with regular service to prevent over	Signage shall be installed prior to issuance of the first occupancy permit. (Use Permit COA) Maintenance of signage shall be the responsibility of the HOA, and this shall be included in the CC&Rs. (TM COA)	Applicant	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	spilling. Removal of litter shall occur during servicing of waste receptacles.			
3.4-14	**Future Phases Biological Review** Following the development of sufficient information related to future phases of development and prior to any on the ground impacts, a qualified biologist shall perform an updated and detailed analysis on impacts to biological resources within the future phases Area of Potential Effect. A report detailing any necessary survey methods, results, and analysis of potential future phases impacts shall be prepared to determine the application of Mitigation Measures 3.4-1 through 3.4 13, 3.4-15 through 3.4-21, 3.9- 1, 3.9-2, and 3.10-2 to future phases, and the need for additional mitigation measures beyond those measures to reduce impacts of future phases to a less than significant level. The analysis shall be to the level of detail presented within this EIR. Additional mitigation shall be presented for those impacts determined to be significant or potentially significant following the inclusion of Mitigation Measures 3.4-1 through 3.4 13, 3.4-15 through 3.4-21, 3.9-1, 3.9-2, and 3.10-2. Additional mitigation shall be designed such that impacts to biological resources are reduced to less-than-significant levels and include avoidance, compensation, and monitoring similar to mitigation identified for Phase 1.	Applicant shall include in application for SPD for future phases. County will ensure that this mitigation is implemented prior to approval of SPDs for future phases.	Applicant/County	County
3.4-15	**Impact to Sensitive Habitats** Sensitive habitats shall be avoided to the maximum extent feasible. In areas where full avoidance of sensitive habitat types is not possible, mitigation shall occur as described below. This mitigation shall be applicable to impacts for purple needlegrass, musk- brush chaparral, white alder grove, Brewer willow thicket, Sargent cypress forest, serpentine rock outcrops, and native grasslands: ▪ Preservation of in-kind habitat shall occur at a minimum ratio of 2 acre:1 acre. ▪ Areas designated for preservation shall be maximized within identified protection areas, such as sensitive habitats within Habitat Connectivity Easement Areas. Sensitive habitats within the Open Space Combining District that are not required to mitigate for impacts to POU resulting from vineyard development approved in the 2009 FEIR may be used for the purpose of this mitigation. ▪ Preservation of in-kind habitat that occurs within residential lots shall occur only within open space prohibited from development (including landscaping and agricultural uses) by the Design Guidelines, or through the establishment of habitat easements within the residential lots. Preservation of sensitive habitat for	The applicant shall ensure that sensitive habitats are avoided as described in Mitigation Measure 3.4-15, and where avoidance is not feasible, implement mitigation described in Mitigation Measure 3.4-15. (Use Permit and TM COAs) The County shall review and approve mitigations prior to on-the-ground impacts of future development phases.	Applicant/County	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
the purposes of mitigation that occurs within deed-restricted open space shall be identified within the deed restriction and shall prohibit the development of that area identified for preservation. Preservation within deed-restrictions shall be preserved in perpetuity as a condition of the deed. ▪ Areas that area preserved for in-kind habitat that occur outside of residential lots, Habitat Connectivity Easement Areas, and the Open Space Combining District shall be avoided during future phases of development. Should unavoidable impacts to in-kind habitat preservation areas occur during future phases of construction, those impacts shall be subject to additional compensatory actions set forth in this mitigation. Should insufficient habitat occur to offset future impacts, a compensatory habitat restoration, enhancement, and/or creation mitigation measure shall be prepared and approved by the County prior to on the ground impacts of future development phases. ▪ Those areas selected for preservation shall be provided on a map to the County and approved by the County. Preservation of in-kind habitat shall be the preferred method of mitigation when possible. The Applicant may additionally satisfy the 2:1 mitigation ratio through restoration, creation, and/ or enhancement of in-kind habitat. "In-kind" requires that habitats meet the classification criteria of their respective vegetative community as defined during the appropriate biological surveys. Mitigation performed through restoration, creation, or enhancement shall be performed under the supervision of a qualified biologist and monitored for a minimum of five years by a qualified biologist. The biologist shall prepare an annual report on the status of mitigation activities along with adaptive management recommendations as necessary. These reports shall be maintained by the Applicant and available to agencies upon request. Success criteria shall be as follows and shall require additional years of monitoring and management should mitigation fail to meet success criteria: ▪ Purple needlegrass and native grasslands shall achieve a percent native plant cover that meets or exceeds that of the habitat impacted. Non-sensitive grasslands and herb-dominated habitat types are suitable for restoration and creation activities. ▪ Musk-brush chaparral shall be restored in non-sensitive suitable habitat. Mitigation shall occur at a 2:1 acre ratio and shall achieve a 75 percent acreage			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	establishment. The monitoring biologist shall consider percent cover, species composition, overall health of plantings, and other indicators when determining success of establishment. ▪ White alder grove and Brewer willow thicket may be restored along riparian corridors where invasive species or bank stabilization issues have occurred. Mitigation shall occur at a 2:1 acre ratio and shall achieve a 75 percent acreage enhancement. The monitoring biologist shall consider percent cover, species composition, bank stability, overall health of plantings, and other indicators when determining success of establishment. ▪ Sargent cypress forest shall be enhanced through the removal of competing foothill pines at an acreage ratio of 2:1 once annually for a total of five years and/or Sargent cypress trees shall be replanted at a 2:1 ratio and monitored for a total of five years. Replanting shall achieve a 75 percent success rate. ▪ Serpentine rock outcrop shall be enhanced through the removal of invasive species at an acreage ratio of 2:1 in similar habitat that has a dominant invasive species relative cover to achieve a percent native plant cover that meet or exceeds that of the habitat impacted.			
3.4-16	**Oak Mitigation Plan** All project activities shall be subject to compliance with the Oak Mitigation Plan, dated March 2024 ~~June 2020~~, included as Appendix J ~~OAK~~ to the Draft PREIR ~~this Final EIR~~. Prior to approval of final maps, the Applicant shall demonstrate compliance with~~in~~ the Oak Mitigation Plan related to impacts to oaks and oak woodland canopy. Prior to issuance of grading and building permits, the Applicant or applicants for grading and building permits shall demonstrate compliance with the Oak Mitigation Plan related to impacts to oaks, mitigation compliance, building envelope and deed restrictions. The Oak Mitigation Plan for this project addresses impacts to oaks as a result of the Proposed Project. The Oak Mitigation Plan was prepared in accordance with the Lake County General Plan. The Oak Mitigation Plan includes the following: ▪ Goals of the mitigation plan; ▪ Method of impact identification appropriate for all phases of construction; ▪ Discussion on compliance with the Lake County General Plan and 2008 Oak Tree Replacement Plan per the 2009 FEIR; ▪ Proposed compensatory action suitable to meet mitigation goals; ▪ Compensatory planting ratios of 2:1 for smaller trees and 5:1 for larger trees;	Prior to approval of final maps, the Applicant shall demonstrate compliance with~~in~~ the Oak Mitigation Plan related to impacts to oaks and oak woodland canopy. (TM COA) Prior to issuance of grading and building permits, the Applicant or applicants for grading and building permits shall demonstrate compliance with the Oak Mitigation Plan related to impacts to individual oaks, mitigation compliance, building envelope and deed restrictions. (Use Permit	Applicant	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	▪ Success criteria for mitigation such that compensatory plantings for impacts to individual trees achieve a minimum of 80 percent success rate; ▪ Preservation for impacts to valley oak woodland, when applied, shall be no less than 3:1 of in-kind habitat type acreage, and 2:1 for all other types of oak woodland; ▪ A requirement of at least 7 years of monitoring, adaptive management, and reporting throughout the mitigation process; and ▪ Limitation of the total impact to oak woodlands to 1 acre on residential lots consistent with the design guidelines. The Oak Mitigation Plan shall be subject to Lake County review and approval prior to ground disturbance. Oaks present on the Middletown Housing Site shall be avoided. If full avoidance of oaks is not feasible, the measures in the Oak Mitigation Plan prepared for the Guenoc Valley Site shall apply. Replanting for oaks removed on the Middletown Housing Site may occur on the Middletown Housing Site or the Guenoc Valley Site.	COA)		
3.4-17	**Aquatic Resources Protection and Management** Consistent with governing regulations and policies, the following setbacks shall be incorporated into the project design: ▪ 30 feet from the top of bank of perennial streams; ▪ 20 feet from the top of bank of any intermittent stream; ▪ 20 feet from the edge of any adjacent wetlands or the ordinary high water mark of ephemeral streams or other bodies of water (including reservoirs and lakes); or ▪ To the outer extent of a riparian corridor. No setback is required or recommended for man-made stormwater or irrigation ditches. Should additional analysis of these features performed by a qualified biologist that determines larger setbacks are needed to ensure full protection of habitat based on factors such as slope, setbacks up to fifty feet may be required as possible and dictated by the conditions observed and analyzed. The setback distances identified above shall be delineated by a qualified biologist	Setbacks are incorporated into the Design Guidelines and shall be administered by the HOA. The County will review compliance prior to issuance of building permits. Flagging shall be installed as described in Mitigation Measure 3.4-17. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
with high-visibility fencing or flagging prior to any construction activities occurring within 200 feet of the aquatic habitat features. No construction work or equipment staging shall occur within the setbacks unless a variance or permit is authorized to allow it. Prior to impacts, consultation shall occur with USACE and the RWQCB to determine the extent of federal and state jurisdictional wetlands and waters. A CWA Section 404 permit shall be obtained from USACE for impacts to any identified wetlands and waters subject to CWA jurisdiction, along with RWQCB state water quality certification for such permit under CWA Section 401, as necessary. An LSAA with CDFW shall be entered for those impacts to any identified streams subject to Fish and Game Code Section 1600 jurisdiction. Any necessary permits and approvals shall be obtained prior to the respective impacts for which they are required, and conditions of permits and approvals acquired for the Proposed Project shall be met. Mitigation shall occur consistent with the necessary permits and approval conditions required for the Proposed Project. Mitigation for direct impacts to aquatic habitats shall occur through a combination of habitat preservation, creation, or restoration/enhancement and shall, at a minimum, include the following: ▪ Should mitigation for aquatic resources occur through preservation, preservation shall occur at a minimum ratio of 2:1. Areas designated for preservation shall be maximized within the Open Space Combining District or within Habitat Connectivity Easement Areas, and may only occur within residential lots if preservation in perpetuity as a condition of the deed-restricted open space for the lot. Those areas selected for preservation shall be approved by the County and be subject to the compensatory actions set forth in this mitigation and necessary permit or approval conditions should future impacts to preserved habitats be identified. ▪ When mitigation occurs through the restoration or enhancement of habitat, mitigation shall occur at a minimum ratio of 2:1. Restoration and/or enhancement of habitat shall occur within the Open Space Combining District or within Habitat Connectivity Easement Areas as possible. Monitoring of mitigation activities shall be performed by a qualified biologist for a minimum of three years consistent with the terms of necessary permits. The qualified biologist shall prepare an annual report on the progress of mitigation with recommended management actions. Mitigation shall be deemed complete once the qualified			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	biologist has determined that the success of restoration or habitat enhancement activities meets or exceeds 80 percent (measured either in acres or linear feet). Enhancement and restoration activities may include, but are not limited to, planting of native riparian or wetland vegetation, stabilization of banks, creating a natural channel along areas of manmade drainages, addition of habitat enhancement features that provide refugia or other important features for wildlife that may utilize the habitat, or removal of non-native vegetation. ▪ When mitigation occurs through the creation of habitat, creation shall occur at a minimum ratio of 1:1. A qualified biologist shall monitor habitat creation activities on an annual basis for a minimum of five years, and shall provide an annual report of these monitoring activities along with recommendations in order to ensure success of habitat creation. Following completion of habitat creation activities, a qualified biologist shall prepare an annual report on the progress of mitigation with recommended management actions. Mitigation shall not be deemed complete until the full 1:1 creation ratio has been met. ▪ In cases of conflict between permit terms and measures presented herein, those permit terms and conditions shall supersede those presented within this EIR. Alternative forms of mitigation not detailed above may serve to satisfy mitigating requirements to jurisdictional wetlands and waters as dictated by the appropriate permit(s). Alternative forms of mitigation include purchase of habitat credits from an approved mitigation bank at a ratio not less than 2:1, or payment of in-lieu fees as set by the appropriate agency.			
3.4-18	**Sensitive Habitat Impacts from Wildfire Clearing** Sensitive habitats included below shall be avoided during removal of dead vegetation and fire fuel load reduction necessary for safety purposes in managing wildfire risk to the degree feasible. The following sensitive habitats shall be addressed in the following manner as it relates to fire management fire breaks, lop and scatter, and masticating outside of development areas: ▪ Purple needlegrass grasslands – This habitat does not require wildfire risk fuel reduction activities. This habitat shall be avoided to the degree feasible. Equipment and vehicles shall not be used or staged within this habitat type. ▪ Musk brush chaparral – This habitat does not require wildfire risk fuel reduction activities. This habitat shall be avoided to the degree feasible. Equipment and vehicles shall not be used or staged within this habitat type. ▪ White alder grove – Due to limited distribution and association with natural	The applicant shall ensure compliance with Mitigation Measure 3.4-18. Applicant to incorporate these measures into the Wildfire Prevention Plan and obtain County approval of revised Wildfire Prevention Plan prior to approval of Grading or Improvement Plans-(whichever occurs first). ~~The applicant shall include these requirements in construction contracts.~~ The	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	riparian fire breaks, this habitat type should not require ongoing wildfire risk fuel reduction activities and shall be avoided as possible. Equipment and vehicles shall not be used or staged within this habitat type. If determined necessary by safety personnel, hand-clearing of dead vegetation may occur. ▪ Brewer willow thicket - Due to the limited distribution and association with natural riparian fire breaks, this habitat type does not require wildfire risk fuel reduction activities. This habitat shall be avoided to the degree feasible. Equipment and vehicles shall not be used or staged within this habitat type. ▪ Sargent cypress forest – This habitat may require occasional management for wildfire risk. Due to the sensitive nature of this habitat type, hand tools shall be the only acceptable use of vegetation management. No live Sargent cypress trees shall be felled. Equipment and vehicles shall not be used or staged within this habitat type. ▪ Serpentine rock outcrop - Due to the limited distribution and low vegetation cover, this habitat type does not require wildfire risk fuel reduction activities. This habitat shall be avoided to the degree feasible. Equipment and vehicles shall not be used or staged within this habitat type. ▪ Oak woodland - This habitat may require occasional management for wildfire risk. Due to the sensitive nature of this habitat type, hand tools or grazing shall be the only acceptable use of vegetation management. Should impacts to any living oak trees occur, they shall be mitigated for as outlined within the Oak Mitigation Plan. Equipment and vehicles shall not be used or staged within this habitat type. ▪ Oak savanna – Cover for this habitat type is dominated by non-native annual grasses and would not likely require management for wildfire risk except limited grazing or mowing immediately adjacent to high-risk fire areas such as within 50 feet of roads. Equipment use and staging may occur within areas of non- native annual grassland provided that the driplines of oaks are not impacted. Should impacts to any living oak trees occur, mitigation shall occur as outlined within the Oak Mitigation Plan.	applicant shall include all of these requirements in construction contracts. (Use Permit COA)		
3.4-19	**Wildlife Movement – Fencing** Use of fencing shall be minimized throughout the Guenoc Valley Site and shall adhere to those restrictions set forth in the Design Guidelines for all phases of development. Fencing shall not be installed for the purpose of wildlife exclusion except in the case of safety or protection of agricultural resources or residential development areas, and shall be designed to allow for continued movement of non-target species as possible.	Fencing requirements are incorporated into the Design Guidelines and shall be administered by the HOA. The County will review compliance prior to		

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	Unless approved by the Home Owner's Association or for ongoing protection of agricultural resources or property, fencing exceeding six feet in height shall not be used. Fencing materials designed for the purpose of wildlife entrapment or injury shall not be used. Full perimeter fencing for residential lots exceeding two acres in size shall be prohibited unless consistent with the following wildlife-friendly fencing measures: ▪ Fencing shall be reasonably visible to travelling wildlife to prevent collision with fencing, ▪ Fencing shall not include low rails or wires that would prevent smaller dispersing animals from passing, ▪ Fencing shall not present a top rail clearance exceeding six feet, and shall not exceed four feet when possible. Clearance height shall consider the ground slope approaching the fence such that the height of a jump required to clear the fence from the downslope side does not exceed six feet, and ▪ Materials that entangle or otherwise entrap wildlife, such as loose wire, top or bottom barbed wires, shall be prohibited.	issuance of building permits. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)		
3.4-20	**Wildlife Movement – Future Phases** Future phases of development shall retain the clustered development design and restriction on maximum allowable residential lot development standards set forth within the Design Guidelines. Residential lots shall be restricted to an allowable development area of 1.5 acres unless further restricted by the Design Guidelines, for example, in areas of oak woodlands. Development of future phases shall avoid riparian corridors that commonly serve as wildlife passageways with development setbacks to the degree feasible, as identified in Mitigation Measure 3.4-17. Setbacks and sensitive habitat avoidance shall also be maximized. Prior to implementation of future phases, additional analysis on the overall impacts to wildlife movement of proposed future phases development shall be performed by a qualified biologist to the level of detail presented within this EIR, and determine the extent to which implementation of Mitigation Measure 3.4-19 will reduce the impacts of proposed future phases development on wildlife movement. Should implementation of Mitigation Measure 3.4-19 not reduce the impacts of proposed future phases development on wildlife movement to a less than significant level, additional mitigation shall be determined by a qualified biologist such that impacts to wildlife movement are reduced to less-than-significant levels. Such mitigation may include	Applicant shall include in application for SP~~O~~D for future phases. County will ensure that this mitigation is implemented prior to approval of SP~~O~~Ds for future phases.	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	use of Habitat Corridor Easements or other forms of designating open space.			
3.4-21	**Domestic Cat Predation** The Home Owner's Association shall distribute to new residents informational resources on domestic cat predation on wildlife and methods to prevent such predation. These recommendations may include, but are not limited to: ▪ Encouraging cat owners to keep cats indoor as possible; ▪ Encouraging all residents to remove domestic cat attractants such as outdoor food bowls and uncovered trash; ▪ Affixing bells to collars; ▪ Having cats spayed or neutered to prevent establishment of feral colonies; and ▪ Ensuring backyard bird feeders are not accessible to cats.	HOA shall prepare educational materials to provide to future homeowners prior to occupancy. Ongoing implementation of this mitigation shall be handled by the HOA.	Applicant	County
3.5	**Cultural Resources**			
3.5-1	**Avoid Historical and Archaeological Resources, Apply Appropriate Mitigation** *Phase 1 and Future Phase General Provisions* All of the identified cultural resource sites shall be avoided during project construction, development, and operation activities. A shapefile database shall be transmitted to the Applicant and included in the final contract with the construction contractor to ensure that cultural resource locations are avoided. Allowable building envelopes shall be identified in the subdivision maps to ensure avoidance of cultural resource sites ~~Each site shall be added to subdivision maps~~, and any residential properties that include cultural resources shall be deed restricted to avoid construction on or immediately adjacent to the resource. This shall be accomplished by establishing a buffer of 50 feet around the perimeter of the site and erecting a semi-permanent fence that will remain in place throughout construction. The fence shall be installed with a qualified archaeologist and tribal monitor in attendance, and shall determine the established buffer for the location. The buffer can be reduced or modified to accommodate sensitive environmental conditions, based on the assessment of the qualified archaeologist and tribal monitor or cultural advisor (see Mitigation Measure TCR-2 ~~3.5-2~~). If construction will encroach closer than 50 feet, a qualified archaeological and tribal monitor shall be retained to monitor those activities. Should cultural resources be uncovered within the buffer, all construction in the in the immediate area shall halt	The applicant shall implement surveys, avoidance and monitoring as described in Mitigation Measure 3.5-1. The applicant shall include all of these requirements in construction contracts. (Use Permit COA) The applicant will delineate areas as described in Mitigation Measure 3.5-1 for deed restrictions on all final maps. (TM COA)	Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
until the find can be assessed for NRHP/CRHR eligibility in accordance with current professional standards using minimization measures and the provisions of the Unanticipated Discoveries Plan developed in compliance with Mitigation Measure TCR-2 ~~3.5-2~~. *Phase 1 Site-Specific Avoidance Strategies* Site P-17-425 shall be incorporated into proposed buffer zones for wetlands or oak woodlands. Should ground-disturbing work be required within 50 feet of the ~~either~~ site, a qualified professional archaeologist shall be retained to monitor construction activities. If site elements are discovered during monitoring, ~~the archaeologist, in consultation with Middletown Rancheria,~~ then the archeologist shall design an appropriate mitigation plan in consultation with Middletown Rancheria. The sites designated as lithic scatters (P-17-399, 400, 401, -404, -1363, -1470, -1957, -1958, -1959, -1960, -1961, -1962, -1963, and -2027, the Back of House vineyard lithic scatter site, ~~and~~ the Hilltop Site, the Creek Overlook Site, and the Sunshine Midden Site) have not been evaluated for the NRHP or CRHR. They shall be avoided and/or incorporated into open space or wetland or vegetation buffers wherever possible. If ground-disturbing work is required within 50 feet of any of these sites, they shall be examined under the CARIDAP unless different and/or additional mitigation measures are identified through consultation with the Middletown Rancheria (Tribe). Analyses shall be competed in the field to the extent possible. Four other sites (P-17-417, -2035, -2038, and -2041) include lithic scatters and bedrock mortars; these sites cannot be evaluated under the CARIDAP protocol. These sites should similarly be incorporated into open space or other natural resource buffers where feasible. Should construction impacts be unavoidable, each affected site shall be investigated by a qualified archaeologist in collaboration with the Tribe accordance with current professional standards in order to assess eligibility to the NRHP or CRHR unless different and/or additional mitigation measures are identified through consultation with the Tribe. For resources that cannot be avoided, site-specific minimization and mitigation measures will be developed in consultation between the archaeologist and Tribal monitor. Occupation sites have an elevated potential to contain data and other values which would make them eligible for listing on the NRHP or CRHR. These sites (P-17-116, -			

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
256, -405, -411, -414, -416, -420, -421, and -2039), therefore, shall be accorded an extra degree of protection. Each of these sites shall be avoided, incorporated into open space or wetland or vegetation buffers wherever possible. The sites are presumed eligible for listing on the NRHP/CRHR and therefore shall be protected by semi- permanent construction fencing, to be maintained until construction in the vicinity has finished. Should avoidance be infeasible, these sites shall be subject to intensive Phase II evaluation in accordance with an individual Treatment Plan designed for each specific site subject to consultation with Middletown Rancheria. The primary method of mitigation will be through minimization and avoidance measures. Only in cases where minimization or avoidance is infeasible, or there are no other means of mitigation, may a program of archaeological Data Recovery be implemented in accordance with current professional standards. Construction in the vicinity of the site shall not resume until minimization measures or Data Recovery has been completed. Historic sites within Phase 1 impact areas, including P-17-406, -412, -1996, -2042, -2043, -2952, -2956, the Bohn Hill debris scatter, and the Ink Ranch corrals, shall be incorporated into open space or wetland or vegetation buffers wherever possible and avoided with a 15-foot fenced buffer; the fence shall remain in place until all ground-disturbing work within 50 feet of the resource has been completed. Should construction impacts to historic sites be unavoidable, the individual site shall be visited, compared to existing resource records, re-documented through resource update forms, and evaluated for the NRHP/CRHR. If eligible, appropriate treatment methods shall be included in a Treatment Plan designed in consultation with the Tribe, which shall be implemented prior to site disturbance. The Back of House vineyard site is located within an active vineyard and consequently has been disturbed; further disturbance will occur when the vineyard is removed prior to Back of House construction. This site has not been evaluated for NRHP/CRHR eligibility and will be more fully disturbed during construction of the Proposed Project. A CARIDAP testing and evaluation program shall be implemented prior to any new ground-disturbing activities at this location unless different and/or additional mitigation measures are identified through consultation with the Tribe. If the site is found or presumed eligible for listing on the NRHP/CRHR, a qualified professional archaeologist shall design an appropriate Treatment Plan in consultation with Middletown Rancheria; the Treatment Plan shall include the number and size of			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	excavation units to be completed, laboratory or in-field analyses to be performed, documentation of results, and criteria to make a final recommendation to the NRHP/CRHR, all in accordance with Mitigation Measure 3.5-1. Construction activities in the vicinity of the site shall not resume until mitigation has been completed. Sites that may occur within Phase 1 development areas but which could not be relocated include: P-17-404, and -409. Accordingly, all ground disturbance proposed in areas where these sites have been previously plotted shall be monitored by a qualified archaeologist and Tribal monitor. In the event that site indicators are encountered, project-related activities shall cease and shall not resume within 50 feet of the find and the site shall be evaluated for NRHP/CRHR eligibility in accordance with the provisions of the Unanticipated Discoveries Plan unless different and/or additional mitigation measures are identified through consultation with the Tribe.			
3.5-2	**Worker Awareness Training, ~~Unanticipated Discoveries Plan,~~ Construction Monitoring, and Halt Work** [MOVED] ~~1) Tribal Cultural Advisor: Prior to initial ground disturbance, the Applicant shall retain a project Tribal Cultural Advisor designated by the Tribe, to direct all mitigation measures related to tribal cultural resources as defined by Public Resources Code 21074(a).~~ 1) Worker Awareness and Sensitivity Training: Prior to the beginning of grading (including ground-clearing) or any construction (including structure relocation), a qualified professional archaeologist shall administer a cultural resources awareness and sensitivity training program to all construction workers who will be performing grading or construction work. Either a tribal representative should assist with administering the training, or the training materials should be approved by the Tribal Cultural Advisor. The program shall include a review of the types of finds that could occur, regulatory requirements, and a list of contacts (with telephone numbers) in case of accidental discoveries. The training program shall be repeated periodically as new construction workers are added to the project. 2) Construction Monitoring: The Applicant shall retain a team of professional archaeologists and tribal monitors to implement a monitoring program to observe initial ground disturbing activities from the surface to sub-soil (including testing, concrete pilings, debris removal, rescrapes, punchlists, pot-holing or auguring, boring, grading, trenching, foundation work and other excavations or	The applicant shall implement monitoring and other actions as described in Mitigation Measure 3.5-2. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
other ground disturbance involving the moving of dirt or rocks with heavy equipment or hand tools within the Project area), ensure that buffer areas are marked, and halt construction in the case of new discoveries. The tribal monitoring shall be supervised by the project Tribal Cultural Advisor. The duration and timing of the archaeological monitoring activities shall be determined by the lead archaeologist in consultation with the Tribal Cultural Advisor. The duration and timing of tribal monitoring will be determined by a cultural resources monitoring agreement between the parties. The Tribal Cultural Advisor will coordinate with the construction field supervisor to confirm where ground disturbing activities will occur and determine the location its tribal monitor would survey, monitor, spot-check or remain stationary. Where feasible, the archaeological and tribal monitors will work together at the same locations. If the Tribal Cultural Advisor determines that full-time monitoring is no longer warranted, he or she may recommend that tribal monitoring be reduced to periodic spot-checking or cease entirely. Tribal monitoring would be reinstated in the event of any new or unforeseen ground disturbances. Depending on the scope and schedule of ground disturbance activities of the Project (e.g., discoveries of cultural resources or simultaneous activities in multiple locations that requires multiple tribal monitors, etc.) additional tribal monitors may be required on-site. If additional tribal monitors are needed, the Tribe shall be provided with a minimum of three (3) business days advance notice unless otherwise agreed upon between the Tribe and applicant. The on-site tribal monitoring shall end when the ground disturbance activities are completed, or when the project Tribal Cultural Advisor has indicated that the site has a low potential for tribal cultural resources. 3) Halt Work: Should any archaeological, paleontological, or cultural materials be discovered during site development, all activity shall be halted within 100 feet of the find(s). A professional archaeologist certified by the Registry of Professional Archeologists (RPA) shall be notified and shall evaluate the find(s) and recommend mitigation procedures, if necessary. The findings and mitigation measures shall be reviewed and approved by the Lake County Community Development Director prior to commencing work. [MOVED] ~~3) Tribal Unanticipated Discoveries Plan: Prior to project construction, a~~			

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
~~qualified professional archaeologist shall be retained to prepare an Unanticipated Discoveries Plan in consultation with Middletown Rancheria, or to update an existing Unanticipated Discoveries Plan supplied by the Tribe. At a minimum, the Unanticipated Discoveries Plan shall include:~~ • ~~Minimization of impact strategies to be agreed upon by the archaeological monitor and tribal monitor or tribal cultural advisor. Minimization measures mean:~~ ○ ~~Avoidance. Priority shall first be given to leaving cultural resources in place and avoidance of any further unnecessary disturbance. The highest priority is to avoid disturbance to cultural resources. All cultural resources shall be left in situ, that is, in place, in the same position in which they were discovered and shall not be removed from the discovery site until arrangements are made for reburial or transfer in accordance with the below. If leaving the resources in situ is not possible, temporary housing at a secured storage location at the discovery site mutually agreed upon by the archaeological and tribal monitor may be considered.~~ ○ ~~Reburial. In situations where avoidance is not feasible, priority shall next be given to immediately reburying the cultural resources in the same location as found, only deeper. In the event that the cultural resources cannot be re-buried in the same location, only deeper, then priority shall next be given to immediately re-burying the cultural resources in an appropriate location within 100 feet of their original discovery in an area that shall not be subject to future subsurface disturbances. If for any reason immediate reburial in place, only deeper, or in an appropriate location within 100 feet of the original discovery is not feasible, then cultural resources may be re-buried in an appropriate location as determined by the Tribal Cultural Advisor in an area that shall not be subject to future subsurface disturbances.~~ ○ ~~Transfer. In the event that avoidance and reburial above described is not feasible, cultural resources may be removed and transferred to a location designated by the Middletown Rancheria.~~ ○ ~~Laboratory studies, scientific analysis, curation, or video recording shall only be permitted if required to assess CRHR eligibility, or if such strategies are the only means available to mitigate impacts to~~			

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
~~CRHR eligible resources. Prior to conducting any such studies, the tribal cultural advisor must be consulted. The archaeologist may draw the cultural resources for mapping purposes; however, no electronic means of recording the cultural resources shall be permitted without prior consultation with the Middletown Rancheria.~~ • ~~Description of field or laboratory methods to be used to investigate Unanticipated Discoveries (also applicable to known resources that will be impacted by project construction), to include types of excavation units, screening methods, and sample collection, as appropriate;~~ • ~~A list of permitted in-field analyses or laboratories to be used for specific analyses, as appropriate;~~ • ~~Provisions for reburial or transfer of recovered materials, developed in consultation with Middletown Rancheria.~~ • ~~Measures for documentation of results, including forwarding results to the NWIC as appropriate;~~ • ~~A Burial Treatment plan, provided by the Tribe, shall be followed if Native American remains are discovered during construction;~~ • ~~Maps (provided in pdf and shapefiles to the construction contractor, Applicant, and County) of areas that have not been included in a previous archaeological survey;~~ • ~~Maps of known resource locations (provided in pdf and shapefiles) shall be included in any construction documents that include identification of archaeological monitoring areas, identification of sites where pre-construction archaeological testing or archaeological and tribal monitoring during construction is required, identification of appropriate buffer zones for individual site protection during construction, cease work requirements, unanticipated finds reporting requirements;~~ • ~~Assessment criteria to determine NRHP/CRHR eligibility; and~~ • ~~A no-collections policy will be instituted for the Proposed Project, except where a site-specific treatment plan or the Unanticipated Discoveries Plan developed in consultation with the Tribe, calls for collection of a sample of artifacts or materials and analysis.~~ ~~Should any cultural resources, such as wells, foundations, or debris, or unusual amounts of bone, stone or shell, artifacts, burned or baked soils, or charcoal be encountered during ground-disturbing activities, work shall cease within 100 feet of~~			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	~~the discovery and the Construction Contractor, Applicant, and Middletown Rancheria shall be notified immediately. The Applicant shall retain a qualified professional archaeologist to assess the find in consultation with the Tribal Cultural Advisor. The Tribe must have an opportunity to inspect and determine the nature of the resource and the best course of action for avoidance, protection and/or treatment of tribal cultural resources to the extent permitted by law, should the find consist of prehistoric or historic-era materials related to Native American occupation or use of the vicinity. If the find appears to be eligible for listing on the NRHP or CRHR, or is determined to be a tribal cultural resource by the Middletown Rancheria, then the provisions of the Unanticipated Discoveries Plan shall be adhered to, which will include consultation with Middletown Rancheria for tribal cultural resources. If the find consists of historic-era materials unrelated to the Native American community, the archaeologist shall determine its significance in compliance with NHPA and CEQA criteria. If adverse effects to a cultural resource cannot be avoided, the Minimization Measures described under the requirements for the Unanticipated Discovery Plan shall be implemented to the extent feasible.~~			
3.5-3	**Future Phase Investigations** Because Future Phases of work will affect areas not yet included in an archaeological study, prior to undertaking construction in any Future Phase area, the Applicant shall retain a qualified professional archaeologist to complete a cultural resources study in coordination with Middletown Rancheria. The study shall determine whether any previous archaeological studies or cultural resources have been identified within the Future Phase development area. If no studies have been completed, or if previous study results are more than 15 years old, new studies shall be prepared including the results of background research, field surveys, identification and evaluation of resources, documentation of results, and submission of the report to Lake County and the NWIC upon completion. New surveys shall include both professional archaeologists and the Tribal Cultural Advisor (or his/her designee). These efforts shall be completed prior to ground-disturbing activities. If significant historic-era resources or significant archaeological sites are present, the development proposal shall designate the area surrounding the site as open space and the site shall be completely avoided. If avoidance is not feasible, a qualified professional archeologist shall be retained to evaluate NRHP/CRHR eligibility of the site, and, if eligible, shall design an appropriate Treatment Plan in consultation with Middletown Rancheria. The minimization measures outlined in the Unanticipated Discoveries Plan described under Mitigation Measure TCR-2 ~~3.5-2~~ shall be adhered to as feasible. Construction	Applicant shall include in application for SP~~O~~D for future phases. County will ensure that this mitigation is implemented prior to approval of SP~~O~~Ds for future phases.	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	activities in the vicinity of the site shall not occur until mitigation has been completed, and the construction monitoring provisions of Mitigation Measure TCR-2 ~~3.5-2~~ have been implemented. Any newly identified resources uncovered during Future Phases shall be treated in accordance with Mitigation Measure TCR-2 ~~3.5-2~~ requirements.			
3.5-4	**Cease Work, Contact County Coroner** California law recognizes the need to protect interred human remains, particularly Native American burials and items of cultural patrimony, from vandalism and inadvertent destruction. If human remains are uncovered during project construction, construction shall halt immediately within 100 feet of the find and the Lake County Coroner, County, and the Applicant shall be notified. The procedures for the treatment of discovered human remains are contained in California Health and Safety Code §7050.5 and §7052 and California PRC §5097. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). The County shall contact the Most Likely Descendent (MLD), as determined by the NAHC, regarding the remains. The MLD, in cooperation with the County and a qualified professional archaeologist, shall develop a plan of action to avoid or minimize significant effects to the human remains prior to resumption of ground-disturbing activities.	The applicant shall implement monitoring and other actions as described in Mitigation Measure 3.5-4. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	Applicant/County	County
3.6	**Geology and Soils**			
3.6-1	**Final Design-Level Geotechnical Report(s)** The Applicant shall submit final design-level geotechnical report(s) produced by a California Registered Civil Engineer or Geotechnical Engineer for County review and approval. The report(s) shall address and make recommendations on the following: 1. Road, pavement, and parking area design; 2. Structural foundations, including retaining wall design (if applicable); 3. Grading practices; 4. Erosion/winterization; 5. Special problems discovered onsite, (e.g., groundwater, compressive/expansive/unstable soils/liquefaction potential); and	The applicant shall prepare reports and take actions as described in Mitigation Measure 3.6-1. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
6. Slope stability (landslides). It is the responsibility of the Applicant to provide for engineering inspection and certification that earthwork has been performed in conformity with recommendations contained in the report. If the geotechnical report indicates the presence of critically expansive soils or other issues that could lead to structural defects, a certification of completion of the requirements of the geotechnical report shall be submitted to the County Community Development Department prior to issuance of building permits. This certification may be completed on a lot-by-lot basis or on a tract basis. This shall be so noted on the Improvement Plans, in the CC&Rs, and on the Informational Sheet filed with the Final Subdivision Map(s). The preliminary geotechnical engineering report performed by RGH Consultants, dated May 29, 2019 and revised December 6, 2019, indicated the presence of potentially expansive soils and landslides, which must be addressed in a design-level geotechnical report. At a minimum, the following recommendations of the preliminary geotechnical engineering report shall be adhered to: 1. In general, cut and fill slopes should be designed and constructed at slope gradients of 2:1 (horizontal to vertical) or flatter, unless otherwise approved by the geotechnical engineer in specified areas. In expansive soil areas and serpentinite or highly weathered mélange bedrock, cut and fill slopes should be no steeper than 3:1. Where steeper slopes are required, retaining walls should be used unless approved by the project geotechnical engineer. Fill slopes steeper than 2:1 will require the use of geogrid to increase stability. If the owner is willing to accept ongoing maintenance, steeper slopes may be constructed within roadway cutslopes on a case-by-case basis. Cutslopes up to 1:1 may be allowable in certain areas with certain remedial measures. In general, slopes within serpentinite-derived soils and Franciscan mélange or serpentinite bedrock are highly weathered and are less stable than slopes on younger and/or harder bedrock types. In addition, some of the younger volcanic bedrock formations are rubbly to agglomeritic in nature and may be prone to rockfalls or debris flows as the clayey matrix becomes saturated on steep slopes. The geotechnical engineer should review preliminary site-specific grading plans and profiles for potential slope stability concerns.			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	and/or 2. The proposed building envelopes must be located outside unstable areas and steep slopes in order to reduce the risks associated with slope instability. Initially, a structural setback of approximately 50 feet from unstable areas and breaks in slope of 2:1 or steeper should be established. A site-specific study by the project geotechnical engineer should finalize recommended structural setbacks.			
3.6-2	**Worker Training, Cease Work, and Consult with Qualified Paleontologist** A qualified professional paleontologist (as defined by the Society of Vertebrate Paleontology, 2010) shall provide awareness training, in written or multi-media form for construction personnel involved in earth-moving activities. Construction personnel to be involved with earth-moving activities shall be informed that fossils could be discovered during excavation that these fossils are protected by laws, on the appearance of common fossils, and on proper notification procedures should fossils be discovered. In the unlikely event that paleontological resources are encountered, work shall cease within 50 feet of the discovery, and the County shall be notified immediately. The Applicant shall retain a qualified professional paleontologist (as defined by the Society of Vertebrate Paleontology, 2010) to assess the significance of the find and recommend appropriate treatment measures. Recommendations shall include, but are not limited to, salvage and treatment as described by the Society of Vertebrate Paleontology (2010); this treatment shall include preparation, identification, determination of significance, and curation into a public museum. Any recommended mitigation shall be completed before construction resumes in the vicinity of the find.	The applicant shall implement monitoring and other actions as described in Mitigation Measure 3.6-2. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	Applicant/County	County
3.7	**Greenhouse Gases and Climate Change**			
3.7-1	**Operational GHG Emissions** Prior to the issuance of the first certificate of occupancy for the relevant portion of the project (i.e., residential or commercial), as appropriate, the Applicant shall provide documentation to the County that the following measures have been achieved. It should be noted that these measures do not apply to on-going uses within the property that are not a component of the Proposed Project, including agricultural operations conducted under third party leases. *Transportation Demand Management Measures*	Applicant to prepare TDM Program compliant with this Mitigation Measure and submit to County. County to review and approve prior to issuance of the first certificate of occupancy. (Use Permit COA)	Applicant/County	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
Implement MM 3.13-4 to develop and implement a TDM Program to achieve a reduction in VMT as a result of the Proposed Project. At a minimum these measures will include: ▪ Dedicated on-site parking for shared vehicles (vanpools/carpools); ▪ Provide adequate, safe, convenient, and secure on-site bicycle parking and storage in the commercial portion of the project; and ▪ Use of an electric fleet for internal transport vehicles (excluding trucks and other ranch vehicles for on-going agricultural and grazing activities) to the extent feasible (no less than 75 percent), including the golf course. *Project Wide Measures* ▪ Use energy-efficient lighting that will reduce indirect criteria pollutants and GHG emissions. Using energy-efficient lighting will reduce energy usage and, thus, reduce the indirect GHG emissions from the project. Energy-efficient lighting includes adaptive lighting systems or systems that achieve energy savings beyond those required by Title 24 lighting requirements to the maximum extent feasible. ▪ Utilize low-flow appliances and fixtures; ▪ Use of state-of-the-art irrigation systems that reduce water consumption including graywater systems and rainwater catchment; ~~and~~ ▪ Use of drought-tolerant and native vegetation; and ▪ Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2. *Residential Measures* ▪ Facilitate achievement of zero net energy buildings through installation of solar photovoltaic systems consistent with the 2019 Building Energy Efficiency Standards, CCR Title 24 Part 6. Compliance with this requirement must be demonstrated prior to issuance of occupancy permits for residential uses. ▪ Provide electrical outlets on the outside of the homes or outlets within the garages to encourage the use of electrical landscaping equipment. ▪ Use water efficient landscapes and native/drought-tolerant vegetation. ▪ Install smart meters and programmable thermostats. ▪ Use energy-efficient appliances in the residences where available. These include appliances that meet USEPAs Energy Star Criteria. *Resort/Commercial Measures*	Lighting plans consistent with these requirements shall be submitted to County prior to approval of building permit. (Use Permit COA) Improvement Plans consistent with these requirements shall be submitted to County prior to approval of Final Maps. (TM COA)		

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring

- Facilitate achievement of zero net energy buildings through the construction standards required under the 2019 Building Energy Efficiency Standards, CCR Title 24 Part 6 and the use of rooftop or on-site photovoltaic systems, with or without storage, or the acquisition of renewable energy or energy credits from another source, or generation onsite. Zero Net Energy shall mean that on a community-wide basis, the actual annual consumed energy will be less than or equal to the renewable generated energy utilized. It is the Project's goal to obtain enough renewable electrical energy for the Project's needs and to distribute it throughout the Guenoc Valley Site. Therefore, renewable energy supplies shall be secured and/or systems installed for each commercial structure prior to issuance of its final certificate of occupancy.
- Install on-site charging units for electric vehicles consistent with parking requirements in California Green Building Standards Code Section 5.106.5.2.
- Install electric water heating instead of gas water heating for some or all of the project's hot water needs, to the extent such technology is readily available and commercially practicable.
- Minimize the use of propane gas at restaurants and replace with alternative equipment to the maximum extent feasible.

Purchase GHG Credits

Prior to the issuance of building permits, the Applicant shall purchase GHG emission credits from a CARB approved registry source or project to offset the difference between the mitigated project emissions and the recognized 2030 service population thresholds. The credits must be established using CARB-consistent protocols and permanently retired. The table below converts the service population thresholds to metric tons per year based on the service population of the Proposed Project. Additionally, the table illustrates the difference between the total project emissions and the thresholds.

Therefore, prior the issuance of building permits for Phase 1, the Applicant shall purchase 14,865 carbon offset credits.

OPERATIONAL GHG EMISSIONS - MITIGATED

Category	Year 2030

Mitigation Measure		Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring

	Phase 1	Future Phases	Total All Phases
	MT CO_2e per year		
Total Project Emissions	18,973	11,873	30,846
Service Population (Residents + Employees[1])	*1,580*	*2,990*	*4,570*
Service Population Project Emissions	*12.0*	*4.0*	*6.7*
BAAQMD Threshold (MT CO_2e/SP)[2]	2.6	2.6	2.6
BAAQMD Service Pop Threshold Converted to total MT CO_2e[3] per year	4,108	7,774	11,882
Total Annual Project Emissions Above Threshold	**14,865**	**4,099**	**18,964**

Notes:
1. Service population for Phase 1 includes both the project population increase from Phase 1 residential units and workforce housing, plus the 300 employment positions that would be generated. Service population for Future Phases includes the estimated population increase from future phases residential units and workforce housing, plus an estimated 200 employment positions.
2. 2030 service population threshold adjusted to account for 2017 Scoping Plan Update 40% Reduction Goal by 2030.
3. Calculated by multiplying the service population threshold by the service population of the project.

