that will [be] considered, analyzed, and potentially incorporated in the mitigation measure.' " (*East Oakland Stadium Alliance v. City of Oakland* (2023) 89 Cal.App.5th 1226, 1254–1255; Guidelines, § 15126.4, subd. (a)(1)(B).) We " 'scrupulously enforc[e]' " these legislatively mandated CEQA requirements and determine de novo whether they have been followed. (*Sierra Club*, *supra*, 6 Cal.5th at p. 512.)

There was no impermissible deferral here because the TDM satisfies all three requirements. We first observe the reasonable rationale for deferring the details for mitigating the project's impact as measured by vehicle miles traveled (VMT). While the County accepted the State recommended significance threshold for VMT, the FEIR notes that a "limitation of VMT measurements is the inability to easily observe or measure them" requiring that they be estimated based on the number of vehicles observed multiplied by a probabilistic average of the distances traveled.[12] VMT is not static or even stable over time; this inherently limits the specificity of a plan to reduce VMT. (Cf. Guidelines, § 15146 ["The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described"].) Thus, it is "readily apparent" why specifying the TDM's details was "impractical or infeasible at the time the [F]EIR was certified." (*Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 281.)

The County then met the necessary conditions for deferring a mitigation measure's minutiae. First, the FEIR commits the County and

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[12] Nonetheless, based on such estimations, the FEIR does not mask the project's significant and unavoidable impact on VMT "due to the rural nature of the project setting and associated longer distances required for travel." For this reason, the County adopted a statement of overriding considerations with respect to this impact. And it devised the TDM with VMT-reducing strategies that may be revised or augmented based on their performance.

Lotusland to the TDM. The FEIR provides that Lotusland "shall develop and submit to the County a final Transportation Demand Management Program" for the project "[p]rior to issuance of occupancy permits for Phase 1 . . . ."

Second, the FEIR adopts a specific performance standard that the TDM must achieve. It specifies the TDM's goal "shall be" reducing the project's expected VMT by 15 percent, which the TDM restates as its "minimum reduction goal." This is sufficiently concrete. (*City of Hayward v. Trustees of California State University* (2015) 242 Cal.App.4th 833, 855 (*City of Hayward)* ["The Master Plan goal to reduce drive alone vehicle trips is the performance standard that the TDM plan will strive to meet"].)

Third, the TDM identifies nearly a dozen strategies that can feasibly achieve that goal because they are "expected to collectively reduce vehicle trips by 3 to 20 percent." One, for example, includes public and private shuttle services, the latter of which is "expected to accommodate approximately 40 [percent] of resort patrons," and which together, along with a "dial-a-ride" service, are expected to reduce the project's VMT by 2–10 percent.

The TDM further requires the post-implementation efficaciousness of the strategies to be analyzed. Specifically, it requires a coordinator to "monitor daily one-way vehicle trips" and "compare these vehicle trips to the aggregate daily one-way vehicle trips anticipated based on the trip generation rates contained within the Project's DEIR." If the results reveal the TDM's measures "are not achieving the reduction goal" then Lotusland "shall adjust the TDM plan . . . in consultation with County staff." This requirement is also enshrined in the FEIR's Mitigation Monitoring and Reporting Plan. This satisfies CEQA. (See *City of Hayward*, *supra*, 242 Cal.App.4th at p. 855 ["The monitoring program which is an integral part

of the plan ensures that the public will have access to the information necessary to evaluate compliance . . . ."].)

Petitioners' related charge that there is no evidence of the enumerated strategies' effectiveness is a factual inquiry we review for substantial evidence. (*Save the Hill Group v. City of Livermore* (2022) 76 Cal.App.5th 1092, 1114.) Here, "[t]he estimated trip reductions associated with the TDM strategies are based on research compiled" by the California Air Pollution Control Officers Association and reflect the County's expert's conclusions based on that report's trip reduction methodology. This is enough, "even though other conclusions might also be reached." (Guidelines, § 15384, subd. (a); see also *South of Market Community Action Network v. City and County of San Francisco* (2019) 33 Cal.App.5th 321, 339.)

Accordingly, we conclude that the FEIR does not improperly defer or inadequately analyze mitigation of VMT impacts.

VII. FEIR Adequately Discloses Potential Impact of Off-Site Well

The project devises two separate water systems. Potable water would be supplied through on-site groundwater supply wells, and non-potable water "would be supplied by a combination of surface water from the on-site reservoirs, recycled from the on-site water recycling plants, and groundwater supply wells." While the FEIR anticipates on-site water supplies would adequately supply the project's non-potable water demands, it also identifies an off-site well that "may be developed" to provide a supplemental non-potable water supply "if required." Because the well's potential use is contingent on an unanticipated shortfall and because the aquifer it draws from is ill-defined, the County concluded the well would have a "potentially significant impact." Petitioners argue the County erred by "omit[ting]" disclosure of the project's potential use of the off-site well and for "mak[ing]

no effort to quantify the amount of groundwater the Project will draw" from that source. We disagree.

While an EIR "necessarily involves some degree of forecasting" that requires an agency to "use its best efforts to find out and disclose all that it reasonably can" (Guidelines, § 15144), "the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible" (Guidelines, § 15151), and an agency may "terminate discussion of [an] impact" if its investigation "finds that [it] is too speculative for evaluation." (Guidelines, § 15145.) Thus, rather than speculate about project impacts, the agency "may discuss potential project impacts at a 'level of specificity . . . determined by the nature of the project and the rule of reason.' " (*Sierra Watch*, *supra*, 69 Cal.App.5th at p. 105; see Guidelines, § 15146.) Whether further disclosure and analysis by an EIR is reasonably feasible "presents a mixed question of law and fact, which usually is subject to independent review and is subject to substantial evidence review only when questions of fact predominate." (*King & Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814, 843 (*King & Gardiner Farms, LLC*).)

As discussed below, disclosure and analysis of the well's potential environmental impacts turn on the foreseeability of the well's actual use and the water source from which it draws. We find these factual questions predominate the inquiries, and therefore review for substantial evidence. (*King & Gardiner Farms, LLC*, *supra*, 45 Cal.App.5th at pp. 843–844.)

Here, the FEIR discloses that non-potable water would be supplied by onsite reservoirs, onsite recycled wastewater, and groundwater wells. Those groundwater wells would consist of existing onsite irrigation wells and "[i]f necessary, an off-site high production well . . . ." Based on these supplies, the FEIR determines "availability of water supplies [even] during dry water

years is projected to exceed projected water demands." Moreover, given "current groundwater and surface water supplies" — which does *not* include the undeveloped offsite well — the non-potable water supply would exceed demand during a "critical dry year" by thousands of acre feet. And during normal water years, the water supply from surface water entitlements (e.g., onsite reservoirs) and recycled water exceed projected water demands without any groundwater from any source.

Nonetheless, the County evaluated the potential offsite well's production capacity and the underlying groundwater basin. The FEIR explains that "[p]ump test results indicate that the existing well has a high production capacity measured at 1,100" gallons per minute. Because of the existing well's "marginal" condition, a new well would need to be constructed that would "yield high flows over 1,000" gallons per minute. Use of the offsite "well has the potential to draw down the Collayomi Valley Groundwater Basin," but the County's investigation into "regional studies and local well data" reveals that "the nature and extent of the aquifer that would be utilized is not well defined." This is because it is not "a uniform alluvium aquifer" but "a series of layers and lenses of permeable or semi-permeable materials that are partially interconnected (Wagner and Bonsignore, 2019)." Accordingly, "the amount of water that could be withdrawn without substantially decreasing groundwater supplies has not been determined."

Petitioners do not challenge these findings, nor can they given the substantial evidence supporting them. Rather, they fault the County for "mak[ing] no effort to quantify the amount of groundwater the Project will draw from offsite."

Petitioners' argument is misplaced. The County unambiguously explains that the well would only be used "[i]f necessary," which it cannot

reasonably forecast given its uncontested finding that the well's use is contingent on extreme circumstances that would not arise under the County's most conservative model of water supplies during "critical dry years." (See *Sierra Watch*, *supra*, 69 Cal.App.5th at p. 105 ["EIR was not required to supply speculative estimates" of construction's duration].) Petitioners point to language in the FEIR stating the offsite well would "be used as a primary source of non-potable water" but fail to emphasize that sentence concludes with the caveat "if required," which the record reveals is exceedingly unlikely. For this reason, Petitioners' reliance on *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 829–830, where the EIR failed to evaluate the impact of supplying 12,000 to 15,000 gallons of water per day that "[t]he EIR disclose[d] . . . will be consumed," is unavailing. We therefore find the FEIR 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. (Guidelines, §§ 15151, 15146.)

We are also unpersuaded that the County should be reasonably expected to disclose more information regarding the well's potential impact on the underlying aqueduct or Middletown's water supply. The County relies on sufficient evidence in support of its finding that the ill-defined nature of the aqueduct precluded a conclusive evaluation of the well's impacts on the aquifer. Coupled with the unlikely and uncertain use of the offsite well, the FEIR's limited discussion of the off-site well's potential impact is reasonable.[13] (Guidelines, §§ 15145, 15146; see also *Sierra Watch*, *supra*, 69 Cal.App.5th at p. 105.)

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[13] These same circumstances justify the deferred nature of Mitigation Measure 3.9-3, which imposes "safe yield analysis and monitoring" of the offsite well. (See Guidelines, § 15126.4, subd. (a)(1)(B); see also Section VI,

VIII. FEIR Properly Rejected Alternative C

Petitioners contend the FEIR rejected a less environmentally impactful alternative — Alternative C — as infeasible without the properly supported findings that CEQA requires. We are unpersuaded.

As our Supreme Court has explained, " '[o]ne of [an EIR's] major functions . . . is to ensure that all reasonable alternatives to proposed projects are thoroughly assessed.' " (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 565, italics omitted.) This assessment is critical because "agencies should not approve projects as proposed if there are feasible alternatives . . . available which would substantially lessen the significant environmental effects of such projects." (§ 21002.) Thus, an EIR must "describe a range of reasonable alternatives" that "would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." (Guidelines, § 15126.6, subd. (a); *Citizens of Goleta Valley,* at p. 566; *Laurel Heights, supra,* 47 Cal.3d at p. 400.)

Once such alternatives are identified, however, the agency has discretion to reject them if the agency "make[s] one or more of the findings required by section 21081." (*City of Marina v. Board of Trustees of California*

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ante, p. 21.) The FEIR commits itself to the measure, adopts specific performance criteria for a safe yield — i.e., "avoid drawdown of groundwater beyond 300 feet of the well" — and identifies actions to achieve this — i.e., "incorporate[ing] pump testing," identifying monitoring wells, limiting pumping rates and durations based on hydraulic analysis, "submit[ting] annual monitoring reports" on quarterly groundwater pumping and groundwater level data, and requiring the analysis to be "certified by a Registered Professional Engineer or Registered Geologist." This is sufficient. (See Guidelines, § 15126.4, subd. (a)(1)(B); see also *East Oakland Stadium Alliance v. City of Oakland, supra,* 89 Cal.App.5th at pp. 1254–1255; Section IV, *ante,* p. 9.)

State University (2006) 39 Cal.4th 341, 350; see § 21002 ["in the event specific economic, social, or other conditions make infeasible such project alternatives . . . , individual projects may be approved in spite of one or more significant effects thereof"]; § 21002.1, subd. (c) [similar].)

Pursuant to paragraph (3) of that provision, an agency may reject an alternative after finding it is infeasible. (§ 21081, subd. (a)(3).) Specifically, the agency may determine that "[s]pecific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report." (*Ibid.*) And if the agency makes such an infeasibility finding, then it must also "find[] that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment." (§ 21081, subd. (b); *Preservation Action Council v. City of San Jose* (2006) 141 Cal.App.4th 1336, 1353 (*Preservation Action Council*).)

Notably, an agency does not abuse its discretion by rejecting alternatives as "infeasible" based on "policy considerations" or project objectives. (E.g., *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1001 (*California Native Plant*) ["an alternative 'may be found infeasible on the ground it is inconsistent with the project objectives as long as the finding is supported by substantial evidence in the record' "]; *Planning and Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892, 918 [alternatives must be evaluated "in relation to the objectives of the project"]; *City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 401, 417 [alternative "reasonably rejected . . . in view of the social and economic realities"].) Moreover, a reasonable reading of a project's

" 'fundamental purpose' " in light of its listed objectives may defeat a proposed alternative's feasibility. (*Yerba Buena Neighborhood Consortium, LLC v. Regents of University of California* (2023) 95 Cal.App.5th 779, 798 (*Yerba Buena Neighborhood Consortium, LLC*); *In re Bay-Delta etc.* (2008) 43 Cal.4th 1143, 1165.) An agency's findings are presumed correct, and the burden is on the party seeking mandamus to prove otherwise. (*California Native Plant*, *supra*, 177 Cal.App.4th at p. 997.) Thus, we review the County's finding that Alternative C would be infeasible for substantial evidence. (*Ibid.*)

The instant FEIR explains the project was designed "to align with the objectives of the Middletown Area Plan Special Study Area, and existing County planning documents." Those plans "identif[y] the need to develop more tourist destinations" and "encourage development of resorts with more commercial uses than residential." The FEIR then sets forth the project's specific development and economic objectives. Relevant here, these objectives include: (1) "Develop a luxury international destination resort that generates financial profits for the investor"; (2) "Meet Middletown Area Plan objectives by incorporating smart growth principles and low density development strategies while providing high end luxury accommodations and services"; (3) "Propose a mix of resort, agriculture, and residential uses consistent with the Lake County General Plan policies, Zoning regulations, Middletown Area Plan, and economic development goals and policies"; (4) "Plan for long term growth of the County with a significant fiscal contribution toward the County's community goals of new economic, employment, and housing opportunities."

After briefly discussing alternatives eliminated from consideration, the FEIR evaluated three potentially feasible alternatives to the project: no

project; a reduced density, similar development footprint; and a high density, compact development footprint (Alternative C). Under Alternative C, all 400 hotel units envisioned by the project would be combined into one large hotel, average lot size for the 1400 residential estates and 450 resort residential units would drop from 4.8 acres to 0.8 acres, and many of the resort amenities would be reduced. The FEIR concludes Alternative C would be environmentally superior to the project because it would result in fewer impacts.

But due to the FEIR's finding that "this alternative would not fully meet objectives related to the development of a luxury destination resort with sufficient amenities to attract a diverse range of guests and residents," the County concluded in its Findings and Statement of Overriding Considerations that Alternative C was infeasible. This was based, in part, on information submitted by Lotusland "indicating that they would expect price reductions for residential lots of at least 35 [percent] if they are unable to offer larger estate lots, and resort amenities, which are in turn supported by the scale of homes and resort units within the community."

Petitioners argue that the FEIR "contained no substantial analysis as to Alternative C's economic infeasibility." Moreover, they contend the evidence submitted by Lotusland is too unreliable to constitute substantial evidence supporting the County's conclusion that Alternative C would reduce the price of residential lots and threaten the "financial feasibility of this alternative."[14]

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[14] This information came in the form of two letters from the founding partner of luxury real estate firm IMI Worldwide Partners that attest to self-reinforcing market forces behind luxury development — i.e., "larger estate-sized homesites" with luxury amenities command "luxury prices" which in turn "is critical to support the luxury amenities." One letter claims

Even if we agreed, however, this flaw is not dispositive. (See *Save Panoche Valley v. San Benito County* (2013) 217 Cal.App.4th 503, 523 [where an agency cites several independent reasons why an alternative is infeasible, the agency's determination will be upheld if one reason is supported by substantial evidence].) Citing *California Native Plant*, *supra*, 177 Cal.App.4th 1336, the County's Findings and Statement of Overriding Considerations expressly states "Alternative [C] is overall less capable of achieving the full scope of project objectives." The County's finding therefore goes beyond the alternative's economic feasibility. Indeed, the foremost justification the County states in rejecting Alternative C is that it "is less capable of achieving the full array of project objectives" and "would not meet the objective of achieving a balance in housing densities consistent with a luxury resort." We find this carries significant weight because the project's objectives make plain that creating a "luxury" resort defined by low density residences is fundamental to the project's purpose. (Cf. *Yerba Buena Neighborhood Consortium, LLC*, *supra*, 95 Cal.App.5th at p. 798.)

The County's conclusion reflects the FEIR's evaluation of Alternative C's inability to satisfy several of the project's objectives. That Alternative C would cut the average lot sizes from 4.8 acres to 0.8 acres — an 83 percent reduction — and reduce the total number of luxury amenities is uncontested. The FEIR states the goal of "meet[ing] Middletown Area Plan objectives by incorporating smart growth principles and low-density development strategies" would not be met because the density of Alternative C "would not

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experience with "similar developments," but the letters differ without explanation on Alternative C's impact on revenues. The letters do not discuss costs, profits, or contain facts evaluating the project's particular circumstances. (See *Preservation Action Council*, *supra*, 141 Cal.App.4th at p. 1352 [fact showing an alternative is merely less profitable is insufficient to demonstrate it is financially infeasible].)

provide as many luxury accommodations." The FEIR also determines Alternative C would only partially meet the project objective regarding "the County's community goals of new economic, employment, and housing opportunities" due to Alternative C's "reduced resort amenities." And it would only partially meet the objective for "[p]ropos[ing] a mix of resort, agriculture, and residential uses consistent with the Lake County General Plan policies, Zoning regulations, Middletown Area Plan, and economic development goals and policies" because "density would be higher than encouraged under current policies."[15]

The FEIR's analysis that smaller and denser accommodations and reduced amenities would not meet these objectives is reasonable. (*Citizens of Goleta Valley v. Board of Supervisors*, *supra*, 52 Cal.3d at p. 569; see also § 21082.2, subd. (c) ["reasonable assumptions predicated upon facts" constitutes substantial evidence].) Accordingly, substantial evidence supports the County's discretionary judgment that the alternative would not meet key project objectives.

Petitioners' other allegation that the FEIR and the County's findings are contradictory is meritless. It is true that the County's Findings and Statement of Overriding Considerations states Alternative C "only marginally lessens the Proposed Project's potentially significant and unavoidable impacts," while the FEIR states that "future phases under Alternative C" would eliminate the potential for significant and unavoidable

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[15] Another objective that the FEIR claims Alternative C will not meet is "develop[ing] a luxury international destination resort that generates financial profit" because "Alternative C would not provide enough resort amenities or large enough lots . . . ." This argument relies, at least in part, on an argument about financial feasibility, which we do not address. But it also reinforces our view that the fundamental purpose of the project is to build a luxury resort.

impacts to scenic vistas." Petitioners ignore, however, that the FEIR also concludes that Alternative C would still result in "significant and unavoidable aesthetic impacts in Phase 1 due to construction," and "[a]ll significant and unavoidable impacts related to Important Farmlands, greenhouse gas emissions, noise, and traffic and transportation would still occur." This is consistent with the County's finding that Alternative C would only "marginally" reduce impacts compared to the project. Petitioners' authority, *California Clean Energy Committee v. City of Woodland* (2014) 225 Cal.App.4th 173, 205, where the lead agency made an "unexplained switch from a rationale of economic infeasibility to environmental inferiority as the basis for rejecting" an alternative, is therefore inapposite. There is substantial evidence in the record to support the FEIR's conclusion to reject Alternative C.

DISPOSITION

For the reasons discussed above, we reverse the trial court's decision that the FEIR adequately disclosed the project's impact on increasing the area's existing wildfire risks. Because the FEIR must be revised, Petitioners request that the FEIR be recirculated is moot. In all other respects, the judgment is affirmed.

The cause is remanded to the trial court, which shall issue an order granting the Petitioners' petition for a writ of mandate vacating the County's certification of the EIR and approval of the project. (§ 21168.9, subd. (a).) Pursuant to section 21168.9, subdivision (b), the trial court shall retain jurisdiction over this action to ensure compliance with the peremptory writ issued. The parties shall bear their own costs on appeal. (Cal. Rules of Court, rules 8.278(a)(3), (5).)

HITE, J.*

We concur:

STREETER, Acting P. J.
GOLDMAN, J.

People ex rel. Rob Bonta v. County of Lake (A165677)

* Judge of the Superior Court of California, City and County of San Francisco, assigned by the Chief Justice pursuant to article VI, section 6 of the California Constitution.

Trial Judge:	Hon. J. David Markham
Trial Court:	Lake County Superior Court
Attorneys:	Peter J. Broderick and Aruna M. Prabhala for Center for Biological Diversity, for Petitioner and Appellant. Lozeau Drury LLP, Rebecca L. Davis and Brian B. Flynn, for Petitioner and Appellant. Rob Bonta, Attorney General, Andrew R. Contreiras, Aarti S. Kewalramani, and Nicole U. Rinke, Deputy Attorneys General, for Petitioner and Appellant. Anita L. Grant and Nicole Danielle Johnson, County Counsels, for Defendant and Respondent. Miller Starr Regalia, Arthur F. Coon and Matthew C. Henderson, for Defendant and Respondent. Coblentz Patch Duffy & Bass LLP, Jonathan R. Bass, Charmaine G. Yu, and Sarah E. Peterson, for Real Party in Interest. Farella Braun & Martel, Katherine Philippakis and Linda Sobczynski, for Real Party in Interest.

Appendix C

Attorney General Settlement Agreement

AGREEMENT REGARDING DEVELOPMENT OF GUENOC VALLEY PROJECT

This Agreement is entered into by and between the People of the State of California, ex rel. Rob Bonta, Attorney General of California (the "State") and Lotusland Investment Holdings Inc. ("Lotusland") (collectively, the "Parties"). This Agreement shall be effective upon the date the Agreement is fully signed and executed by the Parties.

Recitals

A. On July 21, 2020, the County of Lake ("County"), by its Board of Supervisors, certified the Environmental Impact Report ("EIR") for the Guenoc Valley Mixed-Use Planned Development Project (the "Project") and adopted findings approving the Project. For purposes of this Agreement, the "Project" also means any development, including any construction and operational phases, that in any way relies on the EIR, including the EIR as may be modified and re-certified, for compliance with the California Environmental Quality Act ("CEQA").

B. On or about August 20, 2020, the Center for Biological Diversity and the California Native Plant Society filed petitions for writs of mandate challenging the certification of the EIR and approval of the Project. The petitions were consolidated for all purposes, except entry of judgment, under Lake County Superior Court Case Number CV 421152 ("Action").

C. The State intervened in the pending Center for Biological Diversity Action and filed a petition for writ of mandate (the "State's Petition") challenging the certification of the EIR and approval of the Project.

D. The Lake County Superior Court ("Superior Court") consolidated the petitions for hearing, and entered Judgment on February 25, 2022. Copies of the Judgment and Writ issued by the Superior Court on February 25, 2022 in Case Numbers CV 421152 and CV 421193 ("Judgment/Writ") are attached as Exhibit A to this Agreement. The State filed a notice of appeal on July 5, 2022.

E. The Parties have agreed to resolve the State's Petition and appeal.

F. Attached as Exhibit B-1 is the existing site plan for the Project's Polo and Equestrian Facility. Attached as Exhibit B-2 is the revised plan for this component of the Project, with the hilltop residential lots removed. Attached as Exhibit B-3 is a map showing the location of the Recreational and Camping Area of the Project's Polo and Equestrian Facility.

G. Attached as Exhibit C-1 is the existing site plan for the Project's golf course area and northern lots. Attached as Exhibit C-2 is the revised plan for this component of the Project.

H. Attached as Exhibit D is a revised roadway plan for the Project site, with the lengths of all dead-end, non-looped road segments indicated.

I. Attached as Exhibit E is a depiction of the roadside hardscape design.

NOW THEREFORE, in consideration of the mutual covenants, representations, and other terms and conditions set forth herein, the Parties agree as follows:[1]

Agreement

1. **Required Project Modifications.** Lotusland shall incorporate the following modifications and requirements into any future request for approval of the Project and, as set forth in Section 4 of this Agreement, may develop the Project only with the following modifications and requirements.

(a) Wildfire-Related Project Modifications and Measures.

(i) The Recreational and Camping Area depicted on Exhibit B-3 will be reserved only for recreational and camping uses. Open fires shall be strictly prohibited.

(ii) The area consisting of the twenty-five building sites depicted on Exhibit B-1 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.

(iii) The areas consisting of the thirty-nine building sites depicted on Exhibit C-1 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.

(iv) As indicated on the Roadway Plan attached as Exhibit D, no dead-end, non-looped road segment may exceed one mile in length.

(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.

(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.

(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

[1] Certain terms used in this Agreement are defined in the Appendix.

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.

(viii) Lotusland 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.

(b) GHG Emissions Reduction Measures.[2]

(i) Residential Land Uses

a. Lotusland 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. Lotusland 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 Lotusland 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. Lotusland 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%). Lotusland shall design and install the battery energy storage systems to provide energy

[2] The goal of the provisions set forth in this Subsection is the reduction of the Project's GHG emissions and achievement of a zero net energy community. A zero net energy community is defined as an energy-efficient community where, on a source energy basis, the actual annual consumed energy is less than or equal to the on-site renewable generated energy. This Agreement does not impose measures or obligations beyond those expressly set forth in this Subsection in order to achieve that goal.

savings benefits found in Section 150.1 of the California Building Energy Efficiency Standards for thirty (30) years from the date of initial installation.

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.

d. Lotusland 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. Lotusland 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 Lotusland 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.

e. Lotusland 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.

f. Lotusland 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.[3] Appliances, other than those used for stovetop cooking, shall operate on electricity.

g. Lotusland 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.

[3] PG&E, the public utility serving Lake County, generates a portion of its electric power from natural gas. This Agreement does not proscribe the use of electricity generated with the use of natural gas, and transmitted to the Project by a public utility.

(ii) Non-Residential Land Uses

a. Lotusland shall ensure that on-site generation of renewable energy is sufficient to produce electricity to supply energy for all non-residential land use structures. To comply with this requirement, Lotusland 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. Lotusland 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 Lotusland 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 non-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%). Lotusland 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. Lotusland 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.

b. For the non-residential land uses of the Project, Lotusland 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. Lotusland 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, Lotusland 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 Lotusland is responsible for the

[4] As used herein, "publicly-accessible" means that the charging stations shall be available to residents, guests, and employees who reside at or visit the Project.

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.

c. Except as set forth below, Lotusland 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.[5]

d. Except as set forth below, Lotusland shall require that non-residential 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, Lotusland 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. Lotusland shall be permitted to install, and operate, natural gas-fueled or propane-cooktops in restaurant kitchens.

2. Lotusland shall be permitted to install, and operate, natural gas-fueled or propane-fire pits in the outdoor patio areas of restaurants.

e. Lotusland 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.

(iii) Off-Site GHG Emissions Reduction Measures

a. Lotusland's Obligation to Purchase GHG Offset Credits. Lotusland 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

[5] The "Project site" excludes the existing agricultural portions marked "Not in Project Site" in the previously approved Project materials, as shown in Exhibit D.

actual GHG emissions in each year. The current estimate is that 14,865 credits will be required annually for that purpose, and Lotusland 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 Lotusland is required to purchase under this Subsection. Lotusland 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 Lotusland shall be consistent with CEQA.

b. Performance Standards

1. Lotusland 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.[6]

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).

[6] For purposes of this provision, offset credits will be deemed "unavailable" if they are either unobtainable through generally accessible markets, or on a per-unit basis: (a) for offset credits within the County of Lake, more than **2** times as costly as offset credits within the State of California, but not within the County of Lake; (b) for offset credits within the State of California, more than **5** times as costly as offset credits within the United States, but not within the State of California; and (c) for offset credits within the International market, no offset credits within the United States are available for purchase at any cost.