3.7-2	**Construction GHG Emissions** Implement Mitigation Measure 3.3-1 to reduce GHG emissions from construction of the Proposed Project. a) To the maximum extent feasible, the contractors shall utilize Tier 4 engines or better, and Level 3 Diesel Filters during all phases of development. Compliance must be demonstrated with submittal of the equipment inventory, prior to approval of dust control plans.	Applicant to submit to LCAQMD a Construction Emission/Dust Control Plan and other information conforming to this Mitigation Measure within 30 days prior to groundbreaking. County to review prior to issuing Grading or Improvement	Applicant	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
		Plans- (whichever occurs first). (Use Permit COA)		
3.8	**Hazardous Materials**			
3.8-1	**Hazardous Materials Best Management Practices** The following mitigation measures shall be implemented prior to the issuance of grading permits: 1) Ensure through contractual obligations that all contractors prepare hazardous materials business plans and that they transport, store, and handle construction and remediation-related hazardous materials in a manner consistent with applicable regulations and guidelines. Components of the plan include, but are not limited to, transporting and storing materials in appropriate and approved containers, maintaining required clearances, and handling materials in accordance with the applicable federal, State, and/or local regulatory agency protocols. The hazardous materials business plans shall be submitted to the Lake County Division of Environmental Health for review and approval. 2) In compliance with the CWA, a Stormwater Pollution Prevention Plan (SWPPP) shall be prepared for construction activities. Hazardous materials control measures identified in the SWPPP shall include, but not be limited to, the following: a. A spill prevention and countermeasure plan shall be developed, which identifies proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used onsite. b. Petroleum products shall be stored, handled, used, and disposed of properly in accordance with provisions of the CWA (33 USC § 1251 to 1387). c. During the wet season, construction materials, including topsoil and chemicals, and quarried materials shall be stored, covered, and isolated to prevent runoff losses and contamination of surface and groundwater. d. Fuel and vehicle maintenance areas shall be established away from all drainage courses and designed to control runoff. e. Sanitary facilities shall be provided for construction workers. f. Disposal facilities shall be provided for soil wastes, including excess asphalt during construction and demolition. g. Require that at all times a supervisor or other responsible employee trained in the proper handling, use, cleanup, and disposal of all chemical materials used during construction activities shall be present onsite and provide	The Applicant shall implement monitoring and other actions, and obtain permits as described in Mitigation Measure 3.8-1 prior ~~is~~ to issuance of grading permits and during construction. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	Applicant	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	appropriate facilities to store and isolate contaminants. h. Encountered groundwater shall be removed from trenches and excavations in such a manner as to reduce potential contact with construction materials, construction personnel, surface waters, and, to the extent required by regulation or requirements, shall be disposed of at an appropriately permitted facility such as a wastewater treatment plant in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit.			
3.8-2	**Prepare a Hazardous Materials Contingency Plan** Prior to issuance of the grading permits, the Applicant shall provide to Lake County Division of Environmental Health a site-specific hazardous materials contingency plan. The plan will describe the necessary actions that would be taken if evidence of contaminated soil or groundwater is encountered during construction. The contingency plan shall identify conditions that could indicate potential hazardous materials contamination, including soil discoloration, petroleum or chemical odors, presence of underground storage tanks, or buried building material. Compliance with the plan will be included as a requirement within all construction bid specifications. If at any time during the course of constructing the Proposed Project evidence of soil and/or groundwater contamination with hazardous material is encountered, construction shall immediately cease and the Lake County Division of Environmental Health shall be contacted. Construction in the area affected by the contamination shall remain stopped until there is resolution of the contamination problem (through such mechanisms as soil or groundwater sampling and remediation if potentially hazardous materials are detected above threshold levels) to the satisfaction of Lake County Division of Environmental Health and Central Valley Regional Water Quality Control Board (CVRWQCB); construction on areas not affected by the contamination may continue during the remediation process. The plan, and obligations to abide by and implement the plan, shall be incorporated into the construction contract specifications of the project.	The applicant shall prepare a site- specific hazardous materials contingency plan, implement monitoring and other actions, and obtain permits as described in Mitigation Measure 3.8-2 prior ~~is~~ to issuance of grading permits and during construction. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	Applicant/County	County
3.8-3	**Minimize Potential for Accidental Release of Hazardous Materials during Demolition** a) Prior to demolition of existing structures, the Applicant shall: 1) Identify locations that could contain hazardous residues; 2) Remove plumbing fixtures known to contain, or potentially containing, hazardous materials; 3) Determine the waste classification of the debris;	The applicant shall implement Mitigation Measure 3.8-3 prior ~~is~~ to issuance of grading permits and during construction. The applicant shall include	County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	4) Package contaminated items and wastes; and 5) Identify disposal site(s) permitted to accept such wastes. These activities will be conducted in compliance with all applicable federal, state, and local laws. b) Prior to demolition of existing structures, the Applicant shall provide written documentation to the County that asbestos testing and abatement, as appropriate, has occurred in compliance with applicable federal, State, and local laws. c) Prior to demolition of existing structures, the Applicant shall provide written documentation to the County that lead-based paint testing and abatement, as appropriate, has been completed in accordance with applicable State and local laws and regulations. Abatement shall include the removal of lead-contaminated soil (considered soil with lead concentrations greater than 400 parts per million in areas where children are likely to be present). If lead-contaminated soil is to be removed, the Applicant shall submit a soil management plan to Lake County Division of Environmental Health.	all of these requirements in construction contracts. (Use Permit COA)		
3.8-4	**Reporting Geothermal Wells** As recommended by the Division of Oil, Gas, and Geothermal Resources (Division) within the Department of Conversion and according to the County General Plan, the following shall be performed concerning geothermal well sites for the Guenoc Valley Site and the Off-Site Infrastructure Improvement Areas: 1) The location of any known geothermal wells on the property shall be clearly identified on the project construction plans and communicated to the appropriate County recorder for inclusion in the title information of the subject real property. 2) If any unknown geothermal well(s) is/are discovered during development, the County and the Division shall be notified immediately so that the newly discovered well(s) can be incorporated into the records and investigated in order to determine proper disposal, if required. Any previously unidentified wells found during project exploration and construction work shall be communicated to the appropriate County recorder for inclusion in the title information of the subject real property. This is to ensure that present and future property owners are aware of the wells located on the property, and the potentially significant issues associated with any improvements near geothermal wells. 3) Before work on a low or high temperature gradient well is performed, written approval from the Division in the form of an appropriate permit shall be obtained. This includes, but is not limited to, mitigating leaking fluids or gas from	The applicant shall implement Mitigation Measure 3.8-4 prior ~~is~~ to issuance of grading permits and during construction. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	abandoned wells, modifications to well casings, and/or any other re-abandonment work. If any well needs to be lowered or raised (i.e., casing cut down or casing riser added) to meet the grade regulation standard of 6 feet below ground, a permit from the Division is required before work can start.			
3.8-5	**Asbestos Dust Mitigation Plan** Prior to construction activities, an Asbestos Dust Mitigation Plan shall be prepared and submitted to the LCAQMD for review and approval ~~Lake County APCD~~. The Plan shall include the following components in order to reduce asbestos dust generation and meet the requirements of an asbestos dust mitigation plan as specified in Asbestos Airborne Toxic Control Measures (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations: 1) Track-out prevention and control measures: a) Removal of any visible track-out from a paved public road at any location where vehicles exit the construction site via wet sweeping or a HEPA filter equipped vacuum device at the end of the work day or at least once per day. b) Installation of one or more of the following track-out prevention measures: i. A gravel pad designed using good engineering practices to clean the tires of exiting vehicles; ii. A tire shaker; iii. A wheel wash system; iv. Pavement extending for not less than 50 consecutive feet from the intersection with the paved public road; or v. Other measure that is deemed by the LCAQMD ~~Lake County APCD~~ as effective as the measures listed above. 2) Active storage piles will be adequately wetted or covered with tarps. 3) Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days shall have one or more of the following done: a) Keep the surface adequately wetted; b) Establishment and maintenance of surface crusting that is sufficient to satisfy the test in subsection (h)(6) of the Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations; c) Application of chemical dust suppressants or chemical stabilizers according to the manufacturers' recommendations; d) Covering with tarp(s) or vegetative cover; e) Installation of wind barriers of 50 percent porosity around three sides of a storage pile;	The applicant shall prepare and implement an Asbestos Dust Mitigation Plan as ~~is~~ described in Mitigation Measure 3.8-5. The Plan must be approved by LCAQMD prior to ~~is~~ issuance of grading permits. ~~and~~ The Plan shall be implemented during construction. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	Applicant	LCAQMD / County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
f) Installation of wind barriers across open areas; or g) Other measure that is deemed by the LCAQMD ~~Lake County APCD~~ as effective as the measures listed above. 4) Control for traffic on on-site unpaved roads, parking lots, and staging areas shall include the following: 1) A maximum vehicle speed limit of 15 mph or less; and 2) One or more of the following: i. Watering every two hours of active operations or sufficiently often to keep the area adequately wetted; ii. Applying chemical dust suppressants consistent with manufacturer's directions; iii. Maintaining a gravel cover with a silt content that is less than 5 percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of 3 inches on the surface being used for travel; or iv. Other measure that is deemed by the LCAQMD ~~Lake County APCD~~ as effective as the measures listed above. 5) Control for earthmoving activities shall include one or more of the following: a) Pre-wetting the ground to the depth of anticipated cuts; b) Suspending grading operations when wind speeds are high enough to result in dust emissions crossing the project boundary despite the application of dust mitigation measures; c) Application of water prior to any land clearing; or d) Other measure that is deemed by the LCAQMD ~~Lake County APCD~~ as effective as the measures listed above. 6) No trucks shall be allowed to transport excavated material offsite until the following are performed: a) Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments; and b) Loads are adequately wetted and either: i. Covered with tarps; or ii. Loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than 6 inches from the top and that no point of the load extends above the top of the cargo compartment. 7) Upon completion of the Proposed Project, disturbed surfaces shall be stabilized			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	using one or more of the following methods: a) Establishment of a vegetative cover; b) Placement of at least 3 inches of non-asbestos-containing material; c) Paving; d) Any other measure sufficient to prevent wind speeds of 10 mph or greater from causing visible dust emissions. 8) If deemed applicable by LCAQMD ~~Lake County APCD~~, an air quality testing component shall be developed and contain the following: a) Type of air sampling device(s); b) Siting of air sampling device(s); c) Sampling duration and frequency; and d) Analytical method. 9) A Site-Specific Health and Safety Plan shall be a component of the overall Asbestos Dust Mitigation Plan. The Health and Safety Plan shall include measures to protect all onsite workers and residents throughout all phases of the project.			
3.8-6	**Conduct Shallow Groundwater Characterization Plan for Construction of Off-Site Water Pipeline** Prior to obtaining a dewatering permit associated with trenching activities for the off-site water pipeline in Butts Canyon Road, a Shallow Groundwater Characterization Plan will be developed in consultation with the CVRWQCB. The Shallow Groundwater Characterization Plan will outline the appropriate number of shallow groundwater samples to be collected and the analytes to be assessed in order to determine appropriate dewatering methods during pipeline construction. The results of the Shallow Groundwater Characterization Plan shall be provided to the Lake County Division of Environmental Health and CVRWQCB. Should the results indicate the presence of contaminated groundwater, an individual dewatering permit shall be obtained from the CVRWQCB, and all conditions adhered to Methods for disposal of contaminated groundwater may include but are not limited to transporting the water to an approved facility for treatment and discharge in accordance with NPDES permit requirements.	Prior to obtaining a dewatering permit associated with trenching activities for the off-site water pipeline in Butts Canyon Road, the applicant shall prepare and implement a Shallow Groundwater Characterization Plan will be developed in consultation with the CVRWQCB is described in Mitigation Measure 3.8-6. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	Applicant	County
3.9	**Hydrology and Water Quality**			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
3.9-1	**Storm Water Pollution Prevention Plan** Consistent with the requirements of the State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2022-0057-DWQ ~~2009-0009-DWQ~~), the Applicant shall undertake the Proposed Project in accordance with a project-specific SWPPP. The CVRWQCB, the primary agency responsible for protecting water quality within the project area, is responsible for reviewing and ensuring compliance with the SWPPP. The recommended BMPs, subject to review and approval by the CVRWQCB, include the measures listed below. However, the measures themselves may be altered, supplemented, or deleted during the CVRWQCB's review process, since the CVRWQCB has final authority over the terms of the SWPPP. *General Construction* a. Schedule and sequence construction activities to minimize the areal extent and duration of site disturbance at any time. b. Provide work exclusion zones outside of work areas to protect vegetation and to minimize the potential for removing or injuring trees, roots, vines, shrubs, and grasses. c. Avoid disturbance of riparian and wetland vegetation by installing flagging and temporary fencing. d. Use berms, ditches, or other structures to divert natural surface runoff around construction areas. e. Install weed-free fiber rolls, straw-wattles, coir logs, silt fences, or other effective devices along drainage channels to prevent soils from moving into creeks. f. Locate stockpiles at least 50 feet from creeks, drainage channels, and drainage swales, whenever possible. g. Install fiber rolls, straw-wattles, or silt fencing between stockpiles and creeks, drainage channels, and drainage swales. h. After excavating any open-cut slopes, install slope protection measures such as fiber rolls, drainage ditches, or erosion control fabrics to minimize the potential for concentrated surface runoff to cause erosion. i. Implement wind erosion or dust control procedures consisting of applying water or other dust palliatives as necessary to prevent or alleviate dust nuisance generated by construction activities. The contractor may choose to cover small stockpiles or areas as an alternative to applying water or other dust palliatives. j. Control water application rates to prevent runoff and ponding. Repair leaks from	The applicant shall obtain a project-specific SWPPP prior to ground disturbing activities and provide the County with verification of compliance with the permit. (Use Permit COA)	~~County~~ Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
water trucks and equipment immediately. *Hazardous Materials* k. Keep hazardous materials and other wastes at least 100 feet from wetlands, creeks, drainage channels, and drainage swales, whenever possible. l. Store hazardous materials in areas protected from rain and provide secondary containment to prevent leaks or spills from affecting water quality. m. Implement the following hazardous materials handling, storage, and spill response practices to reduce the possibility of adverse impacts from use or accidental spills or releases of contaminants: ▪ Develop and implement strict on-site handling rules to keep construction and maintenance materials out of drainages and waterways. ▪ Conduct all refueling and servicing of equipment with absorbent material or drip pans underneath to contain spilled fuel. Collect any fluid drained from machinery during servicing in leak-proof containers and deliver to an appropriate disposal or recycling facility. ▪ Maintain controlled construction staging, site entrance, concrete washout, and fueling areas a minimum of 100 feet from stream channels or wetlands whenever possible to minimize accidental spills and runoff of contaminants in stormwater. ▪ Prevent raw cement; concrete, or concrete washings; asphalt, paint, or other coating material; oil or other petroleum products; or any other substances that could be hazardous to aquatic life from contaminating the soil or entering watercourses. *Dewatering and Treatment Controls* n. Prepare a dewatering plan prior to excavation. o. Impound dewatering discharges in sediment retention basins or other holding facilities to settle the solids and provide treatment prior to discharge to receiving waters as necessary to meet Basin Plan water quality objectives. p. In order to meet the Basin Plan water quality objectives, install turbidity barriers and collect and treat drainage and runoff water from any part of the work area that has become turbid with eroded soil, silt, or clay to reduce turbidity prior to discharge to receiving waters. *Temporary Stream Crossings*			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	q. Construct temporary stream crossings using a temporary bridge with gravel approach ramps or temporary culverts backfilled with clean gravel/cobbles and topped with a gravel road base. r. Do not place earth and rockfill material in stream channels. s. Upon completion of the Proposed Project, remove or stabilize temporary stream crossings with banks graded to a stable angle.			
3.9-2	**Aggregate/Concrete Monitoring and Reporting Program** The Applicant shall undertake the proposed aggregate and concrete production facility in accordance with permit requirements of the CVRWQCB. The Applicant shall submit a Report of Waste Discharge to the CVRWQCB. The Applicant shall comply with monitoring requirements and discharge prohibitions identified by the CVRWQCB. The recommended discharge prohibitions, subject to review and approval by the CVRWQCB, include the specifications listed below. a. Aggregate wash water must be retained within designated operational area and may not be allowed to be percolated or disposed on land or to drainages. b. Aggregate wash and wastewater ponds must be lined and meet storage capacity requirements, maintain adequate freeboard, and be designed to protect ponds from inundation due to floods with a 100-year return frequency. c. Commingling aggregate wastewater and concrete wastewater is prohibited. d. Construct continuous interior asphalt or concrete berms around batch plant equipment (mixing equipment, silos, concrete drop points, conveyor belts, admixture tanks, etc.) to facilitate proper containment and cleanup of releases. Rollover or flip top curbs or dikes should be placed at ingress and egress points. e. Direct runoff from the paved or unpaved portion of the concrete batch plant into a sump and pipe to a lined washout area or dewatering tank. f. All wastewater that contains residual concrete shall only be discharged to the concrete wastewater system (e.g., primary settling basin and secondary storage pond, or engineered alterative). g. Washout of concrete trucks must be conducted in a designated area with drainage to the concrete wastewater system. h. All stockpiled wastes and products shall be managed to prevent erosion of sediment to surface water drainage courses. i. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR,	The applicant shall obtain ~~a project-specific SWPPP~~ an NPDES discharge permit and verification of coverage under the NPDES Construction General Permit from the CVRWQCB for the aggregate and concrete production facility prior to ground disturbing activities associated with that facility and provide the County with verification of compliance with the permit. (Use Permit COA)	~~County~~ Applicant	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	Division 2, Subdivision 1, Section 20005, et seq.			
3.9-3	**Off-Site Groundwater Well Safe Yield Analysis and Monitoring** Prior to the issuance of an encroachment permit or grading permit for installation of off-site water line along Butts Canyon Road for the use of the off-site agricultural well for water supply on the Guenoc Valley Site, the Applicant shall provide to the County an analysis that defines the safe yield. The safe yield must be set to meet the following performance criteria: avoid drawdown of groundwater beyond 300 feet of the well. The analysis must incorporate pump testing of the well, and be certified by a Registered Professional Engineer or Registered Geologist. Groundwater pumping rates and durations must be limited to the safe yield determined in the hydraulic analysis. The safe yield analysis shall identify the location of one or more monitoring wells necessary to evaluate compliance with the performance criteria. Monitoring of groundwater pumping rates and durations and groundwater levels shall be performed quarterly for the first ten years of use. The Applicant shall be required to submit annual monitoring reports that provide quarterly groundwater pumping and groundwater level data to the Lake County Health Services Department for the first ten years of use. In the event these reports show an impact to the groundwater levels, the Lake County Health Services Department and the Applicant shall develop a Groundwater Management Plan in coordination with a geotechnical engineer for approval by the Community Development Director.	Prior to the issuance of an encroachment permit or grading permit for installation of off-site water line along Butts Canyon Road for the use of the off-site agricultural well for water supply on the Guenoc Valley Site, the Applicant shall provide to the County an analysis that defines the safe yield as described in Mitigation Measure 3.9-3 and submit required monitoring reports as well as cooperate with the County to prepare a Groundwater Management Plan as described in Mitigation Measure 3.9-3. (Use Permit COA)	Applicant/County	County
3.9-4	**Floodplain Analysis** Prior to the issuance of a grading permit for any development within 1,500 feet of Bucksnort Creek or Putah Creek, the Applicant shall provide to the County a floodplain analysis certified by a Registered Professional Engineer. This analysis shall define the extent of floodwaters (floodplain) and the elevations associated with 100-year flood event within proposed development areas along these creeks. If, due to the performed analyses, the changes in the effective Floodplain Maps and Flood Insurance Studies occur, the Developer will apply for a Letter(s) of Map Revision with the Federal Emergency Management Agency. Prior to the issuance of a grading permit for development of the Middletown Housing Site, including off-site improvements, the Applicant shall provide to the County a	The Applicant shall provide to the County a floodplain analysis meeting the requirements of this Mitigation Measure with applications for any grading permit for development within 1,500 feet of Bucksnort Creek or Putah Creek, along with Letter(s) of Map Revision with the Federal Emergency	Applicant	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	floodplain analysis certified by a Registered Professional Engineer. The analysis shall identify any changes in the extent of the 100-year floodplain or changes in flood depths within 750 feet of the Middletown Housing Site that would occur as the result of the proposed housing development and associated improvements. Drainage features shall be incorporated into the project design to ensure that the development will not increase the extent or depth of flooding in adjacent areas. These features may include the additional of drainage swales or larger detention basin capacity within the site.	Management Agency if required. (Use Permit COA) The Applicant shall provide to the County a floodplain analysis meeting the requirements of this Mitigation Measure with applications for any grading permit for development within the Middletown Housing Site.		
3.9-5	**Inundation Mapping** Prior to the issuance of a grading permit for any development within 4,000 feet of Bucksnort Creek or Putah Creek, the Applicant shall provide to the County inundation maps of Detert Reservoir (Guenoc Lake), Langtry Lake, Bordeaux Lake, Burgundy Lake, and McCreary Lake dams that have been approved by Division of Safety of Dams	The Applicant shall provide to the County inundation maps of Detert Reservoir (Guenoc Lake), Langtry Lake, Bordeaux Lake, Burgundy Lake, and McCreary Lake dams that have been approved by DSOD with applications for any grading permit for development within 4,000 feet of Bucksnort Creek or Putah Creek. (Use Permit COA)	Applicant	County
3.9-6	**Incorporation of Floodplains and Dam Inundation Zones in Site Plans** a. All site plans submitted to the County for the review of any development within 1,500 feet of Bucksnort Creek or Putah Creek shall identify the extent of the 100-year floodplain within proposed development areas. The 100-year floodplain shown shall be as certified by a Registered Professional Engineer. b. All site plans submitted to the County for the review of any development within 4,000 feet of Bucksnort Creek or Putah Creek shall identify the extent of the inundation zones of Detert Reservoir (Guenoc Lake), Langtry Lake, Bordeaux Lake, Burgundy Lake, and McCreary Lake dams within proposed development	Applicant to prepare site plans meeting the requirements of this Mitigation Measure and submit to County with applications for development as described in this Mitigation Measure. County to review and make determinations and require	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	areas. Maximum inundation depths shall be identified on the site plans. c. For any facilities identified within the 100-year floodplain or inundation zone, including at the Guenoc Valley, Middletown Housing ,and off-site well sites, any hazardous materials or materials that may pollute flood waters such as, but not limited to fuel, oil, chemicals, pesticides, fertilizer, or cleaning products, shall be adequately protected from release in flood waters or relocated out of the 100-year floodplain and inundation zone.	appropriate conditions of approval prior to any approvals of such conditionally permitted uses. (Use Permit COA)		
3.10	**Noise**			
3.10-1	**Restrict Construction Times in Areas in Proximity to Sensitive Receptors** Construction activities within 1 mile of occupied residential uses not within the Guenoc Valley Site, and where feasible, all construction deliveries, shall be restricted to occur between the hours of 7:00 A.M. and 7:00 P.M.	County to incorporate this restriction into the Conditions of Approval of the project. Applicant to add these requirements to construction contracts. (Use Permit COA)	Applicant/County	County
3.10-2	**Construction Noise Reduction** The following measures shall be implemented to reduce impacts of construction noise. ▪ To reduce construction noise levels at off-site sensitive receptors as well as wildlife within the site, construction contractors shall be required to implement the following measures. These measures would be incorporated into the construction plan: o Equipment and trucks used for project construction shall utilize the best available noise control techniques, such as improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds. o Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, to achieve a	County to incorporate this restriction into the Conditions of Approval of the project. Applicant to add these requirements to construction contracts. (Use Permit COA)	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	reduction of 5 dBA. Quieter procedures will be used, such as drills rather than impact equipment. o Stationary noise sources shall be located as far from adjacent receptors as possible, and they will be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures. o Locate fixed construction equipment such as compressors and generators as far as possible from sensitive receptors. Shroud or shield all impact tools, and muffle or shield all intake and exhaust ports on power construction equipment. ▪ Designate a disturbance coordinator and conspicuously post this person's number around the project site and in adjacent public spaces. The disturbance coordinator shall receive all public complaints about construction noise disturbances and shall be responsible for determining the cause of the complaint, and implement any feasible measures to be taken to alleviate the problem. ▪ Well Drilling and Pipeline Construction Noise (Off-Site Infrastructure Improvement only): o Noise curtains shall be utilized during drilling of the well if, at the time of well construction, homes are occupied within 1,000 feet of the well.			
3.10-3	**Future Phases Noise Control** Prior to County approval of conditionally permitted uses which include more substantial exterior noise sources such as amphitheaters and event venues, a noise study shall be prepared by an acoustical engineer that identifies the necessary measures required to achieve compliance with the County's Noise Level Performance Standards at the nearest sensitive receptors. The County shall require that the measures identified in the noise study are implemented as a condition of approval of conditional use permits.	(Use Permit COA)	Applicant/County	County
3.10-4	**Restrict Aircraft and Non-Emergency Helicopter Flight Times** Inbound and outbound flight times to and from the float dock and helicopter landing pads shall be limited to the hours of 7 A.M. to 7 P.M. every day of the week with exceptions for emergency situations only.	County to incorporate this restriction into the Conditions of Approval of the project. (Use Permit COA)	County	County
3.13	**Transportation**			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
3.13-1	**Implement Improvements at SR-29 and Butts Canyon Road** Prior to issuance of grading permits for Phase 1, the Developer shall execute and deliver to Caltrans an agreement to mitigate the impacts to the intersection of SR-29 and Butts Canyon Road by paying to Caltrans the cost of the following: State Route 29 at Butts Canyon Road (Intersection #7) – Installation of an intersection control improvement—roundabout or three-way traffic signal with crosswalks, depending on results of an Intersection Safety and Operational Assessment Process (ISOAP) ~~Intersection Control Analysis (ICE)~~.	Applicant to enter into an agreement with Caltrans that meets the requirements of this Mitigation Measure prior to issuance of grading permits for Phase 1. (Use Permit COA)	Applicant	County
3.13-2	**Pay Fair Share towards Lake County Intersection Improvements** The Developer shall execute and deliver to Caltrans an agreement that requires payment, or provides bonding for, a proportionate share of the construction costs of the following improvements. The timing for collection of the fees and implementation of the improvements will be at the discretion of Caltrans as the lead agency. ▪ State Route 29 at Hartmann Road (Intersection #5) – Expansion of the existing roundabout or other intersection control improvement, depending on the results of an Intersection Safety and Operational Assessment Process (ISOAP) ~~Intersection Control Analysis (ICE~~ (ISOAP; required under Baseline plus Phase 1). ▪ SR-29 at Spruce Grove Road South (Intersection #3) – Installation of an intersection control improvement—roundabout or three-way traffic signal with crosswalks, depending on results of an ISOAP ~~ICE~~ (required under cumulative plus Phase 1). ▪ SR-29 at Hidden Valley Road (Intersection #4) – Installation of an intersection control improvement, roundabout or four-way traffic signal with crosswalks, depending on results of an ISOAP ~~ICE~~ (required under cumulative plus Phase 1).	Applicant to enter into an agreement with Caltrans that meets the requirements of this Mitigation Measure prior to recordation of Final Maps. (TM COA)	Applicant	County
3.13-3	**Conduct Traffic Study and Implement Mitigation for Future Phases** As specified in the Development Agreement, an updated Project Level traffic impact analysis shall be completed prior to approval of future Project phases to determine if future phases would conflict with adopted circulation plans and policies. Improvement measures determined for future phases shall be coordinated with applicable jurisdictional agencies as appropriate, including Lake County, Napa County, City of Calistoga, and Caltrans.	Applicant to prepare updated project-level traffic impact analysis and submit to County with applications for future phases. County to review and make determinations/coordinate with other agencies prior to any approvals of future phases.	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
3.13-4	**Implement a Transportation Demand Management Program** Prior to issuance of occupancy permits for Phase 1, the Applicant shall develop and submit to the County a final Transportation Demand Management Program for the Proposed Project. The TDM plan shall identify all feasible measures to reduce the VMT per capita of the Proposed Project to below the regional average to the extent feasible. The goal of the TDM Program shall be a 15 percent in reduction in the VMT generated by the Proposed Project. The County shall verify compliance with the plan prior to issuance of occupancy permits for the Proposed Project. Additionally, the Applicant shall undertake annual monitoring and reporting of the TDM Plan, in accordance with Section 1.4 of Appendix TDM. Section 1.4 of Appendix TDM includes provisions regarding the timing, scope, and implementation of monitoring and reporting requirements, and requires the Applicant to adjust the TDM plan based on the monitoring results. The following strategies shall be identified within the TDM plan to reduce the VMT generated by the Proposed Project: ▪ *Private Shuttle Service* – There are currently no plans for Lake Transit to run buses along Butts Canyon Road near the project site and the nearest bus stops are about six miles away in Middletown. While it is possible Lake Transit might consider adding a stop on Butts Canyon Road in the future to serve project employees, it is our understanding that there is no funding available for it at this time. Alternatively, the project shall provide a frequent direct weekday shuttle service specifically for employees during the peak morning and evening commute periods. This could operate between the project site any and off-site work force housing with a stop at the Lake Transit bus transfer point in Middletown. Please note that shuttles would need be fully accessible to passengers using wheelchairs. It is recommended the applicant also explore providing a real-time smart-phone app that tracks arrivals to make shuttle use more reliable and convenient. Shuttle service for patrons of the project has been assumed as part of this analysis. The current assumption is that regular shuttle service to and from San Francisco and Sacramento will accommodate approximately 40% of resort patrons. The management shall monitor and provide adequate shuttle headways to accommodate all employees and guests who wish to use the shuttle services. ▪ *On-call Dial-A-Ride Service* – The management shall provide free on-call dial-a-ride transportation service connecting the Guenoc Valley Site to the community of Middletown and to regional transit services. The service shall	Applicant to prepare TDM Program compliant with this Mitigation Measure and submit to County. County to review and approve prior to issuance of the first certificate of occupancy. (Use Permit COA)	Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
be made available to the general public within a 15-mile radius of the site, in addition to employees, patrons, and residents of the Proposed Project. ▪ *Carpool and Ride-Matching Assistance Program* – Although on-site employee parking is limited, the management shall offer personalized ride-matching assistance to pair employees interested in forming commute carpools. As an enhancement, management may consider using specific services such as ZimRide, TwoGo by SAP, Enterprise RideShare, 511.org RideShare or the equivalent. ▪ *Preferential Parking for Carpoolers/Vanpoolers* – The management shall offer preferential carpool parking for eligible commuters. To be eligible for carpool parking, the carpool shall consist of three or more people. The number of preferential parking spaces will be based on the number of participants in the program. The management shall monitor and provide adequate carpool spaces to meet or exceed potential demand. ▪ *Dedicated Parking Spaces for Car Share Services* – The management will set aside parking spaces to be dedicated for use by car share services to serve employees. This is expected to reduce parking demand and GHG emissions associated with the project by providing more flexibility for employees who otherwise utilize alternate modes. The availability of car share services within a project can potentially reduce the demand for employees to own their own cars. Car share services allow for employees to make midday trips without needing to have their own personal vehicle on site. The availability of car share services within a project can potentially reduce the demand for employees to commute by car or even own their own cars. In addition to dedicating parking spaces for car share services for employees, the management may consider dedicating additional parking spaces for car share vehicles dedicated for guest use, if demand exists. The availability of such cars makes traveling to the Project site without a personal vehicle more appealing for some guests The management shall monitor and provide adequate car share spaces to meet or exceed potential demand. ▪ *On-Site Sales of Transit Passes* – The building management shall offer direct on-site sales of Lake County Transit Authority transit passes purchased and sold at a bulk group rate to employees. Although Lake Transit Authority does not currently operate transit service to the site directly, some employees who live in the greater Lake County and surrounding areas may take public transit to Middletown and then could take the private shuttle to the Project			

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	site. Offering on-site transit pass sales reduces the barrier of purchasing transit passes and provides a bulk discount to employees, further encouraging transit use as a primary commute mode. ▪ *TDM Coordinator* – Management shall designate a "*TDM coordinator*" to coordinate, monitor and publicize TDM activities. The effectiveness of providing a TDM Coordinator on auto mode share is uncertain but is generally seen as a supportive measure that is beneficial to implement the other TDM measures. The Project sponsor may instruct the management company to designate their on-site manager as the TDM coordinator, or they may designate someone else. ▪ *Transportation and Commute Information Kiosks* - An information board or kiosk will be located in a common gathering area (e.g., lobby, employee entrance, break, or lunch room). The kiosk will contain transportation information, such as Emergency Ride Home (ERH), transit schedules, bike maps, and 511 ride- matching. Information will be updated periodically by the designated TDM Coordinator. ▪ *Tenant Performance and Lease Language – TDM Requirements* - For all tenants, the applicant will draft lease language or side agreements that require the identification of a designated contact responsible for compliance and implementation of the TDM program. ▪ *Tenant/Employer Commute Program Training* - As needed and applicable, the applicant or property management will provide individual tenants of the project with initial TDM (and commute) program training, and commute program start- up assistance. The overarching goals of this support function are to reduce commute trips for employees and assist with employee marketing and outreach. ▪ *Employee Transportation Brochure* - All employees will be provided with an Employee Transportation Brochure regarding the Commute Program. This brochure will include (but not be limited to) information about shuttle service, carpool parking, transit opportunities, ride-matching services, bicycle routes, and emergency rides home.			
3.13-5	**Pay a Fair Share towards Pedestrian and Bicycle Improvements** Prior to issuance of occupancy permits for Phase 1 and future phases, the Applicant shall enter into an agreement with the Lake City/County Area Planning Council to pay a proportionate impact fee towards pedestrian and bicycle improvement projects in Lake County and Middletown.	Applicant to enter into an agreement with Lake City/County Area Planning Council that meets the requirements of this	Applicant/ Lake City/County Area Planning Council	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
		Mitigation Measure prior to issuance of the first certificate of occupancy. (Use Permit COA)		
3.16	**Wildfire**			
3.16-1	**Fire Prevention during Construction** Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but is not limited to, vehicles, heavy equipment, and chainsaws. During construction, staging areas and areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel. To the extent feasible, the contractor shall keep these areas clear of combustible materials in order to maintain a firebreak. Additionally, the following measures shall be required on the Guenoc Valley Site: ▪ Every work area shall have one round tip shovel, and one water type fire extinguisher accessible within 10 feet. ▪ Portable Fire Extinguisher rated at a minimum of 4/ABC or larger shall be in every vehicle, or piece of equipment except for privately owned vehicles. ▪ In general, during fire season, mowing of vegetation should be completed ~~prion~~ prior to noon. ▪ Hot Work shall have Fire Watch in place during and 30 minutes after. ▪ Persons activating 911 shall know where they are on property to give directions. ▪ All persons shall have access to a cell phone or radio system to activate 911. ▪ Persons activating 911 shall arrange an escort from the entrance at 22000 Butts Canyon Road to the location of the emergency for the first arriving emergency apparatus. ▪ Each construction site shall be provided with a hand-held pressurized air horn such as a marine device (or similar) to alert others of an emergency. ▪ A certified firefighter shall be available on-site during construction.	Applicant to incorporate these measures into the Wildfire Prevention Plan and obtain County approval of revised Wildfire Prevention Plan prior to approval of Grading or Improvement Plans- (whichever occurs first). Wildfire Prevention Plan shall be issued to every contractor and construction crew. (Use Permit COA)	Applicant/County	County
3.16-2	**Post-Wildfire Emergency Response** After a wildfire, response measures shall include actions to minimize slope instability and installation of warning signs. Immediate actions may include identifying	Applicant to incorporate these measures into the Wildfire Prevention Plan	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	impending threats to safety and property, checking all culverts to ensure proper drainage and installing erosion control mats and fiber rolls around steep areas. There shall also be long-term recovery and restoration actions to rehabilitate burned areas that have the potential to impact safety and property. The post wildfire emergency response plan (PWERP) will also include standards for a five-year long-term recovery and restoration plan to rehabilitate any burned areas that have the potential to impact safety and property. These measures could include restoring burned habitat, reforestation, mulching, and treating noxious weed infestations. This would be prepared by a qualified personnel with burned area restoration expertise and in coordination with and to the approval of the Lake County Department of Environmental Health.	and obtain County approval of revised Wildfire Prevention Plan prior to approval of Grading or Improvement Plans- (whichever occurs first). (Use Permit COA)		
3.16-3	**Prepare South Lake County Evacuation Traffic Management Plan to Reduce Near-Term Evacuation Times, Incorporate in Updated Lake County Emergency Operations Plan (EOP), and Implement Evacuation Traffic Management Measures** The applicant shall fund the administrative costs for preparation and adoption of a South Lake County Evacuation Traffic Management Plan, which shall be adopted prior to the issuance of the first certificate of occupancy for Phase 1. Lake County Office of Emergency Services (OES) shall be the Lead Agency for adoption of the plan and implementation of the traffic management measures, working in collaboration with other responsible agencies as noted below. The Evacuation Traffic Management Plan strategies, in combination with other mitigation measures described below, shall achieve a 15-minute reduction in total evacuation times for a full evacuation of South Lake County, thereby reducing the 30 minutes in added overall evacuation time due to Phase 1 Project evacuation trips. The Evacuation Traffic Management Plan shall be subject to the approval of the Lake County OES, the Lake County Sheriff, the South Lake County Fire Protection District, Caltrans, and the California Highway Patrol (CHP). The approved version of the South Lake County Evacuation Traffic Management Plan shall be incorporated into an updated version of the Lake County Emergency Operations Plan (Lake County Office of Emergency Services) and the Lake County Community Wildfire Protection Plan (CWPP), with evacuation management strategies and improvement measures to address major bottlenecks in the South Lake County evacuation network. These measures shall include but will not be limited to the following: ▪ *SR 29 Evacuation Traffic Reduction Measure* – at the time of an evacuation order for a full South Lake County evacuation and as determined by the Incident	Applicant shall prepare the South Lake County Evacuation Traffic Management Plan compliance with this Mitigation Measure and submit to County OES. County to review and adopt prior to issuance of the first certificate of occupancy. (Use Permit COA)	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	Commander and County Sheriff, CHP and/or other police enforcement personnel shall implement measures to stop through traffic on SR 29 through the evacuation area such as stopping northbound SR 29 traffic at Tubbs Lane in Napa County and southbound SR 29 traffic at SR 53 in Lower Lake, thus reducing traffic levels on SR 29 during an evacuation. This measure would prevent inbound traffic on SR 29 from accessing the South Lake County evacuation network but would allow outbound evacuating vehicles to exit via SR 29. ▪ *Hidden Valley Lake Evacuation Traffic Management Measure* – at the time of an evacuation order for a full South Lake County evacuation and as determined by the Incident Commander and County Sheriff, Lake County Sheriff and/or other police enforcement personnel shall implement traffic management for the Hidden Valley Lake community that addresses bottlenecks at the intersections of SR 29 and Hidden Valley Lake community egress roads. The officers would direct Hidden Valley Lake evacuating traffic away from the direction of the wildfire and in a coordinated direction to reduce or avoid conflicting movements at the intersections. ▪ *Guenoc Valley Project SR 29 Evacuation Traffic Reduction Measure* – at the time of an evacuation order for a full South Lake County evacuation, evacuating project traffic shall be directed to alternate routes to SR 29. Unless precluded by wildfire, evacuating project traffic shall be directed to the planned project egress intersections on Butts Canyon Road and to the south on Butts Canyon Road. This measure would not apply if Butts Canyon Road were closed due to wildfire. In that event (such as under Scenario B), evacuating project trips would be directed to travel north on Butts Canyon Road (or via Grange Road as needed), south on SR 29 to Middletown, and then north on SR 175 (presuming that SR 29 to the south over Mt. St. Helena was also closed). Additional details are described for this measure in Mitigation Measure 3.16-4. ▪ *SR 29 Traffic Signal Evacuation Operational Enhancement Measures* – a description of the traffic signal evacuation operational enhancement measures described in Mitigation Measure 3.16-5 shall be included in the Updated Lake County EOP.			
3.16-4	**Reduce Evacuation Time Impacts on SR 29 by Minimizing Project-Related Evacuation Traffic on SR-29** ▪ Prior to occupancy of any project uses, the applicant shall install variable message signs at the outbound lanes of the three project egress roads that connect to Butts Canyon Road and Grange Road. Lake County shall be the Lead Agency to oversee	Applicant shall complete improvements prior to issuance of the first certificate of occupancy. (Use Permit COA)	Applicant	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	installation of the variable message signs within the project site. The variable message signs shall be connected to the on-site Emergency Response Center so that evacuation-related messages can be controlled by fire personnel managing the evacuation. At the time of an evacuation order for a full South Lake County evacuation, evacuating project traffic shall be directed to alternate routes to SR 29. Unless precluded by wildfire, evacuating Project traffic shall be directed to the planned egress intersections on Butts Canyon Road and to the south on Butts Canyon Road. ▪ The roundabout that will be constructed by the project applicant at the SR 29/Butts Canyon Road intersection shall include a southbound bypass lane to increase intersection capacity after preparation of an Intersection Safety and Operational Assessment Process (ISOAP).			
3.16-5	**Implement SR 29 Traffic Signal Evacuation Operational Enhancement Measures** ▪ Prior to issuance of the first certificate of occupancy for any Project uses, the applicant shall design, obtain permits for, and install improvements to the signalized intersection of SR 29/SR 53 intersection in Lower Lake and the two signalized intersections on SR 29 in Middletown (SR 175 and Wardlaw Street). The improvements would be funded by the project applicant who shall obtain permits from Caltrans and/or Lake County. The variable message signs and traffic signal controllers shall be connected to Caltrans and Lake County traffic operations staff so they can be managed remotely during an evacuation. Improvements at the SR 29/SR 53 intersection in Lower Lake shall include extending the length of the northbound left turn pocket by 175 feet to a length of approximately 400 feet which could be accomplished by restriping the existing striped median, installing variable message signs on three approaches (i.e., eastbound, southbound, and westbound), and developing and installing wildfire signal timing plans that can be implemented by County staff during a wildfire that significantly extend maximum green times on the northbound approach. Improvements at the two intersections on SR 29 in Middletown include developing and installing wildfire signal timing plans that can be implemented by County staff during a wildfire that significantly extend maximum green times on the northbound and/or southbound approaches depending on conditions.	Applicant shall obtain permits for and complete improvements prior to issuance of the first certificate of occupancy. (Use Permit COA)	Applicant, County, Caltrans	County, Caltrans
3.16-6	**Provide Dedicated Project Evacuation Shuttles for Phase 1 Hotel Uses** ▪ Prior to the issuance of the first certificate of occupancy for any Project hotel uses, the applicant shall acquire and provide storage for dedicated evacuation shuttle buses that can serve 45 percent of all guests (i.e., six 20-person buses at full	Applicant shall acquire and provide storage for evacuation shuttle buses as required by Mitigation	Applicant	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	occupancy of all Phase 1 hotel uses). Applicant shall identify and provide signage for bus stop evacuation pick-up zones at all hotels, and identify evacuation routes and shelter locations. Applicant shall designate shuttle drivers (hotel staff) and provide ongoing training for staff and drivers for the shuttle buses. ▪ The Project shall obtain, maintain, and store dedicated evacuation shuttles for hotel guests, as individual hotel projects are completed, at a rate of 0.9 shuttle bus seats per room. If shuttle buses with a 20-person capacity are acquired, a total of six dedicated evacuation shuttle buses for hotel guests would be provided for the 127 hotel units when all Phase 1 hotels are completed. The Project shall train employees to operate the shuttles and be aware of alternative routes to designated shelter locations.	Measure prior to issuance of the first certificate of occupancy (Use Permit COA)		
3.16-7	**Updated South Lake County Evacuation Traffic Management Plan** As part of the future project-level CEQA evacuation assessment of full build-out of the Project and prior to issuance of the first certificate of occupancy for any uses beyond those included in Phase 1, the Project shall develop evacuation time reduction strategies to reduce forecast evacuation levels in the Evacuation Area, which the Project will be required to implement after occupancy of such uses. The measures would include any combination of demand, supply, and/or communication strategies as described below such that (1) the added evacuation time estimates (ETEs) (i.e., time until the last evacuee leaves the Evacuation Area) due to Project full build-out evacuation trips shall not exceed one hour beyond the total cumulative no project ETEs for a full evacuation of the Evacuation Area under either Scenario A or B, and (2) the estimated number of added Project full build-out evacuation trips on Butts Canyon Road shall not exceed its evacuation capacity. Prior to issuance of the first certificate of occupancy for any use beyond those included in Phase 1, the applicant shall fund the administrative costs for preparation and adoption of a South Lake County Evacuation Plan (Evacuation Plan) that includes strategies to reduce overall cumulative ETEs for the Evacuation Area as described above, and the Evacuation Plan shall have been approved by the Lake County Office of Emergency Services (OES), the Lake County Sheriff, the South Lake County Fire Protection District, and the California Highway Patrol (CHP). Prior to the approval of the Evacuation Plan, a project-level CEQA analysis shall be conducted that analyzes the impacts of any proposed use beyond those included in Phase 1 on evacuation routes, and confirms that the strategies included in the Evacuation Plan meet the performance standards described above related to added ETEs and the evacuation capacity of Butts	Applicant shall complete prior to issuance of the first certificate of occupancy for future phases (any use beyond those included in Phase 1). County will ensure that this mitigation is implemented prior to issuance of the first certificate of occupancy for future phases.	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	Canyon Road. The approved version of the South Lake County Evacuation Plan shall be incorporated into an updated version of the Lake County EOP (Lake County Office of Emergency Services). ▪ *Demand Strategies* – demand-side strategies that may reduce evacuation time estimates (ETEs) and evacuation trips include vehicle reduction and phased evacuation measures. A vehicle reduction strategy may include a combination of land use program reductions and/or measures to increase vehicle occupancy (i.e., additional shuttles). A community-wide policy encouraging households to limit the number of evacuating vehicles to one per household is another demand reduction strategy that could help reduce overall evacuation times. Reduction of the number of housing units shall be implemented as a strategy only if implementation of all other feasible demand-side, supply-side, and communication strategies would not reduce ETEs or exceedance of the capacity of Butts Canyon Road sufficiently to meet the performance standards described above. ▪ *Supply Strategies* – supply-side strategies that may reduce ETEs include road lane widening, shoulder widening to provide an additional egress lane, contraflow lane operations (i.e., allowing two lanes of outbound traffic, if needed), and intersection traffic control measures. ▪ *Communication Strategies* – communication strategies that may reduce ETEs include early warning systems, enhanced communication systems, and dynamic route guidance and monitoring. The above strategies are programmatic in nature and may be refined following the additional project-level CEQA analysis described above based on more specific details regarding future Project phases that will be included in application submittals for such phases, evolving evacuation analysis methods, any future changes to roadway infrastructure and/or capacity, and/or new or enhanced evacuation mitigation strategies.			
3.16-8	**Provide Dedicated Project Evacuation Shuttles for Full Build-out Hotel Uses** Consistent with Mitigation Measure 3.16-6, prior to the issuance of the first certificate of occupancy for any new hotel uses beyond those included in Phase 1, the applicant shall acquire and provide storage for dedicated evacuation shuttle buses that can serve 45 percent of all guests. Applicant shall identify and provide signage for bus stop evacuation pick-up zones at all hotels and identify evacuation routes and shelter	Applicant shall complete prior to issuance of the first certificate of occupancy for hotel uses in future phases. County will ensure that this mitigation is implemented	Applicant/County	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	locations. Applicant shall designate shuttle drivers and provide ongoing training for staff and drivers for the shuttle buses, including information on alternative evacuation routes and shelter locations. If shuttle buses with a 20-person capacity are acquired, a total of up to eighteen dedicated evacuation shuttle buses for hotel guests would be provided for up to 400 hotel units when all hotels are completed.	prior to issuance of the first certificate of occupancy for hotels under future phases.		
3.16-9	**Implement Operational Wildfire Risk Reduction Activities** The Applicant and/or HOA shall ensure that the following wildfire risk reduction measures are conducted throughout the Guenoc Valley Site in accordance with the Wildfire Prevention Plan: ▪ **HOA contract with a wildfire expert for Project duration to support homeowner education and response planning**. The HOA will be required by its by-laws to contract with a wildfire expert for the duration of the Project, with costs paid by the HOA; the HOA shall consult with the wildfire expert in its implementation of wildfire prevention measures, including those identified within the WPP. The HOA will also cover the costs associated with having on-site at least one individual with wildfire expertise related to evacuation and emergency response at the Project's Emergency Response Center. ▪ **Defensible space for all buildings (minimum 100 ft for residential, and 300 ft for non-residential).** The project CC&Rs will require that homeowners and commercial/facility managers establish and maintain defensible space of no less than 100 feet for residential structures and no less than 300 feet for commercial structures in accordance with Zone 0, Zone 1, and Zone 2 guidance. Dead, dying, invasive, poorly-maintained, and fire-prone vegetation shall be removed and/or reduced within these areas in accordance with the WPP. Trees and shrubs should be selectively addressed to reduce flammable vegetation parts, including pruning dead or lower branches. The HOA and wildfire expert shall inspect properties annually to ensure compliance. ▪ **Vegetation Management for fire risk reduction.** A Vegetation Management Plan (VMP) shall be prepared and updated annually by a qualified wildfire expert to organize and monitor active landscape management strategies as outlined in the WPP. The VMP shall include livestock grazing throughout the undeveloped rural landscapes as well as certain resort, residential, and vineyard landscapes and manual removal of dead, dying, or invasive vegetation through	At time of first occupancy	Project Applicant	CAL FIRE & Community Development Department.