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. Lotusland 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.

(iv) Compliance Protocols

Lotusland 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.

(v) Monitoring, Reporting, and Recordkeeping

a. Lotusland shall select and retain at least one independent, third-party expert on GHG mitigation and offsets to review the documentation provided by Lotusland 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 Lotusland has complied with the off-site GHG emissions reduction measures set forth in this Agreement. Lotusland's selection of each expert, who shall not be a current or former employee or agent of Lotusland, shall be subject to the approval of the Attorney General's Office, which shall not be unreasonably withheld. Lotusland 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.

b. Each year, the expert(s) retained by Lotusland shall prepare a report and make specific findings as to whether Lotusland has met the requirements set forth in Sections 1(b)(i)–(iii) of this Agreement.

c. Lotusland shall provide the expert report and findings to the County and the Attorney General's Office on an annual basis. Lotusland 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.

2. **Return to Writ on Community Evacuation**.

(a) In accordance with the Judgment/Writ, it is contemplated that additional environmental analysis will be conducted with respect to the impact of the Project on community evacuation, with said analysis to become part of, or supplement in some manner, the environmental impact report for the Project prior to any further Project approvals. The State reserves all rights to submit comments on any draft environmental document on community evacuation. Subject to Lotusland's compliance with this Agreement, the State's comments, however, if any, shall be limited in scope to the adequacy of the analysis of, and any mitigation for, the Project's impacts on community evacuation, and will not advance or renew other arguments or claims that were the subject of the State's Petition, or that were addressed in the Court's Ruling and Order on Petitions for Writ of Mandate or in the Judgment/Writ.

(b) Before the County takes further action on community evacuation, Lotusland will share the community evacuation materials prepared by the firm of Fehr & Peers (the "F&P evacuation study prepared for the County") for the State's review and input. The State has retained a separate traffic expert with Fehr & Peers (i.e., not a member of the Fehr & Peers team preparing the F&P evacuation study prepared for the County) to review the F&P evacuation study prepared for the County. The experts have agreed to be walled off from communicating with one another about the Project.

(c) Upon receiving the F&P evacuation study prepared for the County, the State will confer with its expert and will not object during the administrative process or oppose the County's return to Writ, or object to the adequacy of the County's analysis of community evacuation if:

(i) The State's expert concludes that the F&P evacuation study prepared for the County has addressed the inadequacies identified by the Superior Court, met the applicable CEQA Guidelines expectations, and supplied substantial evidence supporting the County's related impact findings and recommended mitigation measures; and

(ii) Any Project approval includes all feasible measures to mitigate any community evacuation impact to less than significant as identified in the F&P evacuation study prepared for the County and reviewed by the State's expert.

(d) If the State's expert does not concur with the F&P evacuation study prepared for the County, the Parties agree to meet and confer. With the concurrence of F&P, the experts may be involved in those discussions. To the extent that any differences remain unresolved, the State

reserves the right to participate in the administrative process and reserves the right to pursue further judicial remedies regarding the adequacy of analysis of the Project's community evacuation impacts, as it deems appropriate.

3. **Abandonment of State's Appeal and Continued Appellate Proceedings.**

(a) Within forty-five (45) calendar days of full execution of this Agreement, the State will file a Notice of Settlement with the Court of Appeal and abandon any appeal of the Judgment/Writ consistent with the applicable Rules of Court. The Parties acknowledge that this Agreement relates to the avoidance of litigation and the preclusion of the Petition and appeal as described above and agree that this Agreement is not to be treated or construed, at any time or in any manner whatsoever, as an admission by any Party that any of the allegations in the action or appeal have or lack merit.

(b) The State reserves the right to challenge any future approval for development on the Project site that is inconsistent with this Agreement.

(c) If a subsequent judicial decision results in a partial or full rescission of any Project approvals or a finding of non-compliance with CEQA, Lotusland shall continue to comply with the obligations set forth in this Agreement to the extent permitted under governing law.

4. **Development Obligations and Requirements**.

(a) If Lotusland seeks to develop the Project, Lotusland shall include in any submittal to the County each and every modification and requirement specified in Section 1 as part of the Project, Project design features, or mitigation measures. Lotusland shall further request that the County incorporate all terms specified in Section 1 in the Mitigation Monitoring and Reporting Program (MMRP), whether those terms be listed as mitigation measures, project design features or other requirements.

(i) The Parties recognize that the County is not a party to this Agreement, that the County has declined to make any commitments or receive any benefits under this Agreement, and that, therefore, neither the State nor Lotusland has the power to compel the County to take a specific administrative action pursuant to this Agreement.

(ii) If the County proposes a change to the Project that is inconsistent with Lotusland's obligations under this Agreement, Lotusland shall notify the State as soon as is reasonably practicable.

(iii) Subject to subsections (b) and (c) below, the Parties further recognize that Lotusland may implement and, pursuant to this Agreement, shall implement the modifications and requirements set forth in the Agreement whether or not the County incorporates them into its Project approvals.

(b) Lotusland shall develop the Project only in conformance with each and every term of this Agreement, and shall implement all Project modifications, measures, features,

development restrictions, and limitations contained in this Agreement in addition to any other environmental mitigation measures imposed in any future Project approval. In no event may the Project be developed in a manner that does not conform with this Agreement, except:

(i) If the County finds, based upon substantial evidence, that a requirement set forth in Section 1(b)(i)–(ii) is technologically infeasible and, on that basis, issues an approval incompatible with that requirement, Lotusland may request an alteration to its obligations under this Agreement. After Lotusland makes such a request, the Parties will negotiate in good faith to substitute a measure or requirement that would achieve a materially equivalent environmental benefit or sustainable renewable energy output.

(ii) If the Parties are unable to agree to such an equivalent measure or requirement, and the State determines the unavailability of such a substitute measure or requirement means the resulting environmental benefit, in whole or in part, to the Project cannot be achieved, then Lotusland shall not proceed with the Project and shall thereafter be entitled to develop the Project site only after submittal and approval of a new development application that in no way relies on the EIR or a modified EIR for CEQA compliance.

(c) Nothing contained herein imposes an obligation on Lotusland to develop the Project. The Parties acknowledge that Lotusland may decline to develop the Project site and may in the future seek approval to develop a different project on the Project site. This Agreement applies only to any Project that relies for CEQA compliance on the EIR, or the EIR as it may be modified and re-certified, and not to any project or approvals for which application may be made in the future with respect to the same site that in no way relies on the EIR or a modified EIR for CEQA compliance.

5. **Covenant not to Sue and Reservation of Rights**. Except as otherwise specifically provided herein, the State hereby agrees not to commence or participate in any administrative proceeding or lawsuit against Lotusland with respect to the claims that were raised in the State's Petition, or any other claims that could have been asserted by the State based upon the acts, omissions and/or events that are alleged in the State's Petition or that relate to the County's Project approvals issued on June 21, 2020. Lotusland agrees not to commence any administrative proceeding or lawsuit against the State with respect to the claims asserted or that could have been asserted in litigation relating to the State's Petition or the County's Project approvals issued on June 21, 2020. The State specifically retains the right to assert a claim, demand, or cause of action to enforce this Agreement, to challenge any future County approval of the Project that is inconsistent with the Project Modifications described in Section 1 above, or to challenge future phases of the Project.

6. **Recordation of Memorandum of this Agreement with the County Recorder's Office**.

(a) Lotusland shall record this Agreement (or a memorandum attaching this Agreement as an exhibit) in the chain of title for the Project with the County Recorder's Office by the earlier of twenty-one (21) calendar days following this Agreement's Effective Date, or fourteen (14) calendar days following the County's recordation of the Development Agreement

for the Project. This recordation shall provide any subsequent purchaser and the public with notice of the obligations contained within this Agreement.

(b) Lotusland shall incorporate the text of Section 1 of this Agreement into the CC&Rs, and shall provide that such incorporated Sections cannot be later amended by the HOA without the consent of the State, and shall attach this Agreement as an exhibit to the CC&Rs, recorded in the property's chain of title for the Project.

(c) Lotusland shall provide the Attorney General's Office with proof of each recordation within fifteen (15) calendar days of recordation of this Agreement.

7. **Reporting and Inspection**. Each year, Lotusland shall deliver to the State and County an annual monitoring report for the period covering the prior calendar year ("Annual Report") detailing compliance with the requirements of this Agreement. The Annual Report shall document all of Lotusland's actions implemented in the previous calendar year to comply with Lotusland's obligations and requirements under the Agreement, including but not limited to (i) the payments made to the LCFPD necessary to staff and equip the Emergency Response Center and (ii) the purchase of GHG offset credits. This Annual Report may be sent on the same date, and as part of, the reports required under Section 1(b)(v) of this Agreement. Lotusland agrees that the State may periodically send a representative to inspect the open commercial areas and all roadways on the Project site to assess compliance with this Agreement.

8. **Notice**. Any notice, request, or communication required to be given to the Parties under this Agreement shall be given electronically by e-mail or, upon request, in writing by personal delivery or certified mail to each relevant Party's designee(s) listed in Exhibit F. Any Party may update its designee(s) by giving written notice to all other Parties.

9. **Fees and Costs**. Each Party to this Agreement shall be responsible for the payment of its own costs and attorneys' fees incurred in connection with this Agreement and the Action; however, this provision shall have no effect on any preexisting indemnity agreement or arrangement between any of the Parties.

10. **Compromise; No Admission of Liability**. This Agreement is the result of a compromise between and among the Parties, and it shall never, at any time or for any purpose, be deemed or construed as an admission of, or evidence of, the validity of any of the claims in the Action or the State's Petition. Nor does the compromise in this Agreement constitute a representation that the Project is in compliance with applicable regulations and/or laws.

11. **Voluntary Execution; Consultation with Counsel**. Each Party acknowledges, declares, and represents that it has read and fully understands this Agreement; that it has had a full and unfettered opportunity to understand this Agreement's provisions; that it has been represented by independent legal counsel of its own choosing regarding this Agreement and the meaning of the terms and provisions contained herein; and that it has consulted with its respective counsel regarding the meaning of the terms and provisions contained in this Agreement. Each Party further expressly acknowledges, declares, and represents that it is fully aware of this Agreement's terms, conditions, and legal effect, that it approves and accepts the terms and conditions of this Agreement, and that it executed this Agreement freely and voluntarily.

12. **Authority**. Each Party represents and warrants that it has full authority to enter into this Agreement. Each person executing this Agreement on behalf of a Party hereby warrants that they have full authority to do so.

13. **Successor and Assigns**.This Agreement shall be binding upon, and inure to the benefit of, the Parties hereto, and their successors. Lotusland shall provide written notice to the State of any assignment or transfer of its interest in any portion of the Property or the Project to any third party developers and home builders. To the extent of any such transfer to a third party which is unaffiliated with Lotusland, Lotusland shall be released of its obligations hereunder, and such obligations shall be assumed by the transferee, which shall execute an Assumption Agreement in the form attached as Exhibit G.[7]

14. **California Law**. This Agreement shall be construed under, and shall be deemed governed by, the laws of the State of California. In carrying out any of their obligations under this Agreement, the Parties shall comply with the requirements of applicable laws.

15. **Construction**. The language in this Agreement shall be construed as a whole, according to its plain and fair meaning, and not strictly for or against any Party, regardless of which Party had primary drafting responsibility. The Parties, each having been represented by counsel of their choosing, agree that this Agreement shall be deemed to have been jointly drafted by them.

16. **Entire Agreement of the Parties; Acknowledgements and Recitals**. This Agreement sets forth the entire understanding of the Parties in connection with the subject matter hereof. The Parties acknowledge that, in executing this Agreement, they have not relied on any statement, representation, or warranty in connection herewith, except as expressly set forth herein, and that no such prior or extraneous statements have acted as an inducement for the Parties to enter into the Agreement. Each Party acknowledges that the other Parties have relied and will rely on the acknowledgements made in this Agreement, and that each acknowledgement made in this Agreement is and may be regarded as a recital of fact under pertinent California law, including Evidence Code section 622.

17. **Modification and Waiver**. No amendment, modification or waiver of the provisions of this Agreement shall be valid and enforceable unless such amendment, modification, or waiver is in writing and signed by all the Parties.

18. **Severability**. If any provision of this Agreement is held invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision herein. All remaining provisions shall continue in full force and effect without being impaired or invalidated in any way, and such invalid, illegal, or unenforceable provision shall be restated by a court of competent jurisdiction to reflect as nearly as possible the original intentions of the Parties in accordance with applicable law.

[7] Notwithstanding the foregoing, except to the extent that they become subject to specific obligations set forth in CC&Rs, however, the future homeowners and users of properties within the Project are not intended to be bound by, or become subject to, the terms of this Agreement.

19. **Counterparts**. This Agreement may be executed in counterparts and, as so executed, shall constitute an Agreement binding on all the Parties hereto, as provided herein, notwithstanding that all Parties are not signatories to the original or the same counterpart. A signature delivered by facsimile or PDF/email shall be deemed and treated as an original.

20. **Future Dispute**. This Agreement shall be deemed to have been made in Lake County, California, and the Parties agree that any dispute arising out of or relating to the meaning or enforcement of this Agreement, if litigated, will be litigated in the Superior Court of Lake County, California.

IN WITNESS WHEREOF, the Parties do hereby execute this Agreement by their duly authorized representatives.

Dated: November ___, 2022

People of the State of California
by Rob Bonta, Attorney General of California

By: _____
Name:
Its:

Dated: November ___, 2022

Lotusland Investment Holdings Inc.

By: _____
Name:
Its:

28 Andrew Contreiras

APPENDIX

- "CARB" means California Air Resources Board, a state regulatory agency.
- "CARB-approved Registry" means a Registry that CARB has verified as compliant with the Cap-and-Trade Regulation. Current CARB-approved Registries are the American Carbon Registry ("ACR"), the Climate Action Reserve ("CAR") and Verra (formerly the Verified Carbon Standard).
- "CEQA" means the California Environmental Quality Act, California Public Resources Code sections 21000-21189.7.
- "California Building Energy Efficiency Standards" means the energy and water efficiency requirements set forth in Part 6 of Title 24 of the California Code of Regulations, published on December 12, 2018, and effective on January 1, 2020.
- "California Green Building Standards" means the requirements set forth in Part 11 of Title 24 of the California Code of Regulations, printed July 2019 and effective January 1, 2020.
- "Non-residential land use structure" means a structure or the part of a structure that is used as for resort, commercial, workforce housing that will support resort and commercial uses, and authorized at the Project Site and which does not include Residential Units.
- "GHG" means greenhouse gases.
- "GHG Emissions Offset" means a reduction in GHG emissions – or an increase in carbon storage (e.g., through land restoration or the planting of trees) – that is used to compensate for GHG emissions that occur elsewhere.
- "GHG Offset Credit" means a transferrable instrument that represents the reduction of one metric tonne of carbon dioxide equivalent achieved by a GHG emission reduction project or activity that is not otherwise required.
- "Project" means any development, including the construction and operational phases, that in any way relies on the EIR, including the EIR as may be modified and re-certified, for compliance with CEQA.
- "Residential Unit or Residential Land Use Structure" means a structure or the part of a structure that is used as a home or residence by one or more persons maintaining a household, including but not limited to attached or detached homes, apartments and condominiums.

Exhibit A

to

Agreement Regarding Development of Guenoc Valley Project

Judgment and Writ Issued by Lake County Superior Court

ROB BONTA
Attorney General of California
CHRISTINA BULL ARNDT
SARAH MORRISON
Supervising Deputy Attorneys General
ANDREW CONTREIRAS, STATE BAR NO. 307596
NICOLE RINKE, STATE BAR NO. 257510
Deputy Attorneys General
600 West Broadway, Suite 1800
San Diego, CA 92101
P.O. Box 85266
San Diego, CA 92186-5266
Telephone: (619) 738-9000
Fax: (619) 645-2271
E-mail: Andrew.Contreiras@doj.ca.gov
Attorneys for Intervenor People of the State of California, ex rel. Rob Bonta, Attorney General

Additional attorneys listed on following page

FILED
SUPERIOR COURT
COUNTY OF LAKE

FEB 25 2022

Krista D. LeVier
BY _____
Deputy Clerk

Exempt From Fees Pursuant to Government Code § 6103.

FEB 16 2022

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF LAKE

CENTER FOR BIOLOGICAL DIVERSITY, **Petitioner,** **v.** **COUNTY OF LAKE, BOARD OF SUPERVISORS OF THE COUNTY OF LAKE, AND DOES 1-20,** **Respondents.**	Case No. CV421152 Consolidated with Case No.: CV 421193 ~~[PROPOSED]~~ **JUDGMENT IN CASE NO. CV421152** Dept: 2 Judge: Hon. J. David Markham Trial Dates: October 29, and November 3, 2021 Lead Action (CV-421152) Filed: August 20, 2020 Action (CV-421193) Filed: September 2, 2020
LOTUSLAND INVESTMENT HOLDINGS, INC., AND DOES 21-40, **Real Parties in Interest.**	
PEOPLE OF THE STATE OF CALIFORNIA EX REL. ROB BONTA, ATTORNEY GENERAL **Intervenor/Petitioner**	

Aruna Prabhala (SBN 278865)
Peter J. Broderick (SBN 293060)
Ross Middlemiss (SBN 323737)
CENTER FOR BIOLOGICAL DIVERSITY
1212 Broadway, Suite 800
Oakland, California 94612
Telephone: (510) 844-7100
Facsimile: (510) 844-7150
aprabhala@biologicaldiversity.org
pbroderick@biologicaldiveristy.org
rmiddlemiss@biologicaldiversity.org

Attorneys for Center for Biological Diversity

Rebecca Davis (SBN 271662)
Brian Flynn (SBN 314005)
LOZEAU | DRURY LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612
Telephone: (510) 836-4200
rebecca@lozeaudrury.com
brian@lozeaudrury.com

Attorneys for California Native Plant Society

Petitioner Center for Biological Diversity challenged the July 20, 2020 decision of Respondents County of Lake and the Lake County Board of Supervisors (collectively, "County") to approve the Guenoc Valley Mixed-Use Planned Development Project ("Project") proposed by Real Party in Interest Lotusland Investment Holdings, Inc. ("Real Party") and to certify an Environmental Impact Report ("EIR") for the Project and adopt findings. The case was consolidated with a similar petition filed by the California Native Plant Society (collectively, with the Center for Biological Diversity, "Petitioners") for all purposes except entry of judgment. The People of the State of California, ex rel. Attorney General Rob Bonta ("Intervenor") were granted leave to intervene in the consolidated cases before briefing and trial.

The hearing on the merits was held on October 29, 2021 and November 3, 2021 before the Honorable J. David Markham in Department 2 of the Lake County Superior Court. Peter J. Broderick of the Center for Biological Diversity and Rebecca L. Davis and Brian B. Flynn of Lozeau Drury LLP appeared on behalf of Petitioners. Nicole Rinke, Andrew R. Contreiras, and Shannon Clark of the Office of the Attorney General appeared on behalf of Intervenor. Anita Grant and Nicole D. Johnson of the County of Lake and Arthur F. Coon of Miller Starr Regalia appeared on behalf of the County. Jonathan R. Bass and Charmaine Yu of Coblentz Patch Duffy & Bass LLP appeared on behalf of Real Party.

The Court, having reviewed the record of proceedings in this matter, the briefs and papers submitted by counsel, and the arguments of counsel; and the matter having been submitted for decision,

IT IS ORDERED AND ADJUDGED THAT:

1. For the reasons set forth in this Court's Ruling and Order on Petitions for Writ of Mandate dated January 4, 2022, attached as Exhibit A and incorporated by reference, Judgment is hereby entered granting in part, and denying in part, the Petition for Writ of Mandate, as set forth in more detail in the incorporated Ruling and Order.
2. The Lake County Superior Court issues the peremptory writ of mandate attached as Exhibit B, ordering the County to:

a. Set aside its certification of the EIR;

b. Set aside and vacate its findings relating to impacts to community evacuation or an adopted emergency evacuation plan;

c. Set aside and vacate all approvals adopted in connection with the County's approval of the Project and certification of the EIR, including Amendment to the Lake County General Plan (GPAP 18-01) for the Guenoc Valley Mixed Use Commercial Development; Amendment to the Lake County General Plan Amendment (GPAP 18-01) for the Guenoc Valley Mixed Use Commercial Development; Amendment to General Plan Policy LU 6.12 of Chapter 3, Section 3.9 (Economic Development) of the Lake County General Plan; Zoning Ordinance Text Amendment (AM 18-04); Ordinance No. 3095 Establishing Regulations and Development Standards for the Guenoc Valley Zoning District or "GVD District"; Sectional District Zoning Map No. 3.7(b) 1.401; Sectional District Zoning Map No. 3.7(b) 1.402; General Plan of Development (GPD 18-01); Major Use Permit (UP 18-49); Tentative Subdivision Map (SD 18-01); Development Agreement (DA 18-01); Tentative Subdivision Map (SD 20-01); and Major Use Permit (UP 20-02).

d. Should Real Party choose to proceed with pursuing reapproval of the Project, prior to any reapproval of the Project, the County shall take such specific action as may be necessary to bring its EIR and findings as they relate to the issue of community emergency evacuation routes into compliance with this Court's Ruling and Order and CEQA, and upon any reapproval the County shall return to this Court to show the action it has taken and seek this Court's determination that it has complied with the Writ.

3. The Court reserves jurisdiction over any timely claim for an award of costs and attorneys' fees.

4. The Court retains jurisdiction over the County's proceedings with respect to the

Project, pursuant to Public Resources Code section 21168.9(b) and all applicable law, to ensure compliance with the peremptory writ issued pursuant to this Judgment and CEQA.

DATED: 2/25/2022

David Markham

Hon. J. David Markham
Judge of the Lake County Superior Court

ROB BONTA
Attorney General of California
CHRISTINA BULL ARNDT
SARAH MORRISON
Supervising Deputy Attorneys General
ANDREW CONTREIRAS, STATE BAR NO. 307596
NICOLE RINKE, STATE BAR NO. 257510
Deputy Attorneys General
600 West Broadway, Suite 1800
San Diego, CA 92101
P.O. Box 85266
San Diego, CA 92186-5266
Telephone: (619) 738-9000
Fax: (619) 645-2271
E-mail: Andrew.Contreiras@doj.ca.gov
Attorneys for Intervenor People of the State of California, ex rel. Rob Bonta, Attorney General

FILED
SUPERIOR COURT
COUNTY OF LAKE

FEB 25 2022

Krista D. Lesser
BY _____
Deputy Clerk

Exempt From Fees Pursuant to Government Code § 6103.

Additional attorneys listed on following page

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF LAKE

CENTER FOR BIOLOGICAL DIVERSITY, **Petitioner,** **v.** **COUNTY OF LAKE, BOARD OF SUPERVISORS OF THE COUNTY OF LAKE, AND DOES 1-20,** **Respondents.**	Case No. CV421152 Consolidated with Case No.: CV 421193 **~~[PROPOSED]~~ PEREMPTORY WRIT OF MANDATE** Dept: 2 Judge: Hon. J. David Markham Trial Dates: October 29, and November 3, 2021 Lead Action (CV-421152) Filed: August 20, 2020 Action (CV-421193) Filed: September 2, 2020
LOTUSLAND INVESTMENT HOLDINGS, INC., AND DOES 21-40, **Real Parties in Interest.**	
PEOPLE OF THE STATE OF CALIFORNIA EX REL. ROB BONTA, ATTORNEY GENERAL **Intervenor/Petitioner**	

Aruna Prabhala (SBN 278865)
Peter J. Broderick (SBN 293060)
Ross Middlemiss (SBN 323737)
CENTER FOR BIOLOGICAL DIVERSITY
1212 Broadway, Suite 800
Oakland, California 94612
Telephone: (510) 844-7100
Facsimile: (510) 844-7150
aprabhala@biologicaldiversity.org
pbroderick@biologicaldiveristy.org
rmiddlemiss@biologicaldiversity.org

Attorneys for Center for Biological Diversity

Rebecca Davis (SBN 271662)
Brian Flynn (SBN 314005)
LOZEAU | DRURY LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612
Telephone: (510) 836-4200
rebecca@lozeaudrury.com
brian@lozeaudrury.com

Attorneys for California Native Plant Society

TO RESPONDENTS COUNTY OF LAKE AND THE LAKE COUNTY BOARD OF SUPERVISORS:

This action challenges the July 21, 2020 decision of Respondents County of Lake and the Lake County Board of Supervisors (collectively, "Respondents") to approve the Guenoc Valley Mixed-Use Planned Development Project ("Project") proposed by Real Party in Interest Lotusland Investment Holdings, Inc. ("Real Party") and to certify an Environmental Impact Report ("EIR") for the Project and adopt findings. The Court having entered Judgment in this proceeding directing that a Peremptory Writ of Mandate issue under the seal of this Court,

HEREBY COMMANDS Respondents, on receipt of this writ, to:

1. Set aside the certification of the EIR within 60 days.
2. Set aside and vacate, within 60 days, the findings relating to impacts to community evacuation or an adopted emergency evacuation plan.
3. Set aside and vacate, within 60 days, the County approvals adopted in connection with the Respondent's certification of the EIR, including Amendment to the Lake County General Plan (GPAP 18-01) for the Guenoc Valley Mixed Use Commercial Development; Amendment to the Lake County General Plan Amendment (GPAP 18-01) for the Guenoc Valley Mixed Use Commercial Development; Amendment to General Plan Policy LU 6.12 of Chapter 3, Section 3.9 (Economic Development) of the Lake County General Plan; Zoning Ordinance Text Amendment (AM 18-04); Ordinance No. 3095 Establishing Regulations and Development Standards for the Guenoc Valley Zoning District or "GVD District"; Sectional District Zoning Map No. 3.7(b) 1.401; Sectional District Zoning Map No. 3.7(b) 1.402; General Plan of Development (GPD 18-01); Major Use Permit (UP 18-49); Tentative Subdivision Map (SD 18-01); Development Agreement (DA 18-01); Tentative Subdivision Map (SD 20-01); and Major Use Permit (UP 20-02).

4. File and serve an initial return to the Writ no later than 75 days after service of this Writ specifying the actions taken as of that date to comply with the terms of this peremptory writ of mandate, as well as the general substance and estimated timing of any future actions contemplated to be taken by County, in any further County proceedings regarding the Project, to comply with this Court's Judgment, Writ, and CEQA.

5. The Court shall retain jurisdiction over these proceedings pursuant to Public Resources Code section 21168.9(b), until the Court determines that Respondent has adequately complied with this Peremptory Writ of Mandate and CEQA. Should the Real Party choose to seek the County's reconsideration and approval of the Project, the County shall conduct such administrative proceedings in a manner consistent with this Court's Judgment and Writ, and this Court shall retain continuing jurisdiction over any such further proceedings before the County on the Project and its related environmental review and findings under CEQA, under all applicable law. Should the County determine to reapprove the Project, then following its action it shall return to this Court to seek a determination that it has complied with this Court's Judgment and Writ.

THE FOREGOING PEREMPTORY WRIT OF MANDATE ISSUES IMMEDIATELY.

IT IS SO ORDERED.