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	mowing, trimming, cutting, and brush removal. Ongoing vegetation management shall be conducted in accordance the VMP. ▪ **HOA funding for annual vegetation and defensible space management.** The HOA shall provide annual funding for implementation of the VMP, including vegetation management and defensible space upkeep. ▪ **Strategically placed fire breaks and resort edge defensible space.** One-hundred-foot wide shaded fuel breaks shall be established and maintained at select vulnerable areas of the project boundary as indicated in the WPP. The fire break along the northern property boundary shall be installed prior to occupancy of structures north of Butts Canyon Road, and the fire break along the southern property boundary shall be installed prior to the occupancy of structures south of Butts Canyon Road. ▪ **Roadside reduced fuel zone (40 ft on either side of road beyond 10ft hardscape shoulder).** All roadways shall be bordered on each side by a 50-foot fuel reduction zone, including to the extent that the topography feasibly permits, an area of approximately 10 feet on each side of the roadways improved with hardscape within the total 50-foot fuel reduction zone. Prior to issuance of the first certificate of occupancy for a structure within each subdivision under each final map, the full roadway fire break network for that subdivision shall have been completed. ▪ **Restrictions on Debris Burning**. The project CC&Rs will include strict prohibitions against burning of yard waste, cleared vegetation and other forms of debris. No open fires will be permitted. ▪ **Parking restricted on primary access roads.** Signs shall be installed along project roadways to restrict parking and enforced by the HOA. ▪ **Opt-out alert and communication system.** All residents, visitors, and employees will be enrolled in an opt-out phone-based communication system, such as Nixle, to receive emergency notifications. This system will supplement the site-wide emergency siren system to ensure that everyone is alerted of important emergency information and updates.			
4.11	**Tribal Cultural Resources**			
TCR-1	**Phase 1 TCR Avoidance Strategies** Mitigation Measure 3.5-1 shall be implemented to avoid all identified tribal cultural resource sites during project construction, development, and operation activities. A	The applicant shall implement surveys, avoidance and monitoring	Applicant	County

	Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
	buffer of 50 feet shall be established around the perimeter of each tribal cultural site and a semi-permanent fence shall be erected that will remain in place throughout construction. The fence shall be installed with a qualified archaeologist and tribal monitor in attendance, and shall determine the established buffer for the location. The buffer can be reduced or modified to accommodate sensitive environmental conditions, based on the assessment of the qualified archaeologist and tribal monitor or cultural advisor (see Mitigation Measure TCR-2). If construction will encroach closer than 50 feet, a qualified archaeological and tribal monitor shall be retained to monitor those activities. Should tribal cultural resources be uncovered within the buffer, all construction in the immediate area shall halt until the find can be assessed for NRHP/CRHR eligibility in accordance with current professional standards using minimization measures and the provisions of the Unanticipated Discoveries Plan developed in compliance with Mitigation Measure TCR-2.	as described in Mitigation Measure 3.5-1. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)		
TCR-2	**Unanticipated Discoveries Plan and Construction Monitoring** 1) Tribal Cultural Advisor: Prior to initial ground disturbance, the Applicant shall retain a project Tribal Cultural Advisor designated by the Middletown Rancheria (Tribe), to direct all mitigation measures related to tribal cultural resources as defined by Public Resources Code 21074(a). 2) Unanticipated Discoveries Plan: Prior to project construction, a qualified professional archaeologist shall be retained to prepare an Unanticipated Discoveries Plan in consultation with Middletown Rancheria, or to update an existing Unanticipated Discoveries Plan supplied by the Tribe. At a minimum, the Unanticipated Discoveries Plan shall include: ▪ Minimization of impact strategies to be agreed upon by the archaeological monitor and tribal monitor or tribal cultural advisor. Minimization measures mean: o Avoidance. Priority shall first be given to leaving cultural resources in place and avoidance of any further unnecessary disturbance. The highest priority is to avoid disturbance to cultural resources. All cultural resources shall be left in situ, that is, in place, in the same position in which they were discovered and shall not be removed from the discovery site until arrangements are made for reburial or transfer in accordance with the below. If leaving the resources in situ	The applicant shall implement monitoring and other actions as described in Mitigation Measure TCR-2. The applicant shall include all of these requirements in construction contracts. (Use Permit COA)	Applicant	County

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
is not possible, temporary housing at a secured storage location at the discovery site mutually agreed upon by the archaeological and tribal monitor may be considered. ○ Reburial. In situations where avoidance is not feasible, priority shall next be given to immediately reburying the cultural resources in the same location as found, only deeper. In the event that the cultural resources cannot be re- buried in the same location, only deeper, then priority shall next be given to immediately re- burying the cultural resources in an appropriate location within 100 feet of their original discovery in an area that shall not be subject to future subsurface disturbances. If for any reason immediate reburial in place, only deeper, or in an appropriate location within 100 feet of the original discovery is not feasible, then cultural resources may be re-buried in an appropriate location as determined by the Tribal Cultural Advisor in an area that shall not be subject to future subsurface disturbances. ○ Transfer. In the event that avoidance and reburial above described is not feasible, cultural resources may be removed and transferred to a location designated by the Middletown Rancheria. ○ Laboratory studies, scientific analysis, curation, or video recording shall only be permitted if required to assess CRHR eligibility, or if such strategies are the only means available to mitigate impacts to CRHR eligible resources. Prior to conducting any such studies, the tribal cultural advisor must be consulted. The archaeologist may draw the cultural resources for mapping purposes; however, no electronic means of recording the cultural resources shall be permitted without prior consultation with the Middletown Rancheria. ▪ Description of field or laboratory methods to be used to investigate Unanticipated Discoveries (also applicable to known resources that will be impacted by project construction), to include types of excavation units, screening methods, and sample collection, as appropriate; ▪ A list of permitted in-field analyses or laboratories to be used for specific analyses, as appropriate; ▪ Provisions for reburial or transfer of recovered materials, developed in consultation with Middletown Rancheria. ▪ Measures for documentation of results, including forwarding results to the			

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
NWIC as appropriate; ▪ A Burial Treatment plan, provided by the Tribe, shall be followed if Native American remains are discovered during construction; ▪ Maps (provided in pdf and shapefiles to the construction contractor, Applicant, and County) of areas that have not been included in a previous archaeological survey; ▪ Maps of known resource locations (provided in pdf and shapefiles) shall be included in any construction documents that include identification of archaeological monitoring areas, identification of sites where pre-construction archaeological testing or archaeological and tribal monitoring during construction is required, identification of appropriate buffer zones for individual site protection during construction, cease work requirements, unanticipated finds reporting requirements; ▪ Assessment criteria to determine NRHP/CRHR eligibility; and ▪ A no-collections policy will be instituted for the Proposed Project, except where a site-specific treatment plan or the Unanticipated Discoveries Plan developed in consultation with the Tribe, calls for collection of a sample of artifacts or materials and analysis. Should any cultural resources, such as wells, foundations, or debris, or unusual amounts of bone, stone or shell, artifacts, burned or baked soils, or charcoal be encountered during ground-disturbing activities, work shall cease within 100 feet of the discovery and the Construction Contractor, Applicant, and Middletown Rancheria shall be notified immediately. The Applicant shall retain a qualified professional archaeologist to assess the find in consultation with the Tribal Cultural Advisor. The Tribe must have an opportunity to inspect and determine the nature of the resource and the best course of action for avoidance, protection and/or treatment of tribal cultural resources to the extent permitted by law, should the find consist of prehistoric or historic-era materials related to Native American occupation or use of the vicinity. If the find appears to be eligible for listing on the NRHP or CRHR, or is determined to be a tribal cultural resource by the Middletown Rancheria, then the provisions of the Unanticipated Discoveries Plan shall be adhered to, which will include consultation with Middletown Rancheria for tribal cultural resources. If the find consists of historic-era materials unrelated to the Native American community, the archaeologist shall determine its significance in compliance with NHPA and CEQA criteria. If adverse effects to a cultural resource cannot be avoided, the Minimization Measures described under the requirements			

Mitigation Measure	Implementation and Timing	Responsible for Implementing	Responsibility for Monitoring
for the Unanticipated Discovery Plan shall be implemented to the extent feasible. 3) Construction Monitoring: Consistent with Mitigation Measure 3.5-2, all ground disturbing activities shall be monitored by qualified tribal monitor(s). Ground disturbing activities occurring in conjunction with the Project include, but are not limited to, surveys, testing, concrete pilings, debris removal, rescrapes, punch lists, erosion control (mulching, waddles, hydroseeding, etc.), pot-holing or auguring, boring, grading, trenching, foundation work, excavations, and ground disturbance involving the moving of dirt or rocks with heavy equipment or hand tools within the Project area. Qualified tribal monitor(s) are defined as qualified individual(s) who have experience with identification, collection, and treatment of tribal cultural resources of value to the Tribe. Such individuals will include those who: a. Possess the desired knowledge, skills, abilities, and experience established by the Native American Heritage Commission (NAHC) through the NAHC's Guidelines for Native American Monitors/Consultants (2005) (https://nahc.ca.gov/wp-content/uploads/2019/04/SB-18-Tribal-Consultation-Guidelines.pdf); OR b. Members of culturally affiliated tribe(s) who: i. Are culturally affiliated with the project area, as determined by the NAHC; and ii. Have been vetted by tribal officials of the Culturally Affiliated Tribes as having the desired knowledge, skills, abilities, and experience established by the Culturally Affiliated Tribes.			

Table 5-2: Project Commitments

	Project Design Features	Timing and Implementation	Implementing Party	Monitoring Party
1	**Construction Project Design Features.** **The project applicant will implement the following construction equipment features for equipment operating at the Project Site, as well as the following construction protocols. These features and protocols would be included in applicable bid documents, and successful contractor(s) must demonstrate the ability to supply such equipment and comply with such protocols. Construction features would include thefollowing:**			

	Project Design Features	Timing and Implementation	Implementing Party	Monitoring Party
1.1	A portion of the construction workers will stay in temporary on-site housing during construction to reduce traffic and minimize greenhouse gas contribution throughout all stages of construction. Even with accommodations on-site, employee shuttles will be available to move the contractors throughout the site, also reducing the traffic on Butts Canyon Road and any commuter traffic.	Construction only	Project Applicant	Lake County
1.2	Any person entering the site will be required to pick up the emergency handout pamphlet, available at all the entrances. This pamphlet is co-authored by ranch management & CalFire personnel to ensure accurate emergency contact information, ember or spark suppression, and a Ranch Map. This plan shall be laminated, in color, and updated as necessary to include the most recent road layout in conjunction with site development.	At all times.	Project Applicant	Lake County
1.3	All construction, contractors, and resort vehicles on the Ranch shall be required to be equipped with a shovel, fire extinguisher, and water in the event any small fire is sparked, all vehicles and personnel will have the immediate ability to act.	At all times.	Project Applicant	Lake County
1.4	Educational training programs will be in place for all construction employees on fire prevention and safety.	Prior to construction.	Project Applicant, Construction Management	Lake County
1.5	A full-time qualified Fire professional will be hired to advise on all on-site activities, future planning, and site maintenance activities.	Prior to Construction.	Project Applicant.	Lake County
2	**Operations Project Design Features.** **The project applicant will implement the following operational equipment requirements and operation protocols for equipment operating at the Project Site. These features would be included in applicable bid documents, and successful contractor(s) must demonstrate the ability to supply such equipment and comply with such protocols. Operation features would include the following:**			
2.1	The Project includes an on-site Emergency Response Center, which shall be designed to CalFire Standards. This emergency response center will house a helipad that is for essential services and emergency use only and will be built as the very first phase. All helipads will be built to accommodate larger, firefighting helicopters and will provide~~d~~ a fire- rated water source (hydrant or fire pump) to allow for refilling. The South Lake County Fire Protection District (SLCFPD) would provide fire protection and fire suppression services to the Guenoc Valley Site and would staff the on-site emergency	At time of first occupancy.	Project Applicant.	CalFire & Community Development Department.

	Project Design Features	Timing and Implementation	Implementing Party	Monitoring Party
	response and fire center, which will ultimately become SLCFPD Station #61. Approximately 500 square feet of the emergency response and fire center would be dedicated to the Lake County Sheriff's Office for emergency response and law enforcement services.			
~~2.2~~	[Deleted and Moved to **Mitigation Measure 3.16-1** in **Table 5-1**] ~~An emergency response notification system, similar to Nixle text message Alerts, shall be established for any guest, resident, or employee as a "non opt-out" notification system. This expands the early warning system to personal devices for easy and universal accessibility.~~	~~At time of first occupancy~~	~~Project Applicant~~	~~CalFire & Community Development Department.~~
2.3	As part of the project intent to increase early warning systems for the Guenoc Valley and surrounding landscapes, a high-definition fire camera shall be placed at the highest topography or within key areas of the Project. This will be utilized by CalFire or any private Fire Security team.	At time of first occupancy	Project Applicant	CalFire & Community Development Department.
2.4	An Emergency Evacuation Plan shall be provided to all residents, guests, and employees that identifies and describes emergency meeting areas, routes for safe egress, and protocol for fire safety. The plan shall be prepared consistent with the contents and information provided in the South Lake County Emergency Plan, and shall be provided to all guests that enter the property and posted within guest rooms. In addition, signage shall be installed for emergency meeting areas. The Wildfire Evacuation Plan must be prepared in cooperation with and approved by CalFire, the South Lake County Fire Protection District and the Lake County Sheriff Department.	At time of first occupancy	Project Applicant	Community Development Department, CalFire, South Lake County Fire Protection District and Lake County Sheriff Department

	Project Design Features	Timing and Implementation	Implementing Party	Monitoring Party
2.5	Establish a separate Road Network plan for Emergency Personnel Ingress & Egress that notes the roads dedicated only for emergency access occasions during interim construction and development.	Prior to Construction. Ongoing.	Project Applicant	Community Development Department, CalFire, South Lake County Fire Protection District and Lake County Sheriff Department
~~2.6~~	[Deleted and superseded by **Mitigation Measure 3.16-1** in **Table 5-1**] ~~On-site grazing practices shall be relied on throughout the site as a tool for vegetation management.~~	~~Ongoing.~~	~~Project Applicant.~~	~~CalFire & Community Development Department.~~
2.7	Security Patrol. The project will maintain 24-hour security patrols, which will aid in early identification of fire events.	At time of occupancy.	Project Applicant.	HOA
2.10	Recycling and reuse of all wastewater generated by commercial and resort uses, and most wastewater generated by residential uses. Recycled water must account for approximately 25% of the outdoor water supply.	At time of occupancy	Project Applicant	Community Development Department
2.11	The use of drought tolerant native vegetation in landscaping	At time of occupancy. Ongoing.	Project Applicant.	Community Development Department
2.12	Electric fleet for the resort commercial uses (no less than 75 percent)	At time of occupancy. Ongoing.	Project Applicant.	Community Development Department
2.13	If the Off-Site Groundwater Well is utilized to supply water to the Project, monitoring consistent with Mitigation Measure 3.9-3 will continue for the life of the Project beyond the minimum 10-year period designated within the mitigation measure.	At use of the off-site well for Proposed Project water supply	Project Applicant	Health Services Department

	Project Design Features	Timing and Implementation	Implementing Party	Monitoring Party
2.14	Non-emergency aircraft flight times to and from the float dock and helicopter landing pad shall be further restricted to landing no earlier than 8 A.M. during winter months (November through March) and 8 A.M. to 7 P.M. in the summer months (April to October) when there is more daylight.	At time of occupancy. Ongoing.	Project Applicant	Community Development Department
3	**Project Design Features** **The project applicant would implement the following project design features. These features would be included in applicable construction or building application documents. Many of these features are detailed within the Guenoc Valley District Zoning Ordinance and/or the Guenoc Valley District Design Guidelines. Design features would include the following:**			
3.1	All occupiable buildings shall be equipped with exterior fire suppression systems, Class A- rated roofs with non-combustible covering, fire-resistant eaves, non-combustible vents and leaf guards, fire-resistant material for exposed foundations, and fire-resistant decks. Exterior windows and doors should be multi-paned with a tempered layer and non-combustible. Fencing should be non-combustible and at least 5 feet from structures. Exterior fire suppression systems shall be fully autonomous in the event power is cut/shut off, allowing the activation to be fully operational at all times without intervention or activation.	At time of Building Permit.	Project Applicant, Architects	Community Development Department, Plan Check.
3.2	All roads within the Guenoc Valley District shall be two-way roads that comply with State slope and width requirements.	Vegetation Maintenance ~~beings~~ begins at time of first Occupancy of that road. Road and street standards shall be proven at time of grading permit.	Project Applicant, Civil Engineers, Construction & Site Manager	Community Development Department, Office of Public Works.
3.3	All residential parcels, regardless of the size of the parcel, shall be restricted to the predetermined buildable envelope, as described in the Design Guidelines. The building envelope shall be 1.5 acres, unless the residential parcel is within oak woodland, in which case the buildable envelope shall be no greater than 1 acre. Additional, residential development shall only occur if further environmental review is conducted and any additional impacts are mitigated per the direction of the Oak Mitigation Plan and EIR.	At time of building permit.	Project Applicant, Architects & Landscape Designers	Community Development Department

	Project Design Features	Timing and Implementation	Implementing Party	Monitoring Party
3.4	The Site shall maintain on-site irrigated vineyards, as described within the Wildfire Prevention ~~Mitigation~~ Plan, to create and maintain irrigated buffers to act as fire breaks throughout the site. In the event the vineyards are removed an irrigated fire break will continue.	Review at time of final map.	Project Applicant,	Community Development Department
3.5	The Project will clear and maintain 50-foot vegetation management on either side of the roads within the Guenoc Valley for a total fire break of 125 ~~100~~-feet, creating a roadway network that provides safe egress and access in the event of an emergency. Additionally, property boundary shaded fuel ~~fire~~ breaks shall be installed, as depicted on Figure 2-6 ~~10~~ of the PREIR ~~FEIR~~.	At final occupancy of each structure, applicable fire breaks along roadways providing access to that structure shall be installed. At the time of the recording of the last final map for each of the ~~five~~ four subdivision groups (Bohn Ridge Subdivision, Equestrian Subdivision, Maha Farms Subdivision, and Denniston Golf Estates Subdivision~~, and Trout Flat Subdivision~~), the full roadway fire break network shall be completed within that subdivision.	Project Applicant.	Community Development Department
3.6	Evacuation route signage shall meet all of the CalFire requirements and be included throughout the Guenoc Valley site. Specific signage shall be placed at emergency vehicle access roads, for emergency personnel ~~personal~~ only. Signage should indicate ingress/egress.	At time of first occupancy. Ongoing	Project Applicant.	Community Development Department
3.7	A Fire siren shall be placed within the Project Site that shall work in conjunction with the multiple early warning systems.	At time of first occupancy.	Project Applicant.	Community Development Department
3.8	Interior Fire alarm systems shall be connected to the Project security systems.	At time of Building Permit.	Project Applicant.	Community Development Department

	Project Design Features	Timing and Implementation	Implementing Party	Monitoring Party
3.9	Joint trench design will include a hard-wired communication system for all residences.	At time of Grading Permit.	Project Applicant.	Community Development Department
3.10	Each resident or guest unit will communicate with the security system when occupied for emergency evacuation communication purposes.	At time of occupancy.	Project Applicant.	HOA
3.11	The Project will establish 50 workforce housing units at the Middletown Housing Site, or 35 workforce housing units at the Guenoc Valley Site, or both.	At time of first occupancy of resort uses.	Project Applicant.	Community Development Department
3.14	Installation of 300 electric vehicle charging stations as part of Phase 1.	At time of occupancy of resort uses. The percentage of stations installed must be equal to the percentage of resort units (hotel and resort residential) developed.	Project Applicant.	Community Development Department
3.16	Providing on-site refuse collection bins for recyclable waste, compostable waste, and standard waste, in addition to on-~~sire~~site Compost and Recycling Centers	At time of first occupancy. Ongoing.	Project Applicant.	Community Development Department
3.17	Site-wide lighting design shall preserve nighttime dark skies by minimizing the use of outdoor lighting. Lighting fixtures shall utilize energy-efficient lamps and motion-sensing lighting systems to minimize unnecessary nighttime lighting.	At time of first occupancy. Ongoing.	Project Applicant.	Community Development Department
3.18	Existing overhead PG&E infrastructure will be placed underground and all new electrical ~~and propane~~ infrastructure will be installed via trenching and underground.	~~At the time of the recording of the last final map~~ Prior to the first certificate of occupancy for each of the ~~five~~ four subdivision groups (Bohn Ridge Subdivision, Equestrian Subdivision, Maha Farms Subdivision, and Denniston Golf Estates Subdivision~~, and~~	Project Applicant.	Community Development Department

Project Design Features	Timing and Implementation	Implementing Party	Monitoring Party
	~~Trout Flat Subdivision~~), the full electrical network serving that subdivision within the project site boundaries shall be relocated underground or shall be installed where site conditions permit.		

Table 5-3: Settlement Agreement Commitments

	Required Project Modifications	Timing and Implementation	Implementing Party	Monitoring Party
A)	**Wildfire-Related Project Modifications and Measures**			
i.	The Recreational and Camping Area depicted on Exhibit B-3 [of the Settlement Agreement; **Appendix C**] will be reserved only for recreational and camping uses. Open fires shall be strictly prohibited. *Note, the Camping Area has been voluntarily removed from Phase I.*	At all times. Shall be included in SPD.	Project Applicant	Lake County
ii.	The area consisting of the twenty-five building sites depicted on Exhibit B-1 [of the Settlement Agreement; **Appendix C**] will not be developed, and the associated parcels shall be removed from any and all maps. Those residential units may be relocated to the area depicted on Exhibit B-2 [of the Settlement Agreement; **Appendix C**].	Applicant shall include in updated Tentative Subdivision Maps	Project Applicant	Lake County
iii.	The areas consisting of the thirty-nine building sites depicted on Exhibit C-1 [of the Settlement Agreement; **Appendix C**] will not be developed for residential use, and the associated parcels shall be removed from any and all maps. Those residential units may be relocated to the area depicted in Exhibit C-2 [of the Settlement Agreement; **Appendix C**].	Applicant shall include in updated Tentative Subdivision Maps	Project Applicant	Lake County
iv.	As indicated on the Roadway Plan attached as Exhibit D [of the Settlement Agreement; **Appendix C**], no dead-end, non-looped road segment may exceed one mile in length.	Applicant shall include in updated Tentative Subdivision Maps	Project Applicant	Lake County

	Required Project Modifications	Timing and Implementation	Implementing Party	Monitoring Party
v.	To the extent that the topography feasibly permits, an area of approximately 10 feet on each side of the roadways will be improved with hardscape, as depicted on Exhibit E [of the Settlement Agreement; **Appendix C**].	Applicant shall include in Updated Wildfire Prevention Plan (WPP)	Project Applicant.	Lake County
vi.	The Guenoc Valley Project Homeowners Association ("HOA") will be required by its by-laws to contract with a wildfire expert for the duration of the Project. The costs of retaining that service provider will be paid by the HOA, and will be covered as part of HOA dues. The HOA shall consult with the wildfire expert in its implementation of wildfire prevention measures, including those identified in the Wildfire Prevention Plan. The HOA shall send to the Attorney General's Office a copy of the by-laws within thirty (30) calendar days of adoption by the HOA.	Applicant shall include in Updated WPP and in the CC&Rs and is the responsibility of the HOA. (TM COA)	Project Applicant	Lake County
vii.	The Project's Emergency Response Center will have on-site at least one individual with wildfire expertise related to evacuation and emergency access. The costs of retaining that individual or individuals will be paid by the HOA, which will be covered with HOA dues. After thirty (30) years from the date on which the HOA is established, the HOA may stop implementing and sunset this obligation upon a majority vote of the HOA membership and subsequent notice to the State of such vote.	Applicant shall include in Updated WPP and in the CC&Rs and is the responsibility of the HOA. (TM COA)	Project Applicant.	Lake County
viii.	The Applicant shall pay to the Lake County Fire Protection District ("LCFPD"), on an annual basis, the amount determined by LCFPD to be necessary in order to staff and equip the Emergency Response Center for fire services, including wildfire response.	Ongoing	Project Applicant	South Lake County FPD
B)	**GHG Emissions Reduction Measures**			
1	*Residential Land Uses*			

Required Project Modifications	Timing and Implementation	Implementing Party	Monitoring Party
a. The Applicant shall install photovoltaic ("PV") systems on all residential land use structures within the Project site where site parameters and constraints allow for adequate on-site rooftop and other on-site spaces (such as ground-mounted panels or panels on carports or other surfaces) to comply with Section 110.10(a) of the California Building Energy Efficiency Standards. The minimum electrical generation capacity of the PV Systems shall be equal to or greater than the projected energy needs, collectively, of all residential land use structures that the PV systems will serve. The Applicant shall inform residents, at the time of initial sale or at the time of subsequent sale of each residential land use structure, through placement of a requirement in the Covenants, Conditions and Restrictions ("CC&Rs") that will govern the HOA for each residential land use structure, that the Applicant is responsible for the repair and maintenance of each PV system, or any cleaner or technologically superior system of greater efficacy that is installed, for at least thirty (30) years from the date of initial installation.	At time of first occupancy. Applicant shall include in CC&Rs and is the responsibility of the HOA. (TM COA)	Project Applicant	Lake County
b. The Applicant shall install battery energy storage systems for all residential land use structures and shall design the battery energy storage systems to store the energy produced by the PV systems during daylight hours and discharge that stored energy during evening and nighttime hours, and sized to maximize self-generation and minimize electricity exports to the grid, with an efficiency of at least 80 percent (80%). The Applicant shall design and install the battery energy storage systems to provide energy savings benefits found in Section 150.1 of the California Building Energy Efficiency Standards for thirty (30) years from the date of initial installation.	At time of first occupancy.	Project Applicant	Lake County
c. All PV systems and battery energy storage systems shall be installed and operated consistent with all applicable state laws, regulations and local ordinances, including building codes.	Construction	Project Applicant and Construction Contractor	Lake County

	Required Project Modifications	Timing and Implementation	Implementing Party	Monitoring Party
	d. The Applicant shall install one fully operable Level 2 or higher-capacity Electric Vehicle Supply Equipment ("EVSE") of at least 240 volts in an appropriate location at each residential land use structure within the Project site. The Applicant shall inform residents, at the time of initial sale or at the time of subsequent sale of each residential land use structure, through placement of a requirement in the CC&Rs that will govern the HOA for each residential land use structure, that the Applicant is responsible for the repair and maintenance of each EVSE, or any cleaner or technologically superior system of greater efficacy that is installed, for at least thirty (30) years from the date of initial installation.	At time of first occupancy. Applicant shall include in CC&Rs and is the responsibility of the HOA. (TM COA)	Project Applicant	Lake County
	e. The Applicant shall prohibit the use and extension of all natural gas infrastructure within the Project site. Specifically, the Project shall include in the CC&Rs and/or other enforceable obligations a prohibition on the installation or operation of natural gas infrastructure within the Project site for residential land use structures. Pre-existing natural gas infrastructure at the Project site, if any, shall be capped or removed.	Applicant shall include requirements in ~~Updated Wildfire Prevention Plan (WPP)~~ CC&Rs	Project Applicant.	Lake County
	f. The Applicant shall require that all appliances in residential land uses (including water heaters, space conditioning systems, and cooking stoves), operate on energy sources other than natural gas. Appliances, other than those used for stovetop cooking, shall operate on electricity.	Applicant shall include requirements in ~~Updated Wildfire Prevention Plan (WPP)~~ CC&Rs	Project Applicant.	Lake County
	g. The Applicant shall install high-efficiency, variable capacity heat pumps at all residential land use structures that comply, at a minimum, with the 2022 edition of Title 24, California Code of Regulations, Part 6 and that will provide energy for space and water heating appliances and clothes drying.	~~Construction~~ Prior to Certificate of Occupancy	Project Applicant and Construction Contractor	Lake County
2	*Non-Residential Land Uses*			
	a. The Applicant shall ensure that on-site generation of renewable energy is sufficient to produce electricity to supply energy for all nonresidential land use structures. To comply with this requirement, the Applicant shall install any combination of the following: 1. PV systems coupled with battery energy storage systems A. PV systems on non-residential land use structures within the Project site (including parking structures) where site parameters and constraints allow for adequate on-site rooftop and other on-site spaces (such as ground-mounted panels or panels on carports or other surfaces) to comply with Section 110.10(a) of the California Building Energy Efficiency Standards.	At time of occupancy. Ongoing.	Project Applicant.	Lake County

Required Project Modifications	Timing and Implementation	Implementing Party	Monitoring Party
The Applicant shall inform purchasers or tenants, at the time of initial sale or lease or at the time of subsequent sale or lease of each non-residential land use structure, through placement of a requirement in the CC&Rs that will govern the HOA for each non-residential land use structure, that the Applicant is responsible for the repair and maintenance of each PV system, or any cleaner or technologically superior system of greater efficacy that is installed, for at least thirty (30) years from the date of initial installation. B. Battery energy storage systems for all nonresidential land use structures and shall design the battery energy storage systems to store the energy produced by the PV systems during daylight hours and discharge that stored energy during evening and nighttime hours, and sized to maximize self-generation and minimize electricity exports to the grid, with an efficiency of at least 80 percent (80%). The Applicant shall design and install the battery energy storage systems to provide energy savings benefits for thirty (30) years from the date of initial installation. C. All non-residential structures shall comply with the applicable prescriptive requirements for PV and battery energy storage systems sizing specified by the 2022 edition of Title 24, California Code of Regulations, Part 6, section 141.10, effective January 1, 2023, including any subsequently enacted revisions. D. All PV systems and battery energy storage systems shall be installed and operated consistent with all applicable state laws, regulations and local ordinances, including building codes. 2. On-site solar farms A. On-site solar farms to reduce the Project's GHG emissions. The solar farms, in combination with any other on-site PV systems installed to serve the Project's non-residential land uses, shall have the capacity to generate an amount of renewable energy that is equivalent to, or exceeds, 5,500,000 kWh per year, which is the estimated electricity consumption for those land uses as described in the EIR. The Applicant shall site the solar farms in areas served by existing roads to the extent possible and in a manner that minimizes harm to biological resources and wildfire ignition risk.			

Required Project Modifications	Timing and Implementation	Implementing Party	Monitoring Party
b. For the non-residential land uses of the Project, the Applicant shall install at least 300 fully-operable, publicly-accessible~~4~~ Level 2 or higher-capacity Electrical Vehicle Charging Stations ("EVCS") of at least 240 volts with at least two ports per charger and 20 fully operable publicly-accessible Level 3 EVCS/Fast Chargers. The Applicant shall ensure that the EVCS are preferential parking spaces for electric vehicles ("EVs") that comply with Tier 2 of Section A5.105.8.1 and Tier 2 of Section A5.106.5.3 of the California Green Building Standards and strategically located to maximize availability. The dedicated EVs spaces shall be in preferential locations, but shall not be located in a way that prevents compliance with requirements in the California Vehicle Code regarding parking spaces for disabled persons or disabled veterans. All publicly-accessible Level 2 and Level 3 EVCS shall be marked with signage indicating that improperly parked vehicles blocking access to the EV charging will be towed. Further, the Applicant shall inform purchasers or tenants, at the time of initial sale or lease, or at the time of subsequent sale or lease, of each non-residential land use structure, through placement of a requirement in the CC&Rs that will govern the HOA for each nonresidential land use structure, that the Applicant is responsible for the repair and maintenance of each EVSC, or any cleaner or technologically superior system of greater efficacy that is installed, for at least thirty (30) years from the date of initial installation.	At time of first occupancy. Applicant shall include in CC&Rs and is the responsibility of the HOA. (TM COA)	Project Applicant	Lake County
c. Except as set forth below, the Applicant shall prohibit the use and extension of all natural gas infrastructure within the Project site for all non-residential land use structures. Specifically, the Project shall include in the CC&Rs and/or other enforceable obligations a prohibition on the installation or operation of natural gas infrastructure within the Project site for non-residential land use structures. Except as set forth below, any preexisting natural gas infrastructure shall be capped or removed, and outdoor fires and the use of natural gas-fueled appliances shall be prohibited within, the Project site.	Applicant shall include in ~~Updated Wildfire Prevention Plan (WPP)~~ <u>CC&Rs</u>	Project Applicant	Lake County

	Required Project Modifications	Timing and Implementation	Implementing Party	Monitoring Party
	d. Except as set forth below, the Applicant shall require that nonresidential land use structures are all-electric, except where it is infeasible for a building to comply with the applicable building codes if it is all-electric. Further, the Applicant shall require that all non-residential land use structures are constructed to accommodate electric appliances exclusively, including water heaters, space conditioning systems, clothes drying and cooktops. 1. The Applicant shall be permitted to install, and operate, natural gas-fueled or propane-cooktops in restaurant kitchens. 2. The Applicant shall be permitted to install, and operate, natural gas-fueled or propane-fire pits in the outdoor patio areas of restaurants.	Applicant shall include in ~~Updated Wildfire Prevention Plan (WPP)~~ CC&Rs	Project Applicant.	Lake County
	e. The Applicant shall install high-efficiency, variable capacity heat pumps at all non-residential land use structures that comply, at a minimum, with the 2022 edition of Title 24, California Code of Regulations, Part 6 and that will provide energy for space and water heating appliances and clothes drying.	~~Construction~~ Prior to Certificate of Occupancy	Project Applicant and Construction Contractor	Lake County
3	*Off-Site GHG Emissions Reduction Measures*			
	a. The Applicant's Obligation to Purchase GHG Offset Credits. The Applicant shall, for thirty (30) years from the date of issuance of the initial occupancy permit for the Project, annually purchase and retire voluntary market GHG Offset Credits listed with, and verified by, a CARB-approved Registry. Such credits shall be purchased annually in an amount sufficient to offset the Project's actual GHG emissions in each year. The current estimate is that 14,865 credits will be required annually for that purpose, and the Applicant will make an annual purchase in that amount by the issuance of the initial occupancy permit for Phase 1 of the Project. Future events or developments may affect the availability and utility of the GHG Offset Credits, and the Project's actual GHG emissions. These factors may support an adjustment to the amount of GHG Offset Credits that the Applicant is required to purchase under this Subsection. The Applicant may seek the State's consent in the future to an adjustment of this requirement, and the State will consider such request in good faith. Any adjustment to the amount of GHG Offset Credits to be purchased by the Applicant shall be consistent with CEQA.	At time of initial occupancy. Ongoing.	Project Applicant.	Community Development Department and Attorney General

	Required Project Modifications	Timing and Implementation	Implementing Party	Monitoring Party
	b. Performance Standards 1. The Applicant shall ensure that all GHG Offset Credits purchased to comply with this Agreement: A. Are purchased for GHG Emissions Offsets with the following geographic priorities: (1) offsets within the County; (2) offsets within the State of California, only if in-county offsets are unavailable; (3) offsets within the United States, only if in-state offsets are unavailable; and (4) international offsets only if in-nation offsets are unavailable. B. Represent past reduction or sequestration of GHG emissions that is not otherwise required. (Cal. Code Regs., tit. 14, § 15126.4, subd. (c)(3).) C. Are "Real," "Additional," "Quantifiable," "Permanent," and "Verifiable," as those terms are defined in California Code of Regulations, title 17, section 95802, subdivision (a). D. Comply with the "additionality requirements" for Offset Projects set forth in California Code of Regulations, title 17, section 95973, subdivision (a)(2). E. Comply with the Verification of GHG Emissions Reductions requirements for Offset Projects set forth in in California Code of Regulations, title 17, section 95977. F. Given a unique serial or tracking number to ensure there is no duplication or double counting. 2. The Applicant shall not rely upon any GHG Offset Credit purchased to comply with this Agreement for any other project or to satisfy any other contractual obligation.	At time of initial occupancy. Ongoing.	Project Applicant.	Community Development Department and Attorney General
4	*Compliance Protocols*			
	a. The Applicant shall ensure that all GHG Offset Credits purchased to comply with this Agreement are purchased for GHG Emissions Offsets that comply with an applicable Offset Compliance Protocol from a CARB-approved Offset Registry that satisfies all of the CARB Offset Protocol standards in California Code of Regulations, title 17, section 95972, or any new standards that may become applicable to CARB Offset Protocols during the thirty (30) years starting from date of issuance of the initial occupancy permit for the Project.	At time of initial occupancy. Ongoing.	Project Applicant.	Community Development Department and Attorney General
5	*Monitoring, Reporting, and Recordkeeping*			

Required Project Modifications	Timing and Implementation	Implementing Party	Monitoring Party
a. The Applicant shall select and retain at least one independent, third-party expert on GHG mitigation and offsets to review the documentation provided by the Applicant relating to, among other data, construction- and operation-related emissions, and provide analysis and recommendations to the County, providing the State with a copy of same for information purposes, on whether the Applicant has complied with the off-site GHG emissions reduction measures set forth in this Agreement. The Applicant's selection of each expert, who shall not be a current or former employee or agent of the Applicant, shall be subject to the approval of the Attorney General's Office, which shall not be unreasonably withheld. The Applicant shall retain the expert(s) and fund the activities of the expert(s) starting from the issuance of the first site development permit or the first building permit, whichever occurs earliest, through thirty (30) years after an expert is retained.	Start with issuance of first building or site development permit, whichever occurs earliest.	Project Applicant.	Lake County
b. Each year, the expert(s) retained by the Applicant shall prepare a report and make specific findings as to whether the Applicant has met the requirements set forth in Sections 1(b)(i)–(iii) of this Agreement.	Ongoing.	Project Applicant.	Lake County
c. The Applicant shall provide the expert report and findings to the County and the Attorney General's Office on an annual basis. The Applicant shall also, upon request by the County or the Attorney General's Office, make available within a reasonable time all evidence upon which the expert relied to make such findings.	Ongoing.	Project Applicant.	Lake County and Attorney General

Section 6 | References

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Section 7 | Acronyms

AB ..... Assembly Bill
afy..... acre-feet per year
APE ..... Area of Potential Effects
APN ..... Assessor's Parcel Number
BAAQMD ..... Bay Area Air Quality Management District
BCM..... Basin Characterization Model
BMP..... best management practice
BRA..... Biological Resources Assessment
CAL FIRE ..... California Department of Forestry and Fire Protection
CalEEMod..... California Emissions Estimator Model
CALGreen ..... California Green Building Standards
Caltrans ..... California Department of Transportation
CAP ..... criteria air pollutant
CAPCOA..... California Air Pollution Control Officers Association
CBC ..... California Building Code
CCR ..... California Code of Regulations
CC&R ..... Covenants, Conditions, and Restrictions
CDFW ..... California Department of Fish and Wildlife
CESA ..... California Endangered Species Act
CEQA ..... California Environmental Quality Act
CHP..... California Highway Patrol
CNDDB..... California Natural Diversity Database
CNEL ..... Community noise equivalent level
CNPS..... California Native Plant Society
CO_2 ..... carbon dioxide
CO_2e ..... carbon dioxide equivalent
CRHR ..... California Register of Historical Resources
CRPR..... California Rare Plant Rank
CVRWQCB ..... Central Valley Regional Water Quality Control Board
CWPP..... Community Wildfire Protection Plan
dB ..... decibels
dBA..... A-weighted decibels
DMP..... Drought Management Plan
DSOD ..... Division of Safety of Dams
EIR ..... Environmental Impact Report
EOP..... Emergency Operations Plan
ETE..... evacuation time estimate
FAA ..... Federal Aviation Administration

FHSZ ..... Fire Hazard Severity Zone
FHWA ..... Federal Highway Administration
FMMP..... Farmland Mapping and Monitoring Program
FYLF ..... Foothill Yellow-Legged Frog
GHG ..... greenhouse gas
GVD ..... Guenoc Valley District
HOA ..... homeowner's association
ICE ..... Intersection Control Evaluation
IPCC ..... Intergovernmental Panel on Climate Change
ISOAP..... Intersection Safety and Operational Assessment Process
ITE..... Incidental Take Permit
LAMM..... Lake County Area-Wide Microsimulation Model
Lmax ..... Maximum noise level
LOS ..... level of service
M2B..... Mayacamas to Berryessa Connectivity Network
MMRP ..... Mitigation Monitoring and Reporting Program
NPDES..... National Pollutant Discharge Elimination System
NPT ..... Northwestern Pond Turtle
NRHP ..... National Register of Historic Places
NWIC ..... Northwest Information Center
OES ..... Office of Emergency Services
POU ..... Place of Use
PRC ..... Public Resources Code
PREIR ..... Partially Revised EIR
PV ..... photovoltaic
SB ..... Senate Bill
SF..... square feet
SLCFPD ..... South Lake County Fire Protection District
SPD ..... Specific Plan of Development
SR ..... State Route
SWPPP..... Stormwater Pollution Prevention Plan
SWRCB..... State Water Resources Control Board
TDM..... Transportation Demand Management
UCANR..... University of California Agriculture and Natural Resources
USACE..... U.S. Army Corp of Engineers
USEPA..... U.S. Environmental Protection Agency
USFWS..... U.S. Fish and Wildlife Service
USGS..... U.S. Geological Survey
VMT..... vehicle miles traveled
WPP..... Wildfire Prevention Plan
WSA..... Water Supply Assessment

Appendix N

Updated Wildfire Prevention Plan

GUENOC VALLEY RESORT

WILDFIRE PREVENTION PLAN

FOR THE GUENOC VALLEY DISTRICT

ACKNOWLEDGMENTS

The *Guenoc Valley Resort Wildfire Prevention Plan* was created as part of collaborative effort between the County of Lake, representatives from the California Department of Forestry & Fire Protection (CAL FIRE), design and engineering teams, and grazing consultants. The group relied upon local knowledge and trusted resources to identify the key fire risks throughout the site and then develop an innovative and comprehensive wildfire prevention strategy.

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Note: Site plans throughout this document are intended to demonstrate key wildfire prevention concepts. Final site plans are subject to change; please refer to the tentative and final maps for detailed site plan information, including parcel layouts and circulation alignments.

OVERVIEW

GOALS & INTENT

The Guenoc Valley Resort is situated in a unique northern California landscape. The site's hills and valleys filled with oak woodlands, grasslands, vineyards, and grazing pastures will create an exceptional visitor and resident experience. Yet, this same setting also presents critical wildfire risks. A development of this size and expense requires a comprehensive approach to protect the environment and buildings from wildfire damage.

The *Guenoc Valley Resort Wildfire Prevention Plan* (WPP) presents an integrated approach to wildfire management throughout the project site. This plan includes a thorough consideration of the site's wildfire history as well as vegetative, topographic, and climatic wildfire risks. These risk patterns inform a series of essential wildfire prevention strategies for all components of the project. This includes innovative concepts and commitments that will contribute to a wildfire resilient setting. For example, goat, sheep, and cattle will reach many hard-to-access areas of the property to graze dry grasses and reduce understory vegetation, both of which are significant wildfire risk factors. The project site will additionally be protected with fire breaks along the roadway network as well as along unprotected areas of the property boundary. In the case of an actual wildfire, the on-site emergency response system will quickly be deployed–which includes everything from high-definition fire detection cameras to an on-site emergency and fire response center.

These efforts will be part of an overall commitment to developing long-term wildfire resilience through innovative partnerships, research, and strategies. The WPP is intended to be an evolving, living document that will be reviewed regularly based on the latest wildfire science, policies, and best practices. It will be updated as necessary to become an even more robust plan to best serve the residents, visitors, and employees of the resort and the surrounding community. The resort will follow the guidance and establish collaborations with the County of Lake, the California Department of Forestry & Fire Protection (CAL FIRE) and the local fire department, South Lake County Fire Protection District, to continuously improve the wildfire prevention plan. These actions will all contribute to the resort's pledge to become a Firewise Community as designated by the National Fire Protection Association (NFPA), which will reinforce the long-term ability to address wildfire risk. With comprehensive and careful planning, Guenoc Valley Resort will offer a dynamic and effective ability to reduce wildfire risk for all residents, visitors, and workers.

This document was initially revised in June 2020 to reflect the applicant's commitment to timely implementation of roadway fire breaks upon occupancy and to require primary structures to be equipped with an exterior fire suppression system.

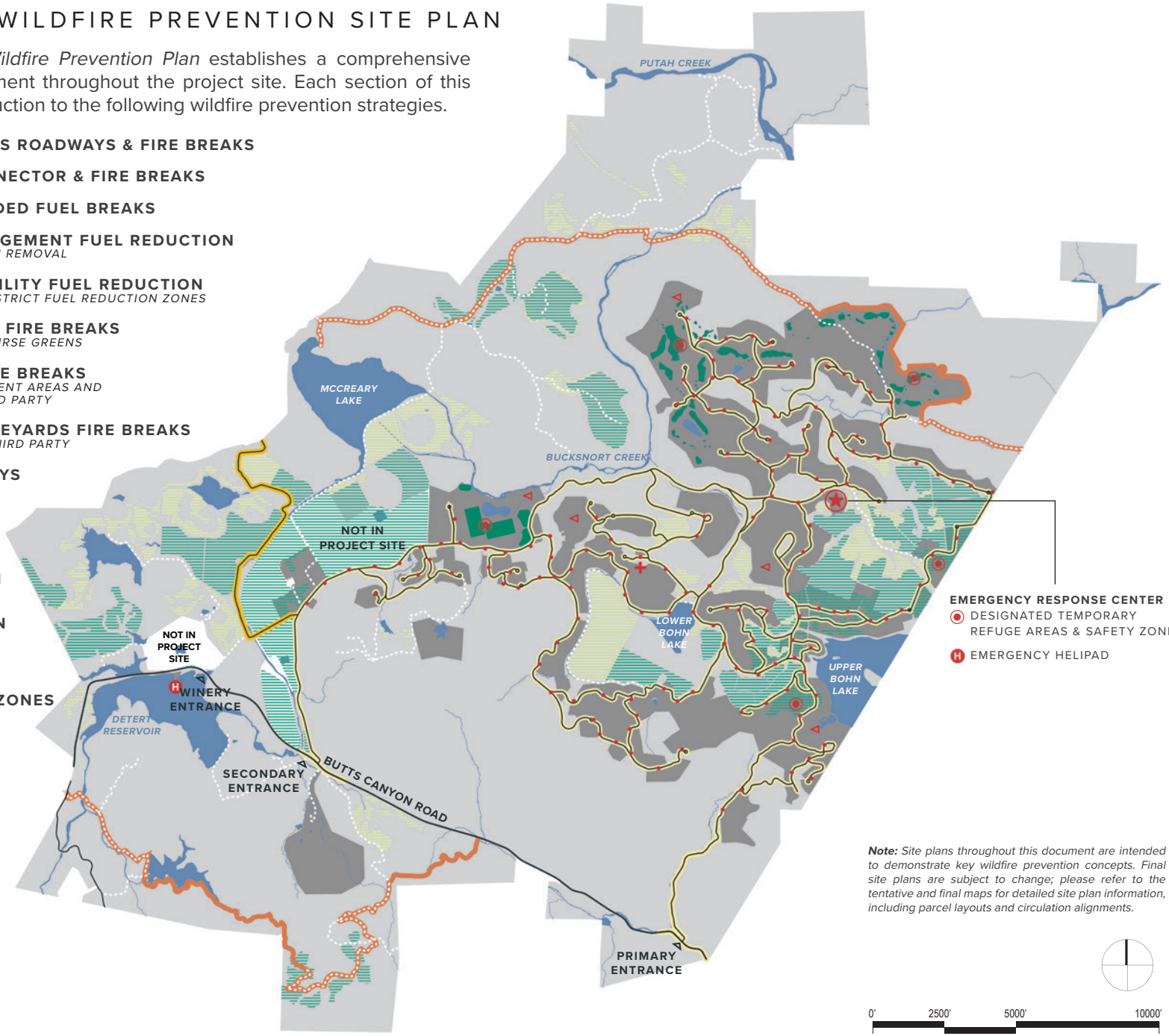


OVERVIEW

COMPREHENSIVE WILDFIRE PREVENTION SITE PLAN

The *Guenoc Valley Resort Wildfire Prevention Plan* establishes a comprehensive approach to wildfire management throughout the project site. Each section of this plan will provide a brief introduction to the following wildfire prevention strategies.

- **PRIMARY TWO-WAY ACCESS ROADWAYS & FIRE BREAKS**
- **EMERGENCY ACCESS CONNECTOR & FIRE BREAKS**
- **PROJECT BOUNDARY SHADED FUEL BREAKS**
- **ACTIVE LANDSCAPE MANAGEMENT FUEL REDUCTION**
  GRAZING AND MANUAL VEGETATION REMOVAL
- **RESIDENTIAL/RESORT/FACILITY FUEL REDUCTION**
  STRUCTURE FIRE SPRINKLERS AND STRICT FUEL REDUCTION ZONES
- **IRRIGATED RECREATIONAL FIRE BREAKS**
  EQUESTRIAN FIELDS AND GOLF COURSE GREENS
- **IRRIGATED VINEYARDS FIRE BREAKS**
  CURRENTLY PLANTED IN DEVELOPMENT AREAS AND AREAS LONG-TERM LEASED BY THIRD PARTY
- **POTENTIAL IRRIGATED VINEYARDS FIRE BREAKS**
  IN AREAS LONG-TERM LEASED BY THIRD PARTY
- **EXISTING RANCH ROADWAYS**
  USED FOR ACTIVE FUEL REDUCTION AND EMERGENCY ACCESS
- **EMERGENCY RESPONSE CENTER**
- **EARLY DETECTION SYSTEM**
  HIGH-DEFINITION CAMERA
- **EMERGENCY NOTIFICATION SIREN SYSTEM**
  EXACT LOCATIONS TBD
- **DESIGNATED TEMPORARY REFUGE AREAS & SAFETY ZONES**
- **HELIPADS**
- **FIRE HYDRANTS**
- **WATER SOURCES**
  RESERVOIRS, LAKES, PONDS, CREEKS & STREAMS



Note: *Site plans throughout this document are intended to demonstrate key wildfire prevention concepts. Final site plans are subject to change; please refer to the tentative and final maps for detailed site plan information, including parcel layouts and circulation alignments.*

OVERVIEW
IMPLEMENTATION & MANAGEMENT

The *Guenoc Valley Resort Wildfire Prevention Plan* will create a comprehensive framework to guide the plan's continuous development, implementation, and management. Beyond meeting code requirements defined by the County of Lake and the State of California, including Public Resources Code 4290 and 4291 (see further details regarding compliance in the project Design Guidelines), the project team will work closely with the California Department of Forestry & Fire Protection (CAL FIRE) and the local fire department, South Lake County Fire Protection District ("SLCFPD"), to continuously identify strategies to improve the wildfire prevention plan. Additionally, the Applicant shall pay SLCFPD, on an annual basis, the amount determined by SLCFPD to be necessary in order to staff and equip the Emergency Response Center for fire services, including wildfire response.

The plan will be implemented through the resort's Covenants, Conditions, & Restrictions (CC&Rs), and Guenoc Valley District (GVD) zoning ordinance documents, which will all be overseen by the County of Lake through the development permitting process.

The resort's residential homeowner's association (HOA) will provide ongoing maintenance and compliance for this plan. The HOA will be required by its by-laws to contract with a wildfire expert for the duration of the Project, with costs paid by the HOA; the HOA shall consult with the wildfire expert in its implementation of wildfire prevention measures, including those identified within this plan. The HOA will also cover the costs associated with having on-site at least one individual with wildfire expertise related to evacuation and emergency response at the Project's Emergency Response Center.

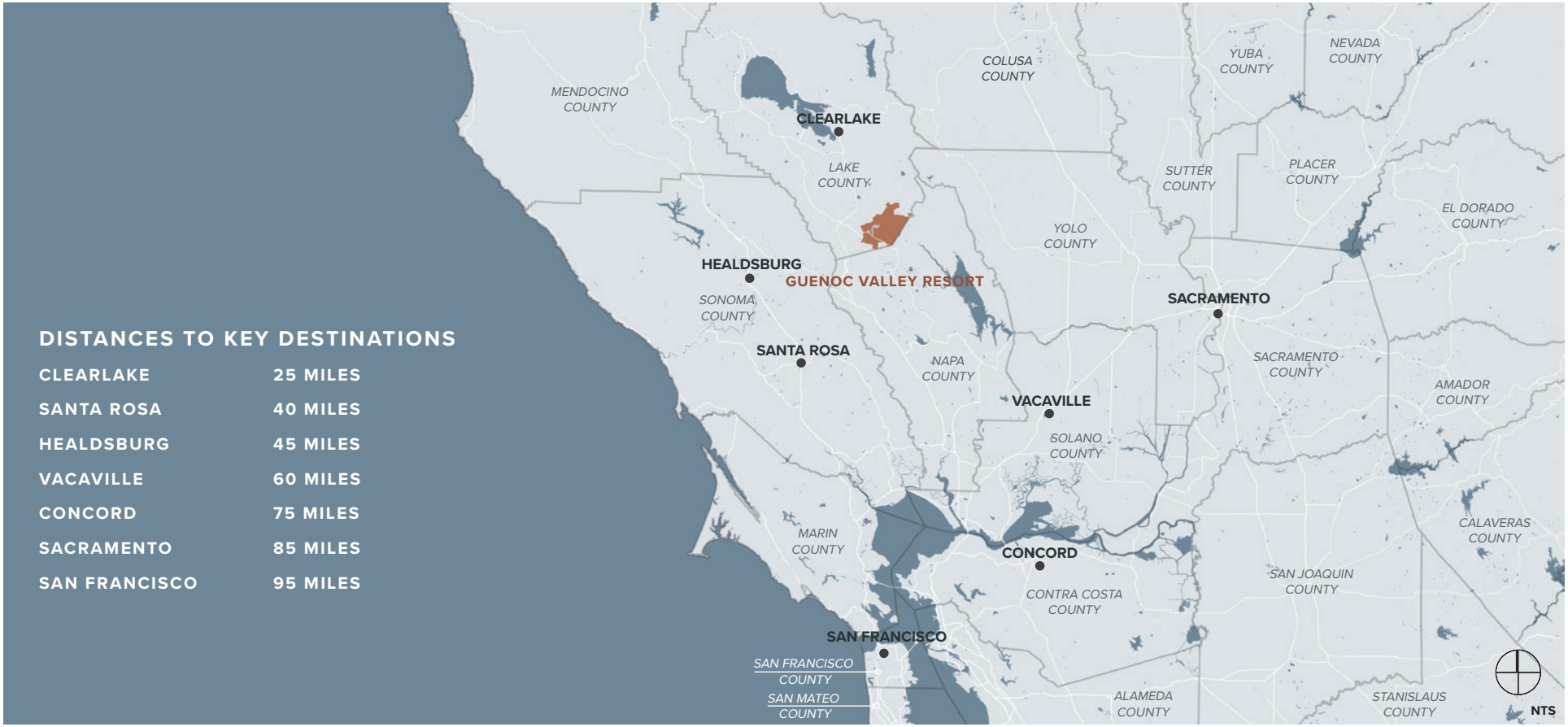


SITE CONTEXT
PROJECT SETTING & HISTORY

The Guenoc Valley Resort is located approximately 100 miles north of the Bay Area in the agricultural and viticultural region of North–central California. The resort is located in the southeastern corner of the County of Lake, three miles southeast of Middletown and on Napa County's northern border.

Guenoc Valley, a small inland valley, is comprised of varying landscapes and conditions. The valley experiences greater seasonal temperature extremes than neighboring areas, and has a wide range of elevation changes throughout the property. These varying elevations support various vegetation types and uses; a series of vineyards generally cover the lower areas and slopes, while oak woodlands, grasslands, and chaparral covered hillsides offer plenty of opportunities for livestock grazing.

At approximately 16,000 acres, the resort site remains one of the largest privately owned properties in the state of California. The property first came to public attention when a portion of the ranch was owned by the British Actress, Lillie Langtry. Through the years the land has continued to be utilized for outdoor recreational pursuits, vineyards, and agriculture.



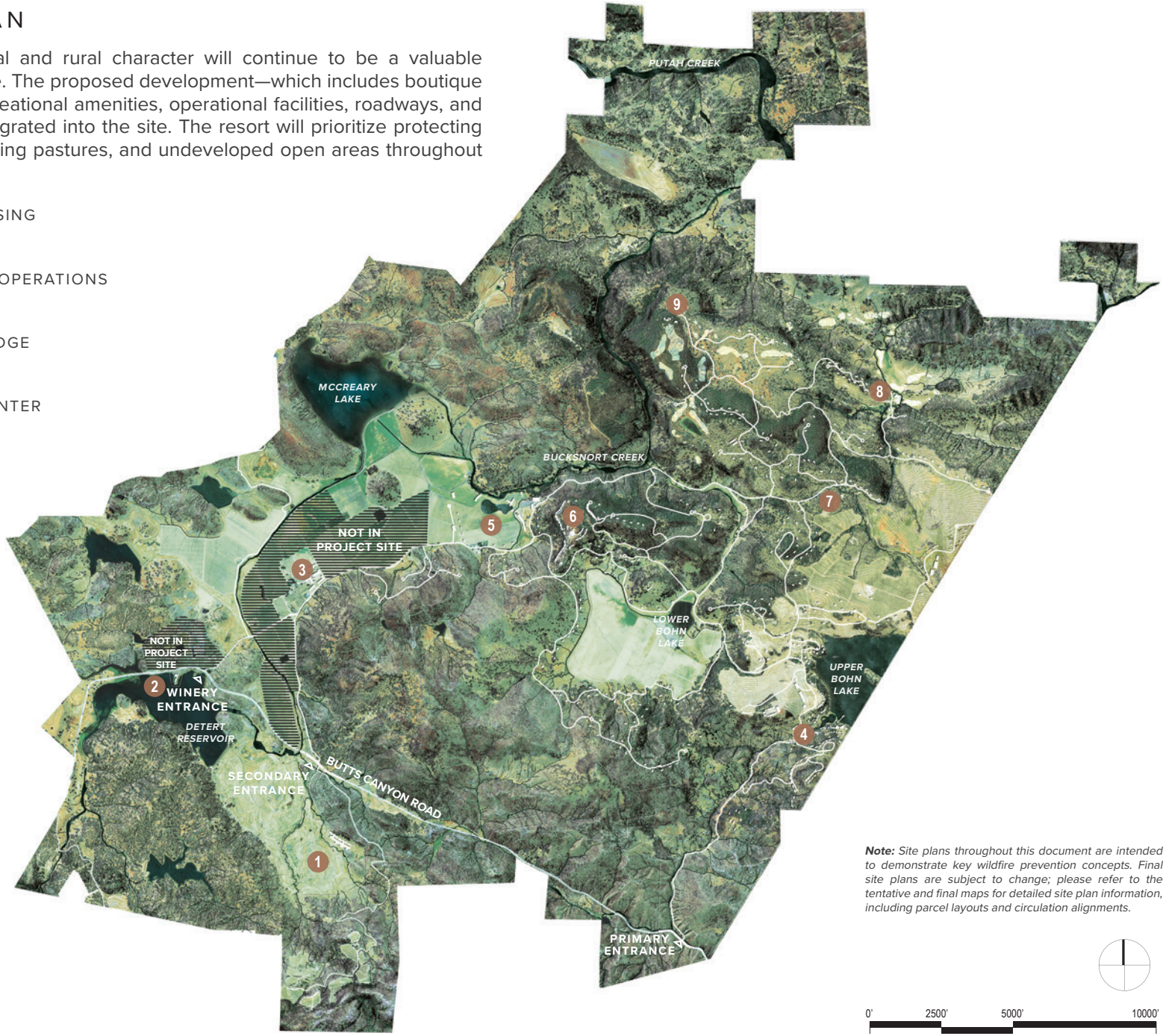
PROJECT SITE LOCATION

In resort site is located approximately 100 miles north of the Bay Area on the border of Napa and Lake County with close access to Clearlake and Santa Rosa.

SITE CONTEXT
PROJECT SITE PLAN

This site's inherent agricultural and rural character will continue to be a valuable aspect of the resort experience. The proposed development—which includes boutique hotels, residential estates, recreational amenities, operational facilities, roadways, and trailways—will be carefully integrated into the site. The resort will prioritize protecting and enhancing vineyards, grazing pastures, and undeveloped open areas throughout the development process.

1 ON-SITE WORKFORCE HOUSING
2 AERIAL SITE ACCESS
3 CENTRAL BACK-OF-HOUSE OPERATIONS
4 MAHA FARM
5 EQUESTRIAN CENTER & LODGE
6 BOHN RIDGE RESORT
7 EMERGENCY RESPONSE CENTER
8 GOLF COURSE
9 DENNISTON GOLF ESTATES



Note: *Site plans throughout this document are intended to demonstrate key wildfire prevention concepts. Final site plans are subject to change; please refer to the tentative and final maps for detailed site plan information, including parcel layouts and circulation alignments.*

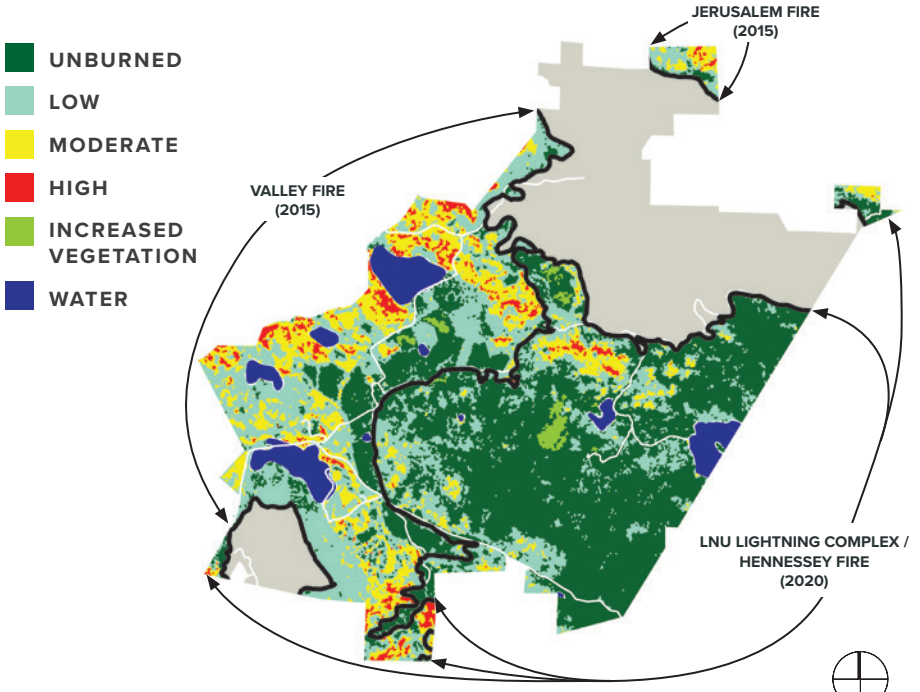
SITE CONTEXT
WILDFIRE HISTORY

Guenoc Valley is located in a fire prone region of California. Although wildfire is a year-round possibility, risk increases during the late summer into the fall. During this time of the year, hot days with a lack of precipitation dry out vegetation, which increases the risk for wildfire, particularly during windy days. Climate change could further affect these risk factor patterns.

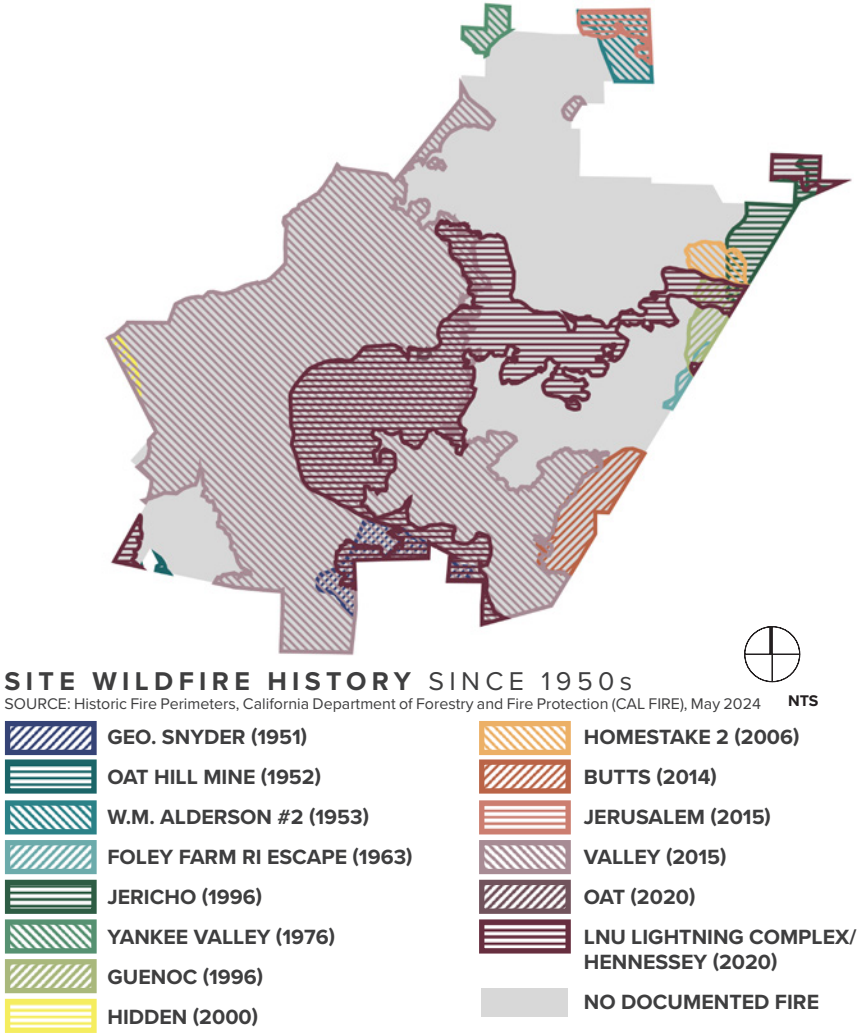
Wildfires have affected the site throughout its history. Since the 1950s, fires of varying size and intensity have burned parts of the project site. A few of the more recent fires, including the Butts Fire in 2014 and the Jerusalem and Valley Fires in 2015, were large-scale fires which spread from off-site and affected large portions of the site as well as nearby properties. In particular, the Valley Fire caused wide-spread damage to the southern portion of the site, including along Butts Canyon Road. These effects are still visible and present today.

The site's most recent wildfire, the LNU Lightning Complex Fire, was a large-scale wildfire which included multiple lightning-sparked wildfires that ignited separately and, in some cases, merged; this includes the Hennessey Fire that affected the project site. The complex burned from August 17 to October 2, 2020 and burned a total of 363,220 acres across Lake, Napa, Sonoma, Solano, and Yolo Counties and was the 7th largest fire in California history (Source: CAL FIRE). The on-site effects of the Hennessey Fire were mostly caused by an intentionally set backfire intended to meet and counteract the movement of the Hennessey Fire northward. Thus, this fire mostly burned the understory and resulted in a majority of the burn severity being classified as "Low" or "Unburned" within the burn area.

The scale, severity, and effects of the most recent wildfires are all important considerations in developing a rigorous wildfire prevention strategy.



BURN SEVERITY OF MOST RECENT WILDFIRES
SOURCE: Monitoring Trends in Burn Severity (MTBS), USGS EROS, USDA Forest Service GTAC, 2015 and 2020
NOTE: The 2020 Hennessey Fire burn severity partially masks the 2015 Valley Fire burn severity in order to show recent conditions



SITE WILDFIRE HISTORY SINCE 1950s
SOURCE: Historic Fire Perimeters, California Department of Forestry and Fire Protection (CAL FIRE), May 2024

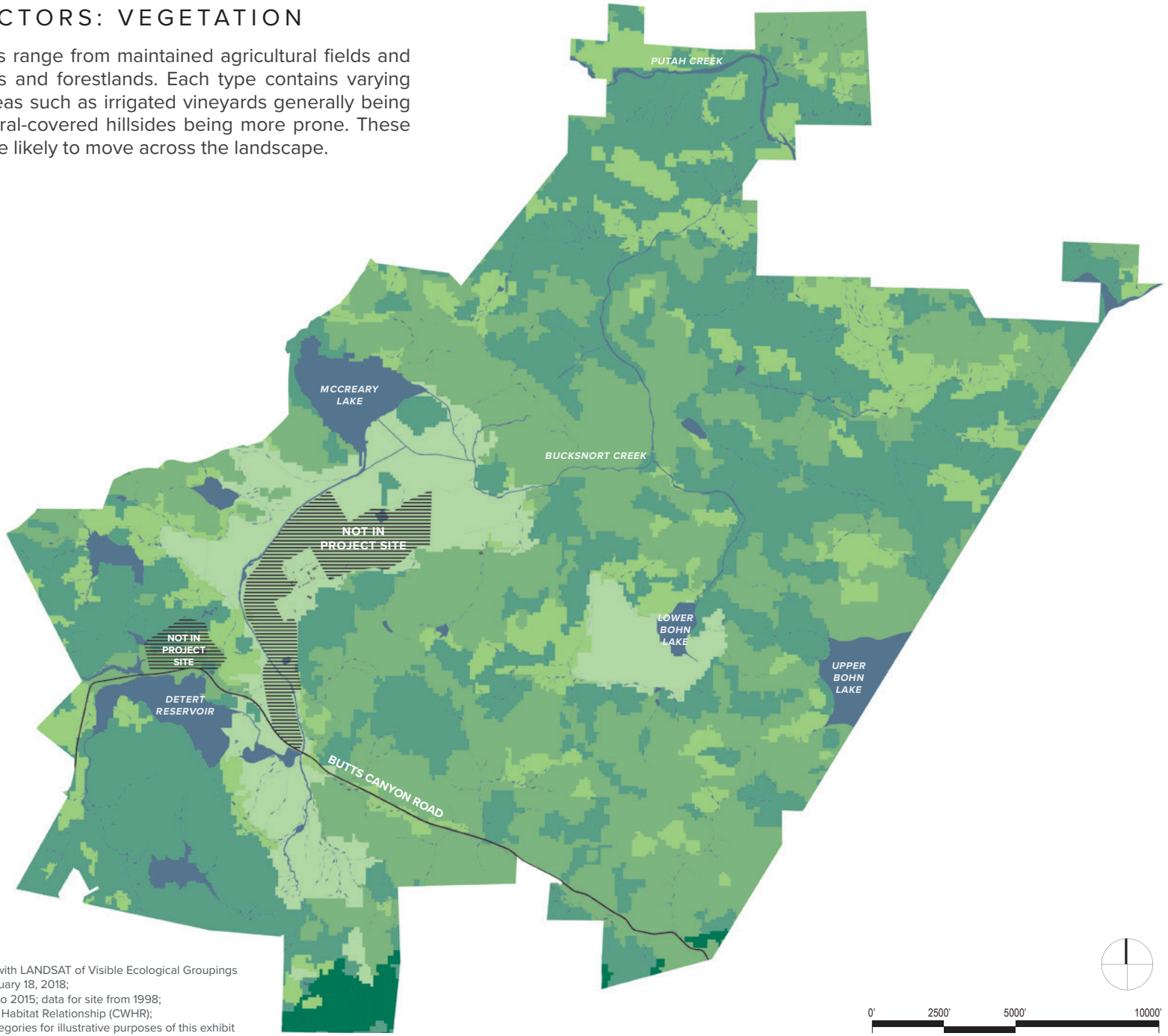
SITE CONTEXT

WILDFIRE RISK FACTORS: VEGETATION

The dominant vegetation types range from maintained agricultural fields and vineyards to dense woodlands and forestlands. Each type contains varying levels of wildfire fuels, with areas such as irrigated vineyards generally being less prone to fires and chaparral-covered hillsides being more prone. These patterns affect how wildfires are likely to move across the landscape.

VEGETATION COVERAGE

- **AGRICULTURE**
- **GRASSLANDS**
- **CHAPARRAL**
- **OAK WOODLANDS**
- **GENERAL FORESTLANDS**
- **WATER**

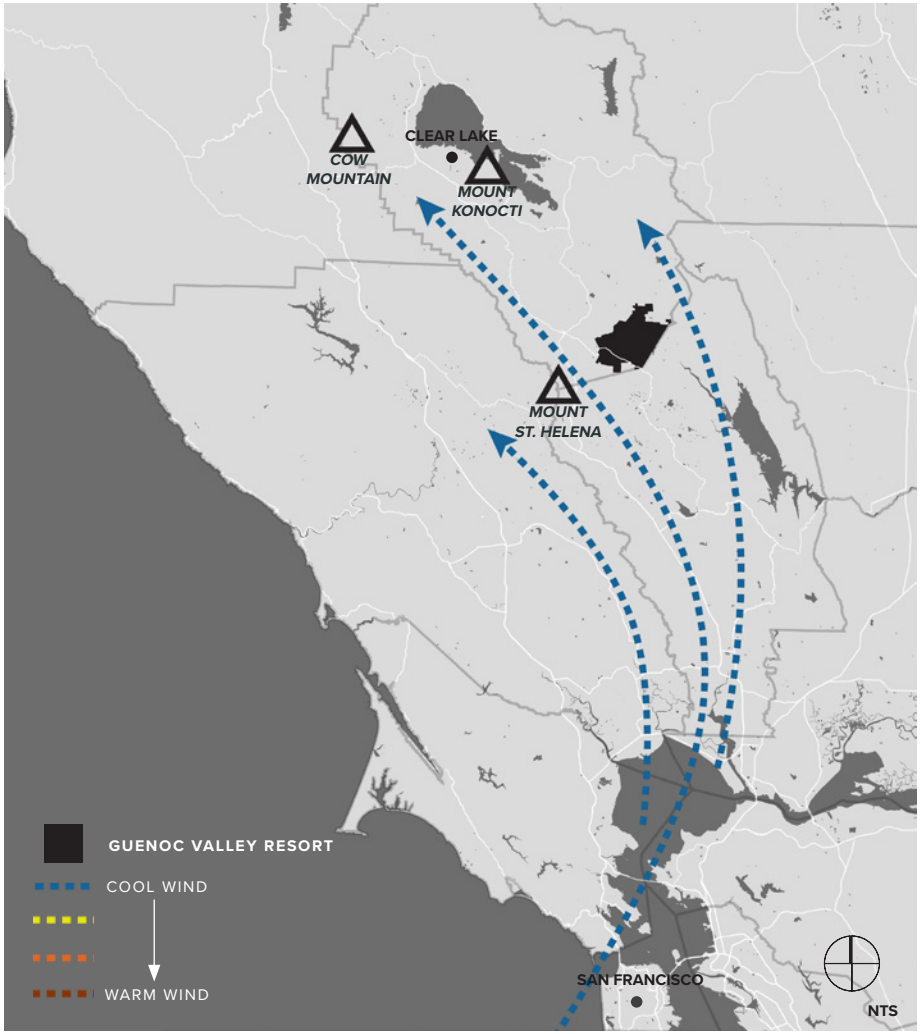


SOURCE:
U.S. Forest Service, Classification and Assessment with LANDSAT of Visible Ecological Groupings (CALVEG), EVeg Mid Region 5 North Coast Mid, January 18, 2018;
data source information ranges from the year 1998 to 2015; data for site from 1998;
data source crosswalked with the California Wildlife Habitat Relationship (CWHR);
CWHR categories simplified to the above seven categories for illustrative purposes of this exhibit

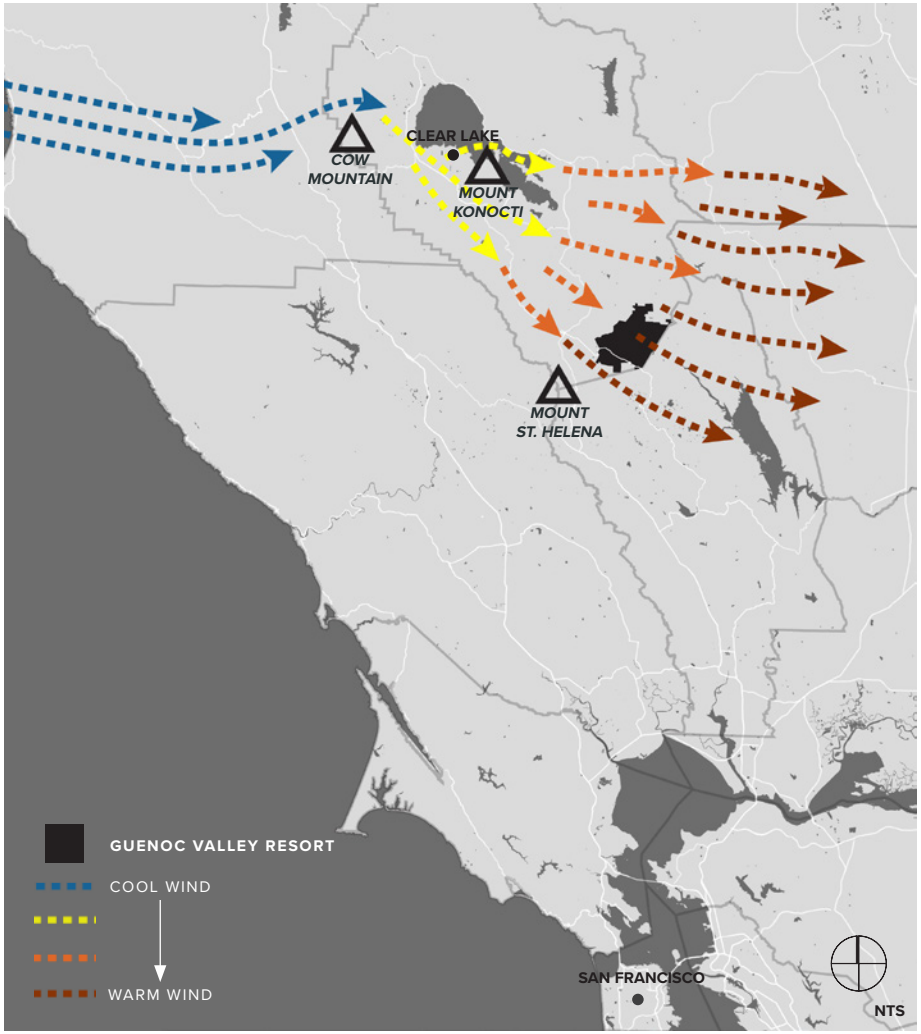
SITE CONTEXT
WILDFIRE RISK FACTORS: REGIONAL WIND PATTERNS

Windy conditions during the fire season increase the likelihood of fires erupting, rapidly escalating, and increasing in intensity and scale. Depending on various climatic conditions, regional wind patterns may vary seasonally and even daily. However, the resort site is primarily affected by two regional wind patterns: the Konocti Winds and Diablo Winds.

The Konocti Winds, as shown below, affect the site with varying morning and afternoon wind patterns. In the morning, wind typically flows northward from the Bay Area. In the afternoon, cool air flows eastward from the coast over Cow Mountain and towards Clear Lake, splits around Mount Konocti, and then increases in speed and temperature as it flows southwards towards Highway 20, Morgan Valley, and Guenoc Valley.



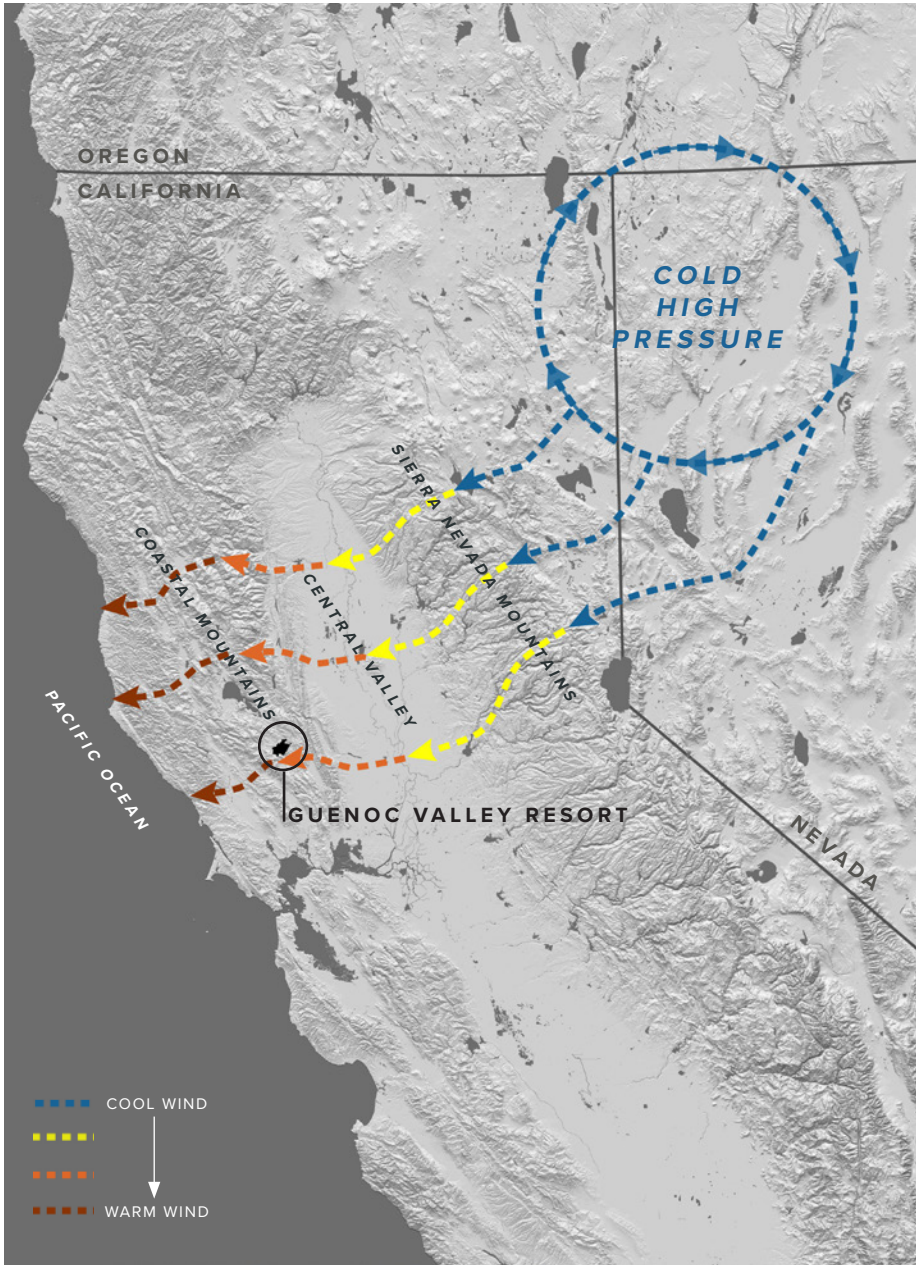
MORNING KONOCTI WIND PATTERNS
SUNRISE – NOON



AFTERNOON KONOCTI WIND PATTERNS
NOON – SUNSET

SOURCE:
South Lake County Fire Protection District and National Weather Service San Francisco Bay Area, 2019

SITE CONTEXT
WILDFIRE RISK FACTORS: REGIONAL WIND PATTERNS



DIABLO WIND PATTERNS

As shown on the right, the resort site is also subject to the Diablo Winds. This wind pattern begins in the Great Basin area of Nevada and Utah. The jet stream pushes cool, high pressure air from the area down to California. Once crossing over and cascading down the Sierra Nevada mountain range, the air increases in temperature and decreases in humidity; the air continues to increase in temperature as it crosses the Central Valley.

Finally, the warm air increases in speed as it pushes between narrow gaps in the Coastal Mountain ranges towards the Pacific Ocean. This pattern primarily affects the region during high fire risk seasons in the fall and winter.

FIRE WEATHER WATCHES & RED FLAG WARNINGS

When certain climate conditions combine, the National Weather Service may issue either a Fire Weather Watch or a Red Flag Warning.

A **Fire Weather Watch** indicates that local conditions resulting in extreme fire could occur in the next 12 - 72 hours. Wildfires are possible, but not imminent or currently occurring.

A **Red Flag Warning**—the highest and most serious type of alert—indicates to residents that local conditions may result in extreme fire behavior within 24 hours. Wildfires are ongoing or may begin shortly.

Various combinations of climate conditions can result in either a watch or warning, including:

- Low relative humidity
- Strong winds
- Dry fuels
- Potential for dry lightening strikes

During both Fire Weather Watches and Red Flag Warnings, residents are urged to practice extreme caution, as major wildfires could be started with a simple spark.

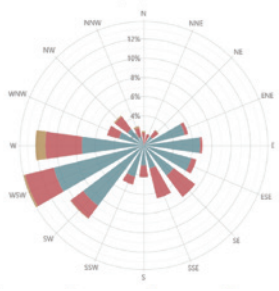
SOURCE:
California Department of Forestry & Fire Protection, "Red Flag Warning & Fire Weather Watches," 2019
National Oceanic and Atmospheric Administration: National Weather Service, "Understanding Wildfire Warnings, Watches and Behavior," 2019
San Francisco Chronicle, "Are infamous Diablo winds responsible for recent wildfires?," 2019

SITE CONTEXT

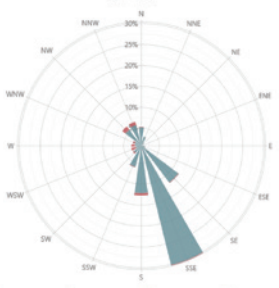
WILDFIRE RISK FACTORS: LOCAL WIND PATTERNS

While affected by the larger Konocti and Diablo wind patterns, the resort site's topography and microclimates also contribute to unique wind conditions. The wind patterns shown in this map are based on three local wind stations and demonstrate a likely wind condition for a typical day during the July through November fire season. Depending on a variety of climatic conditions, local wind patterns could easily change direction and speed and affect the spread of potential wildfires.

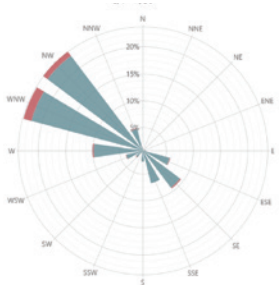
WIND DIRECTION



1 LOWER BOHN



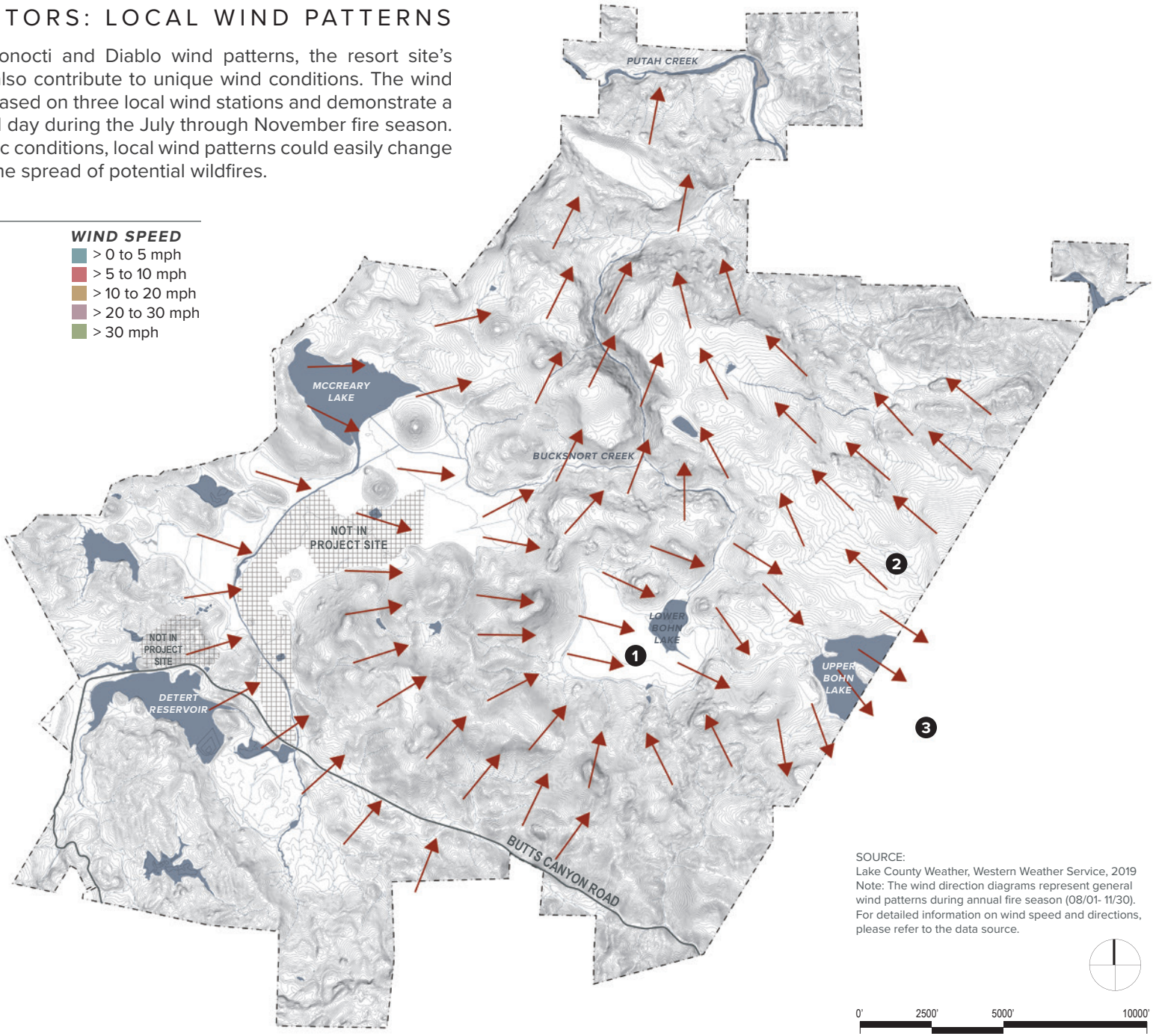
2 UPPER BOHN NORTH



3 UPPER BOHN SOUTH

WIND SPEED

- > 0 to 5 mph
- > 5 to 10 mph
- > 10 to 20 mph
- > 20 to 30 mph
- > 30 mph



SOURCE:
Lake County Weather, Western Weather Service, 2019
Note: The wind direction diagrams represent general wind patterns during annual fire season (08/01- 11/30). For detailed information on wind speed and directions, please refer to the data source.