DATED: 2/25/2022

J. David Markham

Hon. J. David Markham
Judge of the Lake County Superior Court

Exhibits B-1 and B-2

to

Agreement Regarding Development of Guenoc Valley Project

Existing and Revised Site Plan, Polo and Equestrian Hilltop Area

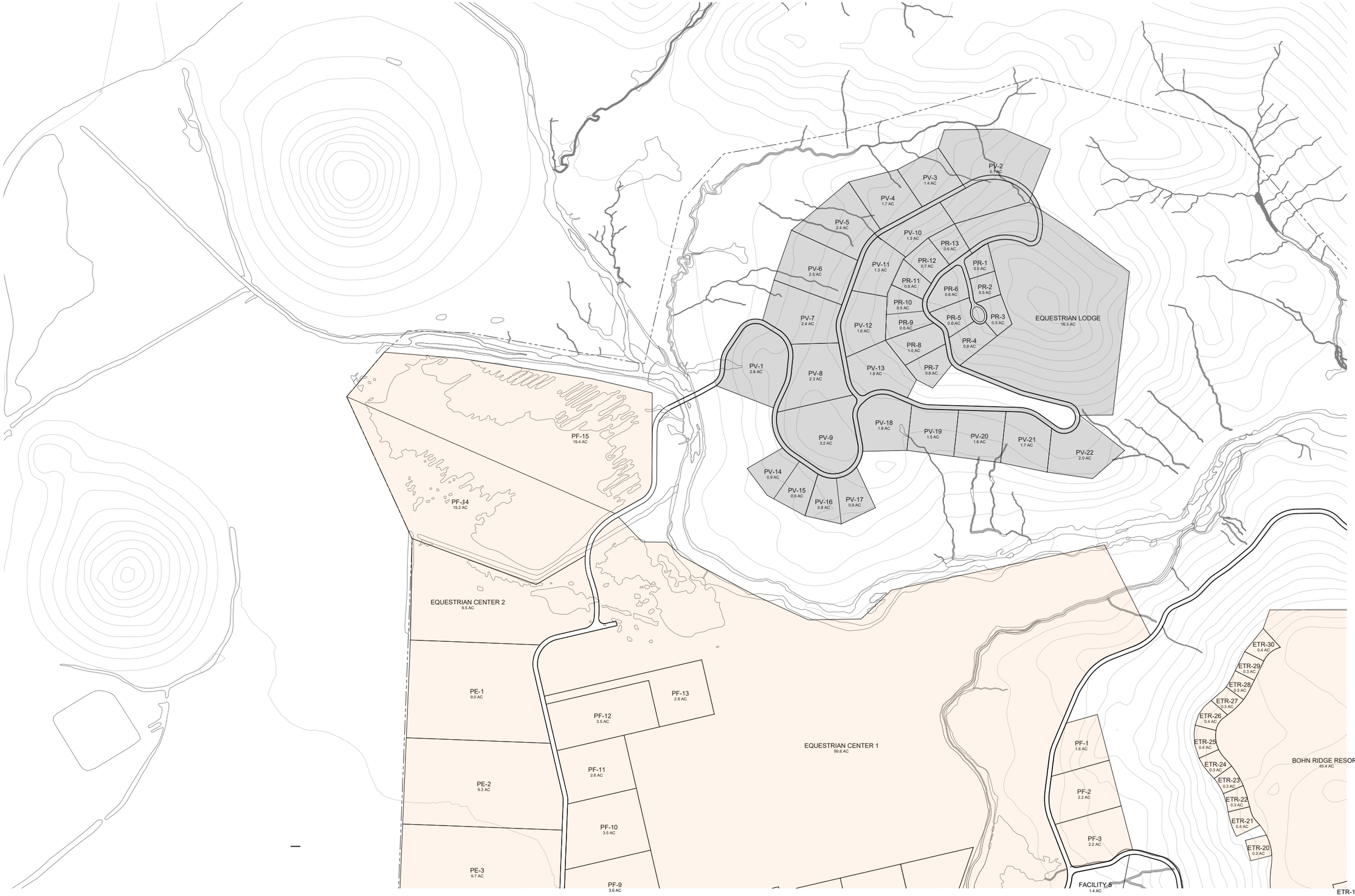
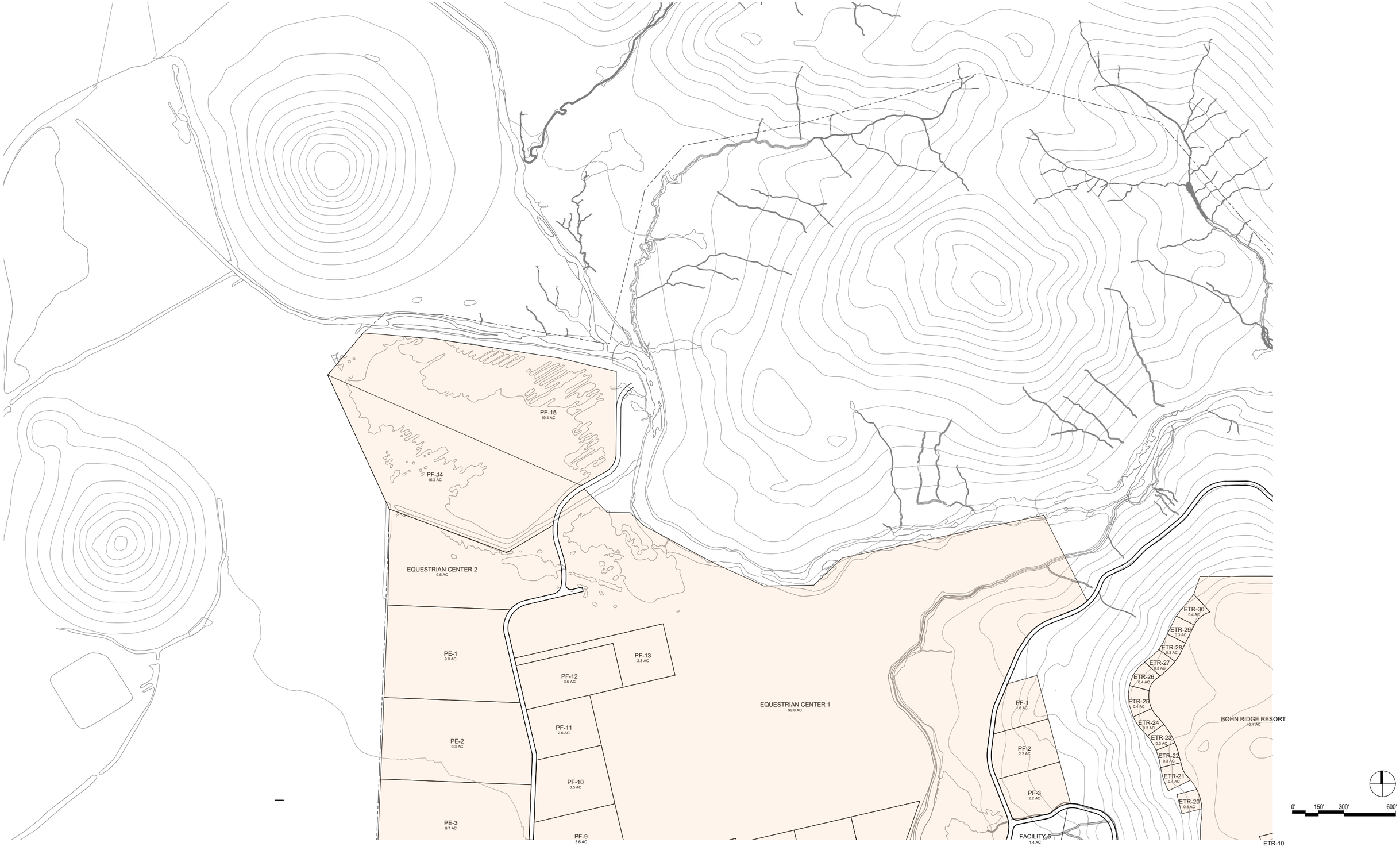


EXHIBIT B1

GUENOC VALLEY PROJECTS
POLO AND EQUESTRIAN HILLTOP

OCTOBER 2022



GUENOC VALLEY PROJECTS
POLO AND EQUESTRIAN HILLTOP REVISED

EXHIBIT B2

OCTOBER 2022

Exhibit B-3

to

Agreement Regarding Development of Guenoc Valley Project

Location of Recreational and Camping Area

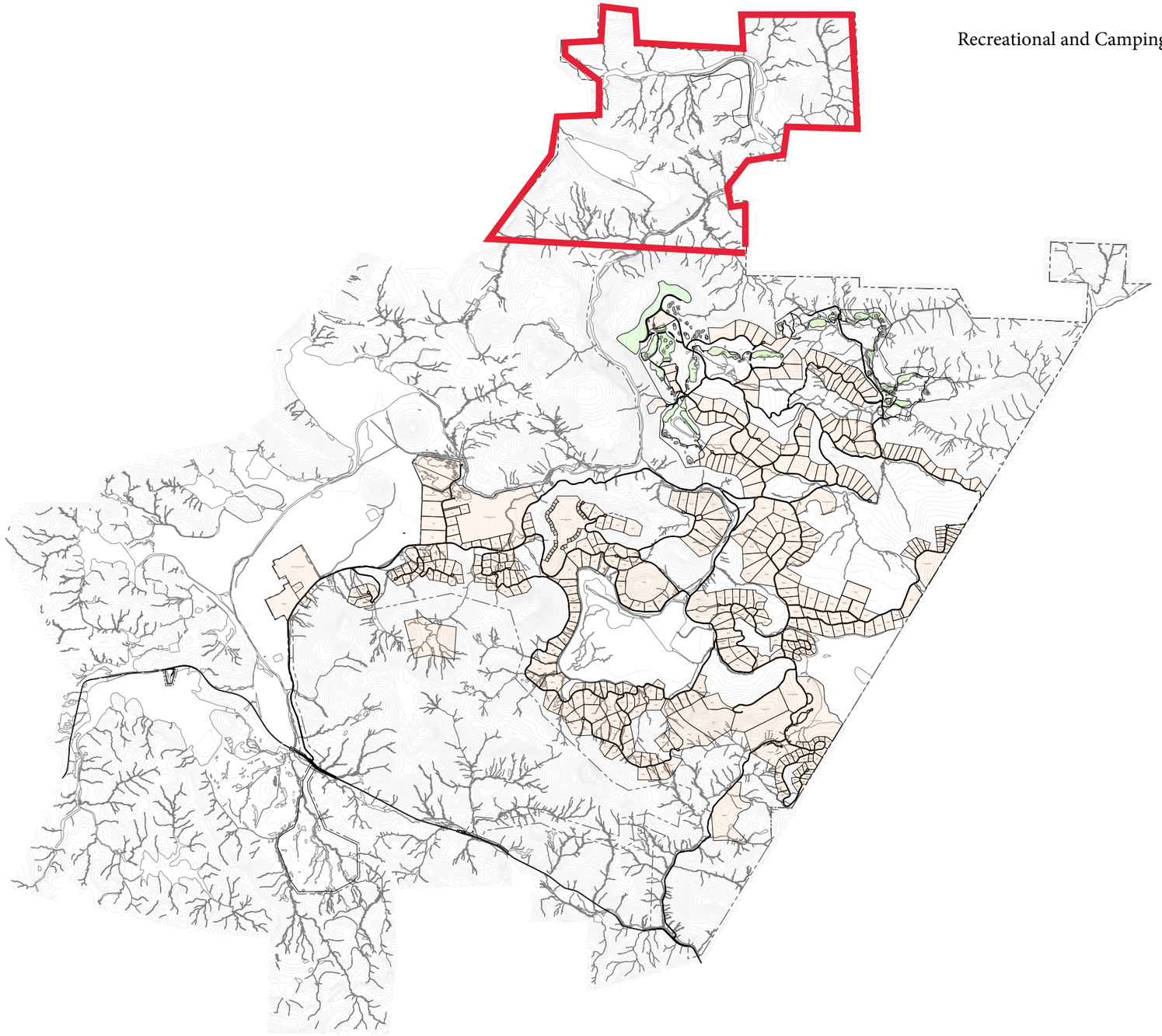


Exhibit B3

Exhibits C-1 and C-2

to

Agreement Regarding Development of Guenoc Valley Project

Existing and Revised Site Plan, Golf Course Area and Northern Lots

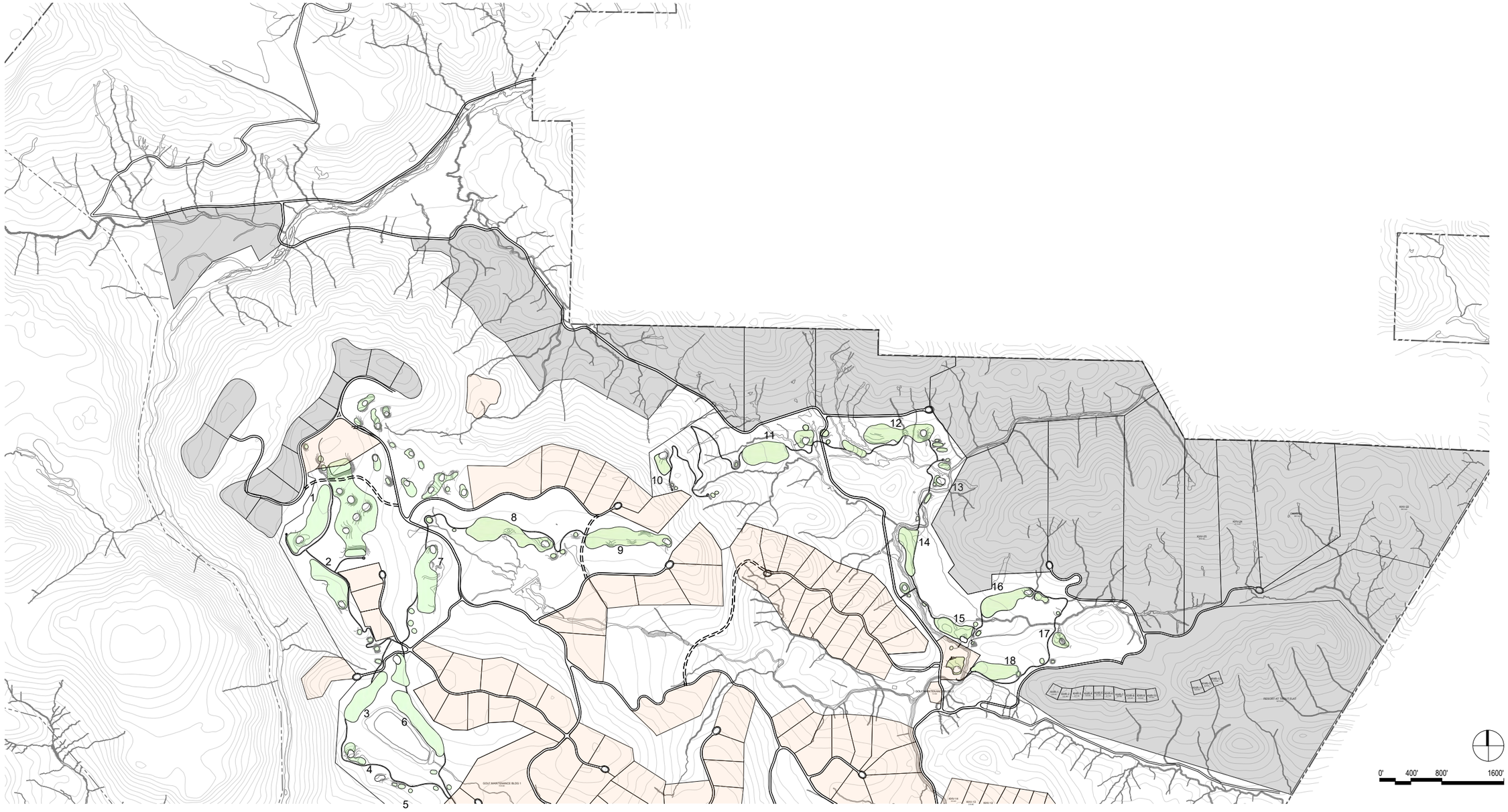


EXHIBIT C1

GUENOC VALLEY PROJECTS
NORTHERN LOTS

OCTOBER 2022

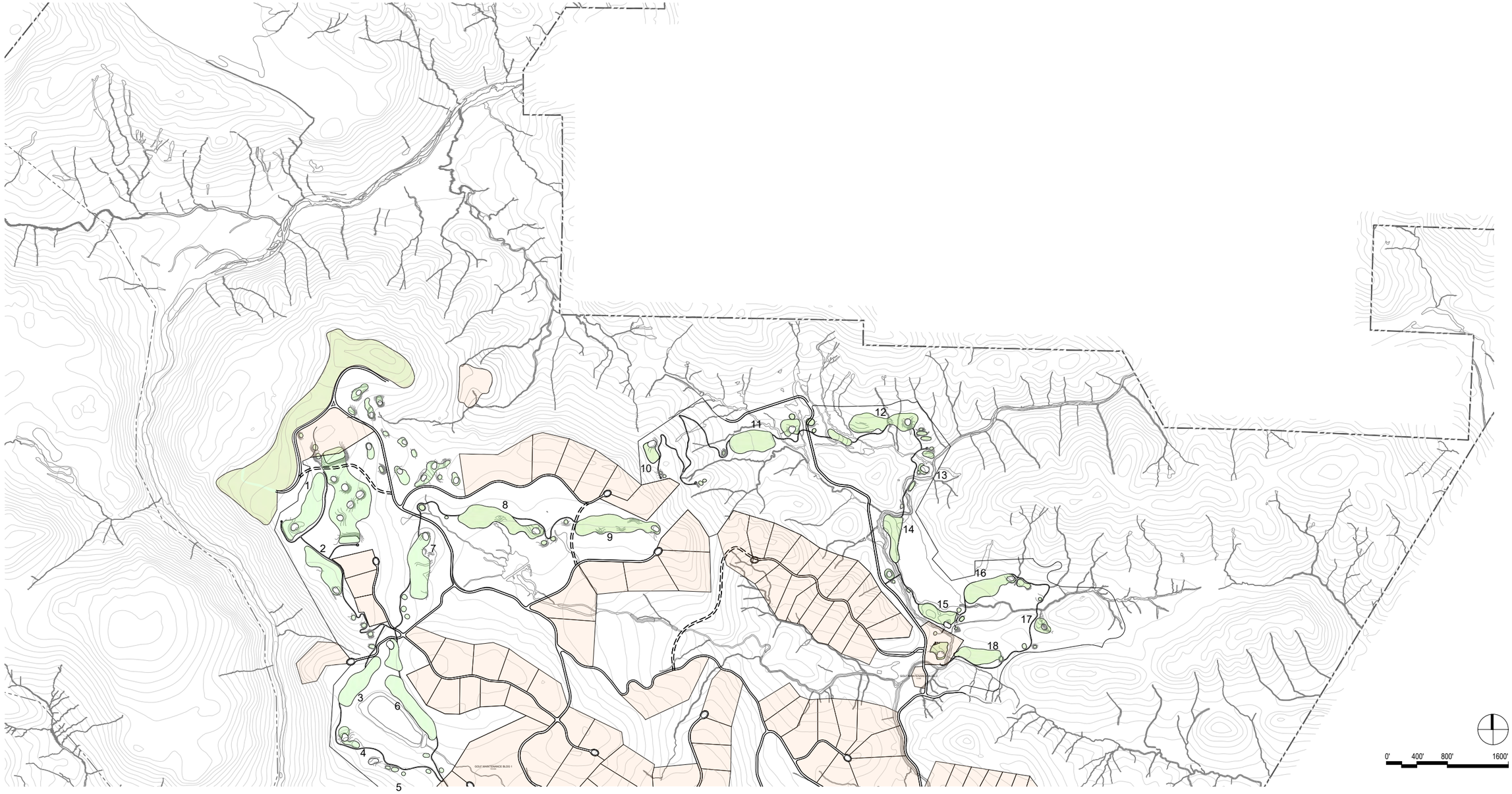


EXHIBIT C2

GUENOC VALLEY PROJECTS
NORTHERN LOTS REVISED

OCTOBER 2022

Exhibit D

to

Agreement Regarding Development of Guenoc Valley Project

Revised Roadway Plan

ROADWAY PLAN

REVISED COMPLIANT LAYOUT

- Proposed Roadways
- Proposed Connector Roadways
- Dead End Road
- Revised Proposed Parcels

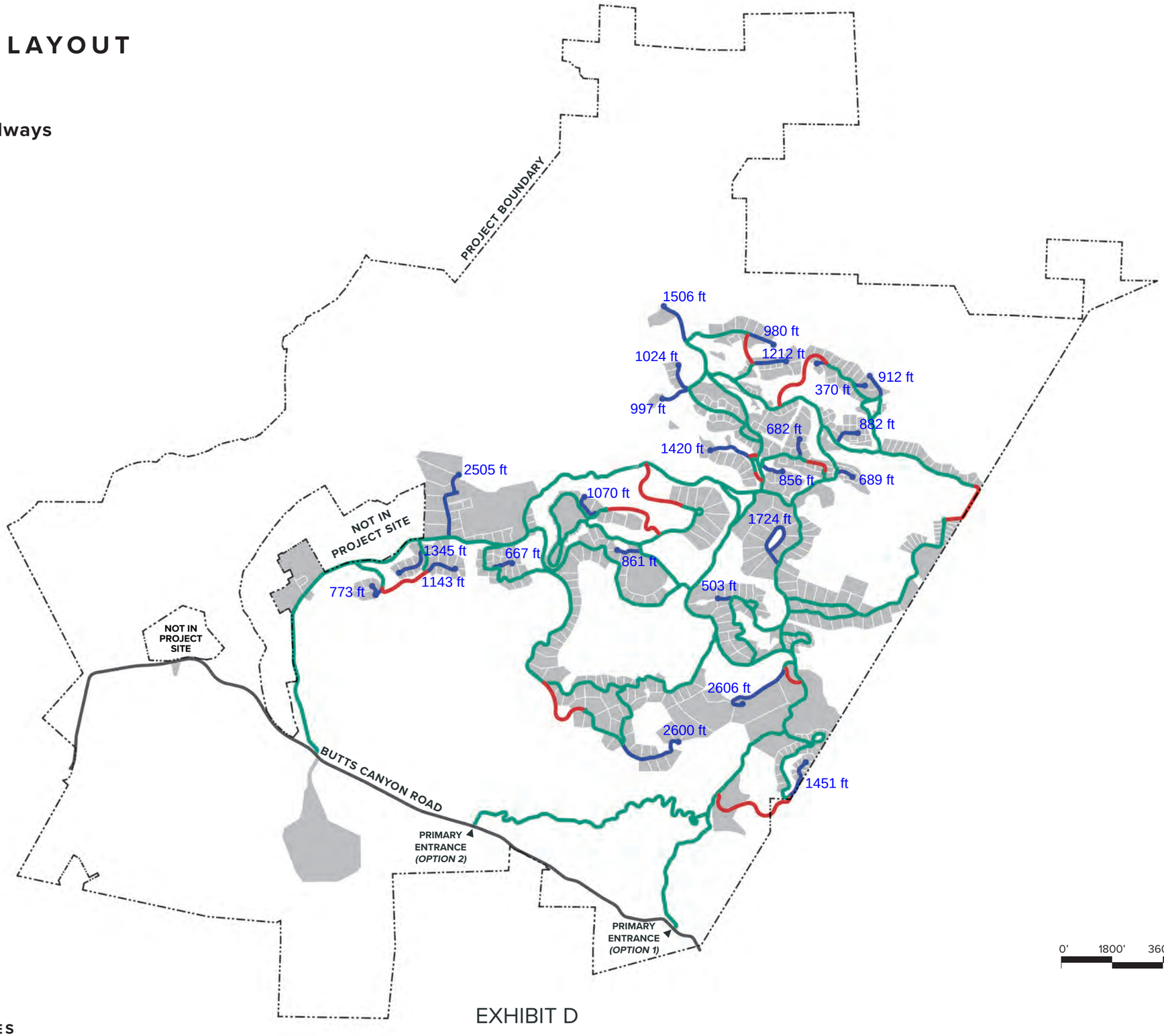


Exhibit E

to

Agreement Regarding Development of Guenoc Valley Project

Revised Roadside Hardscape Design

ROADWAY WILDFIRE BREAKS

EXAMPLE ROADWAY DESIGN

Exhibit F

to

Agreement Regarding Development of Guenoc Valley Project

Parties' Designees for Notices

Exhibit F
Party Designees for Notices

Pursuant to Section 8 of the Agreement, each Party to the Agreement designates the following recipients to receive any notice, request, or communication required.

The People of the State of California, ex rel. Rob Bonta, Attorney General of California

Andrew Contreiras
Deputy Attorney General
California Department of Justice
600 West Broadway, Suite 1800
San Diego, CA 92101
Andrew.Contreiras@doj.ca.gov

Nicole Rinke
Deputy Attorney General
1300 I Street
Sacramento, CA 95814
Nicole.Rinke@doj.ca.gov

Sarah Morrison
Supervising Deputy Attorney General
California Department of Justice
300 S. Spring Street, Suite 1702
Los Angeles, CA 90013
Sarah.Morrison@doj.ca.gov

Lotusland Investment Holdings Inc.

Alex Xu
CEO
Lotusland Investment Holdings, Inc.
P.O. Box 2549
San Francisco, CA 94126
axu@lotuslandinvestment.com

with a copy to:

Alex Xu
CEO
Lotusland Investment Holdings, Inc.
22000 Butts Canyon Rd.
Middletown, CA 95461

Exhibit G

to

Agreement Regarding Development of Guenoc Valley Project

Form Assignment and Assumption Agreement

ASSIGNMENT AND ASSUMPTION AGREEMENT

This Assignment and Assumption Agreement ("Assignment Agreement") is entered into, as of _____, 20__, by and between Lotusland Investment Holdings Inc., a California corporation ("Assignor"), and _____, a _____ ("Assignee"). Assignor and Assignee are sometimes referred to herein individually as a "Party" and collectively as the "Parties."

RECITALS

A. Assignor and the People of the State of California, ex rel. Rob Bonta, Attorney General of California (the "State"), have previously entered into an Agreement Regarding Development of Guenoc Valley Project between State and Assignor dated _____, 2022, recorded on _____, 2022, as Document No. _____, Lake County Official Records ("Settlement Agreement") regarding the development of the Guenoc Valley Mixed-Use Planned Development Project (the "Project"). A true and complete copy of the Settlement Agreement is attached hereto as Exhibit 1.

B. The Parties have entered into a purchase agreement by which Assignor will convey its interest in an approximately [_] acre portion of the Project site, which is more particularly described on Exhibit 2 attached hereto ("Assigned Property") to Assignee.

C. Section 13 of the Settlement Agreement ("Successor and Assigns" therein) refers to Assignor as "Lotusland" and provides that:

> This Agreement shall be binding upon, and inure to the benefit of, the Parties hereto, and their successors. Lotusland shall provide written notice to the State of any assignment or transfer of its interest in any portion of the Property or the Project to any third party developers and home builders. To the extent of any such transfer to a third party which is unaffiliated with Lotusland, Lotusland shall be released of its obligations hereunder, and such obligations shall be assumed by the transferee, which shall execute an Assumption Agreement in the form attached hereto.

AGREEMENT

NOW, THEREFORE, in consideration of the above recitals and the mutual covenants hereinafter contained and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Assignment by Assignor. Assignor hereby assigns, transfers and grants to Assignee all of Assignor's rights and obligations under the Settlement Agreement with respect to the Assigned Property (collectively, the "Assigned Rights and Obligations").

2. Acknowledgement and Assumption of Obligations by Assignee. Assignee hereby acknowledges that it has reviewed, is aware of, and intends to honor the Assigned Rights and Obligations with respect to its development of the Assigned Property pursuant to the terms of the Settlement Agreement, and additionally expressly and unconditionally assumes all of the Assigned Rights and Obligations. Assignee represents it has the ability to implement those Obligations of the Assignor contained in the Settlement Agreement that are hereby assigned. Assignee agrees to comply with, perform, and execute all of the Assigned Rights and Obligations.

3. Release of Assignor. Assignee hereby fully releases, indemnifies and holds harmless Assignor with respect to the Assigned Rights and Obligations. Both Assignor and Assignee acknowledge that this Assignment Agreement is intended to fully assign all of the Assigned Rights and Obligations to Assignee, and it is expressly understood that Assignor shall continue to be obligated under the Settlement Agreement only with respect to those portions of the Project site retained by Assignor.

4. Applicable Law/Venue. This Assignment Agreement shall be construed and enforced in accordance with the laws of the State of California, without reference to choice of law provisions. Any legal action arising under, including actions to interpret or enforce, this Assignment Agreement shall be brought only in the Superior Court of the County of Lake, State of California.

5. Interpretation. The rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be employed in interpreting this Assignment Agreement. Unless the context clearly requires otherwise: (a) the plural and singular numbers shall each be deemed to include the other; (b) the masculine, feminine, and neuter genders shall each be deemed to include the others; (c) "shall," "will," or "agrees" are mandatory, and "may" is permissive; (d) "or" is not exclusive; and (e) "includes" and "including" are not limiting.

6. Severability. If any provision(s) of this Assignment Agreement is (are) held invalid, the remainder of this Assignment Agreement shall not be affected, except as necessarily required by the invalid provisions, and shall remain in full force and effect unless amended or modified by mutual consent of the parties.

7. Counterparts. This Assignment Agreement may be executed in one or more counterparts, each of which shall be deemed to constitute an original, but all of which, when taken together, shall constitute one and the same instrument, with the same effect as if all of the parties to this Assignment Agreement had executed the same counterpart.

8. Notice. Notice of this Assignment or the Agreement shall be sent to the State in writing, and shall be addressed to the persons and addresses set forth below:

Andrew Contreiras
Deputy Attorney General
California Department of Justice
600 West Broadway, Suite 1800
San Diego, CA 92101
Andrew.Contreiras@doj.ca.gov

Sarah Morrison
Supervising Deputy Attorney General
California Department of Justice
600 West Broadway, Suite 1800
San Diego, CA 92101
Sarah.Morrison@doj.ca.gov

Notice shall be made by one of the following methods: (i) deposited in the U.S. mail, first class, certified with return receipt requested and with appropriate postage, (ii) hand delivered or (iii) sent via email with a read receipt. All notices sent in accordance with this Section shall become effective on the date of receipt. From time to time the State may designate a new address for purposes of this Section by notice to the Assignor.

IN WITNESS WHEREOF, Assignor and Assignee have entered into this Assignment Agreement as of the date first written above.

Dated: _____, 20__

ASSIGNOR:

LOTUSLAND INVESTMENT HOLDINGS INC.
a California Corporation

By: _____
Signature of Person executing the Agreement on behalf of Assignor

Name: _____

Title: _____

Dated: _____, 20__

ASSIGNEE:

[INSERT NAME OF ASSIGNEE]

By: _____
Signature of Person executing the Agreement on behalf of Assignee

Name: _____

Title: _____

Appendix D

2020 EIR

Appendix D:
2020 EIR: Draft EIR, Final EIR, and Final EIR Errata

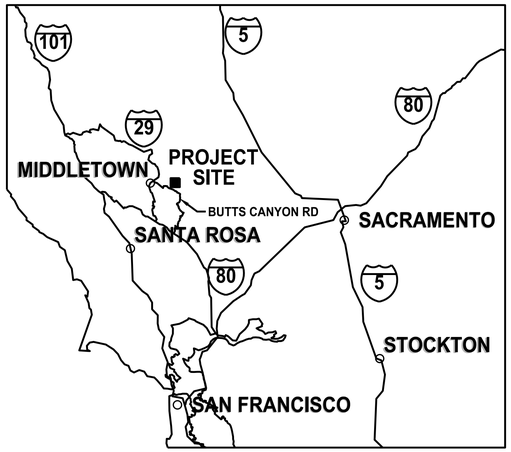
The 2020 EIR components are bound separately in multiple volumes, corresponding to how they were originally published.

Appendix E

Tentative Subdivision Maps

MAHA FARMS SUBDIVISION

TENTATIVE MAP



VICINITY MAP
NOT TO SCALE

LEGEND

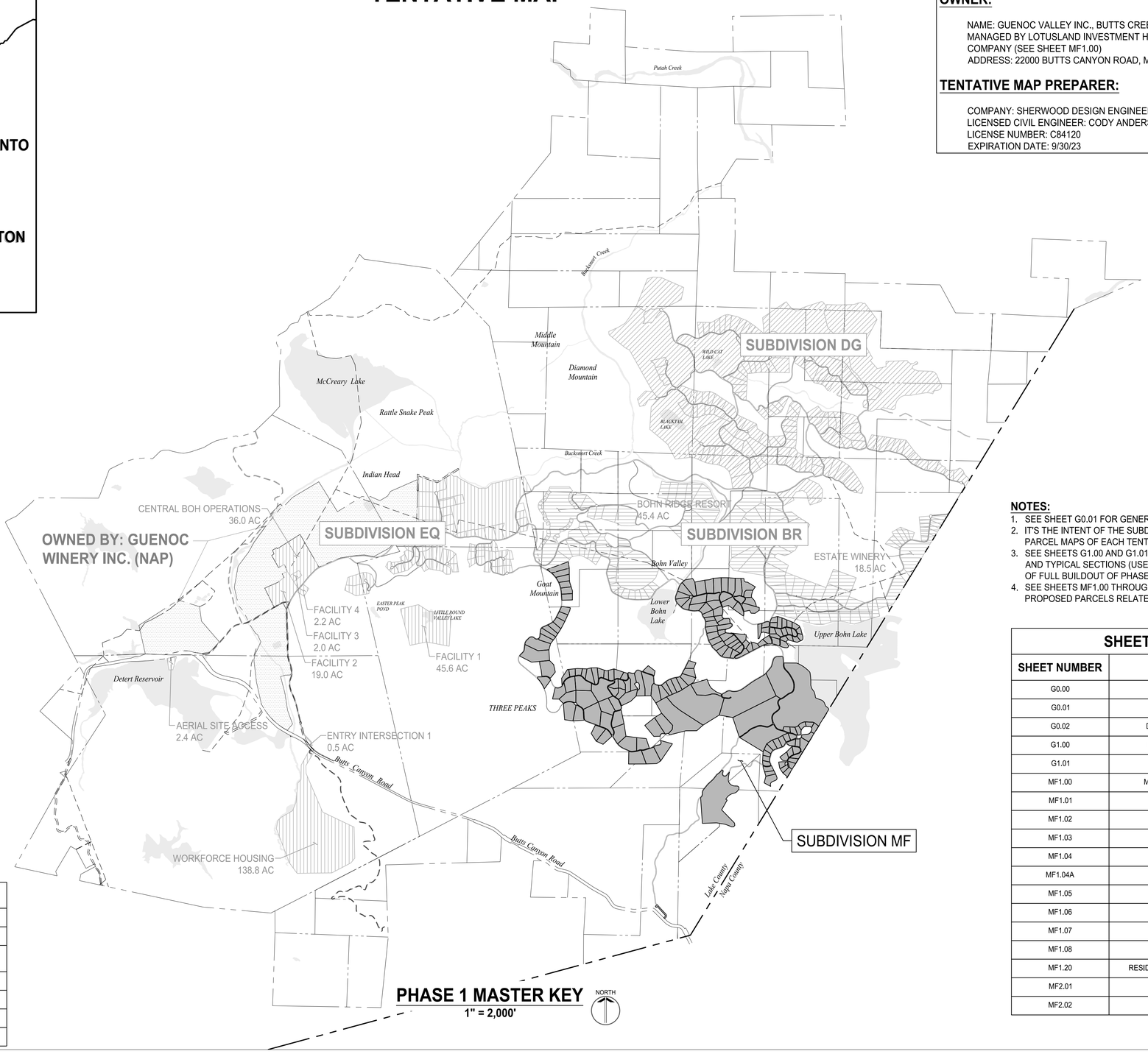
PROPOSED SUBDIVISION MF - MAHA FARMS

PROPOSED SUBDIVISION EQ - EQUESTRIAN UNDER SEPARATE TENTATIVE MAP

PROPOSED SUBDIVISION DG - DENNISTON GOLF ESTATES UNDER SEPARATE TENTATIVE MAP

PROPOSED SUBDIVISION BR - BOHN RIDGE UNDER SEPARATE TENTATIVE MAP

EXISTING PARCELS OWNED BY OTHERS; NOT A PART (NAP) OF THIS TENTATIVE MAP



PHASE 1 MASTER KEY
1" = 2,000'
NORTH

OWNER:

NAME: GUENOC VALLEY INC., BUTTS CREEK INC., BOHN VALLEY INC.
MANAGED BY LOTUSLAND INVESTMENT HOLDINGS, INC., A CALIFORNIA COMPANY (SEE SHEET MF1.00)
ADDRESS: 22000 BUTTS CANYON ROAD, MIDDLETOWN, CA 95461

TENTATIVE MAP PREPARER:

COMPANY: SHERWOOD DESIGN ENGINEERS
LICENSED CIVIL ENGINEER: CODY ANDERSON, P.E.
LICENSE NUMBER: C84120
EXPIRATION DATE: 9/30/23

NOTES:

1. SEE SHEET G0.01 FOR GENERAL NOTES.
2. IT'S THE INTENT OF THE SUBDIVIDER TO PROCESS THE FINAL PARCEL MAPS OF EACH TENTATIVE MAP IN PHASES.
3. SEE SHEETS G1.00 AND G1.01 FOR PHASE 1 MASTER ROAD PLAN AND TYPICAL SECTIONS (USED FOR REFERENCE AND CONTEXT OF FULL BUILDOUT OF PHASE 1).
4. SEE SHEETS MF1.00 THROUGH MF2.02 FOR EXISTING AND PROPOSED PARCELS RELATED TO SUBDIVISION MF.

SUBDIVISION LOT COUNTS

PARCEL TYPE	MAHA FARMS	EQUESTRIAN	DENNISTON GOLF	BOHN RIDGE	TOTAL
VILLA	73	67	133	112	385
RESORT RESIDENTIAL	104	0	7	30	141
COMMERCIAL	5	1	4	2	12
FACILITY	1	11	3	0	15
GOLF	0	0	4	0	4
PERIPHERAL	8	7	8	8	31

SHEET INDEX

SHEET NUMBER	SHEET TITLE
G0.00	GENERAL INFORMATION
G0.01	GENERAL NOTES
G0.02	DEVELOPMENT RESTRICTIONS
G1.00	PHASE 1 MASTER ROAD PLAN
G1.01	TYPICAL ROAD SECTIONS
MF1.00	MF OVERALL SUBDIVISION PLAN
MF1.01	MF SUBDIVISION PLAN
MF1.02	MF SUBDIVISION PLAN
MF1.03	MF SUBDIVISION PLAN
MF1.04	MF SUBDIVISION PLAN
MF1.04A	MF SUBDIVISION PLAN
MF1.05	MF SUBDIVISION PLAN
MF1.06	MF SUBDIVISION PLAN
MF1.07	MF SUBDIVISION PLAN
MF1.08	MF SUBDIVISION PLAN
MF1.20	RESIDENTIAL PARCEL AVERAGE SLOPES
MF2.01	PERIPHERAL PARCEL PLAN
MF2.02	PERIPHERAL PARCEL PLAN

SHERWOOD DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84120
CIVIL
STATE OF CALIFORNIA

SCALE: 1:2000
0 1"
Note: If this graphic scale does not equal 1", this sheet has been modified from its original size.

NO	DATE	ISSUANCE

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

MAHA FARMS SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF

GENERAL INFORMATION

G0.00

GENERAL NOTES:

1. REFER TO FINAL ADOPTED DEVELOPMENT AGREEMENT FOR FURTHER SUBDIVISION DETAILS, INCLUDING SEQUENCING AND EXPIRATION DETAILS.
2. THE PROPERTIES WITHIN THIS SUBDIVISION ARE PROPOSED TO BE REZONED TO A NEWLY FORMED ZONING DISTRICT, THE GUENOC VALLEY PLANNED DEVELOPMENT (GVPD) WITH OPEN SPACE AND AGRICULTURAL PRESERVE OVERLAYS/COMBINING DISTRICTS. REFER TO THE RELEVANT ZONING DISTRICTS FOR DEVELOPMENT REGULATIONS.
3. REFER TO THE SPECIFIC PLAN OF DEVELOPMENT FOR ALLOWED DEVELOPMENT INCLUDING PLANNED DEVELOPMENT DETAILS, DENSITY, AND SETBACKS.
4. REFER TO THE CC&R'S FOR FUTURE HOMEOWNERSHIP ASSOCIATION DETAILS AND MAINTENANCE REQUIREMENTS.
5. REFER TO THE WATER, WASTEWATER, AND ELECTRICAL FEASIBILITY REPORTS FOR THE PRIVATE UTILITY DISTRICT DETAILS.
6. REFER TO THE DESIGN GUIDELINES FOR LOT LAYOUT, DENSITY, BUILDING MASSING, LANDSCAPE DETAILS, ROAD AND PATHWAY DESIGN, STREET LIGHTING, DIRECTIONAL SIGNAGE AND RESIDENTIAL DESIGNS.
7. REFER TO THE FIRE MANAGEMENT PLAN FOR FIRE PREVENTION GUIDELINES AND VEGETATION FUEL REDUCTION SETBACKS.
8. ALL PROPOSED ROADWAYS WITHIN PROPERTY ARE PRIVATE AND ARE TYPICALLY INDEPENDENT INDIVIDUAL PARCELS, UNLESS OTHERWISE NOTED. THERE WILL BE NO PUBLIC RIGHTS OF WAY EXCEPT ALONG THE ENTRY ROADS UP TO THE FIRST GATE.
9. ALL ROADWAY CORRIDORS SHALL INCORPORATE EASEMENTS OF 50 FEET BEYOND EITHER SIDE OF THE EDGE OF PAVEMENT FOR VEGETATION MANAGEMENT, DEPENDING ON ENVIRONMENTAL CONSTRAINTS, WHICH SHALL BE FURTHER DEFINED IN AND MANAGED BY THE CC&RS.
10. ROAD NAMES ARE REFERENCED WITH NUMBERS, PROPOSED NAMES WILL BE PROVIDED IN SUBSEQUENT SUBMITTAL PRIOR TO HEARING.

SUBDIVISION NOTES:

1. SEE PARCELS SHEETS FOR BEARING, DISTANCE, AND CURVE INFORMATION OF PARCELS.
2. PERIPHERAL PARCELS ARE PROPOSED TO BE SUBDIVIDED AND ARE INCLUDED FOR REFERENCE. SEE PERIPHERAL PARCEL SHEETS FOR BEARING, DISTANCE, AND CURVE INFORMATION.
3. ENVIRONMENTAL PRESERVATION AREAS, INCLUDING SENSITIVE BIOLOGICAL SPECIES OR CULTURAL SITES WHERE APPLICABLE, WITHIN SUBDIVIDED PARCELS MAY BE IDENTIFIED AS CONCEPTUAL ON THE TENTATIVE MAP AND THEN FINAL ON THE FINAL MAP.
4. FOR WATER SUPPLY AND WASTEWATER DISPOSAL SYSTEMS AND DISTRIBUTION, REFER TO SPECIFIC PLAN OF DEVELOPMENT AND TECHNICAL FEASIBILITY REPORTS.
5. PROPOSED PRIVATE UTILITIES WILL BE REQUIRED THROUGHOUT THE SITE, INCLUDING SEWER, WATER, ELECTRIC, COMMUNICATIONS, AND LIQUID PROPANE. PRELIMINARY LOCATIONS OF MAJOR FACILITIES ARE SHOWN FOR REFERENCE IN TENTATIVE MAPS, HOWEVER, ADDITIONAL INFORMATION IS PROVIDED ON THE SPECIFIC PLAN OF DEVELOPMENT.

EASEMENTS:

1. EXISTING EASEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION PER RECORD DATA AND HAVE NOT BEEN FIELD SURVEYED.
2. ALL PROPOSED PRIVATE UTILITY AND ACCESS EASEMENTS (PUE), WHICH ARE TO BE SPECIFICALLY DEFINED DURING THE FINAL MAP STAGE, SHALL INCORPORATE THE FOLLOWING ELEMENTS WITHIN A COMBINED TYPICAL EASEMENT WIDTH OF 50 FEET TOTAL:
   a. TOTAL PAVED ROADWAY, INCLUDING SHOULDERS, FOR SHARED ACCESS (RANGES IN WIDTH FROM 22 TO 28 FEET FOR TWO-WAY ROADS AND 14 FEET FOR ONE-WAY ROADS).
   b. RETAINING AND DRAINAGE CONVEYANCE FEATURES (UP TO 12 FEET WIDE).
   c. UTILITY PIPING AND STRUCTURES (UP TO 10 FEET WIDE)
   d. EXCEPTIONS MAY OCCUR FOR SPECIFIC UTILITY STRUCTURES OR DRAINAGE FEATURES REQUIRING ADDITIONAL WIDTH
3. PROPOSED DRAINAGE MANAGEMENT EASEMENTS SHALL EXTEND TO 30 FEET FROM THE TOP OF BANKS OF PERENNIAL STREAMS AND 20 FEET FROM THE TOP OF BANKS OF INTERMITTENT STREAMS.

EXISTING CONDITIONS AND NATURAL RESOURCE PRESERVATION:

1. SETBACKS FOR DRAINAGES, RARE PLANTS, WOODLANDS, AND RIPARIAN ZONES WILL BE ADDRESSED WITHIN THE SPECIFIC PLAN OF DEVELOPMENT DOCUMENTATION AND THE ENVIRONMENTAL IMPACT REPORT, UNDER SEPARATE COVER.
2. FINAL CONFIGURATION OF DEDICATED OPEN SPACE SHALL BE DEVELOPED AS PART OF THE ENVIRONMENTAL REVIEW PROCESS.
3. OAK WOODLAND PRESERVATION AREAS WITHIN PARCELS MAY BE SUBJECT TO DEED RESTRICTIONS TO LIMIT REMOVAL OF TREES. FINAL LOCATIONS WILL BE DIRECTED BY THE ENVIRONMENTAL IMPACT REPORT AND WILL ULTIMATELY BE RECORDED IN THE FINAL MAP.
4. AREAS IDENTIFIED AS "DEVELOPMENT RESTRICTION AREAS" AS CONTAINING CULTURAL RESOURCES WILL BE DEED RESTRICTED TO PROHIBIT THEIR DISTURBANCE, AND MAY BE MORE ACCURATELY SURVEYED FOR INCLUSION ON THE FINAL MAP.
5. DEDICATED HABITAT CORRIDORS WITHIN PARCELS MAY BE SUBJECT TO DEED RESTRICTIONS TO LIMIT PLACEMENT, HEIGHT AND COMPOSITION OF FENCING, VEGETATION MANAGEMENT AND DISTURBANCE OF NATURAL RESOURCES. FINAL CONFIGURATIONS WILL ULTIMATELY BE RECORDED IN THE FINAL MAP, WITH THE TERMS OF SAID RESTRICTIONS TO BE INCLUDED IN THE COVENANTS, CONDITIONS AND RESTRICTIONS OF THE HOMEOWNERS' ASSOCIATIONS AND/OR OTHER REAL ESTATE PURCHASE AGREEMENTS.

PHASING NOTES:

1. FINAL PARCEL MAPS FILED WILL INDICATE SUBDIVISION CONSTRUCTION PHASING.
2. FINAL MAPS DEVELOPED FOR EACH AGREED UPON PHASE OF THE PROPOSED EVENTUAL SUBDIVISION WILL INCLUDE ALL PARCEL TYPES, INCLUDING THE ROAD PARCELS ADJACENT TO AND REQUIRED FOR EACH SUBDIVISION PHASE.

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84270
CIVIL
STATE OF CALIFORNIA

SCALE:
0 1"
Note: If this graphic scale does not equal 1", this sheet has been modified from its original size.

NO	DATE	ISSUANCE

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PROJECT NO. 18-016
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DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

MAHA FARMS SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF

GENERAL NOTES

G0.01

LEGEND

PROPOSED PARCEL BOUNDARY

EXISTING PARCEL BOUNDARY

NOT A PART (NAP)

PRESERVED OPEN SPACE

DEVELOPMENT RESTRICTION

OAK WOODLAND PRESERVATION AREA

HABITAT CORRIDOR

COUNTY LINE

EXISTING ROAD AND UTILITY EASEMENT

NOTE:

1. DEDICATED HABITAT CORRIDOR, PRESERVED OPEN SPACE AND OAK WOODLAND PRESERVATION AREAS ARE SHOWN FOR ILLUSTRATIVE PURPOSES. FINAL CONFIGURATION IS SUBJECT TO CHANGE AND WILL BE INCORPORATED IN THE FINAL MAP.

0 1750' 3500' NORTH

SHERWOOD DESIGN ENGINEERS
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San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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MAHA FARMS SUBDIVISION

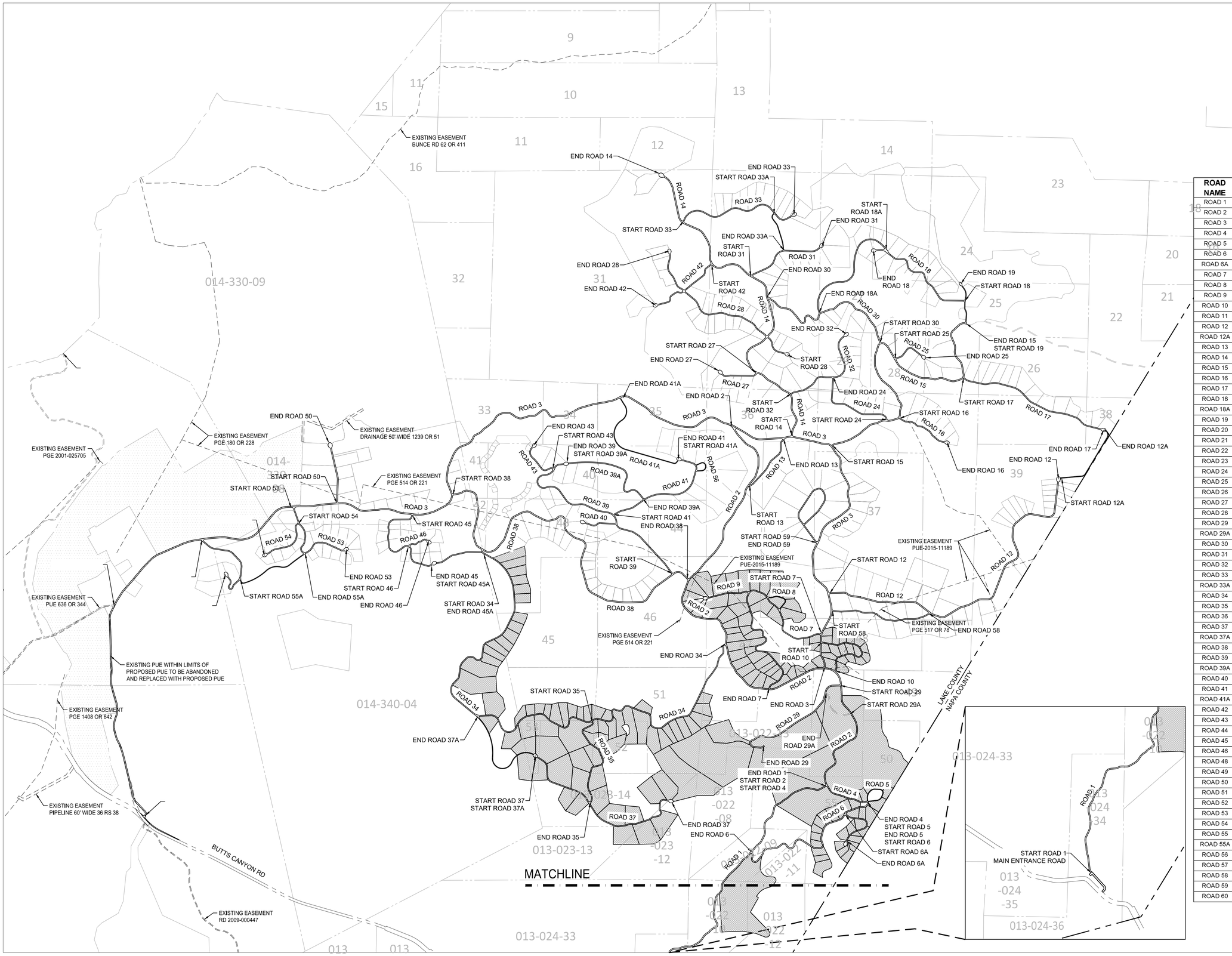
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF

DEVELOPMENT RESTRICTIONS

G0.02

P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG1\PKG1-DEVELOPMENT RESTRICTIONS.DWG



ROAD NAME	LENGTH [FT]	WIDTH [FT]	ROAD TYPE
ROAD 1	17,420	26	A
ROAD 2	14,896	26	A
ROAD 3	32,381	26	A
ROAD 4	1,133	22	B
ROAD 5	1,109	14	D
ROAD 6	4,602	26	A
ROAD 6A	1,327	22	B
ROAD 7	5,805	22	B
ROAD 8	785	14	D
ROAD 9	415	22	B
ROAD 10	2,215	22	B
ROAD 11	1,532	14	D
ROAD 12	8,154	26	A
ROAD 12A	1,900	14	D
ROAD 13	1,569	22	B
ROAD 14	8,716	26	A
ROAD 15	8,503	26	A
ROAD 16	1,331	22	B
ROAD 17	4,204	22	B
ROAD 18	2,776	22	B
ROAD 18A	3,160	16	C
ROAD 19	not used	not used	not used
ROAD 20	not used	not used	not used
ROAD 21	not used	not used	not used
ROAD 22	not used	not used	not used
ROAD 23	not used	not used	not used
ROAD 24	2,085	22	B
ROAD 25	802	22	B
ROAD 26	1,320	26	A
ROAD 27	915	22	B
ROAD 28	4,174	22	B
ROAD 29	3,227	26	A
ROAD 29A	937	16	C
ROAD 30	3,908	26	A
ROAD 31	1,950	22	B
ROAD 32	2,434	26	A
ROAD 33	3,090	22	B
ROAD 33A	1,025	16	C
ROAD 34	13,835	22	B
ROAD 35	2,582	22	B
ROAD 36	7,951	22	B
ROAD 37	5,034	22	B
ROAD 37A	2,515	16	C
ROAD 38	9,614	26	A
ROAD 39	6,025	22	B
ROAD 39A	2,522	16	C
ROAD 40	782	22	B
ROAD 41	2,980	22	B
ROAD 41A	2,883	14	D
ROAD 42	1,761	22	B
ROAD 43	950	22	B
ROAD 44	617	14	D
ROAD 45	4,310	22	B
ROAD 46	667	22	B
ROAD 48	not used	not used	not used
ROAD 49	not used	not used	not used
ROAD 50	9,093	26	A
ROAD 51	not used	not used	not used
ROAD 52	382	22	B
ROAD 53	2,501	22	B
ROAD 54	1,229	22	B
ROAD 55	2,274	22	B
ROAD 55A	1,995	14	D
ROAD 56	615	14	D
ROAD 57	1,387	26	A
ROAD 58	2,533	22	B
ROAD 59	2,825	22	B
ROAD 60	11,696	22	B

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2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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MAHA FARMS SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

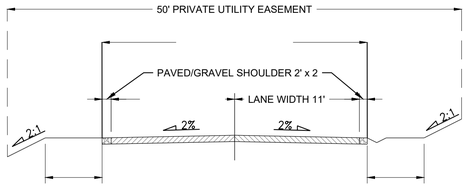
TENTATIVE MAP
SUBDIVISION MF

PHASE 1
MASTER
ROAD PLAN

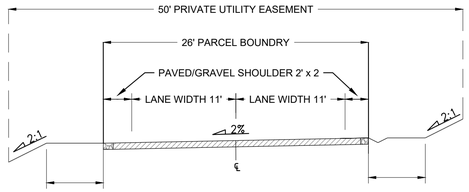
G1.00

TYPICAL ROAD SECTIONS

TYPE A - CROWNED/SUPERELEVATED PRIMARY 2 LANE ROAD



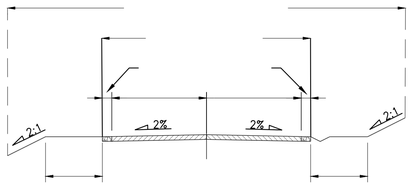
10' @ 10% MAX,
SEE NOTE 5



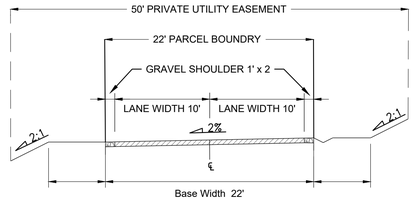
10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE B - CROWNED/SUPERELEVATED SECONDARY 2 LANE ROAD



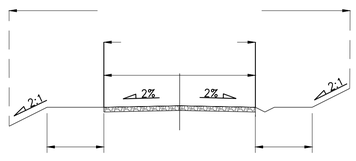
10' @ 10% MAX,
SEE NOTE 5



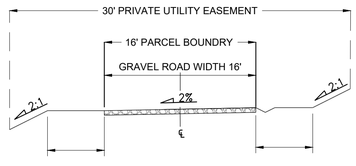
10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE C - CROWNED/SUPERELEVATED GRAVEL ROAD



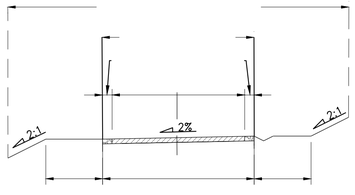
10' @ 10% MAX,
SEE NOTE 5



10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE D - ONE WAY ROAD



10' @ 10% MAX,
SEE NOTE 5

NOTES:

1. SLOPES SHOWN HEREIN REPRESENT TYPICAL OR MAXIMUM CONDITIONS AND ARE SUBJECT TO CHANGE PER PENDING DETAILED ROADWAY DESIGN.
2. EASEMENTS SHOWN HEREIN REPRESENT TYPICAL MINIMUM WIDTH AND COVERAGE SITUATIONS AND ARE SUBJECT TO INCREASING TO ACCOMMODATE SPECIFIC STRUCTURES OR FEATURES TO BE DESIGNED.
3. PLEASE REFER TO THE DESIGN GUIDELINES AS PART OF THE GVD ZONING DESIGNATION FOR ROADWAY DESIGN DETAILS.
4. IN ADDITION TO THE PUE, THERE ARE VEGETATION AND FUEL REDUCTION AREAS 50' ON EITHER SIDE OF THE EDGE OF PAVEMENT. REFER TO THE FIRE MANAGEMENT PLAN.
5. 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.