0' 2500' 5000' 10000'

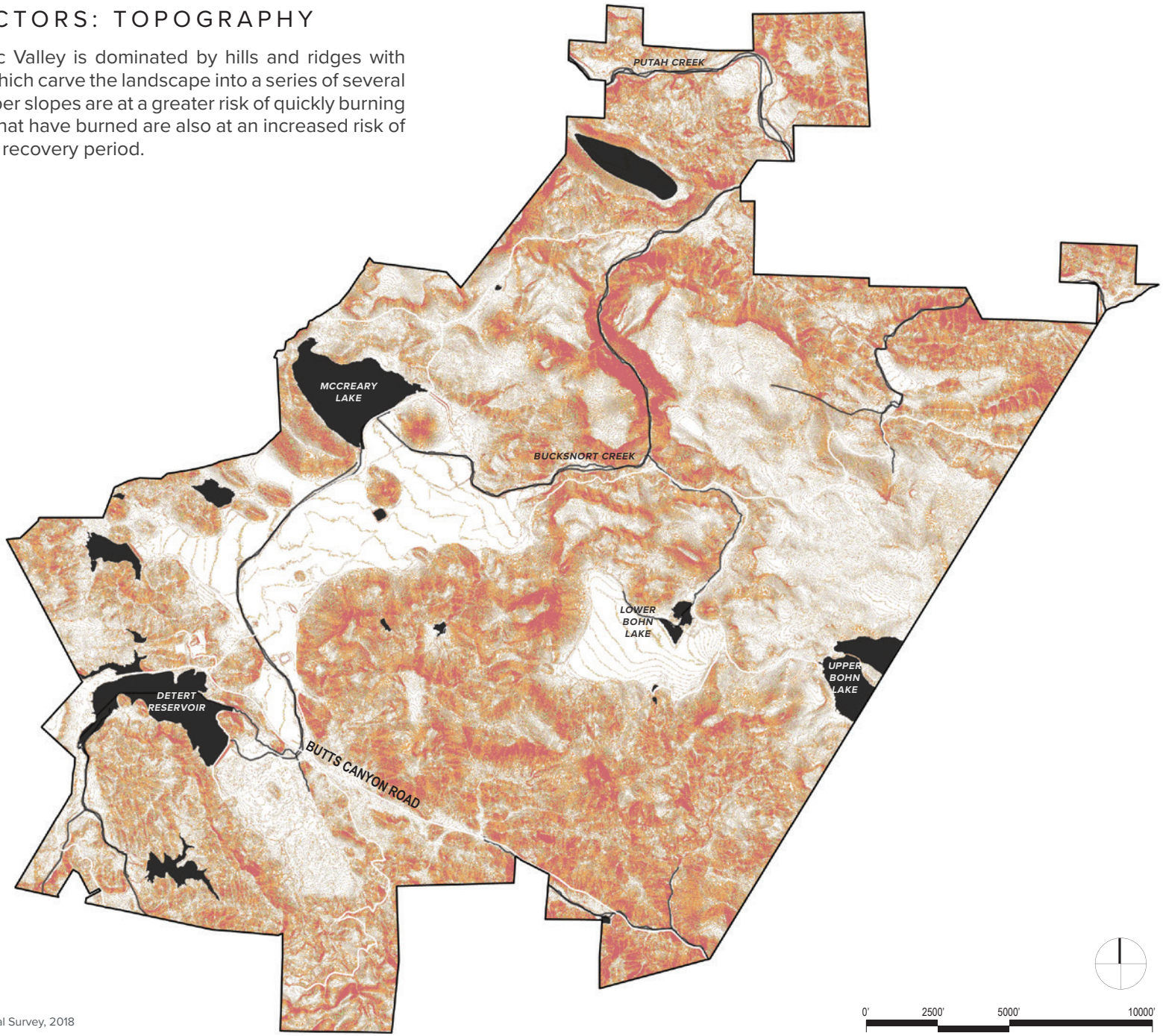
SITE CONTEXT

WILDFIRE RISK FACTORS: TOPOGRAPHY

A significant portion of Guenoc Valley is dominated by hills and ridges with slopes exceeding 30 percent, which carve the landscape into a series of several smaller valleys. Areas with steeper slopes are at a greater risk of quickly burning during a wildfire. Steep slopes that have burned are also at an increased risk of erosion during the post-wildfire recovery period.

SLOPE PERCENTAGE

- 0-5%
- 5-10%
- 10-20%
- 20-30%
- 30-50%
- 50%+



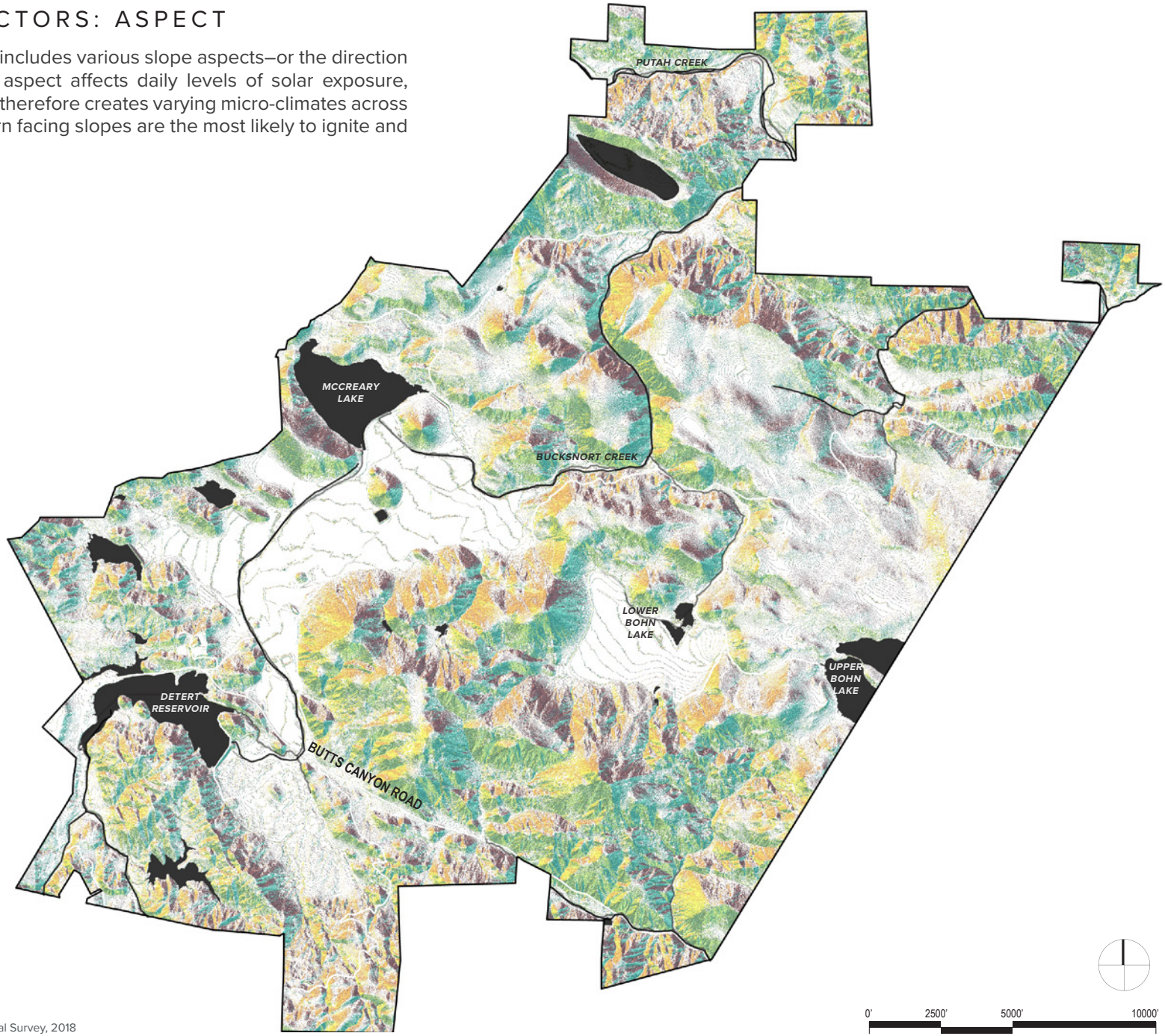
SOURCE:
1 meter Digital Elevation Model (DEM), U.S. Geological Survey, 2018

SITE CONTEXT
WILDFIRE RISK FACTORS: ASPECT

The resort site's diverse terrain includes various slope aspects–or the direction that a slope faces. The slope aspect affects daily levels of solar exposure, humidity, and temperature, and therefore creates varying micro-climates across the site. South and southwestern facing slopes are the most likely to ignite and burn.

ASPECT

- FLAT
- NORTH
- NORTHEAST
- EAST
- SOUTHEAST
- SOUTH
- SOUTHWEST
- WEST
- NORTHWEST



SOURCE:
1 meter Digital Elevation Model (DEM), U.S. Geological Survey, 2018

SITE CONTEXT
WILDFIRE HAZARD & RISK

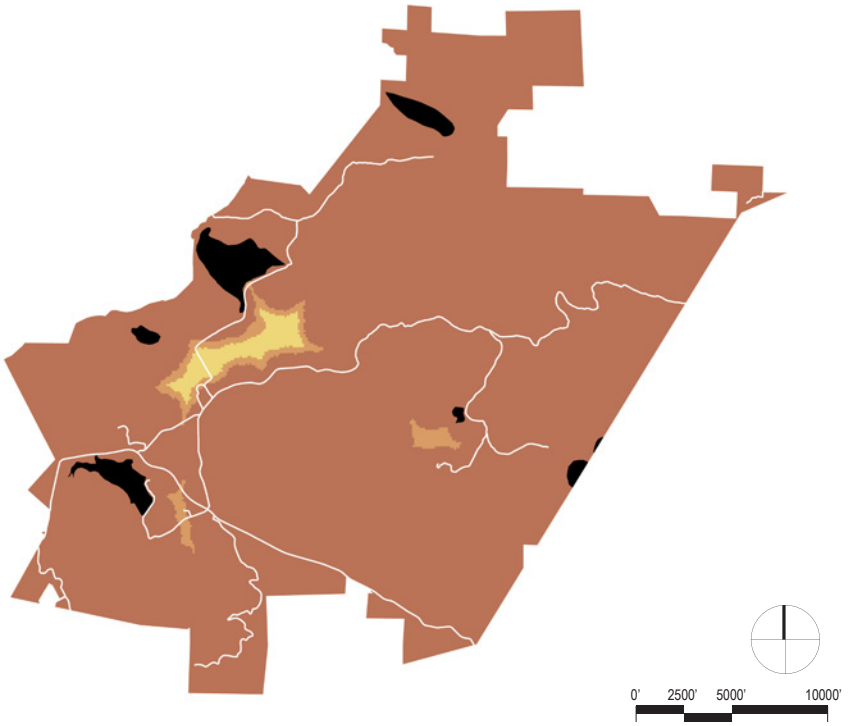
The specific factors that affect wildfire hazard and risk are complicated. A wide range of topographic and landscape conditions create a complex environment to predict and prepare for potential wildfires.

Various factors—including those described in the preceding pages—are considered in developing CAL FIRE's Fire Hazard Severity Zones (FHSZ) rating system and map. This rating system situates the resort site in a moderate to very high severity zone. In general, the highest risk hazardous areas are in the southeast and central parts of the site. These areas have the steepest slopes, are more likely to have a chaparral vegetation coverage, and are exposed to northern-moving winds.

Given the connection between fire hazard and slopes, the site's lower risk locations tend to be the flatter valley areas. Hazard is further reduced where the land is more actively cultivated with vineyards and others farming practices.

Per CAL FIRE, it is important to note that a FHSZ map "evaluates 'hazard' and not 'risk'. The map is like flood zone maps, where lands are described in terms of the probability level of a particular area being inundated by floodwaters, and not specifically prescriptive of impacts. 'Hazard' is based on the physical conditions that create a likelihood and expected fire behavior over a 30 to 50-year period without considering mitigation measures such as home hardening, recent wildfire, or fuel reduction efforts. 'Risk' is the potential damage a fire can do to the area under existing conditions, accounting for any modifications such as fuel reduction projects, defensible space, and ignition resistant building construction" (Source: FAQ: 2023 Fire Hazard Severity Zones, CAL FIRE, March 11, 2024).

Thus, while the site's hazardous levels may be high, the various measures to mitigate fire hazards described in the following pages can reduce risk.



FIRE HAZARD SEVERITY ZONES

SOURCE: Fire Hazard Severity Zones (effective April 1, 2024), California Department of Forestry and Fire Protection (CAL FIRE), 2024

- MODERATE SEVERITY
- HIGH SEVERITY
- VERY HIGH SEVERITY



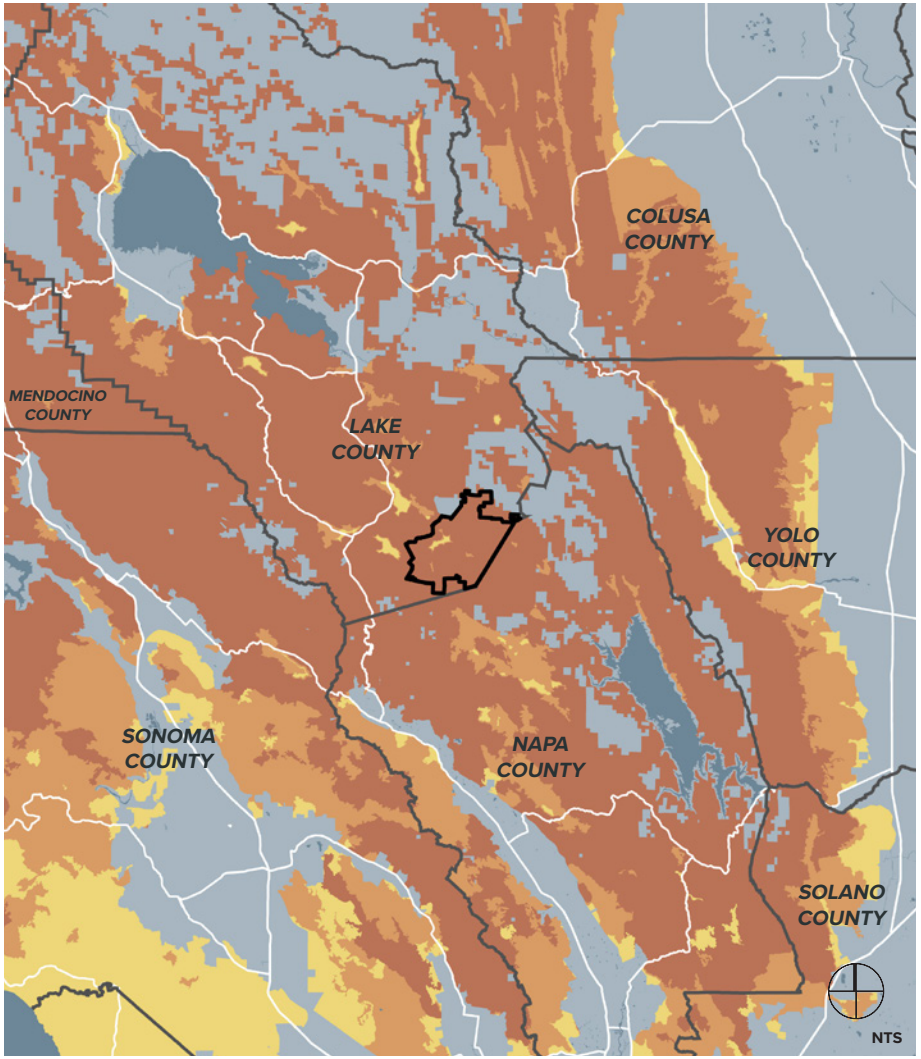
SITE CONTEXT
WILDFIRE REGIONAL RISK

Cataloging environmental risks is the first step to successfully develop a wildfire prevention plan. However, even with the best research and preparation within the site, fires on neighboring properties can rapidly move across the property boundaries.

While Guenoc Valley's setting is an inherent part of its attraction, the surrounding rural landscapes can also increase the site's wildfire risk. The property is bordered by ranches, pastures, woodlands, and forests with various levels of fire hazard severity. The northern edge of the property is adjacent to the Snow Mountain National Monument, an area of land stretching across approximately 330,000 acres and managed by the Bureau of Land Management (BLM).

The minimally managed landscapes within these neighboring areas tend to have less rigorous wildfire prevention practices, which can result in larger fuel reserves. As detailed in the following pages, additional precautions will be taken along the property boundaries where the risk of fires spreading onto the site is greater.





FIRE HAZARD SEVERITY ZONES

SOURCE: Fire Hazard Severity Zones (effective April 1, 2024), California Department of Forestry and Fire Protection (CAL FIRE), 2024

- *GUENOC VALLEY RESORT*
- FEDERAL OR LOCAL RESPONSIBILITY AREA
- MODERATE SEVERITY
- HIGH SEVERITY
- VERY HIGH SEVERITY

GENERAL WILDFIRE PREVENTION

GENERAL WILDFIRE PREVENTION STRATEGIES

In order to retain the resort site's inherent rural quality, a low-impact design plan prioritizes limited buildings, roadways, or infrastructure. Undeveloped areas will be managed to reduce wildfire risk through the following strategies:

- **Fire Breaks & Shaded Fuel Breaks**
  Fire breaks will be established and maintained along all roadway corridors and voluntary shaded fuel breaks will may also be established at select vulnerable property project boundary edges.

- **Active Landscape Management**
  Fields, pastures, woodlands will be actively managed to reduce fire risk. These areas will be continuously grazed with a rotation of cattle, sheep, and goat livestock. In certain locations, dead, dying, or invasive vegetation may also be manually thinned or removed with machinery and crews.

- **Irrigated Green Belt**
  Vineyards, orchards, gardens, and recreational fields—as well as irrigated residential, resort, and facility landscapes—will all become part of a site-wide irrigated green belt.



FIRE BREAKS



DISRUPT FIRE PATHWAYS

A network of fire breaks will be developed throughout the site, especially along roadways; they will be established and maintained as phases are built.

ACTIVE LANDSCAPE MANAGEMENT



LOP & SCATTER

This involves thinning and removing dead, dying, or invasive vegetation through felling and cutting; material is then distributed across the ground.



MASTICATE

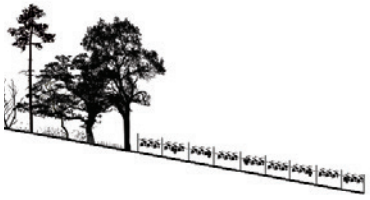
Dead, dying, or invasive vegetation is thinned and removed with chopping, grinding, and mowing; material is then scattered across the ground.



GRAZE WITH LIVESTOCK

Sheep, goat, and cattle livestock will graze understory grasses and vegetation; the livestock will continuously rotate throughout the property.

IRRIGATED GREEN BELT

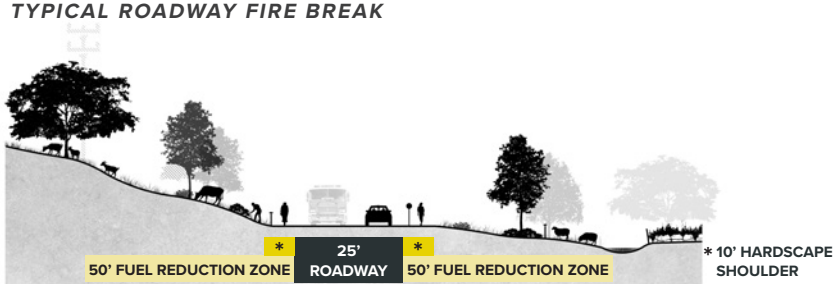


CONNECT IRRIGATED AREAS

Where feasible, contiguous green belts with irrigated farmlands, landscapes, and recreational fields will be developed.

GENERAL WILDFIRE PREVENTION
FIRE BREAK NETWORK

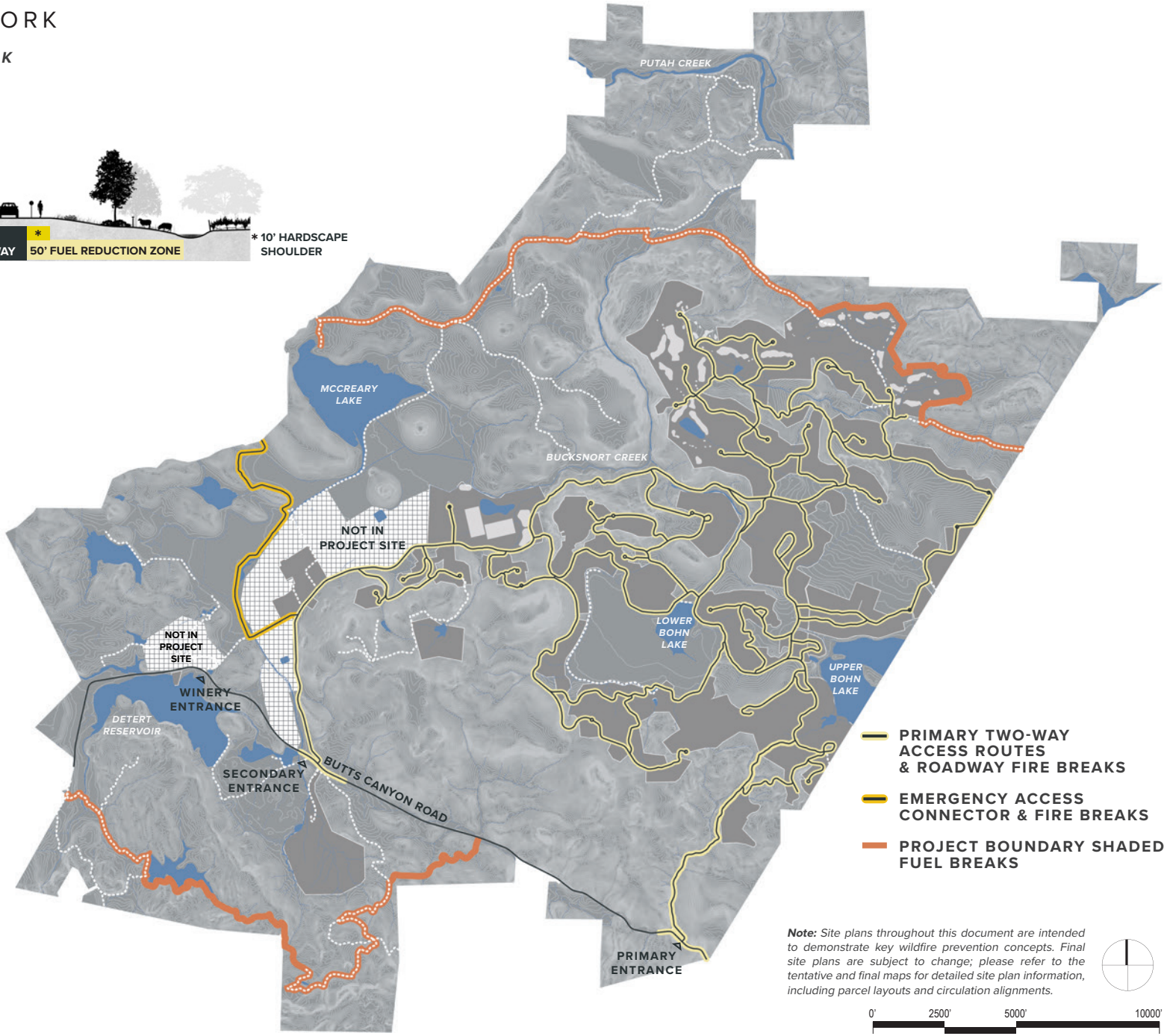
TYPICAL ROADWAY FIRE BREAK



Fire breaks are areas where wildfire risk is reduced by strategies such as thinning and removing dead vegetation, separating canopies, and maintaining the vegetated understory through grazing.

All roadways will be bordered on each side by a fuel reduction zone, including to the extent that the topography feasibly permits, an area of approximately 10 feet on each side of the roadways improved with hardscape. As an overall defense strategy, 100 foot wide shaded fuel breaks will also be established and maintained at select vulnerable areas of the project boundary.

At final occupancy of each structure the applicable fire break shall be installed. Further, prior to issuance of the first certificate of occupany for a structure within each subdivision under each final map, the full roadway fire break network for that subdivision shall have been completed.



Note: *Site plans throughout this document are intended to demonstrate key wildfire prevention concepts. Final site plans are subject to change; please refer to the tentative and final maps for detailed site plan information, including parcel layouts and circulation alignments.*

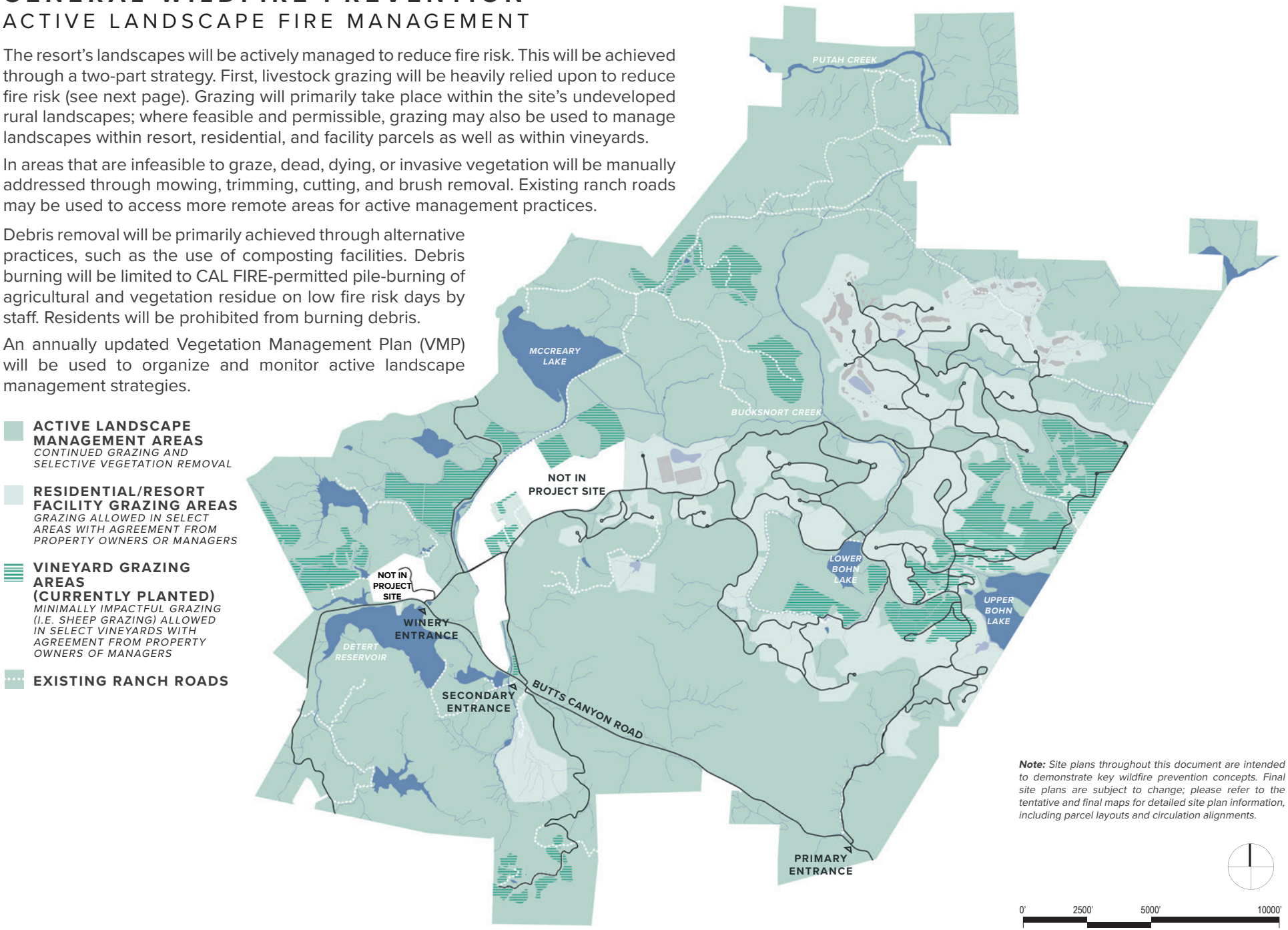
GENERAL WILDFIRE PREVENTION
ACTIVE LANDSCAPE FIRE MANAGEMENT

The resort's landscapes will be actively managed to reduce fire risk. This will be achieved through a two-part strategy. First, livestock grazing will be heavily relied upon to reduce fire risk (see next page). Grazing will primarily take place within the site's undeveloped rural landscapes; where feasible and permissible, grazing may also be used to manage landscapes within resort, residential, and facility parcels as well as within vineyards.

In areas that are infeasible to graze, dead, dying, or invasive vegetation will be manually addressed through mowing, trimming, cutting, and brush removal. Existing ranch roads may be used to access more remote areas for active management practices.

Debris removal will be primarily achieved through alternative practices, such as the use of composting facilities. Debris burning will be limited to CAL FIRE-permitted pile-burning of agricultural and vegetation residue on low fire risk days by staff. Residents will be prohibited from burning debris.

An annually updated Vegetation Management Plan (VMP) will be used to organize and monitor active landscape management strategies.



Note: *Site plans throughout this document are intended to demonstrate key wildfire prevention concepts. Final site plans are subject to change; please refer to the tentative and final maps for detailed site plan information, including parcel layouts and circulation alignments.*

GENERAL WILDFIRE PREVENTION
GRAZING PRACTICES

As a key component of the active landscape management plan, goat, sheep, and cattle livestock will continuously rotate throughout the resort site to reduce and remove overgrown and dead vegetation.

As these animals are capable of moving around difficult terrain, allowing them to graze throughout the site will ensure that hard-to-reach areas are regularly maintained. And, as each of these species prefers different types of vegetation, a regular rotation will broaden the types of vegetation that are reduced and removed, especially highly flammable fine fuels that can ignite and spread fire rapidly during dry with high temperature conditions.

The following matrix provides general standards of site-wide, long-term grazing practices. Although the exact configuration of grazing areas and corridors may shift over time, these general parameters will help to coordinate the placement and movement of herds throughout the site.



Species	**Primary Foraging Behavior**	**Equivalent Animal Unit** *	**Preferred Vegetation**	**Minimum Practical Grazing Area** (Acres) **	**Maximum Practical Grazing Slope** (Percent %) (Wet Ground / Dry Ground)	**Maximum Density** (lbs per acre) (Wet Ground/Dry Ground) ***	**Grazing Season**	**Herd Type**
Goats	Browsing	0.2	Chaparral, Brush, Poison Oak, Weeds	0.15 AC	60% / 80%	15,000 lbs / 60,000 lbs	April - October	Seasonal/ Contracted
Sheep	Grazing	0.2	Oak Woodland/ Grassland, select weeds	0.15 AC	60% / 80%	15,000 lbs / 60,000 lbs	April - June	Seasonal/ Contracted
Cattle	Grazing	1.0	Oak Woodland/ Grassland	0.5 AC	50% / 70%	10,000 lbs / 50,000 lbs	Year Round	Resident

* "Equivalent Animal Units" establishes a consistent unit factor to compare herd sizes; for example, a herd of 10 cows (1.0 AU) is equivalent to a herd of 50 goats (0.2 AU)

** The "Minimum Practical Grazing Area" is significantly dependent on herd size; these minimum practical grazing areas assume that herd sizes will remain equally small in order to accommodate efficient grazing in and around small spaces between buildings and roads.

*** The "Maximum Density" is the maximum collective herd weight supported per graze-able acre

GENERAL WILDFIRE PREVENTION
IRRIGATED GREEN BELT

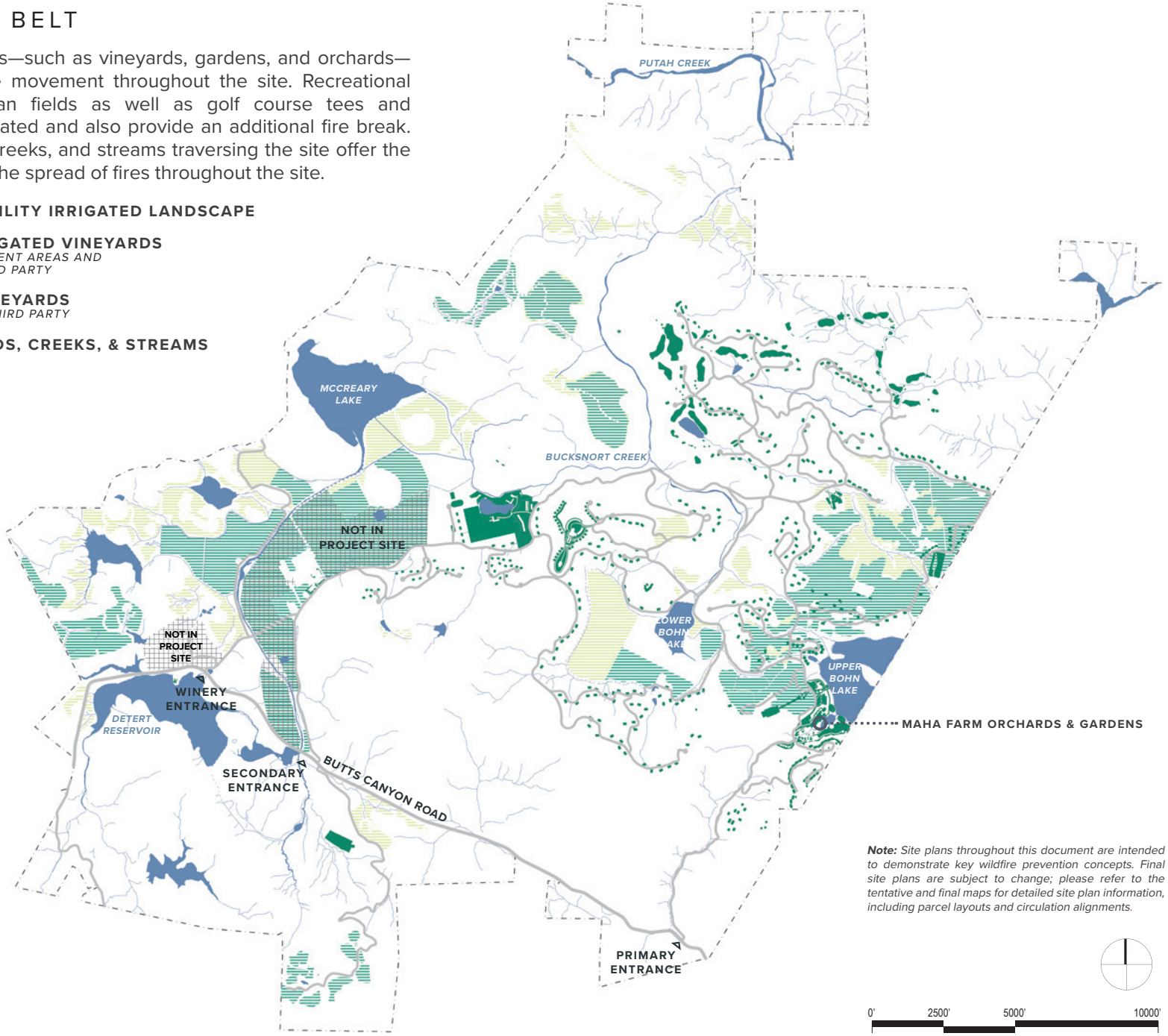
Irrigated agricultural operations—such as vineyards, gardens, and orchards—will interrupt potential wildfire movement throughout the site. Recreational amenities—including equestrian fields as well as golf course tees and fairways—will be regularly irrigated and also provide an additional fire break. The reservoirs, lakes, ponds, creeks, and streams traversing the site offer the additional benefit of reducing the spread of fires throughout the site.

RESIDENTIAL/RESORT/FACILITY IRRIGATED LANDSCAPE

CURRENTLY PLANTED IRRIGATED VINEYARDS
CURRENTLY PLANTED IN DEVELOPMENT AREAS AND AREAS LONG-TERM LEASED BY THIRD PARTY

POTENTIAL IRRIGATED VINEYARDS
IN AREAS LONG-TERM LEASED BY THIRD PARTY

RESERVOIRS, LAKES, PONDS, CREEKS, & STREAMS



Note: *Site plans throughout this document are intended to demonstrate key wildfire prevention concepts. Final site plans are subject to change; please refer to the tentative and final maps for detailed site plan information, including parcel layouts and circulation alignments.*

CONSTRUCTION WILDFIRE PREVENTION

RESPONSIBILITIES & PROCEDURES

Construction practices will be carefully monitored to ensure that operations which could ignite a wildfire are minimized to the greatest extent possible.

Fire Safety Oversight and Responsibilities

Beyond set code regulations, including Wildland Urban Interface (WUI) Ignition Resistant Construction standards, the project's general contractor has established fire prevention and protection procedures for every level of management and employment (see flowchart). This includes the following:

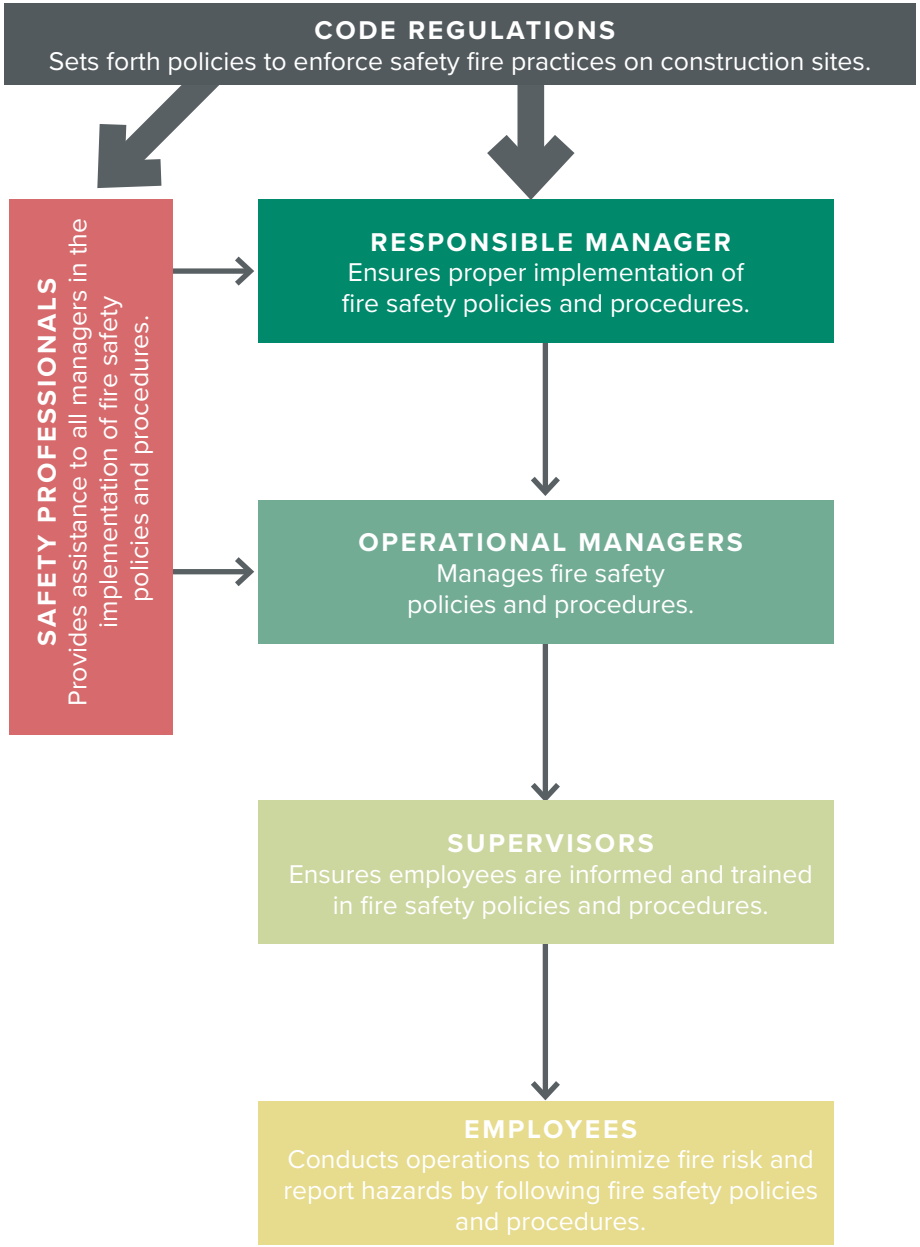
- Safety Professionals will advise and assist the Responsible and Operational Managers in charge of the project on fire safety;
- Supervisors–as advised by the Safety Professionals–will play a pivotal role in ensuring employees are informed and trained in fire safety. They will often conduct workforce training to educate employees about the fire hazards associated with specific tasks. They will also approve and carefully monitor any hot work or the use of temporary portable heaters. Supervisors will ensure that fire extinguishing equipment is present on all work sites and regularly inspected; and
- All managers and employees will be well-informed on procedures to immediately report fires.

Fire Safety Procedures

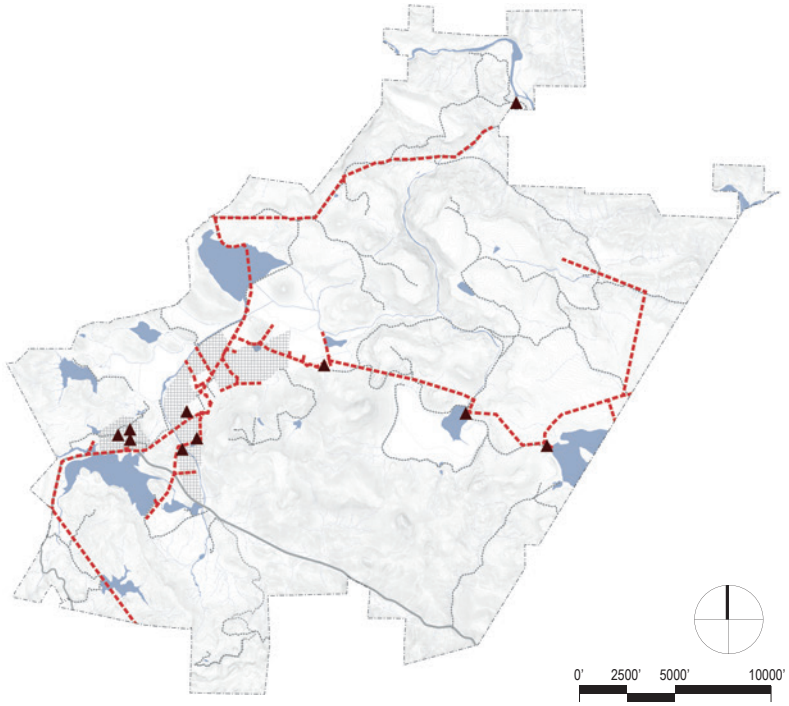
During wildfire season, there is a heightened risk of construction-caused fires. In particular, heavy machinery has the potential to ignite fires during site preparation, preliminary grading, and utility line establishment. In order to mitigate fire risk during construction, the local CAL FIRE unit has recommended the following fire safety procedures, among others:

- One round-tip shovel and one water fire extinguisher should be available within 10 feet of all work areas;
- Portable fire extinguishers should be kept in every construction vehicle and piece of equipment;
- Vegetation within the work area should generally be mowed by noon during wildfire season or whenever wildfire conditions are present;
- Hot work—such as welding, cutting, brazing, or similar fire or spark-producing operations—should include establishing a wildfire watch for the duration of work and for 30 minutes after;
- Everyone working on-site should be aware of their location within the project in the event that they must report a fire;
- Everyone working on-site should have access to a cell phone or radio system to report a fire; and
- Everyone working on-site should have access to a pressurized air horn available to alert others in case of an emergency.

A certified firefighter will be available on-site during construction to quickly contain any construction-caused fires.



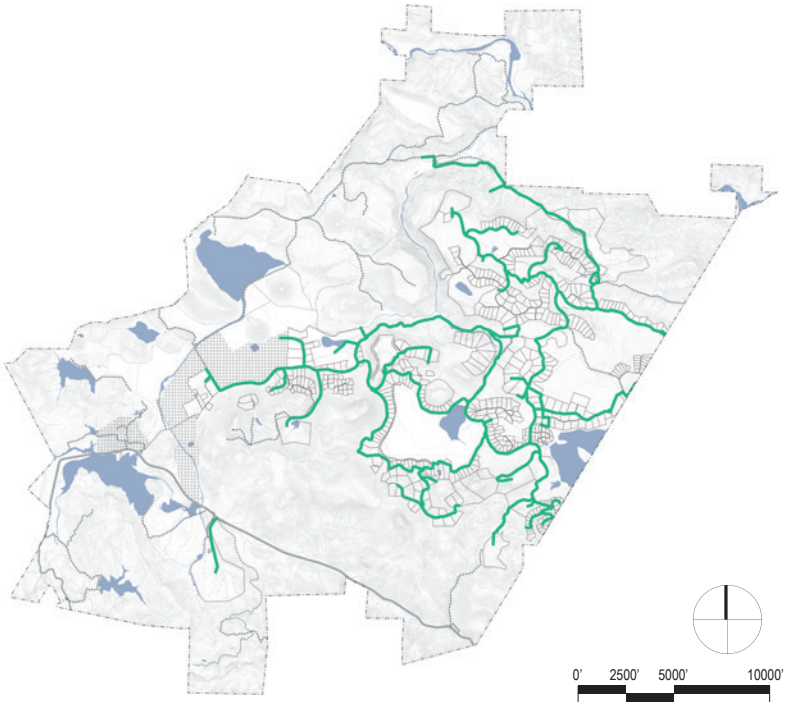
UTILITY WILDFIRE PREVENTION
ELECTRIC NETWORK



EXISTING OVERHEAD NETWORK
The existing power distribution network primarily relies upon overhead electrical lines, which can pose fire risk in the event of downed or sparking lines.

▲ EXISTING SERVICE CONNECTION

EXISTING OVERHEAD SERVICE LINES



PROPOSED UNDERGROUND NETWORK
The proposed power line network will be undergrounded in a joint trench system. This will ensure a safer distribution of power and eliminate the risk of overhead power lines causing wildfires during windy conditions.

UNDERGROUND POWER AND DATA LINES

Note: *Site plans throughout this document are intended to demonstrate key wildfire prevention concepts. Final site plans are subject to change; please refer to the tentative and final maps for detailed site plan information, including parcel layouts and circulation alignments.*

LANDSCAPE WILDFIRE PREVENTION

SITE BUILDING & DETERMINE TOTAL DEFENSIBLE SPACE

If a wildfire occurs, it poses a considerable risk to residential homes, commercial structures, facility structures, and their occupants. Homeowners and commercial /facility managers will be advised to implement various wildfire prevention strategies.

Site Structures to Reduce Fire Risk

The first step in addressing wildfire risk is to properly site structures. While the ideal structure location will be based on many factors (including views, accessibility, and privacy), homeowners and commercial/facility managers will be encouraged to closely consider certain criteria which reduce fire risk.

This includes siting buildings on the most level portion of the property. Wherever possible, structures should avoid being placed on mid-slopes, ridge edges, or directly between high points.

Determine Total Defensible Space

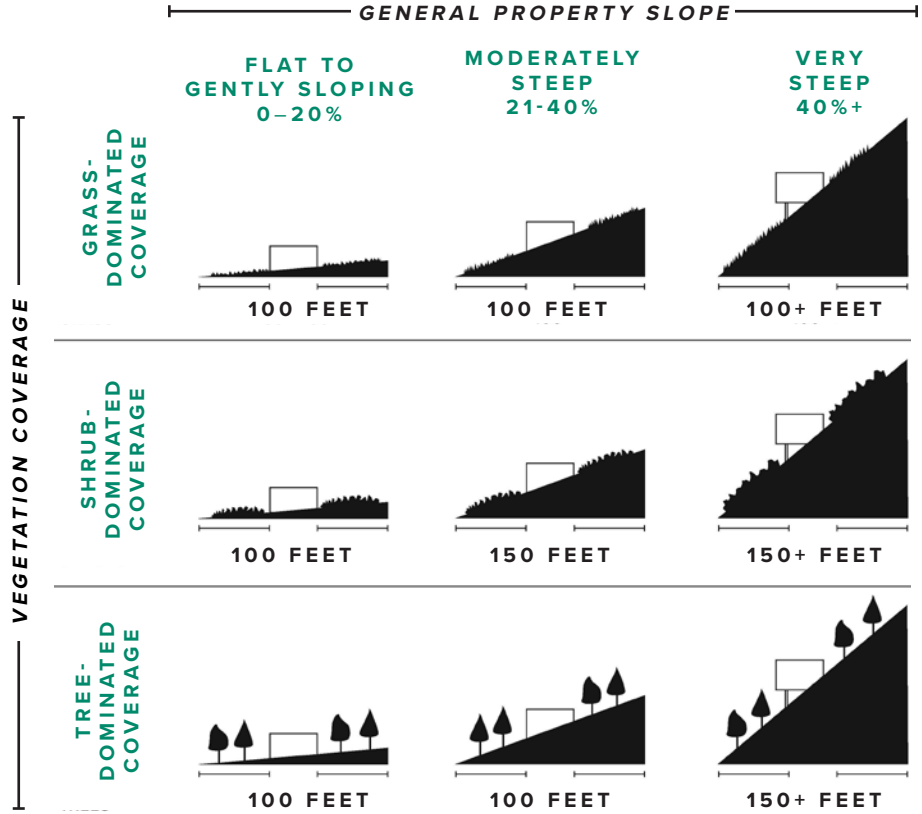
Homeowners and commercial/facility managers will be advised to establish and maintain defensible space for the purposes of reducing fire risk in the immediate vicinity of structures. The total defensible space will depend on the unique vegetated coverage and topographic conditions of each property (see right):

- **Grass-Dominated Coverage**
  Depending on slopes, 100 to 100 feet of total defensible space from the building edge in landscapes dominated by grasses, weeds, and widely scattered shrubs

- **Shrub-Dominated Coverage**
  Depending on slopes, 100 to 150+ feet of total defensible space from the building edge in landscapes dominated by shrubs, scrub, or chaparral

- **Tree-Dominated Coverage**
  Depending on slopes, 100 to 150+ feet of total defensible space from the building edge in landscapes dominated by trees; if understory is substantially shrubs, homeowners should follow “shrub-dominated coverage” category

Wherever necessary or possible, adjacent homeowners, commercial/facility managers, and the resort ownership will cooperatively address defensible space concerns which cannot be fully established or maintained within parcel line.



DETERMINING TOTAL DEFENSIBLE SPACE

The total defensible space will vary based on the unique vegetated coverage and topographic conditions of each property. In the above diagrams, the indicated length relates to the total defensible space measured from the building edge.

LANDSCAPE WILDFIRE PREVENTION
DETERMINE DEFENSIBLE ZONES

Once the building has been sited and the total defensible space has been determined, homeowners and commercial/facility managers will be advised to establish and maintain three zones of defense. These zones and associated fuel reduction strategies will reduce the risk of fire in the immediate vicinity of structures:

- **Zone 0: Ember-Resistant Zone**
  This zone extends from zero to five feet from the edge of structures and attached decks made of fire retardant treated timber or fire resistant plastic and is perhaps the most important zone of defense.

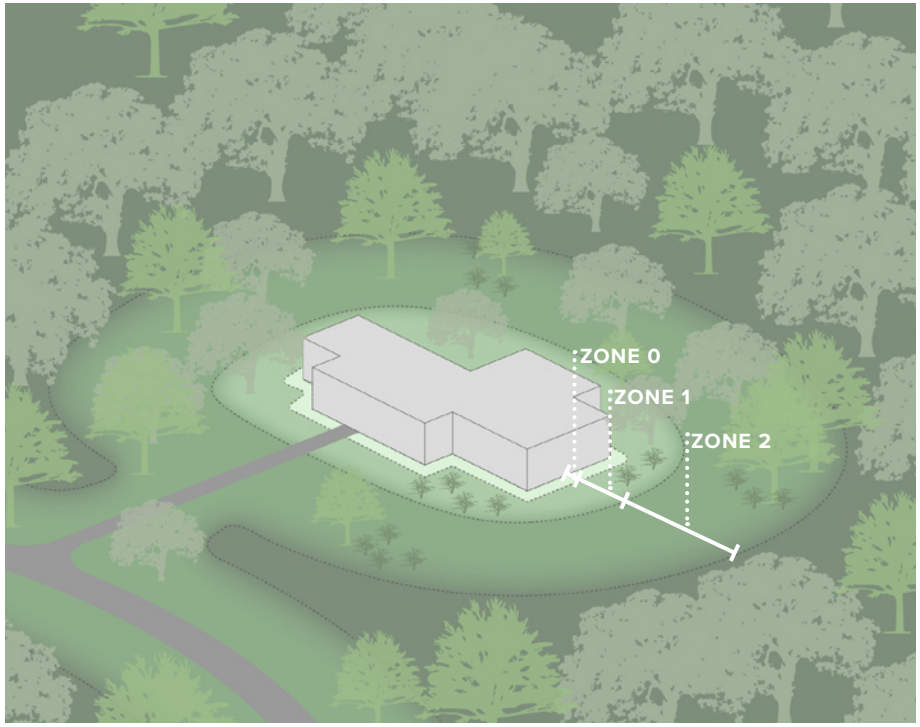
  Within this zone, all combustible materials should be removed. This can be achieved by strategies such as using hardscape materials and eliminating combustible mulch; removing dead and dying vegetation; replacing combustible fencing, gates, and arbors attached to the structure with non-combustible materials; and relocating garbage and recycling containers outside of this zone. These strategies and others can keep fire and embers from igniting materials that spread to the structure.

- **Zone 1: Lean, Clean, and Green Zone**
  It is recommended that the second defense zone should be maintained from five feet to 30 feet from the edge of structures.

  Within this zone, dead, dying, invasive, poorly-maintained, and fire-prone vegetation should be removed. This includes removing all standing dead trees and shrubs. All downed dead trees, tree branches, and shrubs should also be removed if not yet decayed. Trees should generally be pruned up to a height of 10 feet, depending on tree species and understory conditions. Fire prone shrub species should be thoroughly pruned.

- **Zone 2: Reduced Fuel Zone**
  The third defense zone should be maintained from 30 feet from the building edge to the edge of the total defensible space (e.g. 100 feet, 150 feet, 300 feet for commercial–see previous page); this includes a defensible space of zero to 15 feet from the driveway edge.

  Within this zone, dead, dying, invasive, poorly-maintained, and fire-prone vegetation should be reduced. Trees and shrubs should be selectively addressed to reduce flammable vegetation parts, including pruning dead or lower branches. Dead vegetation should also be selectively removed within this wider zone.



STANDARD DEFENSIBLE ZONES
Three defensible zones should be established and maintained within the total defensible space.

ZONE 0 EMBER-RESISTANT ZONE

ZONE 1 LEAN, CLEAN, AND GREEN ZONE

ZONE 2 REDUCED FUEL ZONE

LANDSCAPE WILDFIRE PREVENTION
PREPARE THE PROPERTY

After the defensible space and zones have been determined, residential, commercial, and facility properties should be assessed for key fire risks. Primarily, continuous and dense vegetation creates a condition in which fires can quickly spread. Trees and shrubs should be vertically and horizontally separated in order to reduce “ladder fuel” conditions–or situations in which flames can easily move upwards from the vegetation understory to the canopy.

The following offers general vegetation clearance and spacing recommendations in order prepare sites for structures. Although these standards should be followed across the entire defensible space, greater adherence to these standards should be followed within Zone 1.

Tree and Shrub Vertical Clearance
In general, the lowest level of the canopy branches should be three times greater than the height of the vegetation understory. This vertical separation relationship can be established through either pruning the vegetation understory or the overhead tree limbs. For example, if a shrub is three feet in height, the lowest level of the directly overhead canopy branches would be trimmed or pruned to a height of 12 feet.

Tree and Shrub Horizontal Spacing
Individual or small clusters of trees and shrubs should generally be separated based on the horizontal spacing standards (see right) in order to reduce potential fire movement. For example, if a property is “moderately steep,” shrubs that are three feet in height should be separated by 12 feet. Note that the recommended tree and shrub horizontal separation distances are measured from the canopy edge, not the trunk.

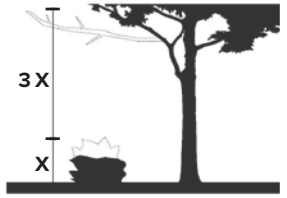
LADDER FUELS



Flames burning at lower levels can ignite taller plants by moving up vegetated “ladder fuels”.

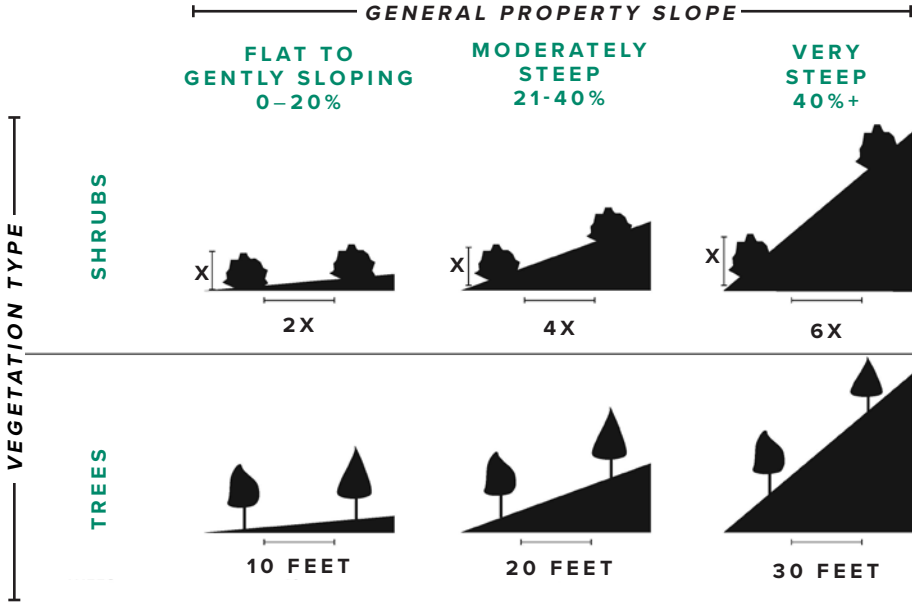
The potential for ladder fuels can be avoided by separating vegetation vertically and horizontally.

VERTICAL CLEARANCE



The lowest level of the canopy branches should be three times greater than the height of the vegetation understory.

HORIZONTAL SPACING



Individual or small clusters of trees and shrubs should be separated in order to reduce potential fire movement

LANDSCAPE FIRE PREVENTION
ESTABLISH NEW LANDSCAPE

After dead, dying, invasive, poorly-maintained, or fire-prone vegetation has been reduced or removed from the residential, commercial, or facility property and ladder fuels have been addressed, various strategies can reduce wildfire risk where establishing a new landscape design.

Fire-Resistant Planting Design and Selection
New planting design should follow the spacing and clearance strategies delineated above. Planting designs and patterns should anticipate the mature size of new trees and shrubs. Simple, low-volume, and well-separated planting designs will generally achieve these spacing and clearance objectives. All efforts should be made to avoid tree limbs touching structures; tree limbs should also not be within 10 feet of the chimney.

Planting selection should avoid fire-prone species and instead prioritize fire-resistant species. In general, fire-resistant species are low-growing with a high moisture content and have stems or leaves that are not resinous, oily, or waxy. Where appropriate, selection of low-maintenance native plants should be considered. The planting design and selection will additionally need to follow Model Water Efficient Landscape Ordinance (MWELO) requirements (see further details on landscape design requirements in the project Design Guidelines).

Small-Scale Fire Breaks: Hardscapes and Irrigation
Wherever possible, landscape design should be configured to create a series of smaller-scale fire breaks in the immediate vicinity of structures.

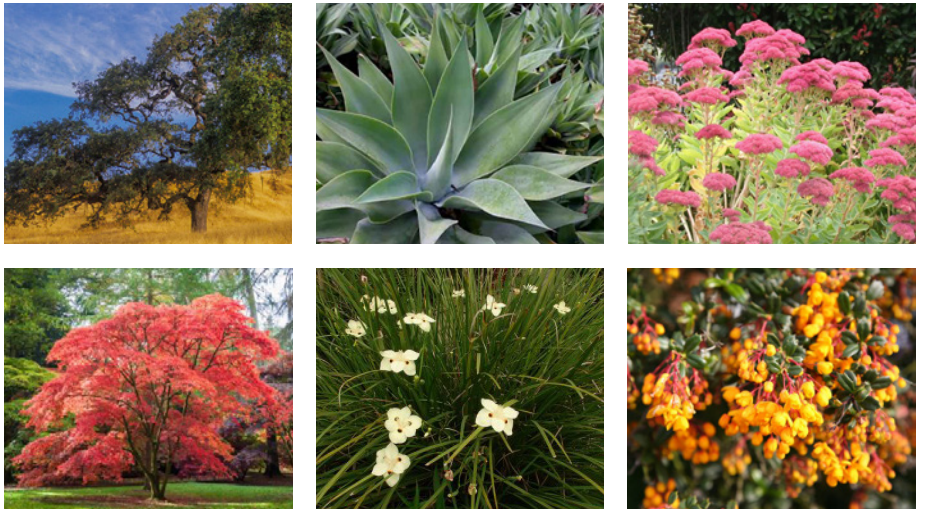
For example, driveways, walkways, patios, and parking areas could be selectively spread out to impede a potential fire path; non-combustible materials (such as mulch, boulders, and rocks) will additionally reduce fire risk. Pools, water features, ponds, or streams could also be creatively used as small-scale fire breaks. Irrigation systems used to establish or maintain landscapes could also create an irrigated fire break.

Additional Strategies
Additional landscape design strategies should be prioritized to reduce fire risk and improve emergency response. This includes the following:

- Constructing fencing with non-combustible materials, such as stone or metal, rather than wood;
- Enclosing areas below decks to reduce the risk of debris ignition;
- Clearly marking the address number on the house itself and at the driveway entry to aid in identification in the case of a fire emergency; and
- As much as possible, designing driveways and bridges to allow for large-scale emergency vehicle access.



FIRE PRONE PLANTING TO AVOID
Certain plants should be avoided because of their fire prone characteristics, such as resinous, oily, or waxy leaves; compact and/or tight structures; and high-debris producing. This includes trees such as the Eucalyptus.



FIRE RESISTANT PLANTING TO USE
Fire resistant plants should be used as much as possible. This includes plants that are low-growing, low-debris producing, wide-leaved, easily maintained, and have a high moisture content.

LANDSCAPE FIRE PREVENTION
MANAGE LANDSCAPE TO REDUCE RISK

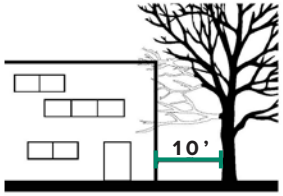
Various landscape management practices can address wildfire hazards within residential, commercial, and facility landscapes over time.

This includes the following recommendations for homeowners or commercial/ facility managers:

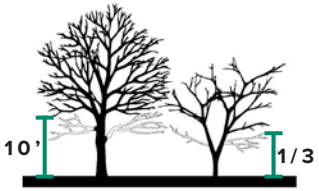
- Periodically inspect the property to maintain defensible space—which includes ongoing removal and reduction of dead, dying, invasive, poorly-maintained, or fire-prone vegetation and reestablishment of vegetation clearance and spacing standards;
- Prune tree limbs which are within 10 feet of buildings or chimneys;
- Within the defensible space, trim tree limbs below 10 feet in height; for smaller trees, prune the lower 1/3 of the branches;
- Prune shrubs to maintain dense foliage and reduce the exposure of fire-prone woody stems;
- Routinely mow grasses and wildflowers within the defensible space to a maximum height of 4 inches, particularly during dry seasons;
- Keep vegetation well-irrigated, particularly within the first defense zone;
- Where feasible, irrigation systems used for plant establishment should be maintained for additional wildfire protection;
- Install fine mesh metal on eaves, roofs, and vents to prevent embers from entering the structure;
- Remove vegetation debris that accumulates on the roof or within the rain gutters;
- Place combustible debris (such as firewood, wood scraps, grass clippings, leaf piles, or garbage cans) and propane tanks outside of the first defense zone; and
- Keep any ignitable outdoor furniture and equipment (i.e. wooden brooms and shovels) 10 feet away from structures.

The HOA wildfire expert willinspect properties annually to ensure general compliance with these recommendations as well as those described in interior and exterior building strategies on the following pages.

PRUNE, TRIM, AND MOW



PRUNE: Prune tree limbs which are within 10 feet of building or chimneys.

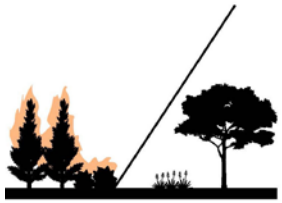


TRIM: Within the defensible space, trim tree limbs below 10 feet in height; for smaller trees, prune the lower 1/3 of the branches.

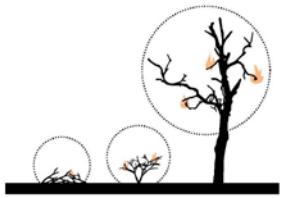


MOW: Mow and grass to a maximum of 4 inches in height.

LEAN, CLEAN, AND GREEN



LEAN: Minimize or eliminate the use of fire-prone vegetation and emphasize the use of low-growing herbaceous (non-woody) plants. Ornamental trees and shrubs should be kept green.



CLEAN: Remove all dead trees and shrubs within the defensible area. Remove all dead leaves, twigs, cones and branches. Reduce thick layers of pine needles to a depth of 2 inches.



GREEN: Keep plants green and healthy by irrigating throughout the fire season.

BUILDING WILDFIRE PREVENTION

EXTERIOR BUILDING STRATEGIES

The fire safety of a building starts with design and material decisions. All buildings will abide by relevant California Building Codes “CBC” and Wildland Urban Interface “WUI” standards. The following are a selection of strategies to prevent fires on the building exterior:

1 | Class A rated roof with non-combustible covering
The roof is the most vulnerable part of the home in the event of a wildfire. Class A rated roofs are highly resistant to fire by minimizing the ability of flames to spread. Green roof systems will follow widely-recognized standards and guidelines to reduce wildfire risk through landscape design, material selection, irrigation, and maintenance (see further details on roofing system requirements in the project Design Guidelines).

2 | Fire resistant eaves, overhangs, and soffits
The risk of embers getting caught in the eaves and igniting can be minimized by eliminating or shortening overhangs, enclosing eaves, or otherwise constructing eaves, overhangs, and soffits with non-combustible materials.

3 | Building vents precautions
Vents in roofs, soffits, and exterior walls should be made of non-combustible materials with screens to prevent the penetration of embers.

4 | Underground utility connections
Wherever possible, utility connections should be undergrounded, particularly for electrical and fuel-related utilities.

5 | Non-combustible leaf guards over gutters
Leaf guards can reduce the build-up of combustible leaf debris. Guards, gutters, and downspouts should be made of noncombustible material.

6 | Exterior fire suppression systems
Exterior fire suppression systems will be required for all primary structures. These systems are remote or heat-activated. During a fire, they will prevent substantial damage to primary buildings as well as nearby outdoor features.

7 | Fire resistant material for exposed foundations
Fire resistant materials should be used for all exposed foundations above grade, including both open and closed foundations.

8 | Fire resistant deck materials
Decks connected to structures should be fire resistant, which can be achieved by using fire retardant treated timber, fire resistant plastic, and non-combustible materials for all deck components, including skirting to protect the deck underside.

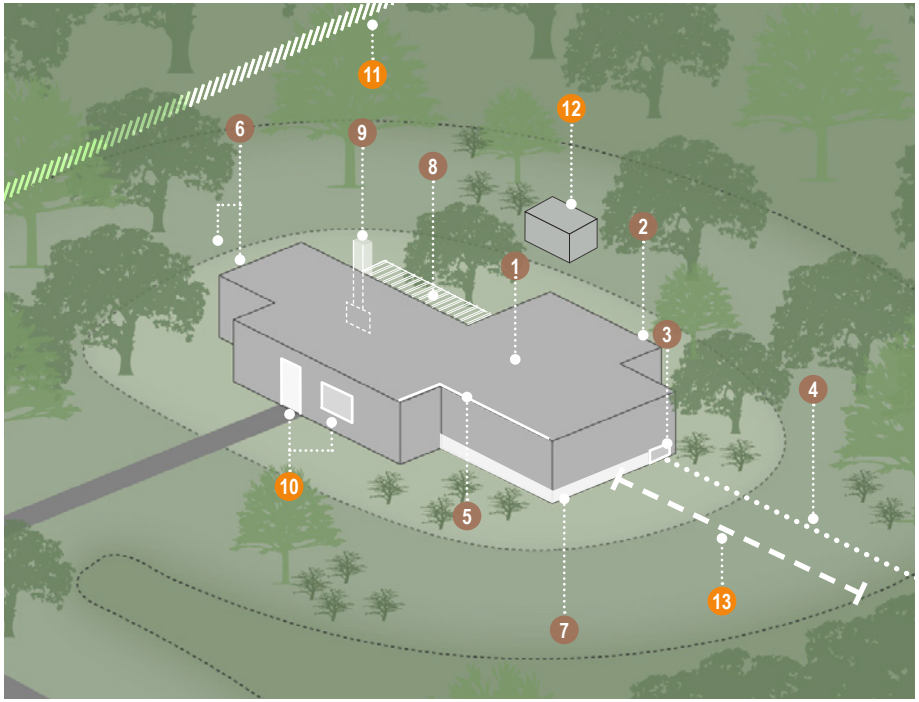
9 | Exterior fireplaces and wood stoves
Anything with an exposed flame, such as a outside fireplace or wood stove, should have a screen built into the design to protect against stray embers.

10 | Exterior windows and doors
Exterior windows should be multi-paned with a tempered layer and the area below bay windows should be enclosed; exterior doors should be non-combustible and fitted with weather-stripping.

11 | Non-combustible Fencing
Fences should be non-combustible and located at minimum 5 feet from structures and other fencing.

12 | Safe distance between structures within residential parcels
No more than three accessory structures greater than 15 square feet will be allowed within 30 feet of the main residential structure; each of these accessory structures should be at least 10 feet from the main residential structure and each other; or equivalent reduction of radiant heat transmission.

13 | Safe distance between structures on adjacent parcels
Residential structures should sited at minimum 30 feet from structures on adjacent parcels; or equivalent reduction of radiant heat transmission.



RECOMMENDED EXTERIOR DESIGN STRATEGIES

The highlighted items are a selection of strategies to incorporate into buildings to address wildfire safety.

1. CLASS A RATED ROOFS WITH NON-COMBUSTIBLE COVERING
2. FIRE RESISTANT EAVES, OVERHANGS, AND SOFFITS
3. BUILDING VENT PRECAUTIONS
4. UNDERGROUND UTILITY CONNECTIONS
5. NON-COMBUSTIBLE LEAF GUARDS OVER GUTTERS
6. EXTERIOR FIRE SUPPRESSION SYSTEMS
7. FIRE RESISTANT MATERIAL FOR EXPOSED FOUNDATIONS
8. FIRE RESISTANT DECK MATERIALS
9. EXTERIOR FIREPLACES AND WOOD STOVES
10. EXTERIOR WINDOWS AND DOORS
11. NON-COMBUSTIBLE FENCING
12. REDUCTION OF RADIANT HEAT TRANSMISSION BETWEEN STRUCTURES WITHIN PARCELS
13. REDUCTION OF RADIANT HEAT TRANSMISSION BETWEEN STRUCTURES ON ADJACENT PARCELS

SOURCE: FEMA, Home Builder’s Guide to Construction in Wildfire Zones, 2008
Insurance Institute for Business & Home Safety (IBHS), Wildfire Prepared Home Guidelines, 2024

BUILDING WILDFIRE PREVENTION
INTERIOR BUILDING STRATEGIES

On the interior, certain precautions and practices can further protect residential, commercial, and facility structures. The following are a selection of interior building strategies to reduce wildfire risk:

1 | Smoke detectors throughout the home
Smoke detectors should be located throughout structures to cover all livable areas. If placed in hallways between living and sleeping areas, smoke detectors can reach many rooms. In addition, smoke detectors shall be programmed to communicate directly to a fire and security monitoring companies.

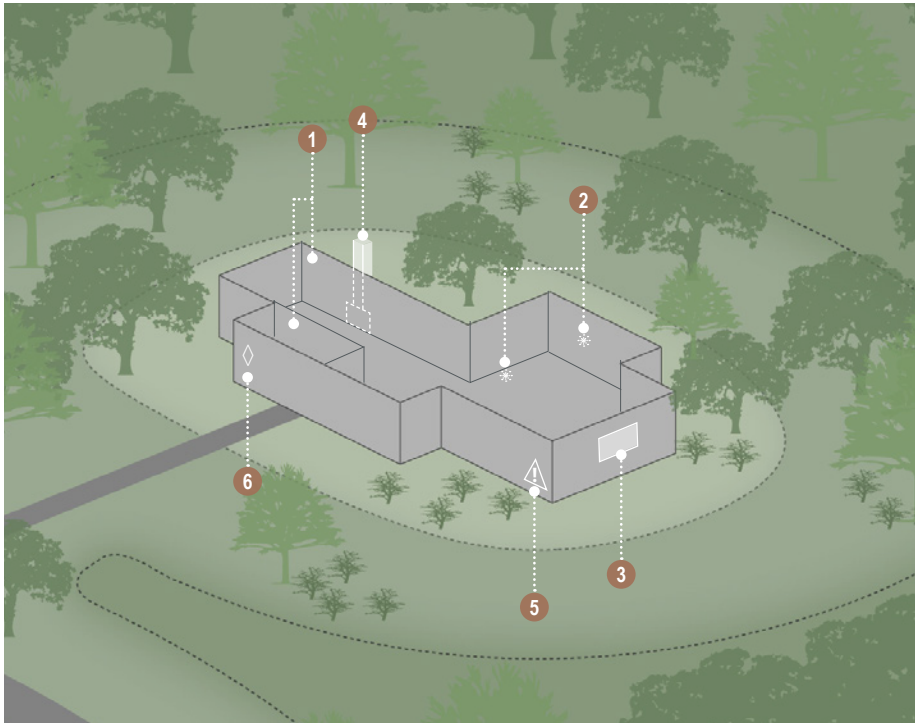
2 | Interior fire sprinklers
Interior fire sprinklers will be required pursuant to the current California building code. They come in a variety of styles in order to blend with interior aesthetics. They are automatically activated by high heat and can include a warning system.

3 | Window security quick-release
If window security bars or other protection systems are installed, a quick-release system should be included to allow for immediate escape in the case of a wildfire emergency.

4 | Chimney maintenance
Chimneys should be inspected yearly to remove all flammable debris and material.

5 | Combustible hazardous material protection
All combustible materials should be stored in protected safety containers away from appliances with ignition sources, such as stoves and water heaters.

6 | Wildfire fighting tools
Homeowners and commercial/facility managers should provide easy access to wildfire emergency tools for firefighters, such as buckets, hoses, and ladders.



RECOMMENDED INTERIOR DESIGN ELEMENTS

The fire safety of a structure starts with design decisions. The highlighted items are a selection of some strategies to incorporate into building interiors.

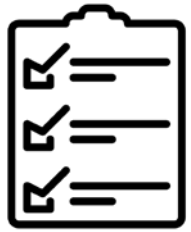
1. SMOKE DETECTORS THROUGHOUT THE STRUCTURE
2. INTERIOR FIRE SPRINKLERS
3. WINDOW SECURITY QUICK-RELEASE
4. CHIMNEY MAINTENANCE
5. COMBUSTIBLE MATERIAL PROTECTION
6. WILDFIRE FIGHTING TOOLS

SOURCES: FEMA, Home Builder's Guide to Construction in Wildfire Zones, 2008; CalFire, Homeowners Checklist, 2009

WILDFIRE PREVENTION PREPAREDNESS

RESIDENT RECOMMENDATIONS

Homeowners will be advised to plan for the event of a wildfire. This will require preparing in advance and developing specific action plans for different scenarios. The HOA wildfire expert will create and implement a wildfire preparedness education program.





Pre-Fire Preparations

- Develop an emergency plan with your family;
- Assemble an easy to carry and accessible ‘Go-Bag’ with essentials;
- Place important documents in a fire-proof box close to the exit;
- Practice how to shut off key utilities, including water, gas, and electricity;
- Discuss plans for evacuation, including what to bring and where to go;
- Determine multiple evacuation routes in case one is blocked;
- Develop a communication plan in case your family is separated;
- Select meeting places a safe distance the home; and
- Identify a non-local contact person who knows your emergency plan.





Potential Fire Threat (including Red Flag Warnings)

- Pay attention to local news for updates and evacuation notices;
- Keep flashlights and portable chargers ready in case of power shutoff;
- Ensure that your car has gas, as stations often become crowded;
- Confirm that all garden hoses are attached and accessible;
- Prop a ladder against the house for the potential need for roof access;
- Install and use a garage door back-up battery for evacuation in case of power outages;
- Back-up vehicles into garages or parking areas to enable quick evacuations;
- Prepare and pack essential items to prepare for potential evacuation; and
- Gather pets in kennel or on leashes to keep them close and safe





Notice to Evacuate

- Stay together as a household and remember that time is of the essence;
- Dress appropriately with long pants/sleeves, layers, and eye protection;
- Shut off the home’s gas supply, but leave lights and water on;
- Close all doors and windows but leave exterior doors unlocked;
- Pack water, supplies, and other essentials in the car;
- Ensure all car windows are closed while evacuating;
- Listen to emergency notifications on local radio stations;
- Choose evacuation routes selected by emergency personnel; and
- Follow all directions and signage provided by emergency personnel.





Shelter in Place

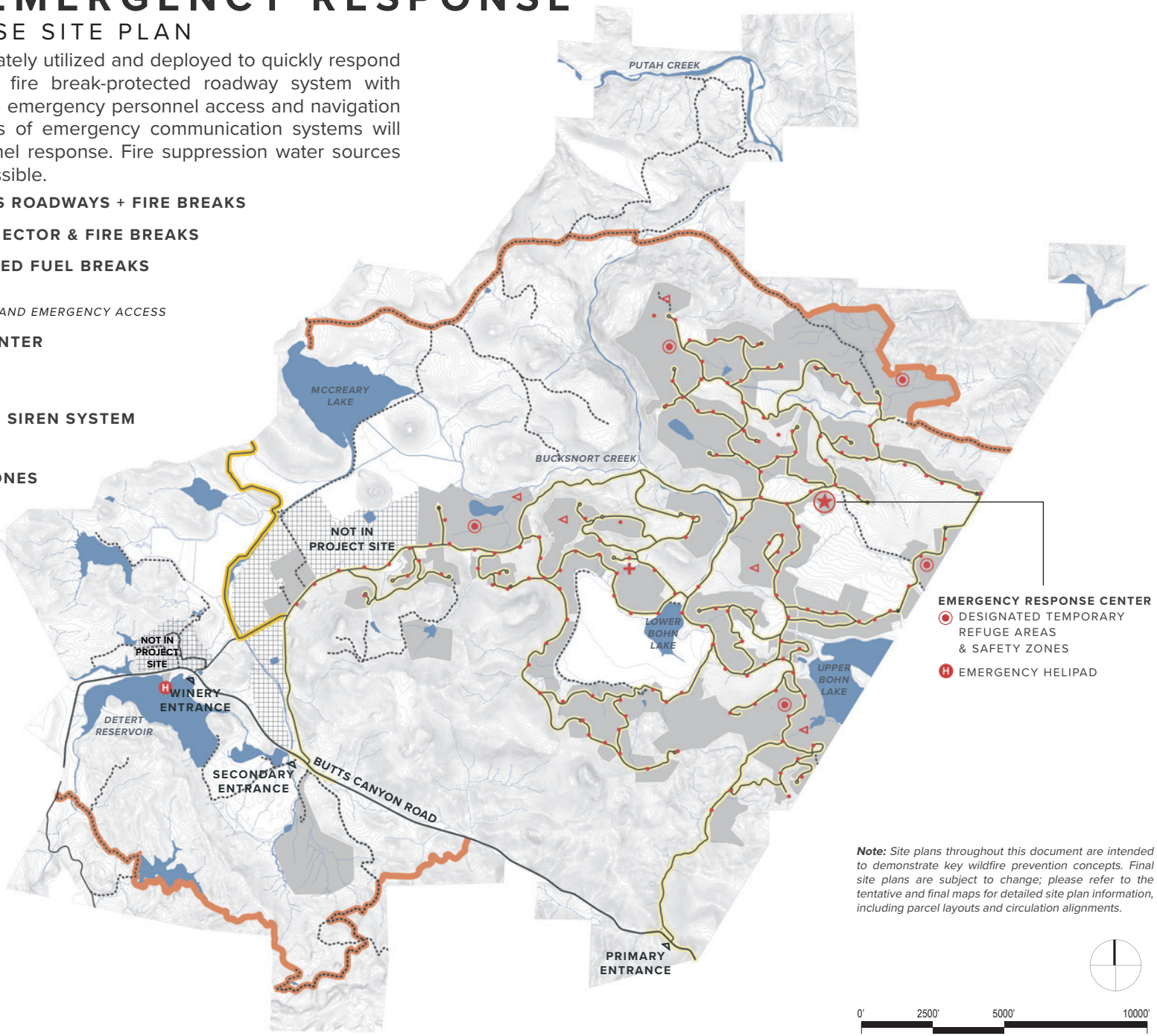
- Take shelter within a building whenever possible;
- Close all windows and doors, but leave unlocked;
- Remain close to the front door and low to the ground;
- Continue to monitor the fire and stay observant;
- If not at home, proceed to a designated temporary refuge area;
- If unable to reach either home or a designated temporary refuge area, park and take shelter in your car;
- If in the car, stay on paved roads and park away from vegetation; and
- Leave headlights and emergency flashers on while you wait for aid.

WILDFIRE EMERGENCY RESPONSE

WILDFIRE RESPONSE SITE PLAN

Various systems will be immediately utilized and deployed to quickly respond to a wildfire emergency. The fire break-protected roadway system with parking restrictions will improve emergency personnel access and navigation throughout the resort. A series of emergency communication systems will guide evacuations and personnel response. Fire suppression water sources and systems will be easily accessible.

- **PRIMARY TWO-WAY ACCESS ROADWAYS + FIRE BREAKS**
- **EMERGENCY ACCESS CONNECTOR & FIRE BREAKS**
- **PROJECT BOUNDARY SHADED FUEL BREAKS**
- **EXISTING RANCH ROADS**
  USED FOR ACTIVE FUEL REDUCTION AND EMERGENCY ACCESS
- **EMERGENCY RESPONSE CENTER**
- **EARLY DETECTION SYSTEM**
  HIGH-DEFINITION CAMERA
- **EMERGENCY NOTIFICATION SIREN SYSTEM**
  EXACT LOCATIONS TBD
- **DESIGNATED TEMPORARY REFUGE AREAS & AFETY ZONES**
- **HELIPAD**
- **FIRE HYDRANTS**
- **WATER SOURCES**
  RESERVOIRS, LAKES, PONDS, CREEKS & STREAMS



Note: *Site plans throughout this document are intended to demonstrate key wildfire prevention concepts. Final site plans are subject to change; please refer to the tentative and final maps for detailed site plan information, including parcel layouts and circulation alignments.*

WILDFIRE EMERGENCY RESPONSE

WILDFIRE EMERGENCY DETECTION & COMMUNICATION SYSTEMS

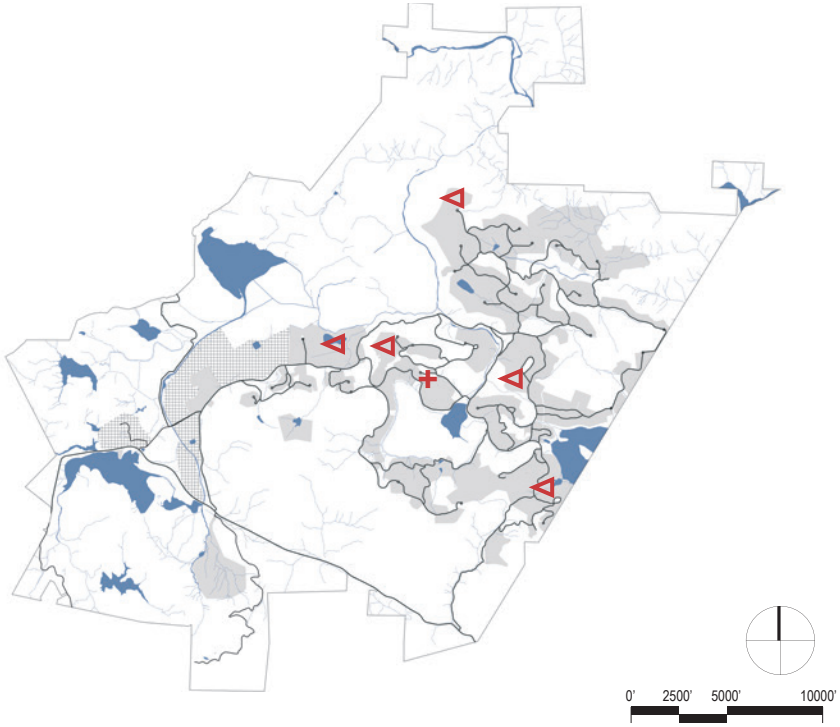
Efficient emergency communication is critical for providing immediate information to residents, visitors, and employees. In the event of a wildfire emergency, the following detection and communication systems will quickly be deployed:

Early Detection System
An early detection system will immediately identify potential fires igniting on site or in the vicinity. This system includes a high-definition camera installed in the center of the resort.

Emergency Notification Siren System
Located throughout the resort, the siren system will alert people to a wildfire emergency and announce updated information and directions.

Opt-out Communication System
All residents, visitors, and employees will be enrolled in an opt-out phone-based communication system, such as Nixle, to receive emergency notifications. This system will supplement the site-wide emergency siren system to ensure that everyone is alerted of important emergency information and updates.





COMMUNICATION RESPONSE SYSTEM

Key communication technologies will aid in detecting and communicating wildfire emergencies.

EARLY DETECTION SYSTEM
HIGH-DEFINITION CAMERA

EMERGENCY NOTIFICATION SIREN SYSTEM
EXACT LOCATIONS TBD

Note: *Site plans throughout this document are intended to demonstrate key wildfire prevention concepts. Final site plans are subject to change; please refer to the tentative and final maps for detailed site plan information, including parcel layouts and circulation alignments.*

WILDFIRE EMERGENCY RESPONSE

WILDFIRE EMERGENCY RESPONSE CENTER, TEMPORARY REFUGE AREAS, AND SAFETY ZONES

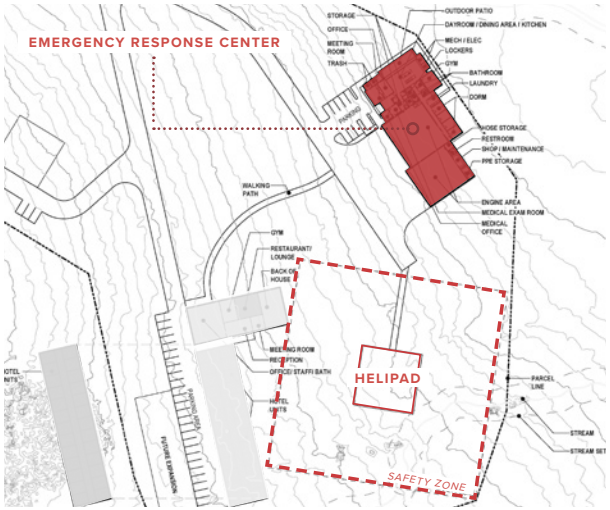
Various areas of the site will play a pivotal role in servicing evacuees and emergency personnel in the case of wildfire emergency.

Emergency Response Center

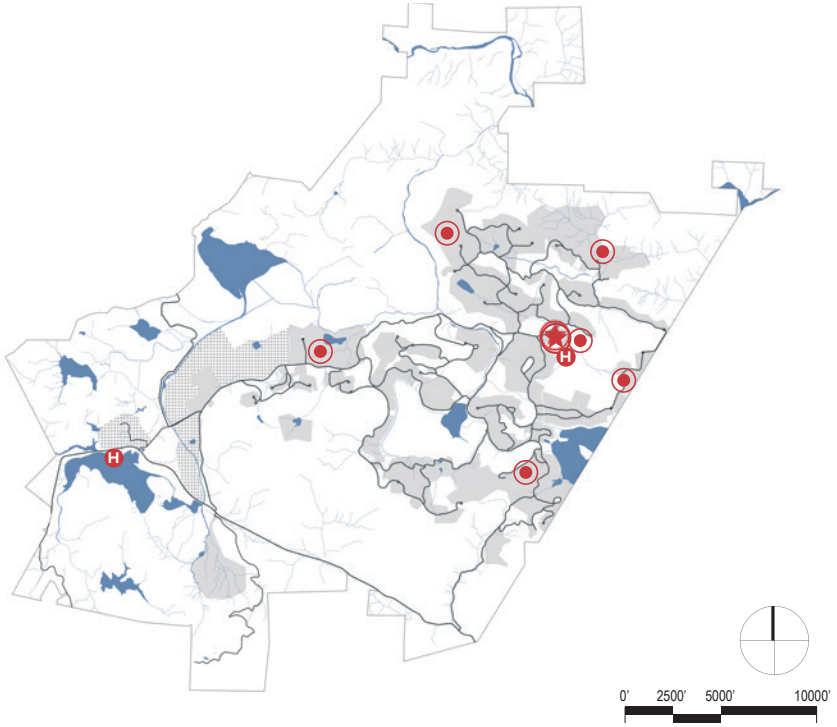
The on-site Emergency Response Center (ERC) will serve as a primary location for first responders to gather and coordinate efforts; the ERC will have on-site at least one individual with wildfire expertise related to evacuation and emergency access, the cost of which will be paid by the Guenoc Valley Project Homeowners Association (HOA). The center will include essential fire-fighting equipment and minor medical supplies. In the case of a major wildfire, the center can act as a headquarters for operations. A helipad will be located on-site for emergency landings and take-offs; an additional helipad at Detert Reservoir can also be used during emergencies. The Applicant shall pay to the South Lake County Fire Protection District ("SLCFPD"), on an annual basis, the amount determined by SLCFPD to be necessary in order to staff and equip the ERC for fire services, including wildfire response.