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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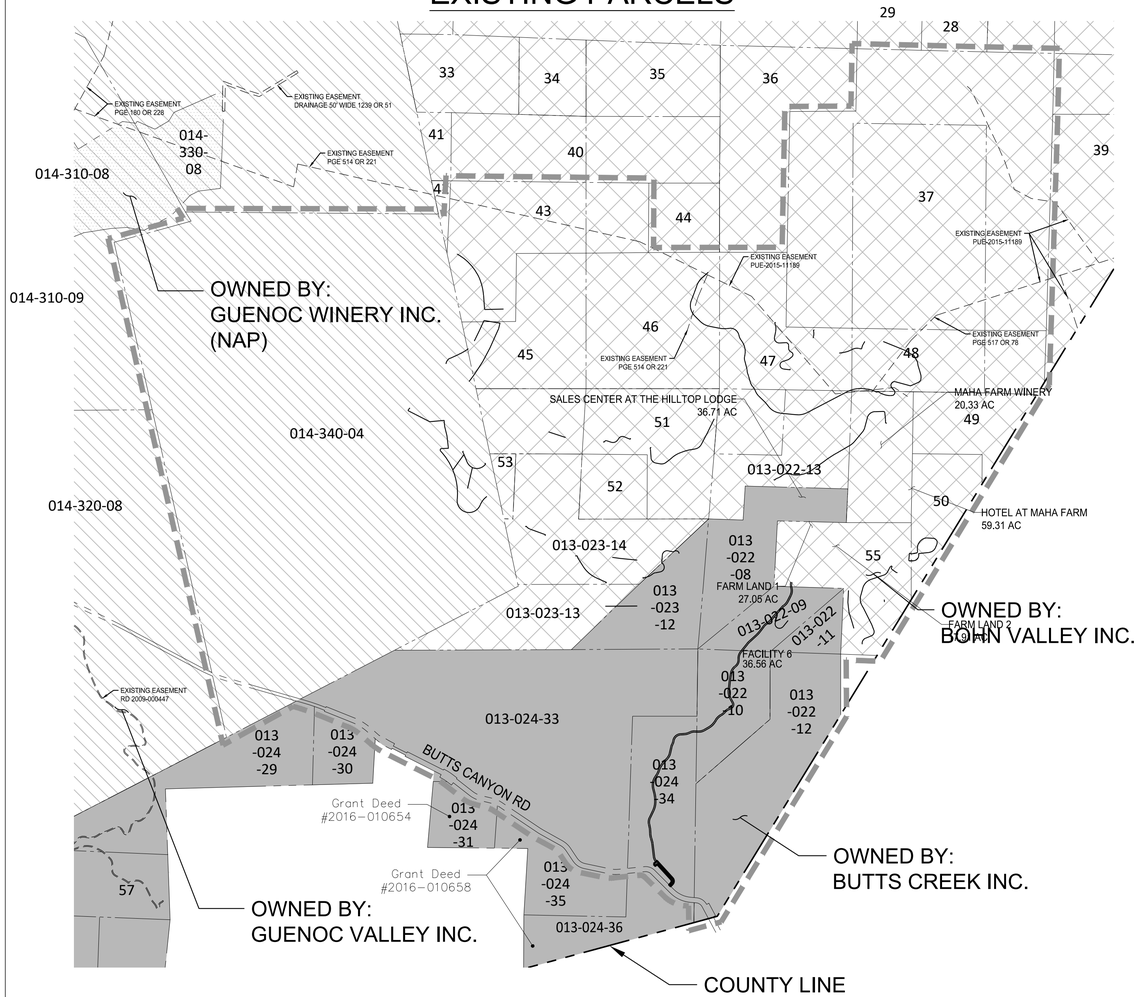
MAHA FARMS
SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF

TYPICAL
ROAD
SECTIONS

G1.01

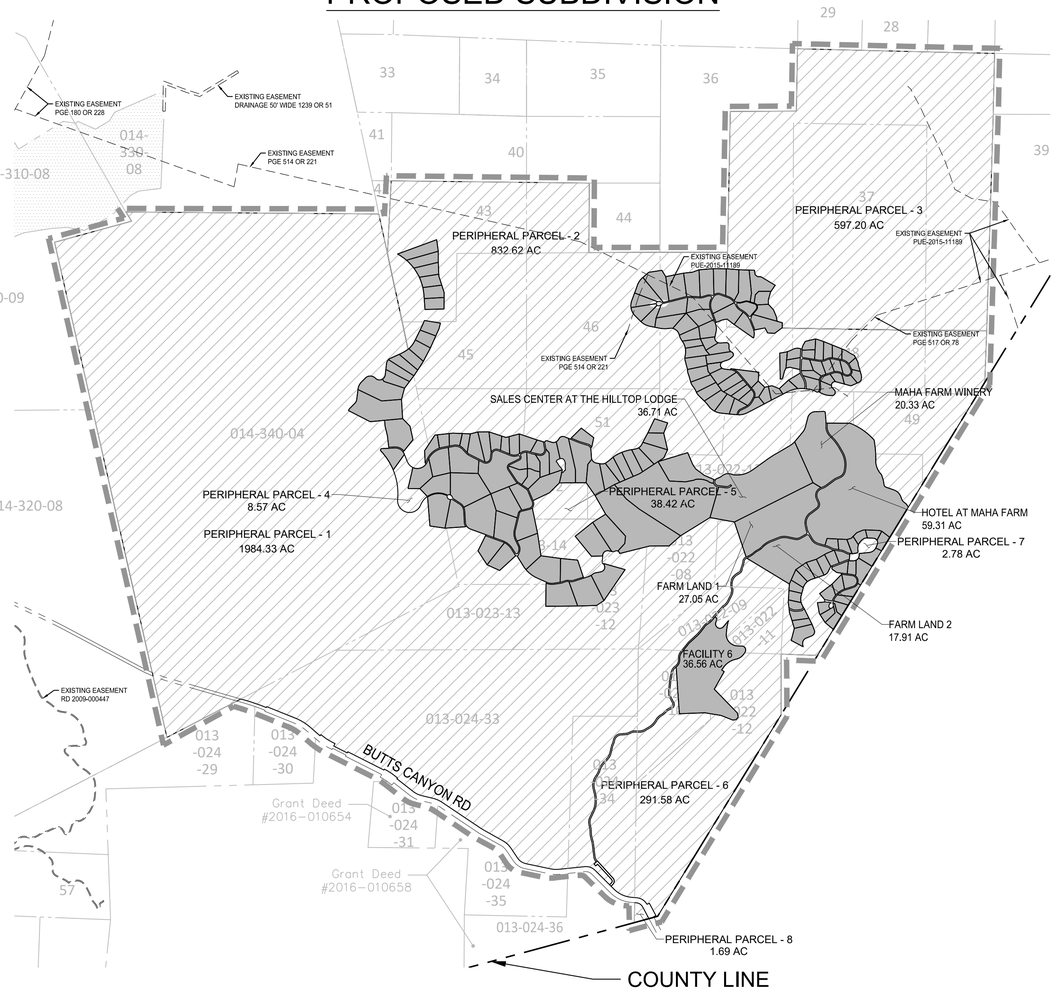
EXISTING PARCELS



EXISTING OWNERSHIP INFORMATION						
#	CC	APN	Owner	CC Doc #	Correction Deed	Approx. Acreage
37	11-64	013-022-01PT, 013-022-02PT, 013-022-05PT	Bohn Valley Inc.	2012006005		600
43	11-36	013-023-10PT, 013-023-07PT	Bohn Valley Inc.	2012006017		160
45	11-32	013-023-15PT, 013-023-10PT	Bohn Valley Inc.	2012006011		165
46	11-34	013-023-07PT	Bohn Valley Inc.	2012006012		160
47	11-37	013-022-01PT, 013-022-15	Bohn Valley Inc.	2012006013		160
48	11-55	013-022-05PT, 013-022-14PT	Bohn Valley Inc.	2012006003		160
49	11-85	013-022-02PT, 013-022-14PT	Bohn Valley Inc.	2012017321		102
50	11-84	013-022-14PT	Bohn Valley Inc.	2012017320		50
51	11-31	013-023-15PT	Bohn Valley Inc.	2012006010		120
52	11-69	013-023-15PT	Bohn Valley Inc.	2012005990		40
53	11-80	013-023-09	Bohn Valley Inc.	2012006007		14
55	11-63	013-022-14PT	Bohn Valley Inc. *Legal changed in 2nd doc	2012006024	2012017315	112
LLA-E	-	013-023-12PT, 013-024-33PT, 013-024-34PT				
LLA-F	-	013-022-10				
LLA-G	-	013-022-12				
LLA-I	-	013-023-14				
LLA-J	-	013-022-13PT, 013-023-13PT, 013-023-15PT				
-	-	014-340-041				

- Grant Deed #2016-016244 - Bohn Valley Inc
  APNs - 013-022-01, 013-022-02, 013-022-05, 013-022-14, 013-022-15, 013-023-07, 013-023-10, 013-023-12, 013-023-13, 013-023-14, 013-023-15,
- Grant Deed #2016-010655 - Guenoc Valley Inc
  APNs - 014-310-09, 014-330-09, 014-340-04, 014-320-08
- Grant Deed #2016-010654 - Butts Creek Inc
  APN - 013-024-31
- Grant Deed #2016-010658 - Butts Creek Inc
  APNs - 013-024-36, 013-024-35
- Grant Deed #2016-016243 - Butts Creek Inc
  APNs - 013-022-08, 013-023-12, 013-024-33, 013-022-09, 013-022-10, 013-024-34, 013-022-11, 013-022-12

PROPOSED SUBDIVISION



PROPOSED PARCEL TYPES	
VILLA	73
RESORT RESIDENTIAL	104
COMMERCIAL	5
FACILITY	1
GOLF	0
PERIPHERAL	8

NOTES:
1. SEE SHEET G0.01 FOR GENERAL NOTES.
2. SEE SHEETS G1.00 AND G1.01 FOR PHASE 1 MASTER ROAD PLAN AND TYPICAL SECTIONS (USED FOR REFERENCE AND CONTEXT OF FULL BUILDOUT OF PHASE 1).
3. SEE SHEETS MF1.00 THROUGH MF1.08 FOR DETAILED SUBDIVISION OF PROPOSED ROAD, COMMERCIAL AND RESIDENTIAL PARCELS.
4. SEE SHEETS MF2.01 THROUGH MF2.02 FOR DETAILED PERIPHERAL PARCELS.

0 750' 1500' 3000' NORTH

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2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
JODY ANDERSON
EXP: 9/30/23
No. 84470
CIVIL
STATE OF CALIFORNIA

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MAHA FARMS SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

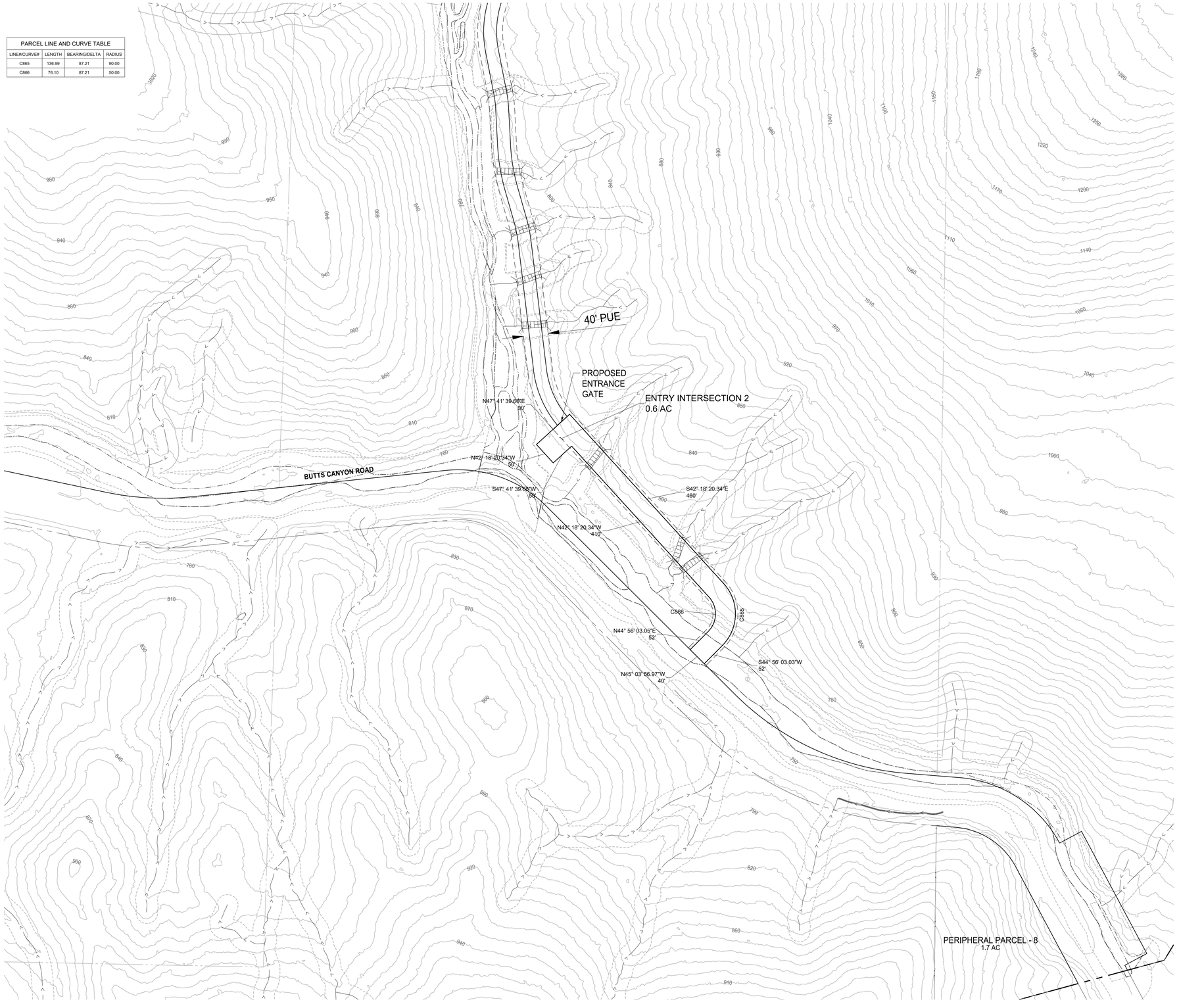
TENTATIVE MAP
SUBDIVISION MF

MF OVERALL SUBDIVISION PLAN

MF1.00

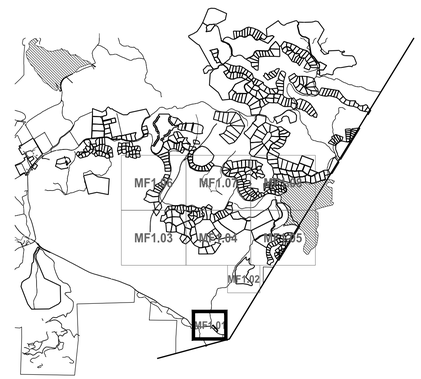
P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG1\PKG1-EXISTING PARCELS.DWG

PARCEL LINE AND CURVE TABLE			
LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C865	136.99	87.21	90.00
C866	76.10	87.21	50.00



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE



SHEET LAYOUT
NOT TO SCALE

0 50' 100' 200' NORTH

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www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
JODY ANDERSON
EXP: 9/30/23
No. 84470
CIVIL
STATE OF CALIFORNIA

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MAHA FARMS SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF

MF SUBDIVISION PLAN

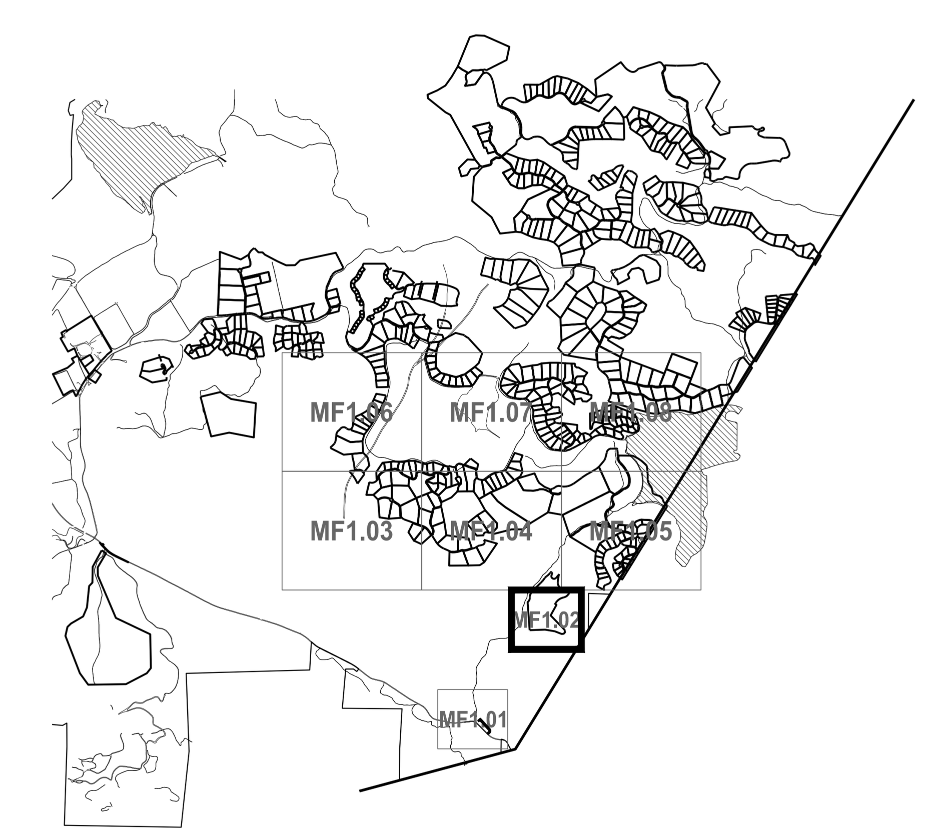
MF1.01

P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG1\PKG1-PARCELS AND ROADS.DWG

PARCEL LINE AND CURVE TABLE			
LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C664	150.00	53.05	162.00
C665	133.35	40.64	188.00
C676	176.36	43.49	232.32
C677	320.32	46.08	398.32
C867	167.86	123.13	78.11

LEGEND

PARCEL BOUNDARY
ROADWAY
CUL-DE-SAC
COUNTY LINE
CULVERT
WASTE WATER TREATMENT FACILITY — WW
BRIDGE
WATER PUMP
WATER TANK — W
FIRE HYDRANT
GROUND WATER WELL — WELL
FIRE TANK
ELECTRICAL SUBSTATION — ELEC
EXISTING POWER POLE
DEVELOPMENT RESTRICTION AREA
EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
EASEMENT
EPHEMERAL STREAMS
ORDINARY HIGH WATER MARK
INTERMITTENT TOP OF BANK
PERENNIAL TOP OF BANK
EXISTING PARCEL BOUNDARY
EPHEMERAL STREAM SETBACK



SHEET LAYOUT
NOT TO SCALE

0 50' 100' 200'
NORTH

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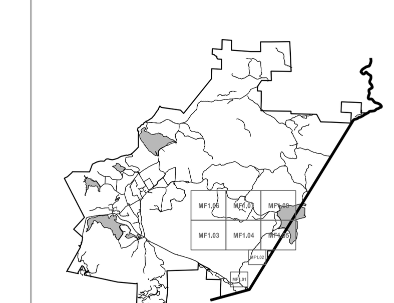
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA



TENTATIVE MAP
SUBDIVISION MF

MF SUBDIVISION PLAN

MF1.02

PARCEL LINE AND CURVE TABLE			
LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C361	447.06	20.90	1225.51
C362	69.47	132.67	30.00
C365	230.75	69.95	189.00
C368	33.50	10.21	188.00
C369	339.90	47.38	411.00
C372	74.89	17.95	239.00
C373	22.70	14.31	90.91
C374	30.09	15.53	111.00
C375	147.43	95.14	88.78
C399	213.95	109.45	112.00
C400	160.35	104.41	88.00
C405	104.55	31.56	189.81
C406	37.23	52.93	40.30
C407	65.83	55.76	67.64
C410	24.60	20.83	67.64
C411	29.40	55.90	30.13
C412	425.55	64.41	378.54
C415	346.42	51.16	388.00
C418	93.10	20.36	262.00
C419	335.81	90.76	212.00
C420	29.33	4.33	388.00
C421	33.41	61.67	31.04
C422	80.35	68.06	67.64
C426	413.51	64.99	364.54
C427	10.08	8.53	67.64
C428	37.22	53.35	39.97
C429	158.16	54.00	167.81
C430	89.35	30.00	170.67
C431	74.34	22.44	189.81
C432	173.68	66.94	148.67
L437	163.66	S57° 10' 04.82"E	
L438	49.15	S24° 59' 39.17"W	
L439	111.18	N43° 09' 54.82"W	
L440	80.05	S7° 07' 54.35"W	
L441	2.04	S6° 11' 52.75"E	
L602	80.05	N7° 07' 54.35"E	
L604	442.76	N70° 17' 53.25"W	
L605	192.90	N70° 06' 15.04"W	
L615	49.14	N23° 49' 42.55"E	
L616	302.02	N63° 25' 01.34"W	

LEGEND

PARCEL BOUNDARY			
ROADWAY			
CUL-DE-SAC			
COUNTY LINE			
CULVERT		WASTE WATER TREATMENT FACILITY	WW
BRIDGE		WATER PUMP	
WATER TANK	W	FIRE HYDRANT	
GROUND WATER WELL	WELL	FIRE TANK	
ELECTRICAL SUBSTATION	ELEC	EXISTING POWER POLE	
DEVELOPMENT RESTRICTION AREA			
EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)			
EASEMENT			
EPHEMERAL STREAMS			
ORDINARY HIGH WATER MARK			
INTERMITTENT TOP OF BANK			
PERENNIAL TOP OF BANK			
EXISTING PARCEL BOUNDARY			
EPHEMERAL STREAM SETBACK			

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2548 Mission Street
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CODY ANDERSON
EXP: 9/30/23
No. 84470
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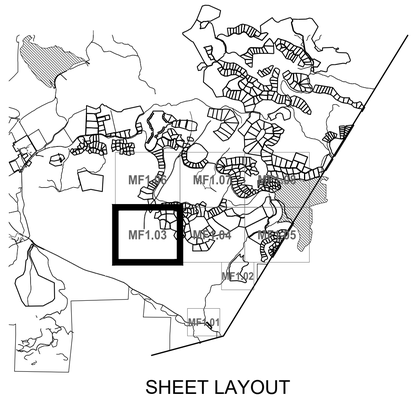
CHECKED CA,MH,SG