Designated Temporary Refuge Areas & Safety Zones

Depending on the circumstances of a wildfire emergency, it may be difficult to evacuate. In this situation, residents, visitors, and employees will be directed to gather at designated temporary refuge areas where they will be provided information and assistance. Safety zones will also be established throughout the project site to provide firefighters with refuge from an approaching fire; these zones may be reassesed and moved in real time during a wildfire incident.



EMERGENCY RESPONSE CENTER SITE PLAN



EMERGENCY RESPONSE CENTER & MEETING POINTS

The emergency response center is located in a centralized area to service the entire site; temporary meeting points are dispersed throughout the site in order to provide easily accessible locations for all residents, visitors, and employees.

- **EMERGENCY RESPONSE CENTER**
- **HELIPADS**
- **DESIGNATED TEMPORARY REFUGE AREAS & SAFETY ZONES**

Note: *Site plans throughout this document are intended to demonstrate key wildfire prevention concepts. Final site plans are subject to change; please refer to the tentative and final maps for detailed site plan information, including parcel layouts and circulation alignments.*

WILDFIRE EMERGENCY RESPONSE
WILDFIRE WATER SUPPLY & SUPPRESSION SYSTEM

If wildfires occur, a comprehensive, on-site water supply and fire suppression system will service firefighting needs.

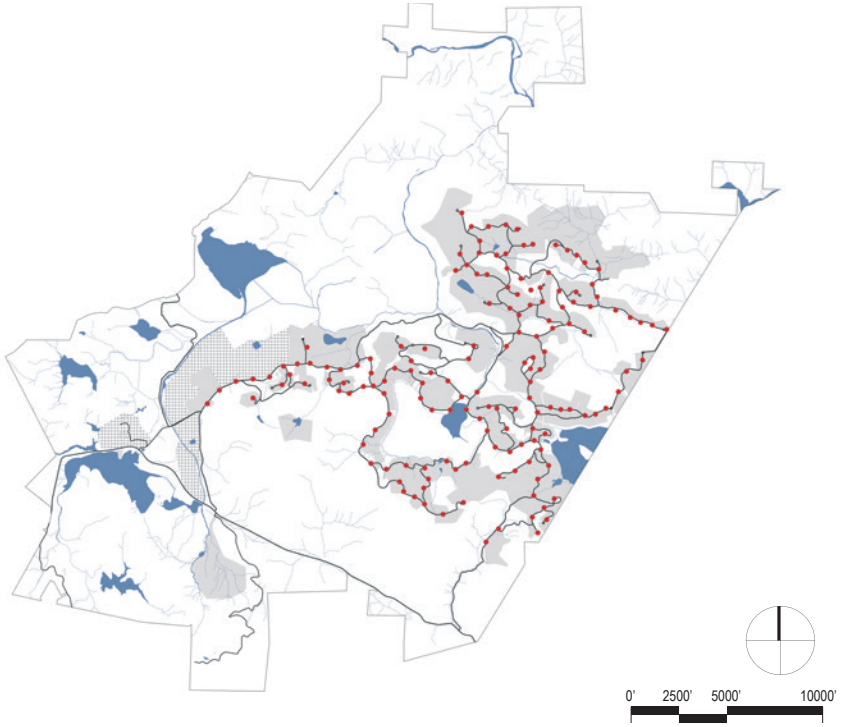
Fire Suppression Water Sources
Fire suppression systems will be serviced by reclaimed and non-potable water sources, such as recycled wastewater, non-treated groundwater, and surface water reservoirs. Surface water sources—including reservoirs, lakes, ponds, creeks, and streams—can also be drawn upon by fire engines or helicopter buckets in the case of a wildfire emergency.

Fire Suppression Water System
A connected non-potable water distribution system will supply all water to fire hydrants as well as interior and exterior fire suppression systems. Portions of the system will be designed as a loop to maximize flow. Booster pump systems will also maintain water pressure above minimum requirements. Additional water storage may also be established in areas further from water sources for wildfire emergencies.

Fire Hydrants
All hydrants will have the capacity to maintain a minimum of a two-hour flow. Hydrants will be located within close proximity to roadways and spaced to maintain required flow to all parts of the site.

Water Additives for Electric Vehicle Fires
On-site firefighters will be equipped and trained to apply encapsulator agents rapidly to prevent electric vehicle battery fires from spreading to the wildland. As outlined in “Standard on Water Additives for Fire Control and Vapor Mitigation” (NFPA 18A Annex 4.3), encapsulator agents are water additives based on spherical micelle technology, designed to encapsulate fuels and effectively suppress fires.





WILDFIRE WATER SUPPLY & SUPPRESSION SYSTEM
A network of fire hydrants and surface water sources will service the entire site.

- **FIRE HYDRANTS**
- **WATER SOURCES**
  RESERVOIRS, LAKES, PONDS, CREEKS & STREAMS

Note: *Site plans throughout this document are intended to demonstrate key wildfire prevention concepts. Final site plans are subject to change; please refer to the tentative and final maps for detailed site plan information, including parcel layouts and circulation alignments.*

PRIMARY CONTRIBUTORS

California Department of Forestry & Fire Protection (CAL FIRE)
Mike Wink, Battalion Chief

Lotusland Investment Holdings, Inc.
Ownership Representative & Applicant
Randy Sternberg, Vice President
Tiffani Moore, Administrative Manager

Palisades Land Use
Entitlement & Land Use Planning
Kirsty Shelton, Principal Planner
Rachel Lenihan, Associate Planner

SWA Group
Landscape Architecture, Planning & Urban Design
Joe Runco, Managing Principal
Alison Ecker, Designer/Planner
Mariana Ricker, Associate
Ying Tan, Designer

Disaster Lab
College of Engineering, University of California, Berkeley
Wildfire Research Advisory
Thomas Azwell Ph.D., Director
Joshua Dimon Ph.D,, Lead Scientist
Kathleen Cutter, Senior Wildfire Mitigation Specialist

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Note: The wind direction diagrams represent general wind patterns during annual fire season (08/01- 11/30). For detailed information on wind speed and directions, please refer to the data source.

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Note: Data source information ranges from the year 1998 to 2015; data for site from 1998; data source crosswalked with the California Wildlife Habitat Relationship (CWHR); CWHR categories simplified seven categories for illustrative purposes of the exhibit.

Appendix O

Water Supply

SHERWOOD
DESIGN ENGINEERS

2548 MISSION STREET, SAN FRANCISCO, CA 94110
(415) 677-7300 | WWW.SHERWOODENGINEERS.COM

Technical Memorandum

October 7, 2024

To: **MAHA**

Prepared by: Fred Yukic, PE
Reviewed by: Amelia Luna, PE

RE: Guenoc Valley Project Water Supply

Sherwood Design Engineers has prepared this Technical Memorandum to address comments and concerns about the following issues about the water supply for the Guenoc Valley Mixed Use Development Project: Off-Site Highway 29 Well, PG&E Landfill groundwater contamination, water system infrastructure, and Project wells cumulative impacts.

Off-Site Highway 29 Well

The Highway 29 Well is located in the Collayomi Valley Groundwater Basin which is listed as "very low priority" in the Sustainable Groundwater Management Act (SGMA) system of the California Department of Water Resources, indicating that the groundwater basins are not experiencing significant and unreasonable groundwater level declines, reductions in groundwater storage, seawater intrusion, degradation of water quality, land subsidence, or depletions of interconnected surface water. There is no SGMA agency which leaves groundwater management authority with Lake County. The Lake County Watershed Protection District (LCWPD) has a monitoring network of 10 wells used for well measurement in the Collayomi groundwater basin (Figure 1). Water levels have been monitored in at least one of the wells since 1949. The Lake County Watershed Protection District has a Lake County Groundwater Management Plan (GMP) dated March 31, 2006 which includes the Collayomi Valley Groundwater Basin. The Lake County GMP established Basin Management Objectives (BMOs) which included maintaining groundwater levels. Based on the water levels monitored in the Collayomi Groundwater Basin, groundwater levels have been stable over the period of record from 1950 to 2018 (Figure 2).

The Collayomi Valley Groundwater Basin is reported by the California Department of Water Resources (DWR) to have a storage capacity of 29,000 acre-feet and a usable storage capacity of 7,000 acre-feet. DWR, as part of the SGMA basin prioritization, estimated that groundwater use in the basin is 1,414 afy. So, there are approximately 5,586 afy of water of the usable storage capacity of the Collayomi Groundwater Basin that are not being put to beneficial use and are available for beneficial use.

The Guenoc Valley Mixed Use Development Project proposes using an off-site well near Middletown, hereafter referred to as the Off-Site Highway 29 Well, for possible use as a potential source of water. The impact of pumping this well on groundwater levels and volumes in the Collayomi Groundwater Basin has been identified as a potential concern. The Lake County GMP does not provide numerical thresholds to monitor the impacts of pumping of groundwater. Pumping the Highway 29 Well has been addressed in the mitigation measures in the Draft Partially Revised Environmental Impact Report (DPREIR) by Mitigation Measure 3.9-3 "Off-Site Groundwater Well Safe Yield Analysis and Monitoring". This mitigation measure requires the following:

> "Prior to the issuance of an encroachment permit or grading permit for installation of off-site water line along Butts Canyon Road for the use of the off-site agricultural well for water supply on the Guenoc Valley Site, the Applicant shall provide to the County an analysis that defines the safe yield. The safe yield must be set to meet the following performance criteria: avoid drawdown of groundwater beyond 300 feet of the well. The analysis must incorporate pump testing of the well, and be certified by a Registered Professional Engineer or Registered Geologist. Groundwater pumping rates and durations must be limited to the safe yield determined in the hydraulic analysis. The safe yield analysis shall identify the location of one or more monitoring wells necessary to evaluate compliance with the performance criteria. Monitoring of groundwater pumping rates and durations and groundwater levels shall be performed quarterly for the first ten years of use. The Applicant shall be required to submit annual monitoring reports that provide quarterly groundwater pumping and groundwater level data to the Lake County Health Services Department for the first ten years of use. In the event these reports show an impact to the groundwater levels, the Lake County Health Services Department and the Applicant shall develop a

> Groundwater Management Plan in coordination with a geotechnical engineer for approval by the Community Development Director."

Safe yield means the condition of a groundwater basin when the total average annual groundwater extractions are equal to, or less than, the total average annual groundwater recharge. This mitigation measure limits the volume of water to be extracted to the safe yield, limits extraction whether seasonal or continuous, provides a numerical threshold to monitor extraction, and requires monitoring for determination of short-term and long-term potential impacts. One or more groundwater monitoring well(s) are required by the mitigation measure cited above, with monitoring of groundwater pumping and water levels required for a minimum of 10 years. Groundwater levels will continue to be monitored beyond the 10 years required by the mitigation by the Lake County groundwater monitoring network shown in Figure 1.

Sherwood reviewed the video log and pump test plots provided by MAHA for the "Highway 29 Well" located in the vicinity of 20740 S. State Highway 29 and 20830 S. State Highway 29 (Highway 29 Well). The well is intended for possible non-potable water use at the Guenoc Valley project. The video log was conducted on April 8, 2019 by Stewart Well Logging Service. Water was present at a depth of 5.9 feet below the top of the casing. The well was 192.6 feet deep, with fill visible at the bottom, suggesting that the well could potentially be deeper. Perforations are identified as vertical slots at 27 to 38 feet and at 188 to 192 feet. The video log shows that the well casing is in poor condition with breaks visible in the steel. Therefore, due to its poor condition, if this well were to be used in the future for Project water supply, the 2020 EIR anticipated it would require repair, rehabilitation, or replacement (see Section 2.2.4 of the 2020 EIR).

Well tests were conducted by Luhdorf and Scalmanini (LS). On April 10, 2019 a step drawdown test was conducted at flow rates of 433, 625, 858, and 1,050 gallons per minute (gpm) for periods of about 100 minutes each step. Drawdown was measured in the well during each pumping step and during a recovery period. The step drawdown test showed that flows greater than 1,050 gpm were feasible for short periods of time. On April 11, 2019 a constant rate pumping test was conducted, with pumping at an average rate of 1,117 gpm over a pumping period of about 200 minutes. Static water level prior to the test was 7.55 feet below the top of the casing. Water levels were measured during the constant rate pumping test and during a recovery period. Drawdown in the well was about 100 feet towards the end of pumping. The pump tests show that the well is capable of producing large volumes of water in its current condition with large drawdowns in the well which indicate a well in poor condition.

From the Water Availability Analysis (Ludhorf and Scalmanini, February 2020), and Guenoc Valley Project Water Supply Wells (Sherwood, May 20, 2024) it is apparent that the Highway 29 Well will not be needed until future development. It is therefore concluded that the short- and long-term impacts of the extraction of water at the Highway 29 Well under the mitigation measure condition will be negligible on the Collayomi Groundwater Basin storage volume and groundwater levels.

PG&E Landfill Groundwater Contamination

The Highway 29 Well is located at a distance of 2.7 miles from the PG&E landfill site. Considering that Mitigation Measure 3.9-3 requires no significant drawdown from pumping the Highway 29 Well at a distance of 300 feet, the distance to the PG&E site is 14,000 feet away, so more than forty-six times the mitigation distance for no drawdown. Subject to the conformance with this mitigation, the Highway 29 Well will not have a measurable impact on groundwater levels beneath the PG&E landfill site. In addition, the PG&E site has been categorized as "Groundwater Migration Controlled" by the USEPA. The California Department of Toxic Substance Control (DTSC) states on the EnvirStor website the following:

> "After years of cleanup, Corrective Action released Environmental Indicators that confirm that remedy construction is complete, groundwater migration is under control, and human health exposure is under control. These yeses [sic] confirm the clean closure of the facility."[1]

Currently, the site is under the jurisdiction of the California Regional Water Quality Control Board – Central Valley Region (Water Board) under Waste Discharge Requirements (WDRs) No. R5-2019-0076 (Water Board 2019[2]) and Monitoring and Reporting Program (MRP) No. R5-2019-0076[2]. A review of the most recent monitoring report for the site (July 2024[3]) shows that groundwater contamination does not extend beyond the property boundary in the direction of Middletown.

1. https://www.envirostor.dtsc.ca.gov/public/hwmp_profile_report?global_id=CAD098080484
2. https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/lake/r5-2019-0076_wdr.pdf
3. https://documents.geotracker.waterboards.ca.gov/esi/uploads/geo_report/1430602908/L10005342355.PDF

The information cited above indicates that groundwater migration control is the responsibility of PG&E, has been accomplished to the satisfaction of the USEPA and DTSC, and is being monitored and reported to the Water Board. Based on this information, the distance of the Highway 29 Well from the PG&E landfill, the limits on drawdown imposed by the mitigation measure, and the regulatory oversight, it is concluded that the use of the Highway 29 well will not cause the migration of contaminants from the PG&E landfill site.

Water System Infrastructure

The general pipeline route is shown in Figure 2-5 of the 2020 EIR and Figure 1-1 of the Draft PREIR, and formal design would occur prior to the issuance of encroachment or grading permits for construction. Because the connection of the Highway 29 well to the project site has not been designed, certain information is not yet available on pumping stations, the exact pipeline alignment, or connection at the project site. The elevation difference between the location of the Highway 29 Well and the project site is small, approximately 100 feet, so it is assumed that only one pumping station would be required and that the pumping station would be located near the Highway 29 Well. The pipeline route is assumed to follow Butts Canyon Road to utilize the public right-of-way. Upon reaching the project site the water could either be discharged into a surface water feature (reservoir) or into a water storage tank. If stored in a tank, then evaporation would be minimal.

Finally, there are no state or county regulations which restrict the use of groundwater at a location six miles from the point of extraction, so the practice is not restricted. In addition, the primary principle in California water is for the "beneficial use" of water, which the project will satisfy in using the water for irrigation. Given (1) groundwater is to be extracted from an aquifer with usable groundwater storage, (2) the sustained yield of the groundwater basin, and (3) the economic benefit to Lake County and Middletown, the use of groundwater at a location six miles from the point of extraction appears appropriate within the regulatory framework of California and Lake County.

Project Well Cumulative Impacts

Comments on the 2024 Guenoc Valley Project DPREIR included a request for more detail regarding the potential effect of project wells on the Guenoc Valley site on existing groundwater users. Figure 3 shows the locations of the proposed project wells, consisting of five potable water wells and one non-potable (irrigation) water well. Of note is that all of the proposed project wells are outside the defined Collayomi Valley and Coyote Valley Groundwater Basins (Figure 1), so are not likely to cumulatively impact groundwater in these basins. In addition, both the Collayomi Valley and Coyote Valley Groundwater Basins are listed as "very low priority" in the SGMA system of the DWR, so there is no SGMA agency and this designation suggests that the groundwater basin is currently in a sustainable condition.

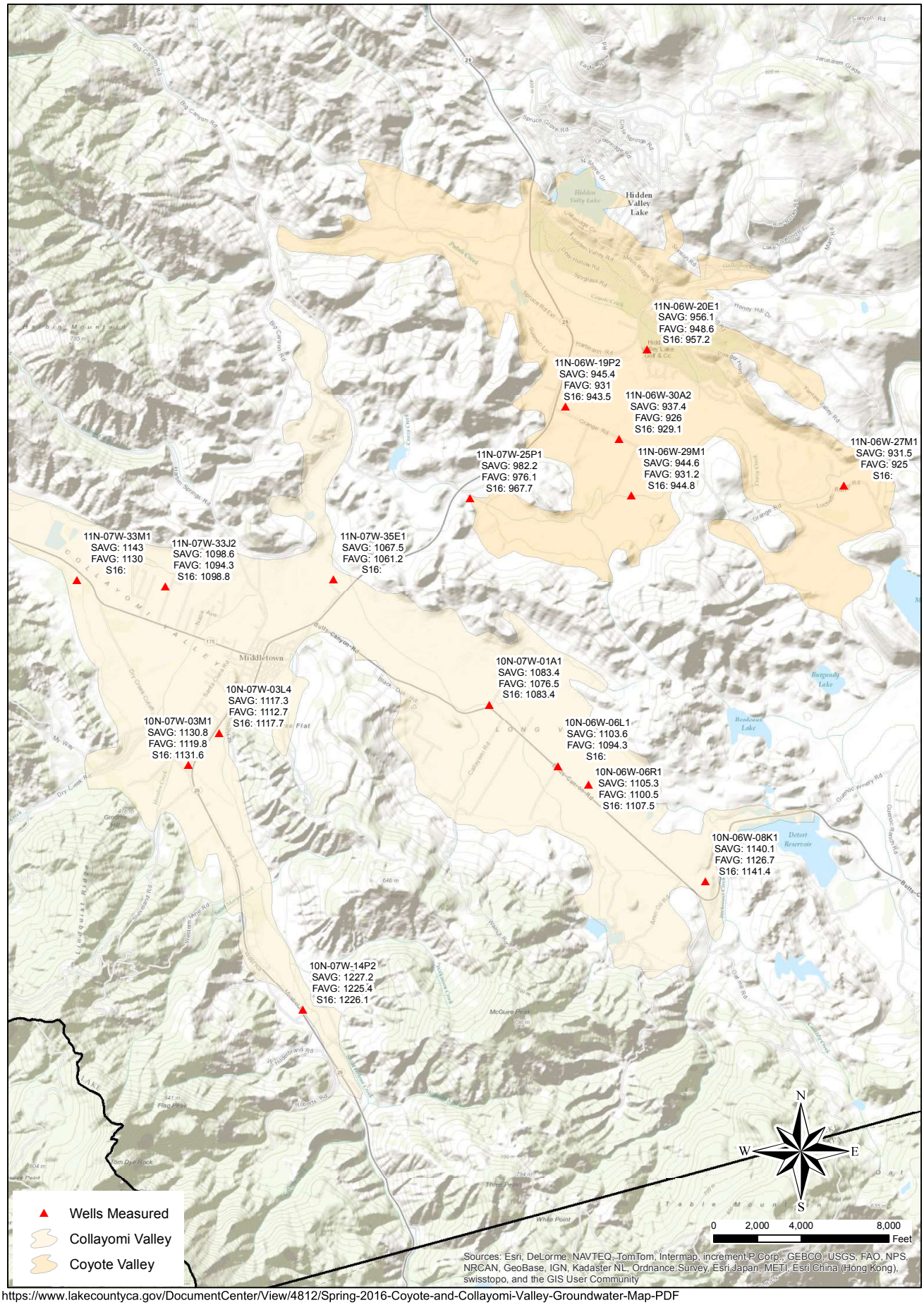
The presence of nearby groundwater wells was evaluated by reviewing online information from Lake County and DWR. The Lake County Watershed Protection District had a monitoring network of 10 wells used for well measurement in the Collayomi Valley Groundwater Basin and six wells in the Coyote Valley Groundwater Basin. This monitoring network has been recently modified, reducing the number of wells to six in the Collayomi Valley GW Basin and four in the Coyote Valley GW Basin. Water levels have been monitored in at least one of the wells in the Collayomi GW Basin since 1949, with the data showing water levels stable at a depth of 10 to 30 feet for the period of record.

Offsite wells in the area were identified to the northwest of the site, including wells on the Comstock Ranch and the Luchetti Ranch which are located in close proximity to each other. Figure 3 shows the Comstock well drilled in 2021 (Comstock 2021) is about 3 miles from the closest Guenoc Valley water supply wells. The Luchetti well is located at about the same distance from the Guenoc Valley water supply wells (Figure 1 shows Luchetti well with label 11N-06W-27M1). The Comstock 2021 well is also shallower than the Guenoc Valley wells, and there are differences in the subsurface materials encountered by the wells. Figure 4 is the boring log for the Comstock 2021 well. Figure 5 is the Well Data for the Luchetti Well which is part of the Lake County Groundwater Monitoring Network shown in Figure 1. A review of the boring logs for the Comstock 2021 and Luchetti Ranch including depth and soils encountered shows that the Comstock 2021 well penetrated sands and gravels which are indicative of an alluvial aquifer, while the Wilderness Area and Red Hills wells encountered volcanic rock and hard rock, respectively, which shows different aquifers. Based on this large distance and differences in depth and subsurface materials, it is unlikely that pumping of the Guenoc Valley wells will have a significant impact on the Comstock 2021 well. Similarly, wells on the Luchetti Ranch are also shallower than the Guenoc Valley site wells, and the boring logs show alluvial deposits in the Luchetti Ranch wells, which is different than the volcanics and/or rock encountered by the site wells, indicating that the offsite wells and the onsite wells are completed in different aquifers, so there should not be any impact on offsite wells from pumping wells for the project.

Offsite wells were also identified to the west of the site (Luhdorff and Scalmanini, February 2020). Project well Tephra 4 well is on the southwest portion of the project property and was drilled in 2008 into material described as volcanic rock on the boring log, so this is an existing well that has been used in the past. The extent of volcanic rock is limited in this area according to the vicinity geologic map contained in the report on this well (Wagner & Bonsignore, 2021). The Tephra 4 well is also relatively low flow, estimated at 47 gpm which is equal to about 38 afy. In the write-up of the Tephra well drilling (Wagner & Bonsignore, 2021) a rough estimate of the recharge to the outcrop area of the Sonoma Volcanic is provided of 330 to 660 afy. So, pumping of the Tephra 4 well is not going to deplete the Sonoma Volcanics, and is not drilled into the hard rock. Well Completion Reports for offsite wells in the area show the nearest offsite wells to be shallow, drilled into hard rock. The Tephra 4 well has been pumped in the past to irrigate nearby lands, without any reported impact on nearby offsite wells, indicating that the Tephra 4 well is not hydraulically connected to the offsite wells drilled into hard rock.

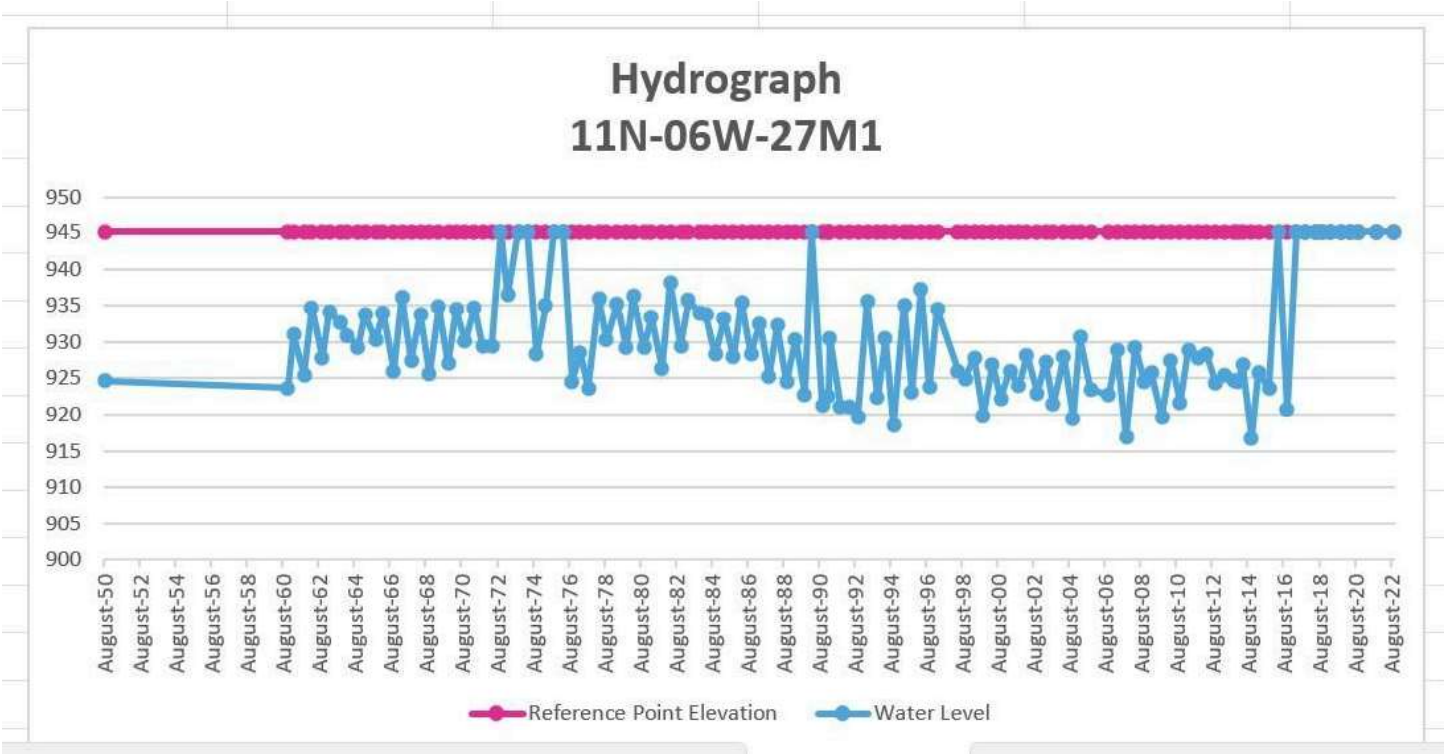
FIGURE 1.

GROUNDWATER LEVELS
SPRING 2016
COYOTE AND COLLAYOMI VALLEY



https://www.lakecountyca.gov/DocumentCenter/View/4812/Spring-2016-Coyote-and-Collayomi-Valley-Groundwater-Map-PDF

Figure 2. Water Levels in Well in Coyote Valley GW Basin - Luchetti Well



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Figure 3. Onsite Water Supply Wells and Nearby Offsite Well - Comstock Well drilled in 2021

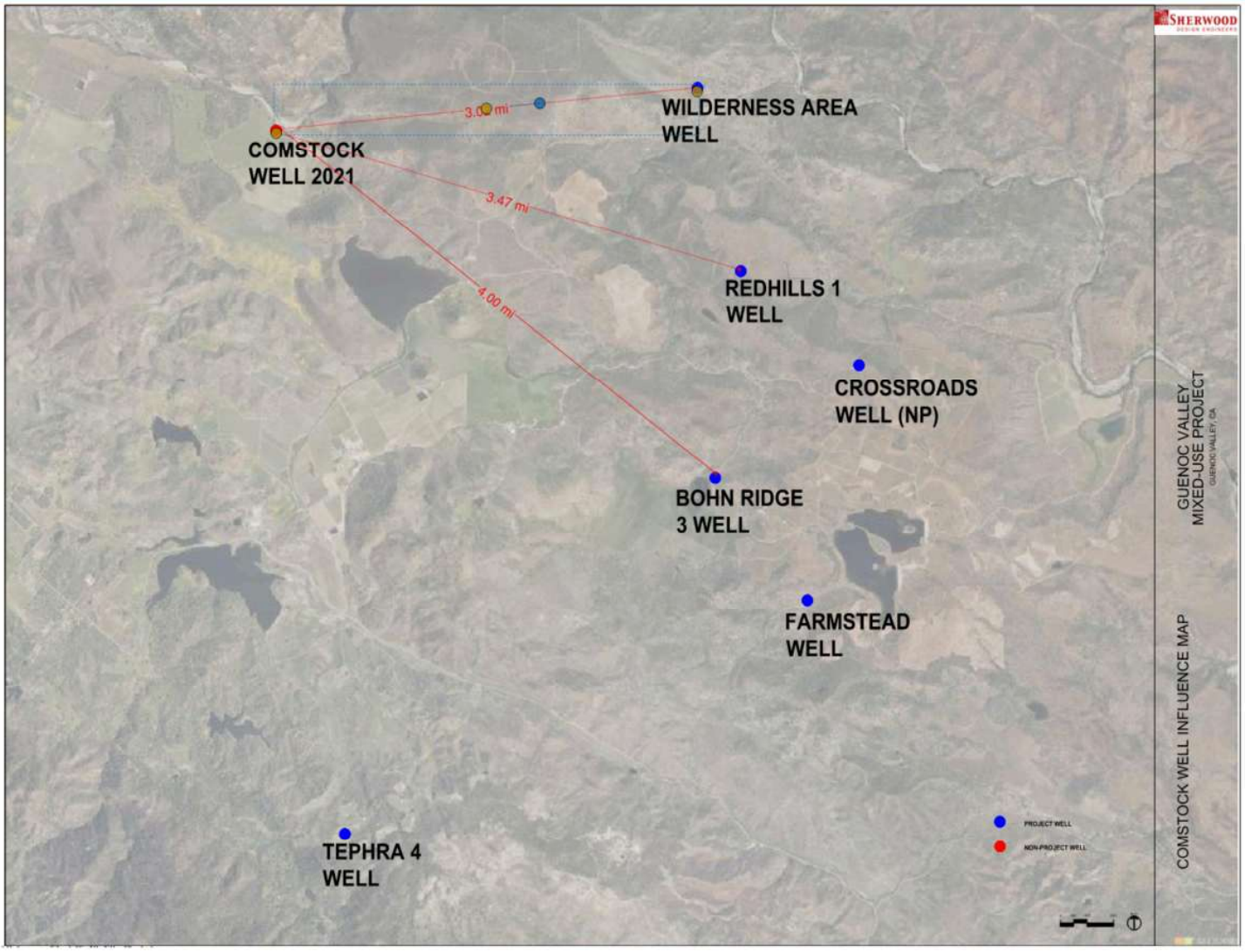


Figure 4. Comstock Well Completion Report - Drilled in 2021 for Agriculture in alluvial formation (Reference: DWR GAMA website)

State of California

Well Completion Report

Form DWR 188 Complete 4/20/2021

WCR2021-002299

Owner's Well Number | Date Work Began 02/02/2021 | Date Work Ended 02/11/2021

Local Permit Agency: Lake County Health Services Department - Environmental Health Division

Secondary Permit Agency | Permit Number WE-5548 | Permit Date 01/20/2021

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: XXXXXXXXXXXXXXXXXXXX

Mailing Address: XXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXX

City: XXXXXXXXXXXXXXXXXXXX State: XX Zip: XXXXX

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Irrigation - Agriculture

Well Location

Address: 19955 Grange RD

City: Middletown Zip: 95461 County: Lake

Latitude: 38 Deg. 46 Min. 34.7 Sec. N Longitude: -122 Deg. 31 Min. 28 Sec. W

Dec. Lat.: 38.7763056 Dec. Long.: -122.5244444

Vertical Datum: Horizontal Datum: WGS84

Location Accuracy: 20 Ft Location Determination Method:

APN: 014-029-08

Township: 11 N

Range: 06 W

Section: 28

Baseline Meridian: Mount Diablo

Ground Surface Elevation:

Elevation Accuracy:

Elevation Determination Method:

Borehole Information

Orientation: Vertical Specify:

Drilling Method: Direct Rotary Drilling Fluid: Bentonite

Total Depth of Boring: 160 Feet

Total Depth of Completed Well: 140 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: 22 (Feet) Date Measured: 02/11/2021

Estimated Yield*: 300 (GPM) Test Type: Air Lift

Test Length: 1 (Hours) Total Drawdown: 113 (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	20	Sand, soil and gravel
20	79	Sand and gravel
79	90	Sand and clay
90	112	Gravel and sand
112	129	Gravel
129	160	Clay

Form DWR 188 rev. 12/19/2017

Page 1 of 2

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Figure 5. Luchetti Well Data - Shallow Well only 40 feet deep
(Reference: Lake County)

WELL DATA From Form DWR 173

Owner Name:	LUCHETTI	State No:	11N-06W-27M1
Property Address	21565 GRANGE RD.	County No:	111
Assessors Parcel No	014-400-03		
USGS Quad Sheet:	LowerLake SE	Basin	Coyote Valley
Legal Description	NW 1/4 SW 1/4 Section 27 T 11N R 06W MDBM		
Well Location	From intersection of Hwy 53 & Gamble rd. 3.9 mile east toward Army radio station. Then 300' north west of barn on farm rd. WEll is 450' norh west of barn.		

Reference Point

Description:	Under pump base - southside.				
RP is: 0.5	ft	above	land surface	Ground Elevation	944.6
RP Elevation:	945.1	Determined By:	DRW levels 5/68		

Well

Use:	Stock	Depth, ft:	40
Casing Size, in.	6	Perforations:	
Driller:	L.J. Gamble		
Date Drilled:	early 20's	Log Filed:	

Equipment

Pump Type:	Plunger	Pump Make:	Delco
Pump Serial No.		Discharge Pipe Diameter, in.	1.5
Power, kind:	gasoline	Motor Make:	Delco
Horsepower:	1	Motor Serial No	
Electric Meter No		Transformer No	
Well Yield, gpm	0	Pumping Level, ft	0
Date	11/10/60	Recorded By	D. Martin

Appendix P

WRA Special-status Plant Survey

MEMORANDUM

TO:	Kevin Case, Mahaman	**FROM:**	Rhiannon Korhummel, WRA
CC:	Annalee Sanborn, Acorn Environmental		
DATE:	May 28, 2025		
SUBJECT:	May 2025 Unsurveyed Area Special-status Plant Survey Update		

This memo aims to update and replace the October 4, 2024, WRA, Inc. (WRA) memorandum titled "June 2024 Unsurveyed Area Special-status Plant Survey" with the methods and findings from the 2025 special-status plant survey conducted within the 55 acres of the Modified APE (as detailed in the 2024 PREIR) that were assessed in 2024. It encompasses the complete results from both June 2024 and May 2025. It should be noted that the October 2024 memo accounted for a total area of 69.76 acres, which included the 55 acres, surveyed in both 2024 and 2025, plus an associated buffer. As a result, the figures in the October 2024 memo reflect higher numbers compared to the 2025 memo. The results provided below represent the accurate data for the previously unsurveyed 55 acres (Study Area).

METHODS

On May 8, 2025, WRA biologists conducted a special-status plant survey within the Study Area that followed the protocol for plant surveys described in recommended resource agency guidelines (CDFW 2018)[1] to capture the spring blooming period. Reference site visits were conducted on the same day as floristic surveys to ensure that special-status species with potential to occur were majority flowering and identifiable. The assessments were conducted by botanists familiar with the flora of Lake County and surrounding counties. Table 1 below provides the survey dates, descriptions, person hours, and personnel associated with the summer 2024 and spring 2025 surveys.

Table 1. Survey Dates of the Study Area

Survey Dates	Survey Description	Person Hours	Personnel
June 18, 2024	Special-status plant surveys, wetland delineation	10	Rhiannon Korhummel
May 8, 2025	Special-status plant surveys	18.5	Scott Yarger, Jean-Paul Ponte

[1] California Department of Fish and Wildlife (CDFW). 2018. Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Natural Communities. California Natural Resources Agency, California Department of Fish and Game. March 20.

During the surveys, the Study Area was traversed on foot using intuitively guided, meandering transacts and all plant species observed were documented. All plants were identified using the Jepson eFlora (Jepson Flora Project 2025)[2] to the taxonomic level necessary to determine rarity status. Names given follow the Jepson Flora Project (2025). Plant surveys were floristic in nature with all observed species recorded and included on a species list provided in Attachment B.

Locations of observed special-status plant species were recorded using a combination of GPS unit with sub-meter accuracy and hand-drawn locations on field maps that contained recent and high-resolution (0.3- to 0.6-meter ground resolution) aerial photographs overlain with 10-foot contours. Hand-drawn locations were digitized using ArcGIS software.

RESULTS

Special-status Plants

The spring surveys were conducted in the Study Area in May 2025 and no additional special-status plant species were observed. In the June 2024 survey, four special-status plants were recorded within the 69.76-acre 2024 Study Area, but one of the four, Greene's narrow-leaved daisy (*Erigeron greenei*), was only observed in the buffer area and not within the 55-acre 2025 Study Area. Therefore, only three special-status plant species were observed in the 55 acre portion of the Study Area; these species are listed below in Table 2 and shown in Attachment A, which detail the total number of individuals and acres occupied by the special-status plants documented within the Study Area as well as the number and acres that are within the impact footprint. All 55 acres are within the Modified APE, though only 20.40 acres of the Study Area are within the development footprint where proposed impacts are to occur. As per the EIR, special status plants will be avoided if feasible. If avoidance is not feasible, the EIR mitigation measures will be implemented; these measures will include any populations of the Greene's narrow-leaved daisy that may be documented during pre-construction surveys in the 55 acre Study Area; however, as the species was documented only in the buffer area, no impacts are anticipated.

Table 2: Rare Plant Survey Summaries

	Common Name	Status	Study Area		Impact Footprint	
			Number	Acre	Number	Acre
Hesperolinon bicarpellatum	Two carpellate western flax	1B.2	3,661	4.40	192	0.24
Hesperolinon didymocarpum	Lake County western flax	SE, 1B.2	3,433	2.17	0	0
Streptanthus hesperidis	Green jewel-flower	1B.2	136	0.50	129	0.46

In addition to the three special-status plants recorded within the 55 acre Study Area, three CNPS Rank 4 species were observed: tall snapdragon (*Antirrhinum virga*; Rank 4.3), Napa lomatium (*Lomatium repostum*; Rank 4.2), and green monardella (*Monardella virdis*; Rank 4.3). Based on a search of CalFlora, each of these species are documented in several other counties, with the Study Area occurring in the center of the distribution, and each having greater than 100 documented records (CalFlora 2025)[3].

[2] Jepson Flora Project (eds.). 2025. Jepson eFlora. Online at: https://ucjeps.berkeley.edu/eflora/; most recently accessed: May 2025.

[3] CalFlora: Information on California for education, research, and conservation. Web application. Berkeley, California: The CalFlora Database, a non-profit organization. Available online at: http://www.calflora.org. Accessed May 2025.

Land Cover

WRA observed 10 landcover types in the Study Area. Each of the landcover types observed have been previously observed. The following types occur in the Study Area:

Non-sensitive

- Chamise Chaparral
- Developed
- Foothill Pine Woodland
- Leather oak chaparral
- Non-native Annual Grassland
- Whiteleaf manzanita chaparral

Sensitive

- Blue oak savanna
- Blue oak woodland
- Interior live oak woodland
- Ephemeral stream
- Seasonal wetland seeps/swales

For a complete description of these landcover types, refer to the 2020 BRA and 2020 EIR. An observed plant species list is included as Attachment B and figures detailing the extent of each land cover type within the Study Area are included in Attachment A.

CONCLUSION

Based on the land cover types observed, no new special-status plants have the potential to occur than those identified in the 2020 EIR. The results of these surveys will be incorporated into the project design and any additional impacts to special-status species will be addressed in the Mitigation and Monitoring Plan.

Attachments:

Attachment A: Figures
Attachment B. Observed Plant List

ATTACHMENT A. FIGURES

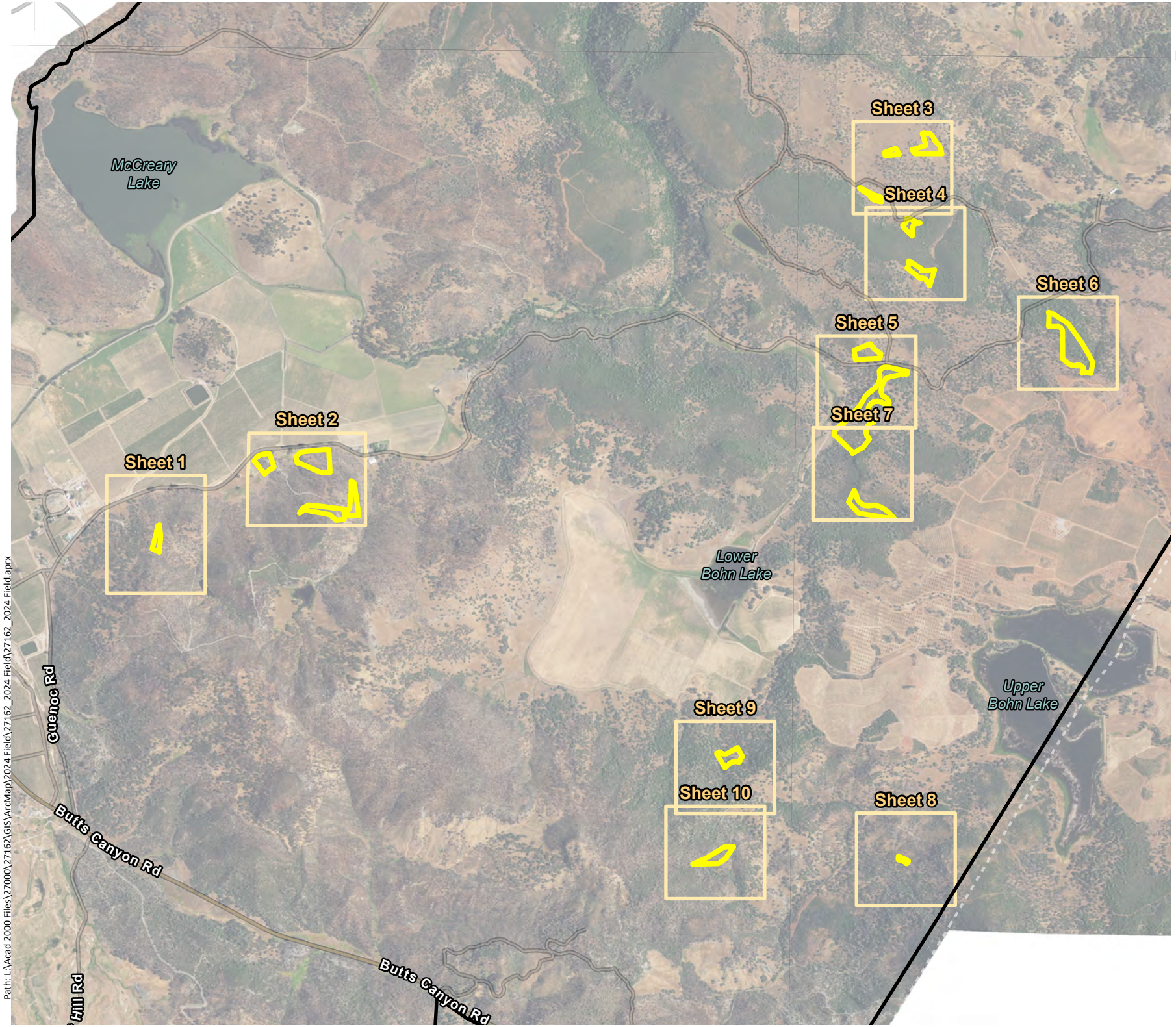


Figure 1-1.
Special-Status Plants, Land Cover, and Aquatics Mapped within the Study Area (Overview)

2024/2025 Surveys
Guenoc Valley Mixed Use Planned Development Project
Lake County, California

Study Area - 55.29 ac.
Property Boundary
Mapbook Sheets

N

0 250 500
Feet

wra Environmental Consultants

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Sources: 2016 Hexagon Aerial, Lake County Lidar, WRA | Prepared By: rochelle, 5/22/2025



Figure 1-2. Special-Status Plants, Land Cover, and Aquatics Mapped within the Study Area (Sheet 1)

2024/2025 Surveys
Guenoc Valley Mixed Use Planned Development Project
Lake County, California

- Study Area - 55.29 ac.
- Ephemeral Stream (Top of Bank) - 0.60 ac.

Non-Sensitive Land Cover Types

- Chamise Chaparral - 8.56 ac.
- Developed - 0.22 ac.
- Foothill Pine Woodland - 5.64 ac.
- Leather Oak Chaparral - 7.70 ac.
- Non-native Annual Grasslands - 3.10 ac.
- Whiteleaf Manzanita Chaparral - 1.17 ac.

Sensitive Land Cover Types

- Blue Oak Savanna - 5.47 ac.
- Blue Oak Woodland - 12.55 ac.
- Interior Live Oak Woodland - 10.64 ac.