MAHA FARMS SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF



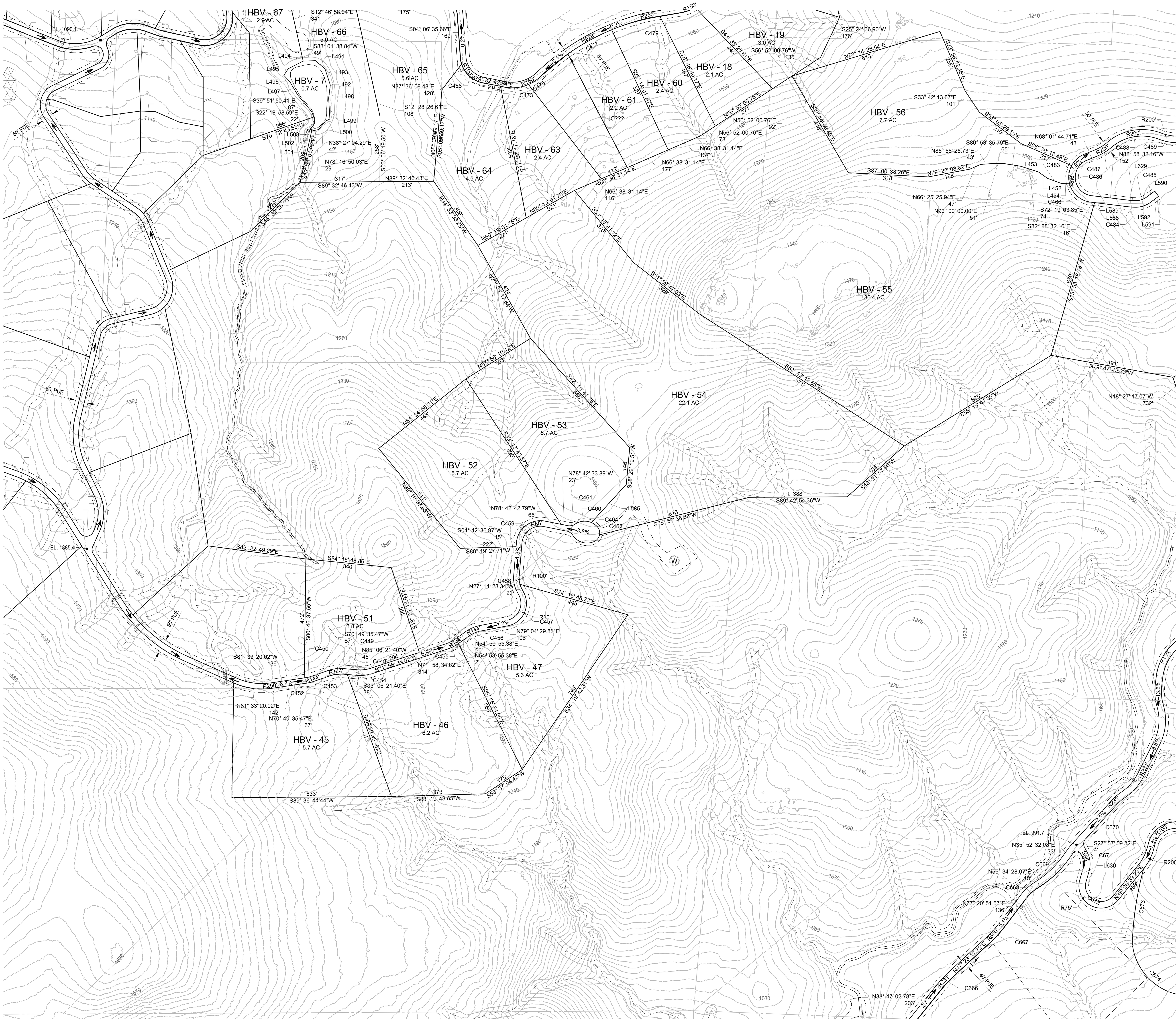
SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400' NORTH

MF SUBDIVISION PLAN

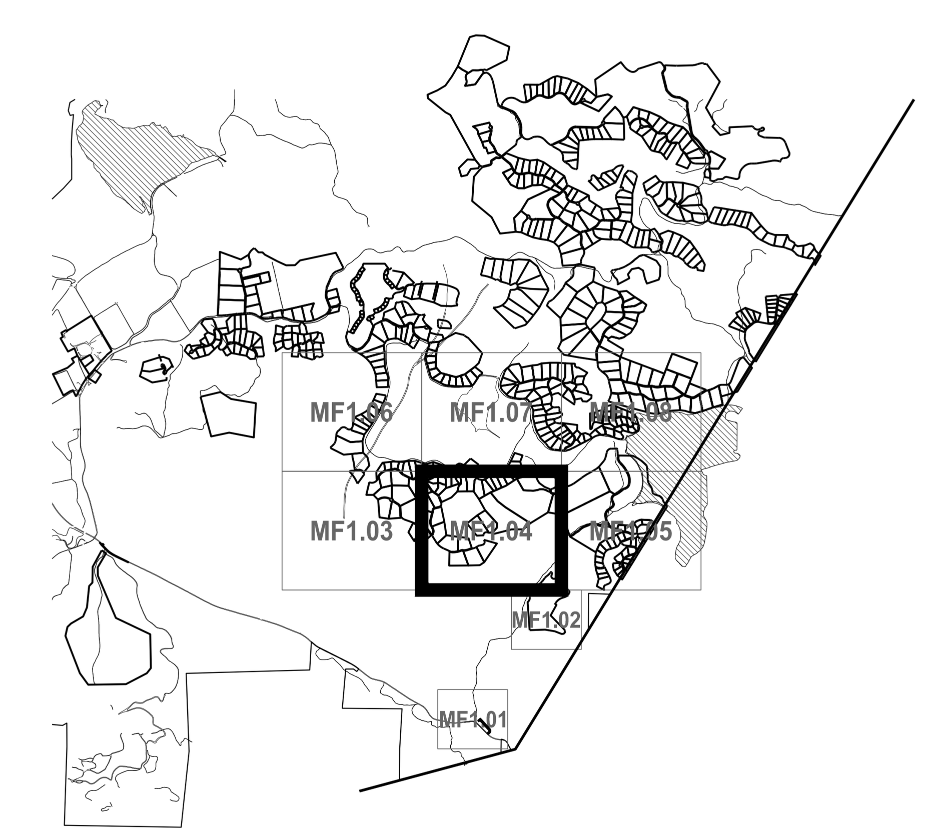
MF1.03

P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG1\PKG1-PARCELS AND ROADS.DWG



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- WASTE WATER TREATMENT FACILITY (WW)
- BRIDGE
- WATER PUMP
- WATER TANK (W)
- FIRE HYDRANT
- GROUND WATER WELL (WELL)
- FIRE TANK
- ELECTRICAL SUBSTATION (ELEC)
- EXISTING POWER POLE
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK



SHEET LAYOUT

NOT TO SCALE

0 100' 200' 400'

NORTH

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DESIGN ENGINEERS
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San Francisco, CA 94110
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PROJECT NO. 18-016

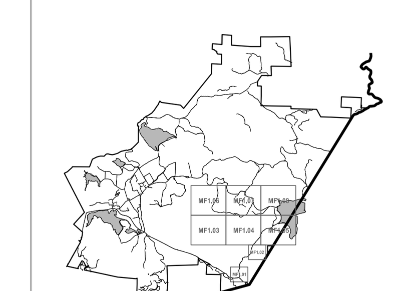
DATE JULY 31, 2023

DRAWN DN,AR,MR,JS,TS

CHECKED CA,MH,SG

MAHA FARMS SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA



TENTATIVE MAP
SUBDIVISION MF

MF SUBDIVISION PLAN

MF1.04

PARCEL LINE AND CURVE TABLE			
LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C377	173.66	52.64	189.00
C378	142.46	50.38	162.00
C380	173.52	112.98	88.00
C381	27.95	6.73	238.00
C385	220.85	112.98	112.00
C386	32.18	13.35	138.13
C387	30.77	6.73	262.00
C389	48.63	43.54	64.00
C390	91.20	85.29	61.26
C391	41.91	80.05	30.00
C392	44.76	22.28	115.09
C393	60.65	54.29	64.00
C394	42.24	17.78	136.11
C395	67.18	33.73	114.11
C396	154.34	98.53	89.74
C397	94.22	62.77	86.00
C398	52.12	21.76	137.24
C401	152.75	41.28	212.00
C402	44.77	85.49	30.01
C403	54.91	80.12	39.26
C404	146.84	97.83	86.00
C433	214.02	39.43	311.00
C434	128.95	49.92	147.99
C435	64.85	123.85	30.00
C436	247.32	37.96	373.32
C437	43.68	7.12	351.32
C438	189.06	30.83	351.32
C439	75.90	7.36	591.11
C440	29.40	56.15	30.00
C441	148.12	49.92	169.99
C442	198.88	39.43	289.00
C443	70.12	62.77	64.00
C444	61.92	31.75	111.74
C445	274.37	26.59	591.11
C446	62.84	12.58	286.16
C447	72.03	17.27	239.00
C448	53.20	22.92	133.00
C449	74.15	29.10	145.98
C450	31.23	13.45	133.00
C451	146.97	29.10	289.37
C452	29.02	10.73	155.00
C453	71.11	23.58	172.79
C454	62.00	22.92	155.00
C455	46.20	17.08	155.00
C456	56.12	24.18	133.00
C457	168.86	106.32	91.00
C458	17.05	10.98	89.00
C459	161.82	96.58	96.00
C460	64.71	54.81	67.64
C461	37.22	53.35	39.97
C463	38.03	58.78	37.07
C464	25.72	21.78	67.64
C466	119.85	69.36	99.00
C468	118.27	60.51	112.00
C473	113.47	40.34	161.16
C475	57.84	20.58	161.00
C477	198.82	12.66	900.00
C479	199.44	13.20	865.92
C483	71.85	41.58	99.00
C484	61.46	35.57	99.00
C485	45.32	35.57	73.00
C486	192.39	151.00	73.00

PARCEL LINE AND CURVE TABLE			
LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C487	68.65	18.47	213.00
C488	200.01	61.28	187.00
C489	56.88	15.30	213.00
C666	64.33	7.55	488.00
C667	89.72	10.04	512.00
C668	63.09	19.23	188.00
C669	149.02	20.70	412.51
C670	42.61	142.65	17.11
C671	58.39	81.10	41.25
C672	240.61	156.66	88.00
C673	300.34	13.39	1285.38
C674	334.89	82.83	231.65
C861	92.13	38.19	138.23
L436	17.53	S24° 00' 15.47"W	
L443	195.91	N68° 10' 14.71"W	
L444	4.60	S19° 09' 59.67"E	
L445	10.27	N21° 09' 03.86"W	
L446	21.81	N58° 53' 33.33"E	
L447	7.21	S58° 53' 33.33"W	
L448	45.75	S70° 43' 26.87"E	
L449	68.95	S77° 27' 08.44"E	
L450	143.97	N77° 27' 08.44"W	
L452	45.23	S54° 49' 59.81"E	
L453	56.75	S70° 01' 35.24"E	
L454	33.36	N89° 22' 51.38"E	
L480	160.54	S82° 14' 58.96"W	
L481	57.69	N87° 51' 29.09"W	
L482	162.19	S0° 23' 07.14"W	
L483	104.66	N66° 17' 38.85"W	
L484	96.09	N79° 04' 01.59"W	
L485	195.26	N0° 05' 28.95"E	
L486	113.49	N0° 05' 28.95"E	
L487	84.73	N55° 58' 43.97"W	
L489	153.51	S76° 17' 02.62"W	
L490	159.76	N76° 17' 02.62"E	
L491	50.12	N49° 05' 59.16"W	
L492	23.63	N7° 28' 30.83"E	
L493	67.32	N18° 13' 01.23"W	
L494	66.63	S62° 59' 17.84"W	
L495	31.58	S33° 26' 16.72"W	
L496	33.56	S43° 44' 28.79"E	
L497	61.93	S30° 43' 31.36"E	
L498	28.14	N7° 28' 30.83"E	
L499	83.45	N3° 28' 11.69"W	
L500	20.29	N64° 24' 37.27"E	
L501	9.50	S33° 42' 12.22"E	
L502	28.58	S37° 31' 04.75"W	
L503	25.50	S7° 07' 42.59"E	
L585	205.17	S42° 23' 59.08"W	
L588	28.96	S86° 52' 24.09"E	
L589	136.56	S82° 58' 32.16"E	
L590	40.20	S53° 39' 37.26"W	
L591	26.00	N36° 20' 22.74"W	
L592	40.20	N53° 39' 37.26"E	
L596	104.53	N39° 37' 04.16"W	
L597	34.85	N70° 43' 26.87"W	
L598	50.68	S57° 45' 43.25"W	
L603	383.22	N68° 10' 11.48"E	
L629	25.42	N86° 52' 24.09"W	
L630	45.10	S15° 46' 10.78"W	

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CIVIL
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NO	DATE	ISSUANCE

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PROJECT NO. 18-016
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MAHA FARMS SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF

MF SUBDIVISION PLAN

MF1.04A

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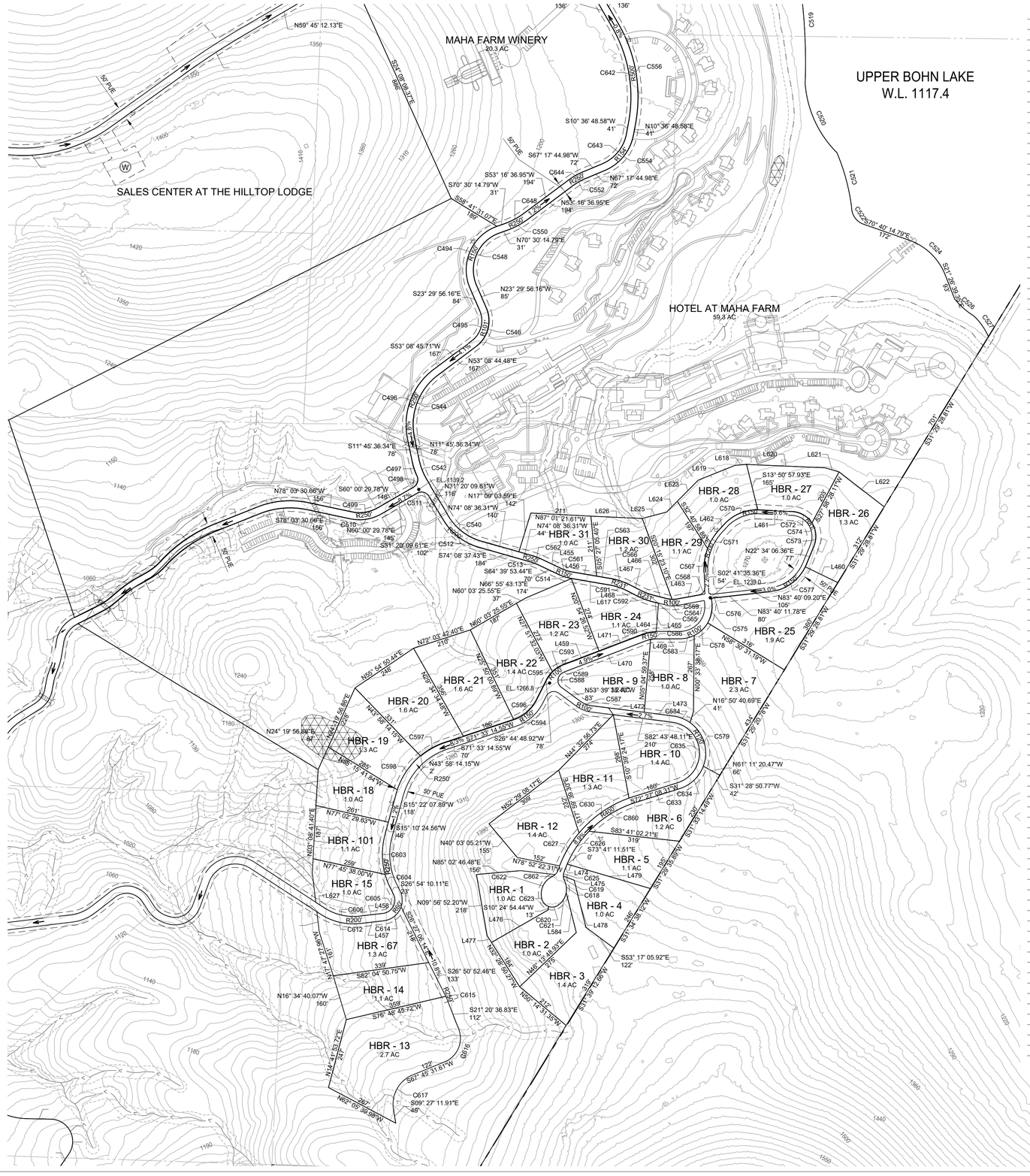

PARCEL LINE AND CURVE TABLE

LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C490	164.94	18.01	524.67
C491	212.19	23.17	524.67
C492	243.83	5.39	2590.72
C494	266.86	94.38	162.01
C495	119.03	76.64	88.98
C496	275.28	64.91	243.00
C497	57.80	12.60	262.79
C498	44.19	84.39	30.00
C499	94.41	41.93	129.00
C500	183.45	33.69	312.00
C501	224.44	24.14	532.70
C502	58.06	17.60	189.00
C503	80.53	11.23	411.00
C504	44.85	13.60	189.00
C505	50.07	13.60	211.00
C506	76.22	11.23	389.00
C507	64.82	17.60	211.00
C508	214.63	26.22	469.00
C509	169.33	33.69	288.00
C510	111.98	41.93	153.00
C511	46.42	88.66	30.00
C512	157.38	42.53	212.00
C513	38.97	9.38	238.00
C514	51.34	17.67	166.50
C519	443.95	12.70	2003.46
C520	274.08	41.12	381.93
C521	199.18	15.83	721.12
C522	74.33	68.58	62.10
C524	179.50	48.50	212.05
C526	91.15	19.93	262.12
C527	89.14	23.02	221.87
C540	173.98	49.30	202.20
C542	81.32	19.58	238.00
C544	248.09	64.91	219.00
C546	151.13	76.64	112.98
C548	226.41	94.00	138.00
C550	78.78	17.23	262.00
C552	58.23	14.02	238.00
C554	164.22	56.68	166.00
C556	363.25	40.65	512.00
C561	37.69	15.65	138.00
C562	43.34	9.48	262.00
C563	39.26	0.06	36147.96
C564	18.83	12.26	88.00
C565	49.62	12.98	219.00
C566	84.37	19.31	250.38
C567	83.83	19.17	250.55
C568	35.93	82.35	25.00
C569	18.83	12.26	88.00
C570	130.13	47.82	155.91
C571	73.75	19.11	221.07
C572	82.46	51.19	92.29
C573	50.23	29.71	96.86
C574	35.87	25.65	80.12
C575	85.00	35.91	135.60
C576	25.76	87.05	16.95
C577	157.43	57.82	156.00
C578	65.87	31.78	118.75
C579	171.95	75.21	131.00
C583	50.79	26.26	110.83
C584	62.96	27.54	131.00
C586	24.88	10.27	138.88
C587	44.03	28.34	89.00
C588	59.02	112.71	30.00
C589	15.24	10.04	87.00
C590	52.46	18.28	164.43
C591	66.81	17.48	219.00
C592	55.06	12.98	243.00
C593	46.02	23.75	111.00
C594	59.89	30.90	111.05
C595	35.97	15.07	136.77
C596	49.08	20.23	139.00
C597	97.16	21.33	261.00
C598	146.21	31.99	261.91
C603	140.93	30.70	263.00
C604	52.21	11.37	263.00
C605	90.48	110.30	47.00
C606	129.61	39.71	187.00
C612	147.63	39.71	213.00
C614	81.73	64.15	73.00
C615	11.59	2.78	239.00
C616	138.41	89.10	89.00
C617	149.58	77.21	111.00
C618	39.45	34.46	65.59
C619	20.23	29.00	39.98
C620	38.04	58.78	37.08
C621	51.03	43.22	67.65
C622	90.44	76.59	67.65
C623	38.04	58.78	37.08
C625	16.99	24.35	39.98
C626	139.53	20.55	389.00
C627	134.59	20.98	367.53
C630	216.62	30.20	411.00
C633	162.26	0.93	10000.00
C634	118.78	51.95	131.00
C635	294.29	154.70	109.00
C642	346.23	40.65	488.00
C643	140.48	56.68	142.00
C644	64.11	14.02	262.00
C645	71.56	17.23	238.00

PARCEL LINE AND CURVE TABLE

LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C675	167.86	123.13	78.11
C860	194.05	27.87	398.95
C862	15.46	21.98	40.32
L455	74.76	N64° 39' 52.45"W	
L456	88.07	N80° 18' 16.93"W	
L457	82.99	N83° 24' 13.52"E	
L458	82.99	S83° 24' 13.52"W	
L459	133.47	S69° 05' 35.03"W	
L460	127.38	N64° 09' 06.14"W	
L461	121.18	N87° 11' 54.49"W	
L462	31.99	S42° 45' 59.12"W	
L463	77.29	S79° 39' 35.24"W	
L464	23.76	S75° 48' 52.20"E	
L465	101.16	S4° 41' 36.58"W	
L466	47.52	N75° 48' 52.20"W	
L467	39.59	N62° 49' 58.57"W	
L468	39.59	S62° 49' 58.57"E	
L469	79.04	N89° 43' 24.58"E	
L470	318.36	N69° 08' 17.04"E	
L471	159.95	S69° 05' 33.48"W	
L472	184.93	N82° 57' 08.07"W	
L473	104.23	N82° 30' 08.05"W	
L474	27.46	N21° 23' 38.75"E	
L475	40.40	S69° 17' 09.64"E	
L476	228.94	N60° 10' 58.87"E	
L477	28.26	S32° 28' 50.27"E	
L478	170.66	S14° 04' 50.48"E	
L479	304.71	S73° 41' 11.51"E	
L584	144.60	N14° 07' 12.81"W	
L617	135.64	S80° 18' 40.37"E	
L618	40.07	N85° 44' 04.74"E	
L619	139.82	N68° 03' 50.94"E	
L620	275.95	N87° 34' 59.07"W	
L621	51.44	N73° 33' 03.61"W	
L622	200.62	N52° 13' 36.70"W	
L623	104.76	N44° 48' 38.40"E	
L624	53.33	N44° 48' 38.40"E	
L625	88.31	N75° 14' 31.65"E	
L626	180.70	N87° 25' 03.00"W	
L627	35.73	N57° 39' 46.08"W	
L628	84.49	S88° 48' 03.64"E	

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL–DE–SAC
- COUNTY LINE
- CULVERT
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- WATER TANK (W)
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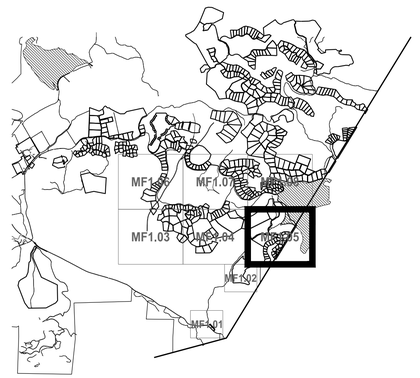
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE



SHEET LAYOUT
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0 100' 200' 400' NORTH

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MAHA FARMS SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF

MF SUBDIVISION PLAN

MF1.05

PARCEL LINE AND CURVE TABLE			
LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C345	202.92	11.50	1011.00
C346	214.70	12.17	1011.00
C347	212.27	12.03	1011.00
C348	215.87	12.23	1011.00
C349	152.79	8.66	1011.00
C350	194.55	22.84	487.98
C352	47.88	19.74	139.00
C353	95.20	39.47	138.18
C354	102.02	52.19	112.00
C355	146.48	74.93	112.00
C356	155.26	37.38	238.00
C357	214.00	86.85	138.00
C358	65.63	15.80	238.00
C359	72.66	37.17	112.00
C360	201.34	54.42	212.00
C370	123.01	32.58	216.33
C371	89.27	26.76	191.16
C376	171.94	87.96	112.00
C417	189.09	57.63	188.00
C864	230.75	69.95	189.00
L442	42.01	N68° 27' 47.57"W	
L583	10.71	N60° 38' 52.93"W	
L599	119.04	N79° 18' 54.52"E	
L600	282.87	S4° 49' 38.82"W	

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK (W)
- GROUND WATER WELL (WELL)
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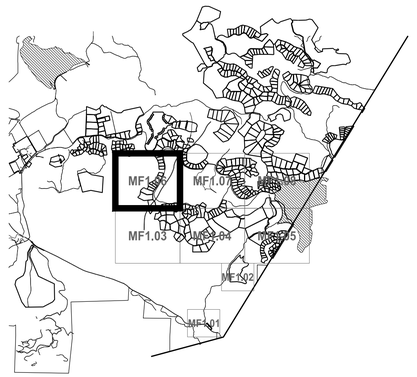
MAHA FARMS SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF



SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400'
NORTH

MF SUBDIVISION PLAN

MF1.06

P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG1\PKG1-PARCELS AND ROADS.DWG

PARCEL LINE AND CURVE TABLE

LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C1	191.91	28.34	388.00
C2	140.37	28.03	286.96
C3	211.29	46.38	261.00
C4	55.06	105.16	30.00
C5	46.07	29.66	89.00
C6	37.32	19.27	111.00
C379	26.46	24.46	62.00
C382	93.14	47.65	112.00
C384	78.87	118.92	38.00
C480	61.83	21.87	162.00
C481	61.83	21.87	162.00
C482	28.35	10.03	162.00
C646	55.82	28.55	112.00
C648	123.14	80.17	88.00
C662	96.34	49.29	112.00
C663	22.29	5.37	238.00
C678	134.37	22.84	337.00
C679	34.71	7.56	263.00
C685	89.63	21.67	237.00
C686	101.51	24.54	237.00
C687	58.96	15.86	213.00
C688	65.54	19.24	195.15
C690	49.20	15.07	187.00
C693	23.51	6.32	213.00
C695	29.21	8.95	187.00
C697	115.79	19.63	338.00
C699	155.92	26.13	341.89
C700	81.50	19.70	237.00
C701	183.91	63.48	166.00
C702	50.71	17.40	167.00
C703	144.56	17.01	487.00
C704	199.65	33.94	337.00
C705	187.19	37.37	287.00
C713	7.76	0.73	612.00
C717	4.18	11.58	20.67
C718	30.31	57.88	30.00
C719	57.45	29.66	111.00
C720	29.93	19.27	89.00
C721	140.50	58.93	136.60
C728	6.88	1.51	261.00
C729	158.44	31.97	284.00
C730	144.47	85.34	97.00
C731	79.35	52.86	86.00
C732	32.99	19.48	97.00
C733	87.23	92.56	54.00
C734	110.57	117.32	54.00
C735	40.92	26.34	89.00
C736	22.94	17.29	76.00
C737	140.69	106.07	76.00

PARCEL LINE AND CURVE TABLE

LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C738	41.74	31.47	76.00
C739	128.75	30.87	239.00
C748	194.02	42.59	261.00
C759	134.37	22.84	337.00
C824	27.51	6.20	254.00
C827	199.79	47.90	239.00
C829	163.85	81.92	114.60
C831	166.19	37.49	254.00
C852	21.82	7.19	173.95
C855	21.77	49.89	25.00
C856	143.81	29.85	276.05
L1	210.85	S86° 48' 48.47"E	
L2	140.35	N87° 43' 38.61"W	
L3	14.76	N27° 50' 17.12"E	
L451	118.67	S10° 25' 50.49"E	
L520	105.14	S73° 00' 57.19"W	
L521	277.39	N74° 11' 17.91"E	
L522	14.14	N87° 43' 04.80"W	
L523	535.67	S2° 12' 24.20"E	
L525	638.08	S39° 24' 37.81"E	
L532	83.92	N60° 24' 39.08"W	
L533	83.38	S60° 24' 39.07"E	
L534	83.92	N60° 24' 39.08"W	
L535	124.52	S35° 34' 24.52"E	
L536	31.13	S60° 24' 39.07"E	
L537	28.71	S35° 34' 24.52"E	
L539	62.79	S35° 34' 24.52"E	
L542	26.10	S8° 17' 05.02"E	
L544	173.70	S8° 17' 05.02"E	
L557	91.30	N20° 03' 39.13"W	
L601	282.87	S4° 49' 38.82"W	
L606	132.76	S82° 52' 34.55"E	
L607	21.15	S60° 17' 16.81"E	
L610	55.44	N70° 14' 51.56"W	
L611	105.14	S73° 00' 57.19"W	
L612	7.83	N77° 20' 08.54"W	

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL–DE–SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK (W)
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
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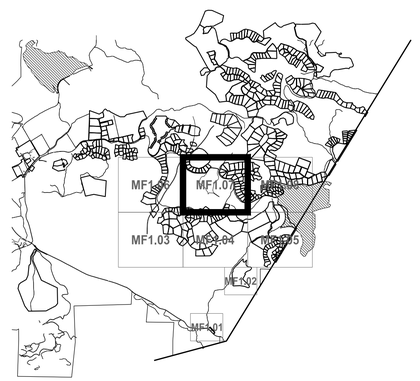
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE



SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400' NORTH

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
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No. 84470
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STATE OF CALIFORNIA

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NO	DATE	ISSUANCE

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

MAHA FARMS SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF

MF SUBDIVISION PLAN

MF1.07

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PARCEL LINE AND CURVE TABLE			
LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C493	116.29	18.36	362.92
C516	20.35	1.44	812.00
C518	582.68	26.54	1258.09
C558	186.77	14.04	762.00
C560	190.70	45.91	238.00
C636	94.87	24.98	217.61
C637	208.75	73.59	162.53
C638	45.21	86.35	30.00
C639	97.35	7.08	788.00
C640	209.93	45.91	262.00
C641	180.88	14.04	738.00
C741	48.91	11.73	239.00
C742	134.54	67.62	114.00
C743	111.56	18.69	342.06
C749	157.14	66.20	136.00
C750	75.29	0.43	10000.00
C751	169.39	25.08	387.00
C752	37.28	106.80	20.00
C753	9.88	15.64	36.17
C754	77.56	49.93	89.00
C755	166.12	36.47	261.00
C756	40.03	9.60	239.00
C757	96.74	49.93	111.00
C758	42.71	81.56	30.00
C760	230.55	21.55	613.00
C761	70.61	15.38	263.00
C762	116.70	28.21	237.00
C763	46.09	88.03	30.00
C764	110.95	10.37	613.00
C765	81.13	7.87	591.00
C766	49.31	9.09	310.70
C767	122.46	34.03	206.19
C768	42.91	81.96	30.00
C771	34.99	8.46	237.00
C773	50.30	94.63	30.45
C775	104.81	25.34	237.00
C776	92.39	47.69	111.00
C778	15.37	5.18	170.07
C779	146.56	0.84	10000.00
C780	75.82	49.47	87.82
C781	39.72	75.86	30.00
C782	185.27	30.31	350.23
C783	42.56	81.29	30.00
C785	129.50	28.21	263.00
C786	118.06	103.12	65.60
C787	235.21	32.63	413.08
C788	84.74	43.74	111.00
C789	121.56	92.47	75.32
C790	117.11	75.39	89.00
C791	141.78	42.98	189.00
C792	22.60	13.19	98.17
C795	112.15	62.51	102.79
C796	86.17	1.50	3285.53
C797	120.60	72.81	94.90
C798	96.94	44.60	124.55
C799	43.15	11.67	211.87
C800	149.79	40.68	211.00
C801	25.71	6.98	211.00
C802	28.82	8.74	189.00
C803	101.19	27.48	211.00
C804	75.98	22.48	193.70
C805	118.03	28.54	237.00
C806	43.88	85.30	29.48
C807	38.30	19.77	111.00
C808	39.67	10.77	211.00
C811	28.73	7.80	211.00
C813	77.35	21.01	211.00
C815	39.73	12.05	189.00
C816	73.93	22.41	189.00
C817	129.56	35.18	211.00
C818	172.76	52.13	189.87
C819	182.95	142.35	73.64
C820	226.69	34.27	379.00
C821	142.20	34.09	239.00
C822	13.43	2.03	379.00
C825	115.18	31.28	211.00
C832	143.69	20.10	409.57
C834	103.17	31.28	189.00
C836	52.79	125.39	24.12
C838	40.88	21.89	107.00
C840	38.20	32.19	68.00
C842	133.96	112.88	68.00
C844	30.08	15.08	114.28
C845	62.21	118.82	30.00
C846	22.49	4.94	261.00
C847	19.66	5.48	205.66
C848	22.73	43.41	30.00
C849	34.49	21.25	93.00

PARCEL LINE AND CURVE TABLE			
LINE#/CURVE#	LENGTH	BEARING/DELTA	RADIUS
C850	104.15	72.77	82.00
C851	57.40	40.11	82.00
C853	46.07	32.19	82.00
C854	35.53	21.89	93.00
L504	19.62	N80° 32' 32.28"W	
L505	22.63	S63° 26' 47.91"W	
L506	28.88	S27° 16' 00.93"W	
L507	124.92	S13° 41' 47.74"W	
L508	67.63	S26° 16' 12.03"W	
L509	77.13	S75° 29' 48.37"W	
L510	9.72	N40° 04' 47.76"E	
L511	83.83	N72° 47' 45.06"W	
L512	63.45	N83° 05' 28.43"W	
L513	96.93	S75° 00' 59.77"W	
L514	17.82	S83° 05' 16.85"E	
L515	96.93	N75° 00' 59.77"E	
L516	142.48	S72° 47' 45.06"E	
L517	14.80	N26° 33' 33.90"W	
L518	62.16	N57° 49' 52.60"W	
L531	87.94	N60° 24' 39.05"W	
L545	14.36	S14° 13' 47.78"W	
L546	119.03	S64° 09' 48.81"W	
L547	119.03	N64° 09' 48.81"E	
L548	90.77	N27° 39' 19.77"E	
L549	87.26	S27° 41' 43.65"W	
L550	87.27	S79° 01' 13.16"W	
L551	63.03	N40° 17' 06.69"W	
L552	41.33	S40° 17' 33.05"E	
L553	127.72	S40° 16' 58.16"E	
L554	378.94	N40° 17' 06.69"W	
L555	118.45	S40° 17' 06.69"E	
L556	154.48	S40° 17' 06.69"E	
L558	61.57	N30° 22' 49.96"W	
L559	172.54	N2° 39' 08.98"E	
L560	237.47	S2° 35' 42.55"W	
L561	114.55	N2° 39' 07.59"E	
L562	150.66	S2° 36' 09.43"W	
L563	126.21	S80° 48' 56.09"E	
L564	232.59	N80° 48' 56.09"W	
L565	194.70	S80° 48' 56.09"E	
L566	97.70	N80° 48' 56.09"W	
L567	56.52	N67° 24' 22.93"E	
L568	56.52	S67° 24' 22.93"W	
L569	165.69	N78° 08' 05.66"W	
L570	128.77	S77° 55' 52.47"E	
L571	51.28	S78° 38' 46.70"E	
L572	14.37	N78° 08' 05.66"W	
L573	80.84	S25° 44' 37.39"E	
L574	83.16	N25° 43' 27.38"W	
L575	58.18	N65° 00' 33.20"W	
L576	50.54	N65° 00' 33.20"W	
L577	53.78	S23° 39' 38.53"E	
L578	145.85	S72° 00' 33.07"E	
L579	68.87	N72° 00' 33.07"E	
L580	60.72	S72° 00' 33.07"W	
L581	137.70	N72° 00' 33.07"E	
L609	62.16	S57° 49' 52.60"E	
L613	49.03	S2° 10' 02.33"E	
L614	61.57	S30° 22' 49.96"E	

UPPER BOHN LAKE
W.L. 1117.4

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK (W)
- GROUND WATER WELL (WELL)
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- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE

SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400' NORTH

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San Francisco, CA 94110
www.sherwoodengineers.com

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

MAHA FARMS SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF

MF SUBDIVISION PLAN

MF1.08

AVERAGE CROSS SLOPE TABLE

PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
HBR-01	40,824	14.8%
HBR-02	46,587	15.5%
HBR-03	60,517	20.9%
HBR-04	44,667	14.8%
HBR-05	48,887	19.4%
HBR-06	50,274	24.0%
HBR-07	98,669	26.7%
HBR-08	44,699	21.1%
HBR-09	52,031	21.9%
HBR-10	61,981	30.0%
HBR-11	55,186	30.9%
HBR-12	59,896	20.5%
HBR-13	117,313	32.0%
HBR-14	50,035	33.5%
HBR-15	43,534	33.9%
HBR-16	43,038	10.1%
HBR-17	45,479	8.8%
HBR-18	49,884	36.1%
HBR-19	54,630	20.4%
HBR-20	69,226	24.4%
HBR-21	68,963	31.1%
HBR-22	62,370	31.4%
HBR-23	52,826	23.8%
HBR-24	46,283	20.3%
HBR-25	81,274	20.2%
HBR-26	56,718	22.0%
HBR-27	43,780	30.3%
HBR-28	43,970	31.4%
HBR-29	47,561	23.4%
HBR-30	51,896	27.3%
HBR-31	43,756	25.3%
HBR-32	207,697	28.2%
HBR-33	37,204	18.5%
HBR-34	41,302	19.8%
HBR-35	37,930	11.7%
HBR-36	37,521	10.3%
HBR-37	59,091	8.9%
HBR-38	65,529	7.7%
HBR-39	45,000	5.1%
HBR-40	86,194	28.6%
HBR-41	51,914	13.8%
HBR-42	44,148	19.5%
HBR-43	39,708	22.2%
HBR - 51	56,471	13.1%
HBR - 52	46,399	10.1%
HBR - 53	45,788	13.8%
HBR - 54	83,499	28.2%
HBR - 55	87,398	27.0%

AVERAGE CROSS SLOPE TABLE

PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
HBR - 56	87,243	31.4%
HBR - 57	87,138	29.1%
HBR - 58	87,142	37.1%
HBR - 59	57,285	21.0%
HBR - 60	76,985	24.2%
HBR - 61	87,220	15.1%
HBR - 62	87,235	19.7%
HBR - 63	87,358	20.5%
HBR - 64	33,626	16.7%
HBR - 65	52,731	10.7%
HBR - 66	87,344	30.8%
HBR - 67	58,631	31.6%
HBR - 68	45,648	14.0%
HBR - 69	43,908	12.4%
HBR - 70	65,271	14.0%
HBR - 71	91,083	25.4%
HBR - 72	58,518	10.3%
HBR - 73	68,803	32.7%
HBR - 74	49,219	4.2%
HBR - 75	57,727	9.8%
HBR - 76	59,053	5.3%
HBR - 77	166,372	28.4%
HBR - 78	137,983	32.1%
HBR - 79	145,583	25.4%
HBR - 80	123,431	30.2%
HBR - 81	139,030	28.1%
HBR - 82	155,533	26.5%
HBR - 83	147,389	27.7%
HBR - 84	71,341	22.7%
HBR - 85	94,597	19.6%
HBR - 86	140,927	11.8%
HBR - 87	69,323	10.5%
HBR - 88	98,211	9.5%
HBR - 89	136,779	11.8%
HBR - 90	103,967	9.0%
HBR - 91	117,629	30.7%
HBR - 92	79,999	31.8%
HBR - 93	106,563	27.0%
HBR - 94	72,603	26.5%
HBR - 95	113,421	20.7%
HBR - 96	141,547	34.3%
HBR - 97	116,329	19.1%
HBR - 98	96,584	12.6%
HBR - 99	71,688	27.3%
HBR - 100	50,681	22.8%
HBR - 101	41,581	35.5%
HBR - 102	52,248	27.0%
HBR - 104	50,924	10.7%

AVERAGE CROSS SLOPE TABLE

PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
HBR - 105	47,542	4.3%
HBR - 106	45,749	17.7%
HBR - 107	66,622	11.5%
HBR - 108	87,272	8.3%
HBR - 109	51,743	9.7%
HBR - 110	48,085	8.1%
HBR - 112	49,380	19.8%
HBR - 113	43,650	30.8%
HBV-01	146,325	26.2%
HBV-02	114,289	28.5%
HBV-03	95,157	30.7%
HBV-04	81,502	30.9%
HBV-05	91,235	25.5%
HBV-06	85,485	24.0%
HBV-08	78,416	25.3%
HBV-09	79,843	25.9%
HBV-10	89,909	25.9%
HBV-11	87,834	21.5%
HBV-12	93,408	22.0%
HBV-13	96,423	19.2%
HBV-14	94,225	19.4%
HBV-15	283,581	19.8%
HBV-16	417,206	16.4%
HBV-17	258,411	13.9%
HBV-18	93,165	31.4%
HBV-19	128,901	32.4%
HBV-20	70,535	19.2%
HBV-21	56,048	25.0%
HBV-22	55,897	29.8%
HBV-23	50,071	25.2%
HBV-24	120,160	19.2%
HBV-25	102,972	23.5%
HBV-26	69,142	22.0%
HBV-27	49,672	24.1%
HBV-28	76,557	18.8%
HBV-29	87,382	20.4%
HBV-30	53,982	19.4%
HBV-31	81,168	9.3%
HBV-32	108,055	33.6%
HBV-34	160,543	33.2%
HBV-35	184,643	34.0%
HBV-36	243,964	37.0%
HBV-37	385,819	32.9%
HBV-38	184,815	33.3%
HBV-39	244,087	31.1%
HBV-40	159,760	25.9%
HBV-41	377,316	34.9%
HBV-42	247,744	28.0%

AVERAGE CROSS SLOPE TABLE

PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
HBV-43	153,876	24.9%
HBV-44	151,982	24.3%
HBV-45	247,833	28.4%
HBV-46	271,083	27.2%
HBV-47	229,571	30.9%
HBV-48	195,864	28.0%
HBV-49	218,759	32.7%
HBV-50	268,835	33.2%
HBV-51	165,168	34.7%
HBV-52	248,325	32.2%
HBV-53	249,616	28.9%
HBV-54	961,757	35.0%
HBV-55	1,587,627	34.1%
HBV-56	337,102	30.9%
HBV-57	73,488	40.8%
HBV-58	105,083	35.3%
HBV-60	104,207	27.1%
HBV-61	98,090	26.1%
HBV-62	74,703	26.1%
HBV-63	105,391	28.1%
HBV-64	172,496	22.9%
HBV-65	245,073	26.6%
HBV-66	217,200	27.2%
HBV-67	125,414	20.1%
HBV-68	202,626	26.1%
HBV-69	89,144	24.8%
HBV-70	75,153	23.6%
HBV-71	79,680	26.0%
HBV-72	76,311	24.4%
HBV-73	67,182	19.5%
HBV-74	416,943	29.0%
HBV-75	219,884	30.5%
HBV-76	139,675	25.6%
FARM LAND 1	1,178,150	29.5%
FARM LAND 2	780,005	21.6%
HOTEL AT MAHA FARM	2,583,679	14.5%
MAHA FARM WINERY	885,438	20.0%
SALES CENTER AT THE HILLTOP LODGE	1,599,189	29.0%
FACILITY 6	1,592,418	22.6%

SHERWOOD
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www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

SCALE:
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NO	DATE	ISSUANCE

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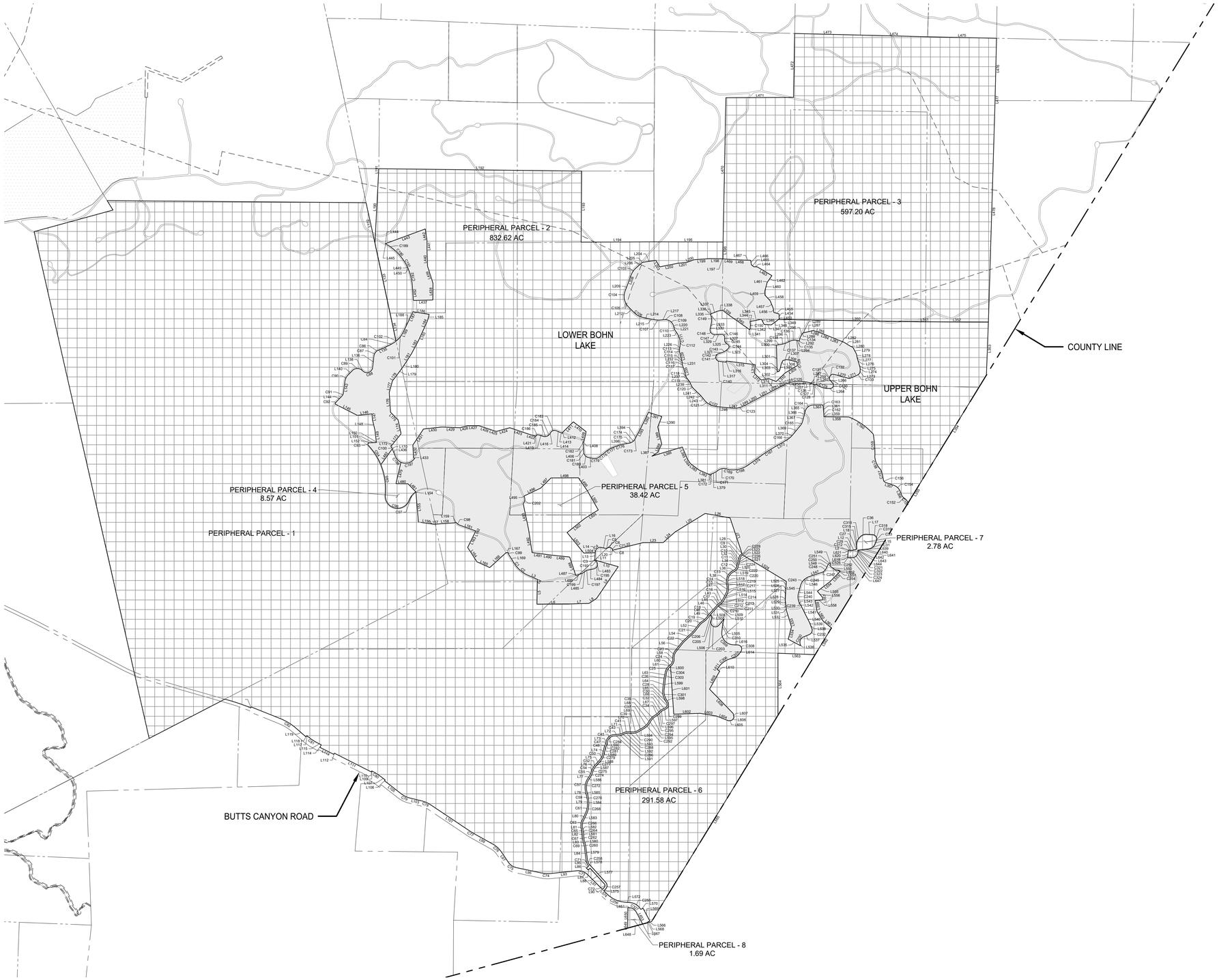
PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

MAHA FARMS
SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF

RESIDENTIAL
PARCEL
AVERAGE
SLOPES

MF1.20



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- REMAINDER PARCELS
- DEVELOPMENT PARCELS
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY

0 500' 1000' 2000' NORTH

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SCALE: 1:1000
0 1"
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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

MAHA FARMS SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION MF

PERIPHERAL PARCEL PLAN

MF2.01

P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG1\PKG1-REMAINDER PARCELS.DWG

PARCEL LINE AND CURVE TABLE

LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C1	75.90	7.36	591.11
C2	274.37	26.59	591.11
C3	40.64	20.98	111.00
C4	161.82	96.58	96.00
C5	37.28	54.54	39.16
C6	90.65	76.33	68.05
C7	37.74	55.92	38.66
C8	0.15	0.22	38.66
C9	106.21	53.85	113.00
C10	49.81	12.04	237.00
C11	31.13	10.94	163.00
C12	59.80	47.58	72.00
C13	188.62	50.74	213.00
C14	95.29	24.42	223.57
C15	134.83	41.31	187.00
C16	91.89	28.16	187.00
C17	46.95	12.63	213.00
C18	29.51	6.43	263.00
C19	157.34	22.71	396.87
C20	71.48	19.23	213.00
C21	85.34	10.04	487.00
C22	75.91	8.48	513.00
C23	151.07	40.64	213.00
C24	126.85	53.05	137.00
C25	147.78	39.75	213.00
C26	28.96	5.30	313.00
C27	35.93	82.35	25.00
C28	190.11	34.80	313.00
C29	18.83	12.26	88.00
C30	100.55	92.92	62.00
C31	157.43	57.82	156.00
C32	80.90	21.76	213.00
C33	50.23	29.71	96.86
C34	72.89	19.42	215.05
C35	147.49	27.00	313.00
C36	130.13	47.82	155.91
C37	139.02	27.75	287.00
C39	103.98	31.86	187.00
C41	93.35	25.11	213.00
C43	63.66	19.50	187.00
C45	212.84	74.82	163.00
C47	51.86	12.54	237.00
C48	63.55	12.65	287.73
C50	93.65	28.69	187.00
C52	49.94	9.14	313.00
C54	88.96	18.90	269.64
C55	72.95	17.64	237.00
C57	256.08	46.88	313.00
C59	79.88	11.83	387.00
C61	186.00	27.54	387.00
C63	135.89	36.55	213.00
C65	26.28	8.05	187.00
C67	92.92	12.89	413.00
C69	45.23	9.03	287.00
C71	123.01	33.09	213.00
C72	76.10	87.21	50.00
C73	221.85	50.85	249.97
C74	171.17	17.83	549.94
C75	192.84	44.20	249.97
C76	211.25	26.90	449.95
C77	77.09	4.65	949.90
C78	195.80	20.40	549.94
C79	192.92	24.57	449.95
C80	209.14	11.20	1069.89
C81	230.39	14.35	919.90
C82	353.96	19.32	1049.89
C83	413.77	5.88	4029.57
C84	202.40	12.68	914.48
C86	48.00	39.27	70.03
C87	95.08	39.47	138.00
C88	248.49	127.12	112.00
C89	214.00	88.85	138.00
C90	155.26	37.38	238.00
C91	72.66	37.17	112.00
C92	65.63	15.80	238.00
C93	69.47	132.67	30.00
C94	447.06	20.90	1225.51
C95	592.44	27.70	1225.51
C96	684.79	165.59	236.94
C97	213.93	32.38	378.54
C98	95.85	36.94	148.67
C99	29.40	56.15	30.00
C100	51.25	15.54	189.00
C101	194.78	22.60	493.79
C102	18.85	1.18	914.48
C103	191.91	28.34	388.00
C104	140.88	28.03	288.00
C105	187.29	36.15	296.82
C106	199.65	33.94	337.00
C107	144.56	17.01	487.00
C108	50.11	21.76	131.93
C109	184.10	62.26	169.41
C110	81.50	19.70	237.00
C111	144.72	24.48	338.67
C112	115.79	19.63	338.00
C113	29.21	8.95	187.00
C114	49.20	15.07	187.00
C115	23.51	6.32	213.00
C116	56.07	17.06	188.32
C117	55.56	5.59	569.62
C118	101.51	24.54	237.00
C119	58.96	15.86	213.00
C120	89.63	21.67	237.00
C121	134.37	22.84	337.00
C122	134.37	22.84	337.00
C123	169.39	25.08	387.00
C124	230.55	21.55	613.00
C125	105.38	9.85	613.00
C126	153.19	22.05	398.00
C127	18.36	2.64	398.00
C128	39.72	75.86	30.00

PARCEL LINE AND CURVE TABLE

LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C129	235.21	32.63	413.08
C130	118.06	103.12	65.60
C131	2.39	1.82	75.32
C132	119.17	90.65	75.32
C133	96.94	44.60	124.55
C134	92.06	22.26	237.00
C135	12.55	23.97	30.00
C136	111.98	31.12	206.19
C137	49.31	9.09	310.70
C138	68.60	6.21	633.31
C139	68.58	15.00	262.00
C140	41.74	31.47	76.00
C141	140.69	106.07	76.00
C142	22.94	17.29	76.00
C143	40.92	26.34	89.00
C144	110.98	117.75	54.00
C145	79.35	52.86	86.00
C146	87.23	92.56	54.00
C147	32.99	19.48	97.00
C148	144.47	85.34	97.00
C149	158.44	31.97	284.00
C150	121.60	29.15	239.00
C151	89.13	23.13	220.81
C152	91.15	19.93	262.12
C154	179.50	48.50	212.05
C156	74.33	68.58	62.10
C157	199.18	15.83	721.12
C158	274.08	41.12	381.93
C159	443.95	12.70	2003.46
C160	582.68	26.54	1258.09
C162	77.60	5.64	788.00
C163	45.21	86.35	30.00
C164	208.75	73.59	162.53
C165	94.87	24.98	217.61
C166	116.29	18.36	362.93
C167	243.83	5.39	2590.72
C168	377.12	41.18	524.67
C169	56.88	15.30	213.00
C170	200.01	61.28	187.00
C171	68.65	18.47	213.00
C172	51.04	40.06	73.00
C173	28.35	10.03	162.00
C174	61.83	21.87	162.00
C175	61.83	21.87	162.00
C176	199.26	13.20	865.15
C177	199.53	21.66	527.93
C178	197.88	7.17	1581.72
C179	114.06	40.34	162.00
C180	118.27	60.51	112.00
C181	27.86	14.25	112.00
C182	29.97	19.51	88.00
C183	123.14	80.17	88.00
C184	55.82	28.55	112.00
C185	93.14	47.65	112.00
C186	62.65	94.46	38.00
C187	298.03	80.55	212.00
C188	159.46	41.84	218.35
C189	202.92	11.50	1011.00
C190	214.70	12.17	1011.00
C191	212.87	11.18	1091.15
C192	331.82	18.11	1049.64
C193	17.05	10.98	89.00
C195	168.86	106.32	91.00
C197	56.12	24.18	133.00
C199	47.91	17.66	155.40
C202	130.25	66.79	111.74
C203	240.61	156.66	88.00
C205	54.96	43.74	72.00
C206	42.01	117.97	20.41
C210	0.01	0.00	187.08
C211	16.51	5.06	187.00
C212	24.70	7.57	187.00
C213	0.37	0.10	216.75
C214	104.67	28.16	213.00
C217	153.58	41.31	213.00
C219	61.77	18.11	195.41
C220	165.59	50.74	187.00
C222	81.39	47.58	98.00
C224	26.16	10.94	137.00
C226	55.28	12.04	263.00
C228	81.77	53.85	87.00
C230	149.58	77.21	111.00
C232	138.41	89.10	89.00
C239	52.21	11.37	263.00
C240	140.93	30.70	263.00
C243	146.21	31.99	261.91
C245	97.16	21.33	261.00
C247	59.89	30.90	111.05
C248	49.08	20.23	139.00
C250	35.97	15.07	136.77
C251	26.57	13.71	111.00
C252	59.02	112.71	30.00
C254	44.96	49.49	52.05
C255	249.77	57.25	249.97
C256	386.81	40.30	549.94
C257	136.99	87.21	90.00
C258	106.93	32.76	187.02
C260	49.33	9.03	313.00
C262	87.07	12.89	387.00
C264	29.93	8.05	213.00
C266	119.30	36.55	187.00
C268	198.50	27.54	413.00
C270	85.25	11.83	413.00
C272	234.81	46.88	287.00
C274	81.38	17.73	263.00
C275	80.74	18.99	243.64
C277	45.79	9.14	287.00
C279	106.67	28.69	213.00
C281	58.17	12.73	261.73
C282	58.22	12.68	263.00
C284	178.89	74.82	137.00