Aquatics

- Ephemeral Stream (OHWM) - 0.18 ac. & 3,103 LF
- Seasonal Wetland Seeps/ Swales - 0.06 ac.

Special-Status Plants

- CNPS Rank 1 Plants
- State-Endangered Plants

Rare Plant Key

CNPS Rank 1 Plants:

HEBI: Two carpellate western flax - 4.40 ac. & 3,661x

STHE: Green jewel-flower - 0.50 ac. & 136x

State-Endangered Plants

HEDI: Lake County western flax - 2.17 ac. & 3,433x

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wra Environmental Consultants

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Sources: 2016 Hexagon Aerial, Lake County Lidar, WRA | Prepared By: rochelle, 5/22/2025

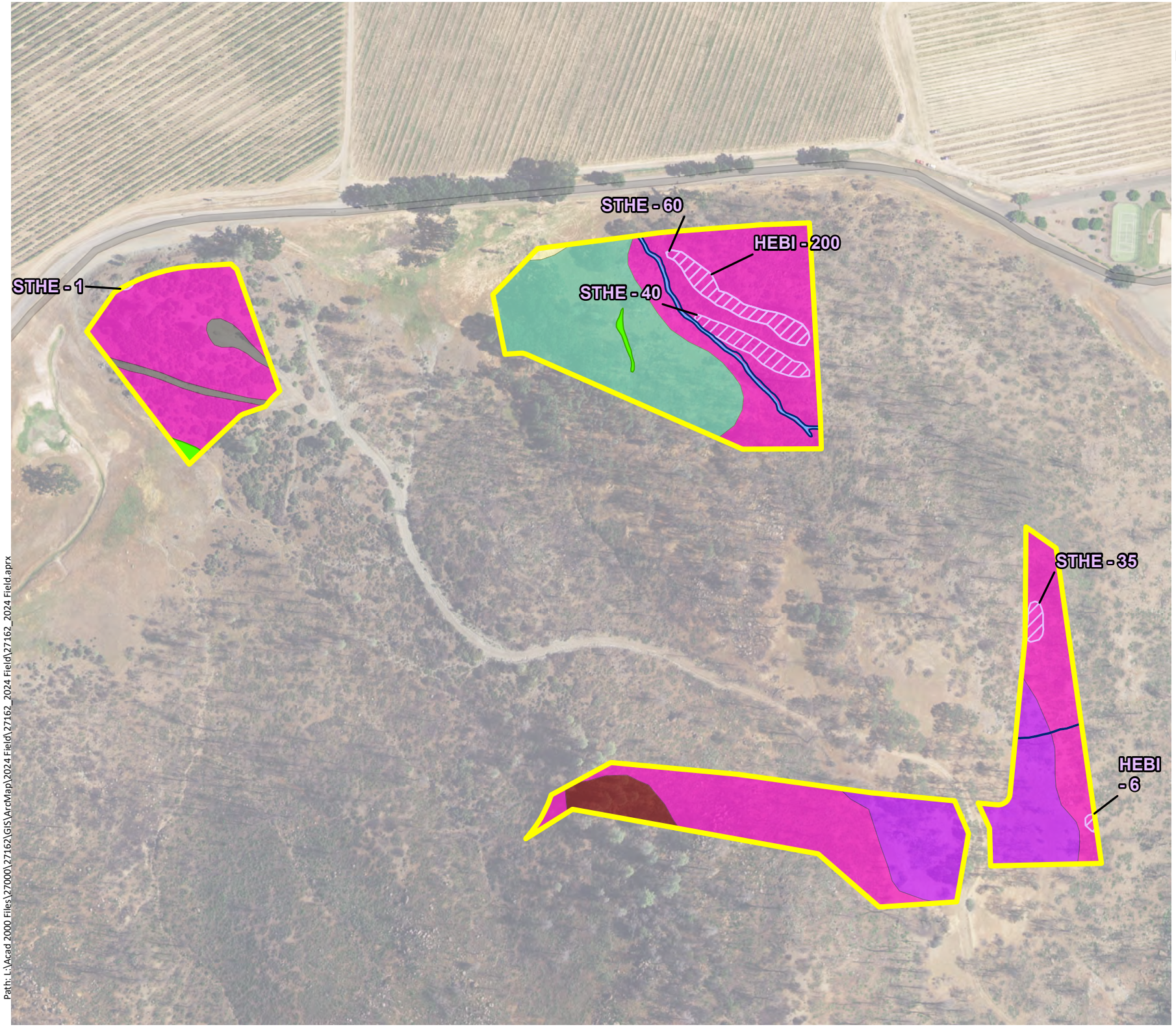


Figure 1-3. Special-Status Plants, Land Cover, and Aquatics Mapped within the Study Area (Sheet 2)

2024/2025 Surveys
Guenoc Valley Mixed Use Planned Development Project
Lake County, California

- Study Area - 55.29 ac.
- Ephemeral Stream (Top of Bank) - 0.60 ac.

Non-Sensitive Land Cover Types

- Chamise Chaparral - 8.56 ac.
- Developed - 0.22 ac.
- Foothill Pine Woodland - 5.64 ac.
- Leather Oak Chaparral - 7.70 ac.
- Non-native Annual Grasslands - 3.10 ac.
- Whiteleaf Manzanita Chaparral - 1.17 ac.

Sensitive Land Cover Types

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- Interior Live Oak Woodland - 10.64 ac.

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- Ephemeral Stream (OHWM) - 0.18 ac. & 3,103 LF
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Special-Status Plants

- CNPS Rank 1 Plants
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Feet

wra Environmental Consultants

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Sources: 2016 Hexagon Aerial, Lake County Lidar, WRA | Prepared By: rochelle, 5/22/2025

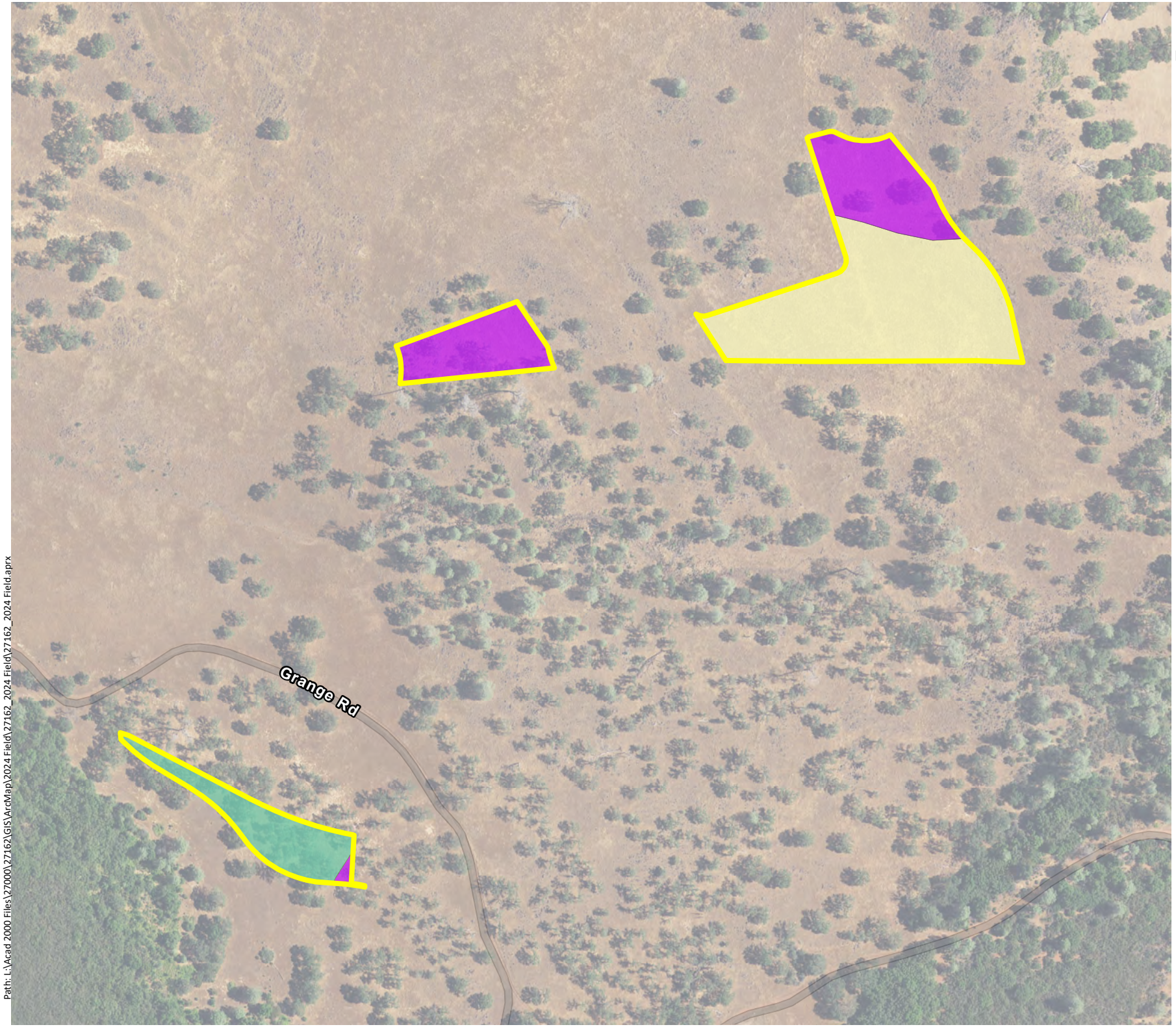


Figure 1-4. Special-Status Plants, Land Cover, and Aquatics Mapped within the Study Area (Sheet 3)

2024/2025 Surveys
Guenoc Valley Mixed Use Planned Development Project
Lake County, California

- Study Area - 55.29 ac.
- Ephemeral Stream (Top of Bank) - 0.60 ac.

Non-Sensitive Land Cover Types

- Chamise Chaparral - 8.56 ac.
- Developed - 0.22 ac.
- Foothill Pine Woodland - 5.64 ac.
- Leather Oak Chaparral - 7.70 ac.
- Non-native Annual Grasslands - 3.10 ac.
- Whiteleaf Manzanita Chaparral - 1.17 ac.

Sensitive Land Cover Types

- Blue Oak Savanna - 5.47 ac.
- Blue Oak Woodland - 12.55 ac.
- Interior Live Oak Woodland - 10.64 ac.

Aquatics

- Ephemeral Stream (OHWM) - 0.18 ac. & 3,103 LF
- Seasonal Wetland Seeps/ Swales - 0.06 ac.

Special-Status Plants

- CNPS Rank 1 Plants
- State-Endangered Plants

Rare Plant Key

CNPS Rank 1 Plants:

HEBI: Two carpellate western flax - 4.40 ac. & 3,661x

STHE: Green jewel-flower - 0.50 ac. & 136x

State-Endangered Plants

HEDI: Lake County western flax - 2.17 ac. & 3,433x

N

0 250 500
Feet

wra Environmental Consultants

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Sources: 2016 Hexagon Aerial, Lake County Lidar, WRA | Prepared By: rochelle, 5/22/2025



Figure 1-5. Special-Status Plants, Land Cover, and Aquatics Mapped within the Study Area (Sheet 4)

2024/2025 Surveys
Guenoc Valley Mixed Use Planned Development Project
Lake County, California

- Study Area - 55.29 ac.
- Ephemeral Stream (Top of Bank) - 0.60 ac.

Non-Sensitive Land Cover Types

- Chamise Chaparral - 8.56 ac.
- Developed - 0.22 ac.
- Foothill Pine Woodland - 5.64 ac.
- Leather Oak Chaparral - 7.70 ac.
- Non-native Annual Grasslands - 3.10 ac.
- Whiteleaf Manzanita Chaparral - 1.17 ac.

Sensitive Land Cover Types

- Blue Oak Savanna - 5.47 ac.
- Blue Oak Woodland - 12.55 ac.
- Interior Live Oak Woodland - 10.64 ac.

Aquatics

- Ephemeral Stream (OHWM) - 0.18 ac. & 3,103 LF
- Seasonal Wetland Seeps/ Swales - 0.06 ac.

Special-Status Plants

- CNPS Rank 1 Plants
- State-Endangered Plants

Rare Plant Key

CNPS Rank 1 Plants:

HEBI: Two carpellate western flax - 4.40 ac. & 3,661x

STHE: Green jewel-flower - 0.50 ac. & 136x

State-Endangered Plants

HEDI: Lake County western flax - 2.17 ac. & 3,433x

N

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Feet

wra Environmental Consultants

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Sources: 2016 Hexagon Aerial, Lake County Lidar, WRA | Prepared By: rochelle, 5/22/2025



Figure 1-6. Special-Status Plants, Land Cover, and Aquatics Mapped within the Study Area (Sheet 5)

2024/2025 Surveys
Guenoc Valley Mixed Use Planned Development Project
Lake County, California

- Study Area - 55.29 ac.
- Ephemeral Stream (Top of Bank) - 0.60 ac.

Non-Sensitive Land Cover Types

- Chamise Chaparral - 8.56 ac.
- Developed - 0.22 ac.
- Foothill Pine Woodland - 5.64 ac.
- Leather Oak Chaparral - 7.70 ac.
- Non-native Annual Grasslands - 3.10 ac.
- Whiteleaf Manzanita Chaparral - 1.17 ac.

Sensitive Land Cover Types

- Blue Oak Savanna - 5.47 ac.
- Blue Oak Woodland - 12.55 ac.
- Interior Live Oak Woodland - 10.64 ac.

Aquatics

- Ephemeral Stream (OHWM) - 0.18 ac. & 3,103 LF
- Seasonal Wetland Seeps/ Swales - 0.06 ac.

Special-Status Plants

- CNPS Rank 1 Plants
- State-Endangered Plants

Rare Plant Key

CNPS Rank 1 Plants:

HEBI: Two carpellate western flax - 4.40 ac. & 3,661x

STHE: Green jewel-flower - 0.50 ac. & 136x

State-Endangered Plants

HEDI: Lake County western flax - 2.17 ac. & 3,433x

N

0 250 500
Feet

wra Environmental Consultants

Path: L:\Acad 2000 Files\27000\27162\GIS\ArcMap\2024 Field\27162_2024 Field\27162_2024 Field.aprx

Sources: 2016 Hexagon Aerial, Lake County Lidar, WRA | Prepared By: rochelle, 5/22/2025

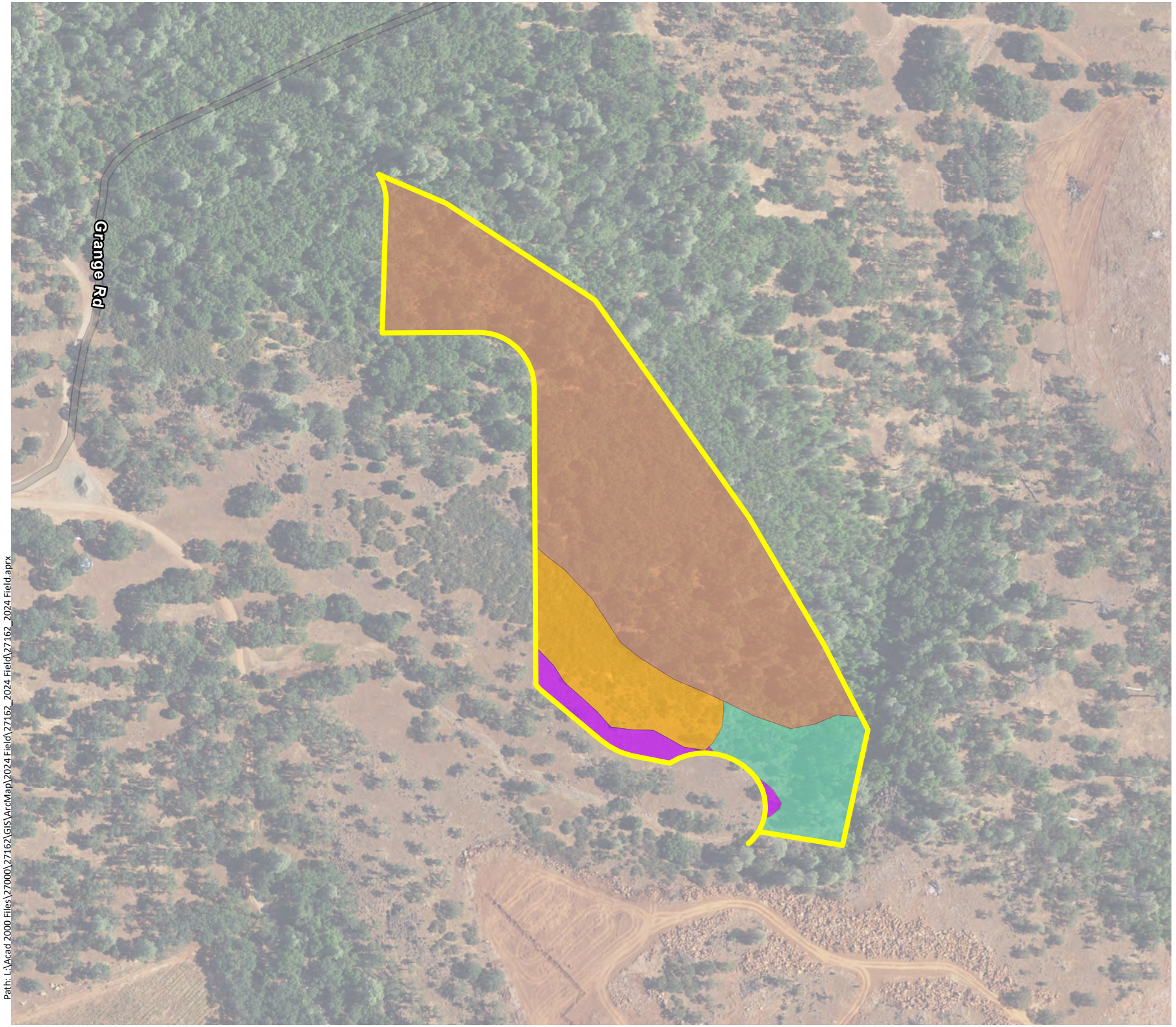


Figure 1-7. Special-Status Plants, Land Cover, and Aquatics Mapped within the Study Area (Sheet 6)

2024/2025 Surveys
Guenoc Valley Mixed Use Planned Development Project
Lake County, California

- Study Area - 55.29 ac.
- Ephemeral Stream (Top of Bank) - 0.60 ac.

Non-Sensitive Land Cover Types

- Chamise Chaparral - 8.56 ac.
- Developed - 0.22 ac.
- Foothill Pine Woodland - 5.64 ac.
- Leather Oak Chaparral - 7.70 ac.
- Non-native Annual Grasslands - 3.10 ac.
- Whiteleaf Manzanita Chaparral - 1.17 ac.

Sensitive Land Cover Types

- Blue Oak Savanna - 5.47 ac.
- Blue Oak Woodland - 12.55 ac.
- Interior Live Oak Woodland - 10.64 ac.

Aquatics

- Ephemeral Stream (OHWM) - 0.18 ac. & 3,103 LF
- Seasonal Wetland Seeps/ Swales - 0.06 ac.

Special-Status Plants

- CNPS Rank 1 Plants
- State-Endangered Plants

Rare Plant Key

CNPS Rank 1 Plants:

HEBI: Two carpellate western flax - 4.40 ac. & 3,661x

STHE: Green jewel-flower - 0.50 ac. & 136x

State-Endangered Plants

HEDI: Lake County western flax - 2.17 ac. & 3,433x

N

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Feet

wra Environmental Consultants

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Sources: 2016 Hexagon Aerial, Lake County Lidar, WRA | Prepared By: rochelle, 5/22/2025

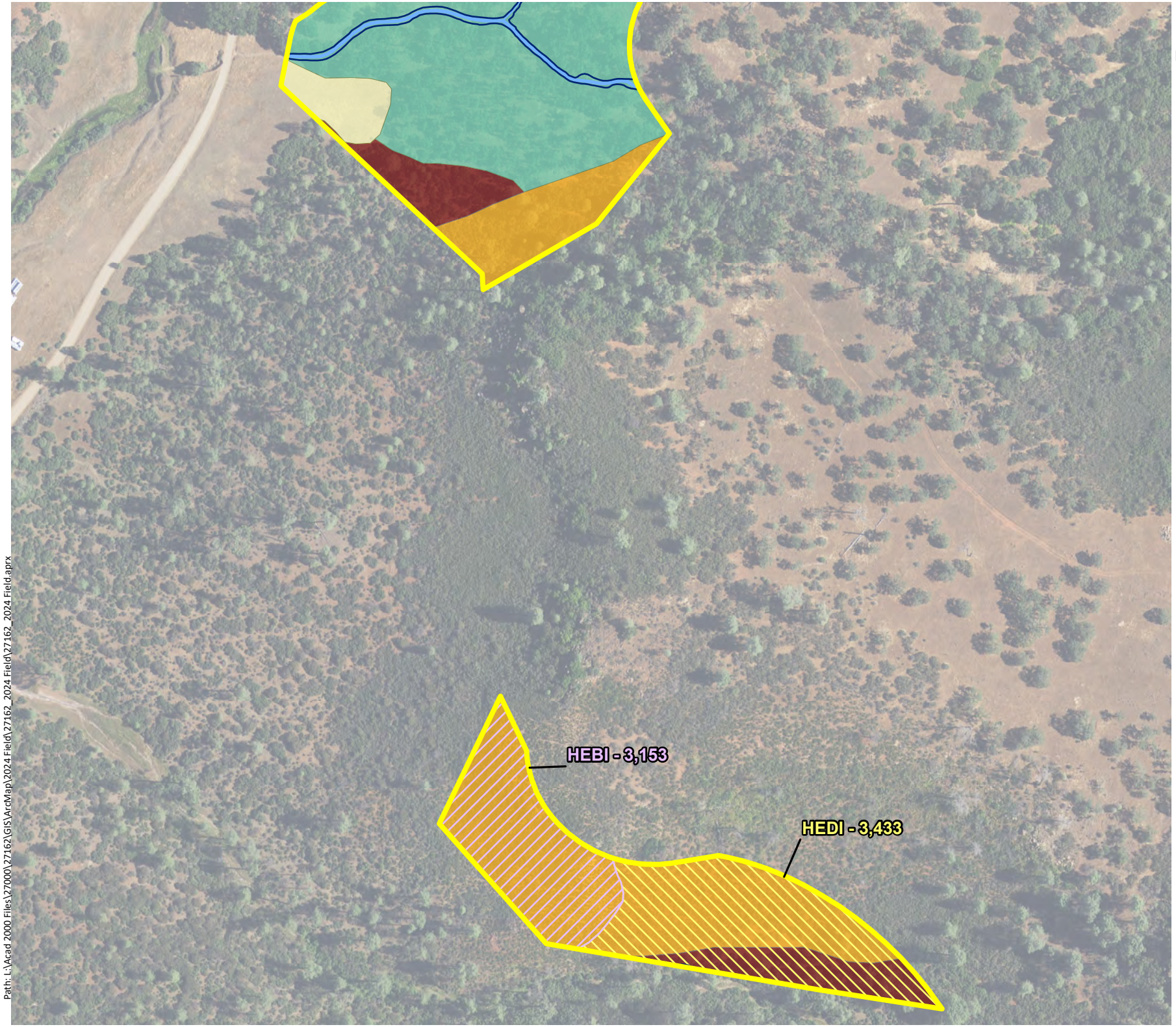


Figure 1-8. Special-Status Plants, Land Cover, and Aquatics Mapped within the Study Area (Sheet 7)

2024/2025 Surveys
Guenoc Valley Mixed Use Planned Development Project
Lake County, California

- Study Area - 55.29 ac.
- Ephemeral Stream (Top of Bank) - 0.60 ac.

Non-Sensitive Land Cover Types

- Chamise Chaparral - 8.56 ac.
- Developed - 0.22 ac.
- Foothill Pine Woodland - 5.64 ac.
- Leather Oak Chaparral - 7.70 ac.
- Non-native Annual Grasslands - 3.10 ac.
- Whiteleaf Manzanita Chaparral - 1.17 ac.

Sensitive Land Cover Types

- Blue Oak Savanna - 5.47 ac.
- Blue Oak Woodland - 12.55 ac.
- Interior Live Oak Woodland - 10.64 ac.

Aquatics

- Ephemeral Stream (OHWM) - 0.18 ac. & 3,103 LF
- Seasonal Wetland Seeps/ Swales - 0.06 ac.

Special-Status Plants

- CNPS Rank 1 Plants
- State-Endangered Plants

Rare Plant Key

CNPS Rank 1 Plants:

HEBI: Two carpellate western flax - 4.40 ac. & 3,661x

STHE: Green jewel-flower - 0.50 ac. & 136x

State-Endangered Plants

HEDI: Lake County western flax - 2.17 ac. & 3,433x

N

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Feet

wra Environmental Consultants

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Sources: 2016 Hexagon Aerial, Lake County Lidar, WRA | Prepared By: rochelle, 5/22/2025

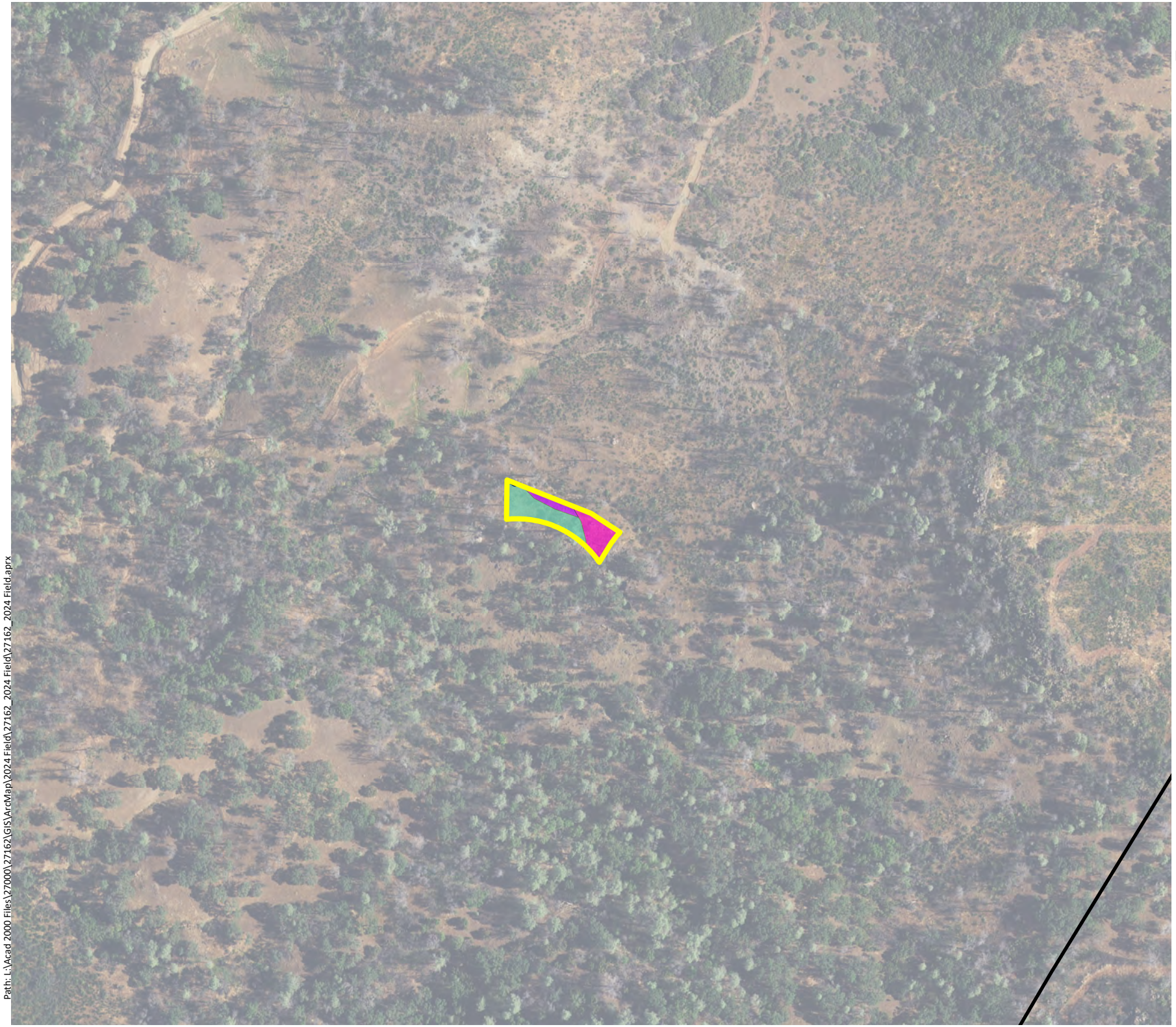


Figure 1-9. Special-Status Plants, Land Cover, and Aquatics Mapped within the Study Area (Sheet 8)

2024/2025 Surveys
Guenoc Valley Mixed Use Planned Development Project
Lake County, California

- Study Area - 55.29 ac.
- Ephemeral Stream (Top of Bank) - 0.60 ac.

Non-Sensitive Land Cover Types

- Chamise Chaparral - 8.56 ac.
- Developed - 0.22 ac.
- Foothill Pine Woodland - 5.64 ac.
- Leather Oak Chaparral - 7.70 ac.
- Non-native Annual Grasslands - 3.10 ac.
- Whiteleaf Manzanita Chaparral - 1.17 ac.

Sensitive Land Cover Types

- Blue Oak Savanna - 5.47 ac.
- Blue Oak Woodland - 12.55 ac.
- Interior Live Oak Woodland - 10.64 ac.

Aquatics

- Ephemeral Stream (OHWM) - 0.18 ac. & 3,103 LF
- Seasonal Wetland Seeps/ Swales - 0.06 ac.

Special-Status Plants

- CNPS Rank 1 Plants
- State-Endangered Plants

Rare Plant Key

CNPS Rank 1 Plants:

HEBI: Two carpellate western flax - 4.40 ac. & 3,661x

STHE: Green jewel-flower - 0.50 ac. & 136x

State-Endangered Plants

HEDI: Lake County western flax - 2.17 ac. & 3,433x

N

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Feet

wra Environmental Consultants

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Sources: 2016 Hexagon Aerial, Lake County Lidar, WRA | Prepared By: rochelle, 5/22/2025



Figure 1-10. Special-Status Plants, Land Cover, and Aquatics Mapped within the Study Area (Sheet 9)

2024/2025 Surveys
Guenoc Valley Mixed Use Planned Development Project
Lake County, California

- Study Area - 55.29 ac.
- Ephemeral Stream (Top of Bank) - 0.60 ac.

Non-Sensitive Land Cover Types

- Chamise Chaparral - 8.56 ac.
- Developed - 0.22 ac.
- Foothill Pine Woodland - 5.64 ac.
- Leather Oak Chaparral - 7.70 ac.
- Non-native Annual Grasslands - 3.10 ac.
- Whiteleaf Manzanita Chaparral - 1.17 ac.

Sensitive Land Cover Types

- Blue Oak Savanna - 5.47 ac.
- Blue Oak Woodland - 12.55 ac.
- Interior Live Oak Woodland - 10.64 ac.

Aquatics

- Ephemeral Stream (OHWM) - 0.18 ac. & 3,103 LF
- Seasonal Wetland Seeps/ Swales - 0.06 ac.

Special-Status Plants

- CNPS Rank 1 Plants
- State-Endangered Plants

Rare Plant Key

CNPS Rank 1 Plants:

HEBI: Two carpellate western flax - 4.40 ac. & 3,661x

STHE: Green jewel-flower - 0.50 ac. & 136x

State-Endangered Plants

HEDI: Lake County western flax - 2.17 ac. & 3,433x

N

0 250 500
Feet

wra Environmental Consultants

Path: L:\Acad 2000 Files\27000\27162\GIS\ArcMap\2024 Field\27162_2024 Field\27162_2024 Field.aprx

Sources: 2016 Hexagon Aerial, Lake County Lidar, WRA | Prepared By: rochelle, 5/22/2025

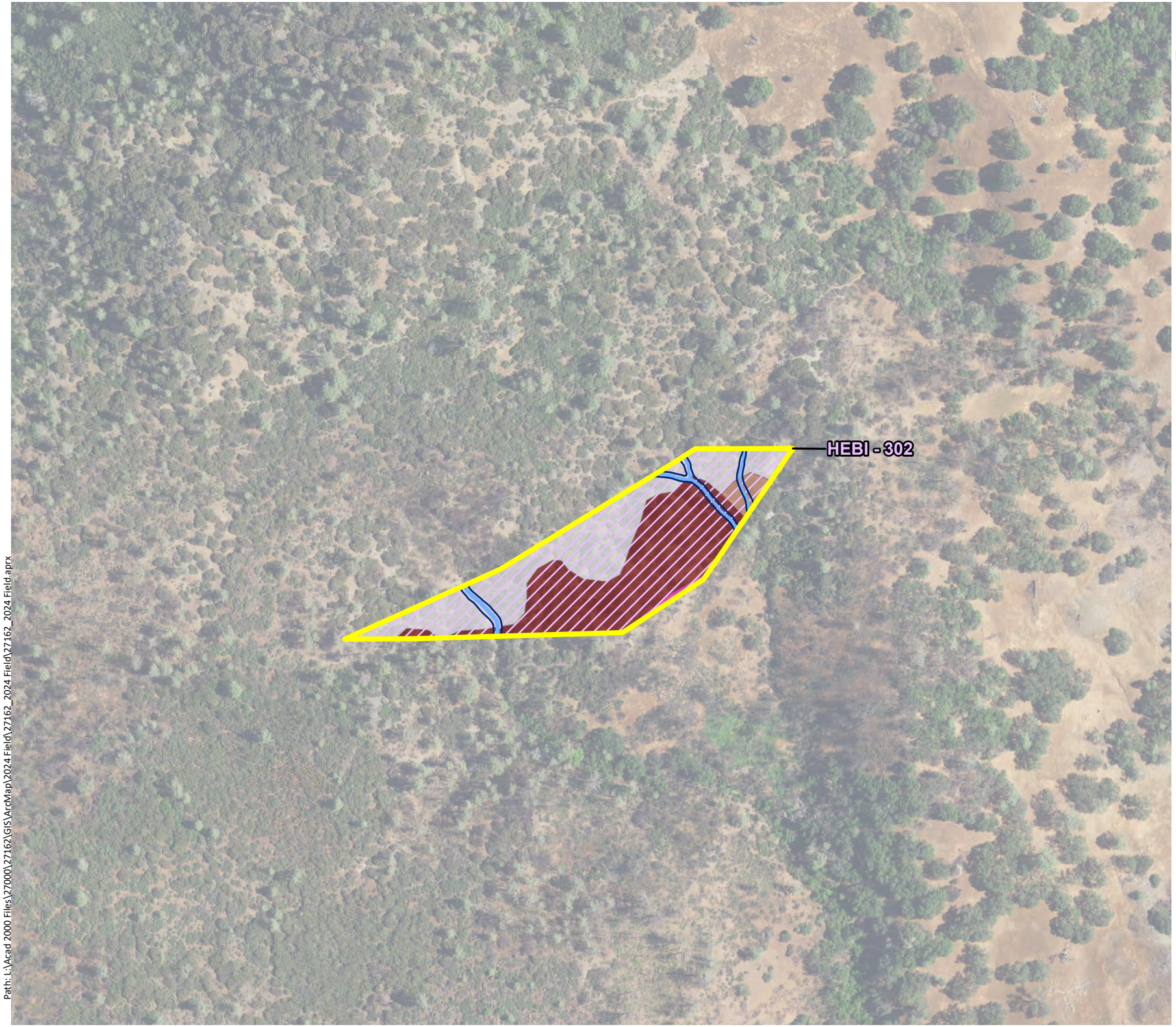


Figure 1-11. Special-Status Plants, Land Cover, and Aquatics Mapped within the Study Area (Sheet 10)

2024/2025 Surveys
Guenoc Valley Mixed Use Planned Development Project
Lake County, California

Study Area - 55.29 ac.

Ephemeral Stream (Top of Bank) - 0.60 ac.

Non-Sensitive Land Cover Types

Chamise Chaparral - 8.56 ac.

Developed - 0.22 ac.

Foothill Pine Woodland - 5.64 ac.

Leather Oak Chaparral - 7.70 ac.

Non-native Annual Grasslands - 3.10 ac.

Whiteleaf Manzanita Chaparral - 1.17 ac.

Sensitive Land Cover Types

Blue Oak Savanna - 5.47 ac.

Blue Oak Woodland - 12.55 ac.

Interior Live Oak Woodland - 10.64 ac.

Aquatics

Ephemeral Stream (OHWM) - 0.18 ac. & 3,103 LF

Seasonal Wetland Seeps/ Swales - 0.06 ac.

Special-Status Plants

CNPS Rank 1 Plants

State-Endangered Plants

Rare Plant Key

CNPS Rank 1 Plants:

HEBI: Two carpellate western flax - 4.40 ac. & 3,661x

STHE: Green jewel-flower - 0.50 ac. & 136x

State-Endangered Plants

HEDI: Lake County western flax - 2.17 ac. & 3,433x

N

0 250 500
Feet

wra Environmental Consultants

Path: L:\Acad 2000 Files\27000\27162\GIS\ArcMap\2024 Field\27162_2024 Field\27162_2024 Field.aprx

Sources: 2016 Hexagon Aerial, Lake County Lidar, WRA | Prepared By: rochelle, 5/22/2025

ATTACHMENT B. OBSERVED PLANT LIST

Attachment B. Plant Species Observed within the Study Area During the June 2024 and May 2025 Floristic Survey

SCIENTIFIC NAME	COMMON NAME	ORIGIN	FORM	RARITY STATUS[1]	CAL-IPC STATUS[2]	WETLAND STATUS[3]
Achyrachaena mollis	Blow wives	native	annual herb	-	-	FAC
Acmispon americanus var. americanus	Spanish lotus	native	annual herb	-	-	UPL
Acmispon glaber	Deerweed	native	perennial herb	-	-	-
Acmispon parviflorus	Hill lotus	native	annual herb	-	-	-
Adenostoma fasciculatum	Chamise	native	tree, shrub	-	-	-
Antirrhinum vexillocalyculatum ssp. vexillocalyculatum	Wiry snapdragon	native	annual herb	-	-	-
Antirrhinum virga	Tall snapdragon	native	perennial herb	Rank 4.3	-	-
Arctostaphylos patula	Green leaf manzanita	native	shrub	-	-	-
Asclepias fascicularis	Narrow leaved milkwed	native	perennial herb	-	-	FAC
Avena barbata	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate	-
Bromus hordeaceus	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU
Bromus madritensis	Foxtail brome	non-native	annual grass	-	-	UPL
Calochortus amabilis	Golden fairy lantern	native	perennial herb	-	-	-
Calochortus vestae	Yellow mariposa	native	perennial herb	-	-	-
Calycadenia fremontii	Fremont's calycadenia	native	annual herb	-	-	-
Ceanothus jepsonii	Musk brush	native	shrub	-	-	-
Ceanothus oliganthus	Hairy ceanothus	native	shrub	-	-	-
Chlorogalum pomeridianum	Amole	native	perennial herb	-	-	-
Claytonia parviflora	Narrow leaved miner's lettuce	native	annual herb	-	-	FACU
Claytonia perfoliata	Miner's lettuce	native	annual herb	-	-	FAC
Collinsia heterophylla	Chinese houses	native	annual herb	-	-	-
Collinsia torreyi	Torrey's collinsia	native	annual herb	-	-	-
Eleocharis macrostachya	Spike rush	native	perennial grasslike herb	-	-	OBL
Elymus glaucus	Blue wildrye	native	perennial grass	-	-	FACU
Elymus multisetus	Big squirreltail grass	native	perennial grass	-	-	-
Epilobium campestre	Smooth boisduvalia	native	annual herb	-	-	OBL

Attachment B. Plant Species Observed within the Study Area During the June 2024 and May 2025 Floristic Survey

SCIENTIFIC NAME	COMMON NAME	ORIGIN	FORM	RARITY STATUS[1]	CAL-IPC STATUS[2]	WETLAND STATUS[3]
Erigeron greenei	Greene's narrow-leaved daisy	native	perennial herb	Rank 1B.2	-	-
Eriodictyon californicum	Yerba santa	native	shrub	-	-	-
Eriogonum luteolum var. luteolum	Golden buckwheat	native	annual herb	-	-	-
Eriophyllum lanatum	Wooly sunflower	native	perennial herb	-	-	-
Erodium botrys	Big heron bill	non-native	annual herb	-	-	FACU
Festuca bromoides	Brome fescue	non-native	annual grass	-	-	FACU
Festuca microstachys	Small fescue	native	annual grass	-	-	-
Festuca perennis	Italian rye grass	non-native (invasive)	annual, perennial grass	-	Moderate	FAC
Frangula californica ssp. californica	California coffeeberry	native	shrub	-	-	-
Galium aparine	Cleavers	native	annual herb	-	-	FACU
Galium californicum	California bedstraw	native	perennial herb	-	-	-
Garrya congdonii	Silk tassel	native	shrub	-	-	-
Gastridium phleoides	Nit grass	non-native	annual grass	-	-	FACU
Helianthella californica	California helianthella	native	perennial herb	-	-	-
Hesperolinon bicarpellatum	Two carpellate western flax	native	annual herb	Rank 1B.2	-	-
Hesperolinon didymocarpum	Lake County western flax	native	annual herb	SE, Rank 1B.2	-	-
Hesperolinon spergulinum	Slender western flax	native	annual herb	-	-	-
Heteromeles arbutifolia	Toyon	native	shrub	-	-	-
Holocarpha virgata	Narrow tarplant	native	annual herb	-	-	-
Hordeum marinum ssp. gussoneanum	Mediterranean barley	non-native (invasive)	annual grass	-	Moderate	FAC
Hypericum concinnum	Gold wire	native	perennial herb	-	-	-
Leptosiphon bicolor	True babystars	native	annual herb	-	-	UPL
Leptosiphon ciliatus	Whiskerbrush	native	annual herb	-	-	-
Leptosiphon parviflorus	Variable linanthus	native	annual herb	-	-	-
Lessingia ramulosa	Sonoma lessingia	native	annual herb	-	-	-
Logfia gallica	Narrowleaf cottonrose	non-native	annual herb	-	-	-

Attachment B. Plant Species Observed within the Study Area During the June 2024 and May 2025 Floristic Survey

SCIENTIFIC NAME	COMMON NAME	ORIGIN	FORM	RARITY STATUS[1]	CAL-IPC STATUS[2]	WETLAND STATUS[3]
Lomatium repostum	Napa lomatium	native	perennial herb	Rank 4.2	-	-
Lonicera hispidula	Pink honeysuckle	native	vine, shrub	-	-	FACU
Madia exigua	Small tarweed	native	annual herb	-	-	-
Melica torreyana	Torrey's melica	native	perennial grass	-	-	-
Monardella viridis	Green monardella	native	perennial herb	Rank 4.3	-	-
Navarretia mellita	Skunk navarretia	native	annual herb	-	-	FAC
Navarretia pubescens	Purple navarretia	native	annual herb	-	-	-
Perideridia kelloggii	Kellogg's yampah	native	perennial herb	-	-	-
Pinus sabiniana	Foothill pine	native	tree	-	-	-
Polypogon monspeliensis	Annual beard grass	non-native (invasive)	annual grass	-	Limited	FACW
Pseudognaphalium stramineum	Cottonbatting plant	native	perennial herb	-	-	FAC
Quercus douglasii	Blue oak	native	tree	-	-	-
Quercus durata	Leather oak	native	shrub	-	-	-
Ranunculus californicus	Common buttercup	native	perennial herb	-	-	FACU
Rhamnus crocea	Redberry	native	shrub	-	-	-
Salvia sonomensis	Sonoma sage	native	perennial herb	-	-	-
Scutellaria siphocampyloides	Gray leaved skullcap	native	perennial herb	-	-	FACU
Stipa sp.	-	-	-	-	-	-
Toxicodendron diversilobum	Poison oak	native	vine, shrub	-	-	FACU
Trichostema lanceolatum	Vinegarweed	native	annual herb	-	-	FACU
Triteleia hyacinthina	Wild hyacinth	native	perennial herb	-	-	FAC
Wyethia angustifolia	Narrow leaved mule ears	native	perennial herb	-	-	FACU
Zeltnera muehlenbergii	Muehlenberg's centaury	native	annual herb	-	-	FAC

Note: All species identified using the *Jepson eFlora* [Jepson Flora Project (eds.) 2025]; nomenclature follows *Jepson eFlora* [Jepson Flora Project (eds.) 2025] or Rare Plant Inventory (CNPS 2025). Sp.: "species," intended to indicate that the observer was confident in the identity of the genus but uncertain which species.

[1] **California Native Plant Society. 2025. Rare Plant Inventory (online edition). Sacramento, California. Online at: http://rareplants.cnps.org/; most recently accessed: May 2025.**

FE: Federal Endangered
FT: Federal Threatened

Attachment B. Plant Species Observed within the Study Area During the June 2024 and May 2025 Floristic Survey

SE:	State Endangered
ST:	State Threatened
SR:	State Rare
Rank 1A:	Plants presumed extinct in California
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere
Rank 2:	Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which we need more information – a review list
Rank 4:	Plants of limited distribution – a watch list

[2] **California Invasive Plant Council. 2025. California Invasive Plant Inventory Database. California Invasive Plant Council, Berkeley, CA. Online at: http://www.cal-ipc.org/paf/; most recently accessed: May 2025.**

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

[3] **U.S. Army Corps of Engineers. 2022. National Wetland Plant List, version 3.6. Online at: http://wetland-plants.sec.usace.army.mil/**

OBL:	Almost always found in wetlands
FACW:	Usually found in wetlands
FAC:	Equally found in wetlands and uplands
FACU:	Usually not found in wetlands
UPL:	Almost never found in wetlands
NL:	Not listed, assumed almost never found in wetlands
NI:	No information; not factored during wetland delineation