PARCEL LINE AND CURVE TABLE

LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C286	72.51	19.50	213.00
C288	81.96	25.11	187.00
C290	118.43	31.86	213.00
C292	151.62	27.75	313.00
C294	134.48	26.85	287.00
C295	81.03	19.26	241.05
C297	71.02	21.76	187.00
C299	142.72	92.92	88.00
C301	174.31	34.80	287.00
C303	136.95	2.05	3819.69
C304	129.74	39.75	187.00
C306	320.32	46.08	398.32
C307	176.36	43.49	232.32
C308	167.86	123.13	78.11
C309	334.89	82.83	231.65
C310	300.34	13.39	1285.38
C312	18.83	12.26	88.00
C315	83.83	19.17	250.55
C316	105.76	24.35	248.85
C318	82.46	51.19	92.29
C319	35.87	25.65	80.12
C321	47.77	20.19	135.60
C322	37.22	15.37	138.74
C323	65.87	31.78	118.75
C324	50.77	25.74	113.00
C326	6.32	2.61	138.88
C327	149.86	57.25	149.98
L2	23.76	S75° 48' 52.20"E	
L3	215.30	S66° 05' 52.95"E	
L4	22.63	S37° 28' 30.68"W	
L5	455.07	S0° 56' 30.71"W	
L6	633.44	N89° 36' 44.44"E	
L7	373.14	N88° 19' 48.65"E	
L8	175.14	N56° 37' 04.48"E	
L9	743.43	N34° 19' 42.31"E	
L10	444.74	N74° 15' 48.73"W	
L11	22.00	S73° 44' 03.99"W	
L12	77.29	N79° 39' 35.24"E	
L13	115.71	N4° 42' 36.97"E	
L14	15.12	N4° 42' 36.97"E	
L15	77.26	S22° 34' 06.36"W	
L16	87.53	S78° 42' 42.79"E	
L17	121.18	S87° 11' 54.49"E	
L18	54.38	N2° 41' 35.36"W	
L20	0.03	S75° 56' 22.88"W	
L22	612.77	N75° 56' 22.88"E	
L23	388.08	N89° 42' 54.36"E	
L24	303.53	N48° 21' 57.96"E	
L25	684.83	N58° 19' 41.30"E	
L26	491.03	S79° 47' 42.33"E	
L27	730.83	S18° 26' 49.07"E	
L28	3.22	S63° 04' 05.75"W	
L30	42.69	S9° 12' 50.08"W	
L32	19.43	S21° 15' 23.15"W	
L34	31.12	S10° 18' 50.59"W	
L36	73.47	S57° 53' 54.95"W	
L38	32.62	S7° 09' 40.57"W	
L41	144.26	S26° 46' 41.95"W	
L43	10.70	S54° 56' 02.51"W	
L45	25.01	S42° 14' 29.80"W	
L46	206.33	S42° 18' 44.52"W	
L48	2.80	S35° 52' 32.08"W	
L49	30.18	S35° 52' 32.08"W	
L52	136.05	S37° 20' 51.57"W	
L54	190.37	S47° 23' 17.72"W	
L56	198.81	S38° 54' 35.74"W	
L58	26.35	S1° 43' 39.15"E	
L60	12.71	S51° 19' 26.46"W	
L61	11.58	S51° 19' 26.46"W	
L63	110.42	S11° 34' 16.71"W	
L64	204.55	S6° 16' 13.11"W	
L65	90.95	S28° 31' 45.05"E	
L66	60.83	S64° 23' 28.92"W	
L67	33.73	S42° 37' 50.58"W	
L68	49.10	S32° 15' 58.96"W	
L69	121.67	S60° 01' 12.66"W	
L70	77.67	N88° 07' 19.63"W	
L71	46.50	S66° 45' 58.57"W	
L72	88.44	S86° 16' 13.52"W	
L73	21.27	S11° 27' 18.51"W	
L74	137.07	S13° 03' 10.23"W	
L75	141.20	S41° 44' 48.60"W	
L76	30.19	S32° 36' 19.03"W	
L77	69.64	S33° 00' 31.57"W	
L78	103.50	S13° 52' 06.46"E	
L79	58.41	S2° 02' 31.97"E	
L80	158.77	S25° 29' 42.88"W	
L81	88.12	S11° 03' 32.52"E	
L82	74.62	S3° 00' 26.05"E	
L83	63.28	S15° 53' 54.47"E	
L84	256.06	S6° 52' 05.32"E	
L85	57.18	S47° 41' 39.66"W	
L86	50.00	S42° 18' 20.34"E	
L87	50.00	N47° 41' 39.66"E	
L88	409.68	S42° 18' 20.34"E	
L90	51.51	S44° 56' 03.05"W	
L91	407.70	N45° 03' 56.97"W	
L93	513.26	S84° 05' 03.02"W	
L95	502.66	N78° 04' 57.00"W	
L97	244.63	N33° 52' 57.00"W	
L99	442.87	N60° 46' 56.99"W	
L101	910.58	N56° 07' 56.99"W	
L103	227.99	N76° 31' 56.93"W	
L105	408.30	N51° 57' 57.00"W	
L106	20.00	N38° 02' 02.60"E	
L107	92.48	N51° 57' 56.90"W	
L109	12.03	N63° 09' 58.13"W	
L110	20.00	S26° 50' 03.22"W	
L111	799.91	N63° 09' 56.99"W	
L112	25.00	S26° 50' 03.49"W	
L113	299.97	N63° 09' 57.00"W	

PARCEL LINE AND CURVE TABLE

LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L114	54.99	N26° 50' 02.92"E	
L115	81.24	N63° 09' 56.82"W	
L117	18.30	N48° 48' 56.93"W	
L118	30.00	S41° 11' 03.32"W	
L119	251.51	N48° 48' 56.95"W	
L121	611.29	N68° 07' 57.00"W	
L122	20.00	S21° 52' 02.93"W	
L123	27.76	N68° 07' 57.19"W	
L125	89.99	N74° 00' 56.99"W	
L126	1648.17	S62° 33' 57.12"W	
L127	6649.50	N12° 46' 50.38"W	
L128	3400.72	N12° 48' 15.65"W	
L129	1581.15	N74° 41' 26.66"E	
L130	213.48	N32° 04' 35.93"W	
L131	5007.29	S89° 33' 15.31"E	
L132	801.02	S12° 25' 43.42"E	
L133	1385.22	S12° 08' 04.86"E	
L134	554.65	S12° 03' 06.83"E	
L135	189.63	S65° 25' 31.65"W	
L136	220.65	S6° 18' 54.56"W	
L138	16.31	N46° 33' 49.09"W	
L140	110.92	S44° 35' 13.05"W	
L142	215.38	S7° 12' 33.93"W	
L144	134.48	S44° 22' 42.69"W	
L145	484.32	S62° 53' 00.52"E	
L146	286.61	N84° 35' 54.45"E	
L147	117.03	S4° 43' 13.88"E	
L148	194.90	S13° 35' 37.72"E	
L149	225.90	S6° 46' 25.05"E	
L150	23.00	S2° 06' 12.16"E	
L151	125.75	S87° 53' 47.84"W	
L152	6.29	S88° 35' 13.46"W	
L154	15.05	S14° 27' 01.07"E	
L155	571.46	S4° 41' 53.05"E	
L156	301.92	S81° 44' 45.89"E	
L157	25.24	N86° 03' 49.29"E	
L158	384.77	N86° 03' 49.29"E	
L159	22.00	N56° 50' 07.88"E	
L161	326.28	S70° 06' 15.04"E	
L162	22.00	S19° 53' 44.96"W	
L163	332.88	S26° 19' 58.66"W	
L164	330.65	S32° 49' 35.26"E	
L165	271.88	S65° 46' 21.55"E	
L166	430.27	N47° 32' 51.04"E	
L167	43.43	S86° 30' 11.76"E	
L169	214.06	S32° 08' 49.98"E	
L170	8.83	N22° 09' 08.24"W	
L172	23.00	N52° 18' 43.90"E	
L173	288.53	N38° 43' 47.10"E	
L174	274.06	N12° 18' 52.52"W	
L175	209.36	N44° 37' 43.86"W	
L176	382.94	N3° 24' 33.11"W	
L177	229.64	N15° 13' 37.74"E	
L178	163.70	N37° 18' 28.73"E	
L179	143.36	N36° 42' 12.79"E	
L180	135.89	N34° 02' 05.55"E	
L181	206.90	N32° 34' 15.80"E	
L182	298.73	N27° 55' 25.13"E	
L183	260.66	N24° 13' 59.11"E	
L184	155.75	N24° 13' 59.11"E	
L185	115.21	N14° 09' 21.06"E	
L186	320.16	N80° 40' 39.88"W	
L187	207.97	S24° 33' 36.09"W	
L188	217.18	S26° 05' 56.51"W	
L189	24.18	S26° 05' 56.51"W	
L190	1393.83	N2° 55' 37.63"E	
L191	46.96	N0° 39' 25.56"E	
L192	3923.86	S89° 20' 19.58"E	
L193	1374.39	S0° 21' 39.07"W	
L194	1406.60	N89° 45' 48.88"E	
L195	1338.18	S89° 53' 46.22"E	
L196	326.57	S0° 46' 00.15"W	
L197	19.77	N85° 42' 22.69"W	
L198	256.76	N89° 24' 25.24"W	
L199	282.95	S85° 31' 56.59"W	
L200	143.73	S69° 50' 56.04"W	
L201	173.21	S84° 13' 37.66"W	
L202	360.52	S78° 48' 20.31"W	
L203	147.49	N31° 07' 40.74"W	
L204	263.28	S81° 23' 16.31"W	
L205	7.76	S48° 20' 58.10"W	
L206	146.39	S48° 42' 45.89"W	
L208	160.63	S20° 01' 01.62"W	
L209	160.63	S20° 43' 49.76"W	
L212	159.47	S45° 01' 08.60"E	
L214	104.97	S78° 57' 45.19"E	
L215	104.97	S78° 57' 45.19"E	
L217	56.77	N84° 01' 45.59"E	
L220	16.06	S15° 17' 34.01"E	
L221	18.15	S15° 17' 34.01"E	
L223	41.80	S34° 59' 44.57"E	
L226	54.63	S9° 09' 51.12"W	
L229	155.59	S14° 51' 34.09"E	
L231	19.48	S5° 54' 56.16"E	
L232	9.46	S3° 17' 40.77"E	
L235	119.41	S16° 03' 14.11"E	
L237	17.84	S40° 16' 17.39"E	
L239	51.58	S24° 24' 40.17"E	
L241	169.01	S46° 04' 45.09"E	
L242	34.68	S42° 17' 55.77"E	
L243	94.15	S38° 31' 06.45"E	
L246	294.24	S84° 12' 27.33"E	
L247	74.90	S87° 21' 19.60"E	
L249	75.29	N62° 21' 10.52"E	
L250	296.57	N62° 21' 10.52"E	
L251	158.49	N62° 21' 10.52"E	
L252	259.84	N62° 34' 24.34"E	
L253	86.74	N61° 41' 32.42"E	
L256	87.02	S83° 16' 39.59"E	
L257	13.41	S87° 44' 18.77"E	
L259	3.56	S27° 26' 11.40"W	

PARCEL LINE AND CURVE TABLE

LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L262	23.66	S68° 52' 27.88"E	
L264	48.29	N87° 16' 51.55"E	
L266	97.90	N40° 31' 46.36"W	
L267	27.07	N6° 41' 16.28"W	
L270	319.47	S74° 49' 54.91"E	
L271	138.97	N66° 24' 30.70"E	
L273	55.06	N6° 50' 38.45"E	
L274	39.88	N3° 22' 47.35"W	
L275	80.28	N15° 59' 49.54"W	
L276	123.32	N16° 37' 28.06"W	
L277	1.01	N16° 37' 28.06"W	
L278	69.05	N9° 41' 34.15"W	
L279	145.93	N27° 47' 13.71"W	
L280	82.36	N62° 36' 46.46"W	
L281	115.49	N58° 06' 21.69"W	
L282	82.50	N67° 58' 57.99"W	
L283	207.01	N67° 58' 57.99"W	
L284	183.53	N67° 58' 57.99"W	
L285	167.11	S71° 52' 34.84"E	
L286	167.11	N71° 52' 34.84"W	
L287	211.41	S76° 26' 26.12"W	
L288	70.08	N29° 14' 03.17"E	
L289	211.41	S76° 26' 26.12"W	
L290	70.08	S29° 14' 03.17"W	
L292	41.26	N83° 25' 14.76"W	
L294	10.48	N80° 37' 32.35"W	
L296	81.39	S65° 20' 41.75"W	
L299	85.93	S81° 46' 57.24"W	
L300	513.26	N1° 20' 19.50"W	
L301	513.26	S1° 20' 19.50"E	
L302	19.62	S80° 32' 32.28"E	
L303	22.63	N63° 26' 47.91"E	
L304	28.88	N27° 16' 00.93"E	
L305	124.92	N13° 41' 47.74"E	
L306	67.63	N26° 16' 12.03"E	
L307	77.13	N75° 29' 48.37"E	
L308	206.52	S76° 58' 24.97"E	
L309	273.71	S58° 54' 25.76"W	
L310	248.33	S46° 54' 57.02"W	
L311	156.80	N68° 16' 42.83"W	
L312	145.53	S78° 34' 42.44"W	
L313	178.58	N46° 25' 12.12"W	
L314	173.94	N4° 19' 04.65"E	
L315	564.20	N82° 52' 34.55"W	
L316	22.00	S7° 07' 25.45"W	
L317	132.76	N82° 52' 34.55"W	
L321	97.27	N71° 46' 55.86"E	
L323	72.49	N50° 15' 53.42"E	
L325	20.75	N60° 09' 19.23"W	
L327	54.60	N0° 21' 34.48"W	
L329	122.94	S87° 05' 01.94"W	
L332	5.10	N11° 54' 15.18"E	
L333	104.06	N11° 54' 15.18"E	
L335	21.77	N20° 03' 39.13"W	
L336	22.00	N69° 56' 20.87"E	
L337	128.14	N68° 17' 06.58"E	
L338	96.03	N78° 36' 43.77"E	
L339	178.07	S52° 47' 59.82"E	
L340	470.55	S54° 59' 38.52"E	
L341	470.55	S54° 59' 38.52"E	
L342	37.20	N12° 33' 26.18"E	
L344	22.00	N73° 24' 19.98"E	
L345	206.00	N78° 55' 56.18"E	
L346	112.42	S26° 20' 29.06"E	
L347	140.04	S86° 51' 11.43"E	
L348	176.16	N53° 26' 10.27"E	
L349	209.82	S88° 54' 02.57"E	
L350	2591.29	S89° 04' 19.05"E	
L351	41.18	S89° 45' 59.96"E	
L352	1214.85	S89° 45' 59.96"E	
L353	1025.73	S2° 10' 17.04"W	
L354	2380.06	S31° 29' 28.81"W	
L355	516.64	S31° 29' 28.81"W	
L356	92.79	N21° 26' 39.35"W	
L357	172.38	N70° 40' 14.79"W	
L358	454.07	N89° 36' 23.94"W	
L359	24.00	N89° 36' 23.94"W	
L361	126.90	N5° 14' 55.41"W	
L363	163.28	S88° 24' 08.49"W	
L365	17.69	S14° 48' 42.29"W	
L366	91.27	S14° 48' 42.29"W	
L367	92.15	S14° 48' 42.29"W	
L369	247.84	S39° 47' 31.21"W	
L370	10.16	S40° 35' 58.46"W	
L372	313.33	S59° 45' 12.13"W	
L374	335.09	S54° 21' 38.98"W	
L379	42.57	S68° 01' 44.71"W	
L381	26.00	N62° 01' 45.96"W	
L382	217.05	N66° 30' 18.49"W	
L383	209.82	N53° 05' 29.19"W	
L384	101.37	N33° 42' 13.67"W	
L385	255.84	N22° 58' 52.45"W	
L386	613.24	S73° 14' 26.54"W	
L387	135.50	N56° 52' 00.76"E	
L388	175.87	N25° 24' 36.90"E	
L389	339.70	N13° 02' 01.91"W	
L390	217.19	N21° 27' 12.00"E	
L391	271.68	N72° 29' 32.66"W	
L392	308.87	S25° 47' 12.08"W	
L393	212.26	S27° 48' 07.49"W	
L394	50.01	S26° 51' 03.56"W	
L398	83.95	S80° 10' 44.55"W	
L403	71.03	N79° 32' 42.84"W	
L406	169.49	N4° 06' 35.66"W	
L408	24.00	N66° 22' 46.50"E	
L409	196.14	N12° 08' 39.07"E	
L410	311.28	N52° 21' 34.22"W	
L411	283.73	S45° 30' 14.50"W	
L412	23.39	S21° 41' 35.53"W	
L413	46.08	N68° 18' 24.47"W	
L414	82.75	N67° 32' 24.23"W	

PARCEL LINE AND CURVE TABLE

LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L416	33.06	S32° 17' 09.58"W	
L419	92.22	N71° 30' 39.08"W	
L421	24.00	N75° 58' 26.68"W	
L422	133.39	N73° 37' 59.70"W	
L423	373.79	N71° 16' 34.48"W	
L424	271.05	S74° 48' 43.05"W	
L425	90.74	N72° 18' 09.36"W	
L426	264.59	N71° 37' 25.18"W	
L427	220.95	S89° 24' 00.94"W	
L428	152.52	S75° 55' 48.61"W	
L429	348.61	N87° 44' 46.95"W	
L430	355.33	S83° 52' 36.29"W	
L431	371.96	S33° 31' 21.45"W	
L432	246.14	S2° 57' 45.12"E	
L433	24.00	S55° 57' 45.04"E	
L436	158.68	N22° 09' 08.24"W	
L437	376.09	N88° 38' 05.07"E	
L438	324.34	N0° 34' 30.19"E	
L439	345.90	N17° 45' 11.72"W	
L440	272.47	N2° 05' 00.06"W	
L441	217.77	N0° 07' 36.73"W	
L442	231.66	N8° 12' 03.15"W	
L443	821.95	S69° 48' 13.31"W	
L444	1.00	S29° 21' 07.07"W	
L445	9.86	S60° 38' 52.93"E	
L449	0.68	S81° 02' 56.53"W	
L450	36.64	S23° 53' 50.56"E	
L452	283.64	S4° 03' 29.17"E	
L453	11.14	N53° 26' 10.27"E	
L454	98.21	N1° 02' 12.82"E	
L455	107.01	N74° 00' 23.14"W	
L456	87.28	N9° 18' 14.58"W	
L457	152.07	N22° 09' 00.08"W	
L458	149.34	N43° 01' 21.33"W	
L459	80.77	N1° 08' 32.55"W	
L460	169.99	N15° 25' 58.33"E	
L461	16.80	N34° 46' 56.38"E	
L462	144.29	N34° 46' 56.38"E	
L463	329.48	N59° 11' 37.33"W	
L464	66.91	N87° 35' 43.17"W	
L465	60.08	N51° 55' 55.34"W	
L466	89.93	N8° 04' 02.84"W	
L467	106.92	N89° 14' 04.32"W	
L468	203.24	N87° 41' 50.62"W	
L469	229.52	N85° 42' 22.69"W	
L470	2789.92	N1° 07' 32.04"E	
L471	1307.58	N89° 41' 26.38"E	
L472	1235.48	N1° 03' 36.62"E	
L473	1270.92	S88° 35' 16.27"E	
L474	1299.38	S88° 35' 16.27"E	
L475	1333.75	S88° 43' 26.83"E	
L476	1171.95	S1° 21' 53.87"W	
L477	33.08	S0° 41' 39.02"W	
L478	4285.36	S1° 43' 24.83"W	
L479	425.43	S13° 04' 39.48"W	
L480	233.37	S89° 39' 18.18"E	
L481	216.62	S43° 59' 00.69"E	
L482	378.61	N35° 45' 09.48"E	
L483	19.74	S27° 14' 28.34"E	
L484	106.29	S79° 04' 29.85"W	
L485	50.03	S54° 53' 55.38"W	
L486	110.69	S71° 58' 34.02"W	
L487	22.00	N18° 01' 25.98"W	
L488	354.84	N18° 23' 15.03"W	
L489	340.37	N84° 16' 48.86"W	
L490	156.63	N82° 22' 49.29"W	
L491	234.78	N82° 22' 49.29"W	
L492	451.36	N8° 37' 16.88"W	
L493	513.62	N11° 46' 28.00"W	
L495	24.37	N22° 14' 53.74"W	
L496	359.11	N64° 31' 08.82"E	
L497	279.07	N45° 30' 06.95"E	
L498	529.99	N89° 32' 46.43"E	
L499	309.25	S34° 33' 33.25"E	
L500	423.72	S29° 33' 17.84"E	
L501	302.56	S57° 56' 10.42"W	
L502	442.74	S51° 24' 56.21"W	
L503	511.26	S39° 10' 37.68"E	
L504	222.30	N88° 19' 27.71"E	
L505	158.80	S39° 06' 39.23"W	
L506	45.10	N15° 46' 10.78"E	
L507	77.25	N41° 00' 05.17"E	
L508	157.65	N42° 17' 40.95"E	
L509	23.32	N42° 22' 20.65"E	
L510	24.98	S42° 14' 29.67"W	
L512	10.70	N54° 56' 02.51"E	
L514	81.17	N26° 46' 41.95"E	
L515	0.72	S17° 17' 58.71"W	
L516	63.09	N26° 46' 41.95"E	
L517	14.63	N14° 31' 58.60"W	
L518	41.67	N7° 09' 40.57"E	
L519	73.47	N57° 53' 54.95"E	
L520	31.12	N10° 18' 50.59"E	
L521	19.43	N21° 15' 23.15"E	
L522	42.69	N9° 12' 50.08"E	
L523	4.04	N63° 04' 05.75"E	
L524	986.62	S58° 46' 49.14"E	
L525	126.82	S3° 25' 26.92"W	
L526	34.36	S3° 25' 26.92"W	
L527	153.06	S3° 04' 55.69"W	
L528	48.71	S3° 08' 41.40"W	
L529	105.25	S6° 41' 06.87"E	
L530	33.21	S6° 41' 06.87"E	
L531	72.04	S6° 41' 06.87"E	
L532	161.08	S17° 47' 27.96"E	
L533	160.45	S16° 34' 40.07"E	
L534	246.74	S14° 41' 53.72"W	
L535	267.45	S62° 05' 39.98"E	
L536	49.14	N9° 27' 11.91"W	
L537	121.75	N67° 45' 31.61"E	
L538	112.49	N21° 20' 36.83"W	

PARCEL LINE AND CURVE TABLE

LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L539	11.59	N22° 44' 00.15"W	
L540	132.84	N26° 50' 52.46"W	
L541	217.98	N26° 27' 06.14"W	
L542	52.77	N30° 46' 24.72"W	
L543	22.90	N26° 54' 10.11"W	
L544	45.85	N15° 10' 24.56"E	
L545	118.19	N15° 22' 07.89"E	
L546	2.01	S43° 58' 14.15"E	
L547	255.53	N71° 33' 14.55"E	
L548	78.17	N26° 44' 48.92"E	
L549	24.00	S30° 56' 49.81"E	
L550	82.54	S53° 39' 38.40"E	
L551	58.60	S82° 57' 08.07"E	
L552	29.57	S34° 52' 09.12"E	
L553	273.67	S44° 32' 56.73"W	
L554	154.40	S52° 29' 08.17"W	
L555	154.40	S52° 29' 08.17"W	
L556	154.67	S40° 03' 05.21"E	
L557	47.08	S4° 57' 13.52"E	
L558	148.18	S85° 02' 46.48"W	
L559	218.12	S9° 56' 52.20"E	
L560	212.75	S32° 28' 50.27"E	
L561	212.45	S50° 14' 31.35"E	
L562	604.94	S31° 20' 55.46"W	
L563	719.65	N87° 46' 41.26"W	
L564	1201.18	S0° 00' 00.10"E	
L565	4678.36	S31° 29' 36.00"W	
L566	76.35	S74° 50' 16.99"W	
L567	11.26	N28° 06' 56.95"W	
L568	49.99	N61° 53' 02.87"E	
L569	278.03	N28° 06' 56.97"W	
L570	49.99	S61° 53' 03.06"W	
L572	107.99	N85° 21' 57.14"W	
L574	86.61	N45° 03' 56.96"W	
L575	51.53	N44° 56' 03.03"E	
L577	459.68	N42° 18' 20.34"W	
L578	6.80	S47° 41' 39.66"W	
L579	256.06	N6° 52' 05.32"W	
L580	63.28	N15° 53' 54.47"W	
L581	74.62	N3° 00' 26.05"W	
L582	88.12	N11° 03' 32.52"W	
L583	158.77	N25° 29' 42.88"E	
L584	58.41	N2° 02' 31.97"W	
L585	103.50	N13° 52' 06.46"W	
L586	69.64	N33° 00' 31.57"E	
L587	30.17	N32° 36' 19.03"E	
L588	141.20	N41° 44' 48.60"E	
L589	136.81	N13° 03' 10.23"E	
L590	21.27	N11° 27' 18.51"E	
L591	88.44	N86° 16' 13.52"E	
L592	46.50	N66° 45' 58.57"E	
L593	77.67	S88° 07' 19.63"E	
L594	121.67	N60° 01' 12.66"E	
L595	49.10	N32° 15' 58.96"E	
L596	33.89	N42° 37' 50.58"E	
L597	60.83	N64° 23' 28.92"E	
L598	90.95	N28° 31' 45.05"W	
L599	204.55	N6° 16' 13.11"E	
L600	11.63	N46° 23' 24.59"E	
L601	927.28	S3° 57' 03.76"E	
L602	509.29	N88° 05' 03.13"E	
L603	321.35	S80° 31' 00.12"E	
L604	251.23	S68° 38' 40.00"E	
L605	63.86	N81° 55' 21.54"E	
L606	61.92	N40° 57' 42.00"E	
L607	84.78	N9° 30' 20.45"W	
L608	658.39	N44° 09' 43.27"W	
L609	399.72	N29° 20' 54.01"E	
L610	58.03	N55° 50' 31.65"W	
L611	53.78	N34° 09' 28.35"E	
L614	48.83	N34° 31' 53.82"E	
L616	84.49	N88° 48' 03.64"W	
L619	23.56	N1° 42' 08.46"E	
L620	101.16	N4° 41' 36.58"E	
L621	24.00	N14° 11' 07.80"E	
L639	1.00	S6° 19' 51.18"E	
L640	104.68	S84° 12' 59.75"W	
L641	80.11	S83° 40' 11.78"W	
L642	24.56	S81° 45' 05.40"W	
L643	4.05	S6° 16' 54.20"E	
L644	1.71	N83° 43' 05.80"E	
L647	79.04	S89° 43' 24.58"W	
L648	298.90	S74° 50' 16.99"W	
L649	89.95	N0° 00' 40.37"W	
L650	305.09	N0° 43' 42.35"E	
L651	39.10	S85° 21' 56.97"E	
L652	266.29	S28° 06' 56.97"E	

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No 84120
CIVIL
STATE OF CALIFORNIA

SCALE: N/A

0 1"

Note: If this graphic scale does not equal 1", this sheet has been modified from its original size.

NO	DATE	ISSUANCE

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PROJECT NO. 18-016

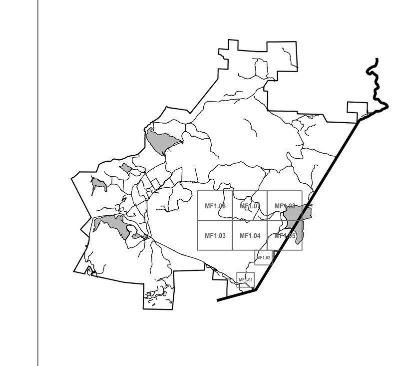
DATE JULY 31, 2023

DRAWN DN,AR,MR,JS,TS

CHECKED CA,MH,SG

MAHA FARMS SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

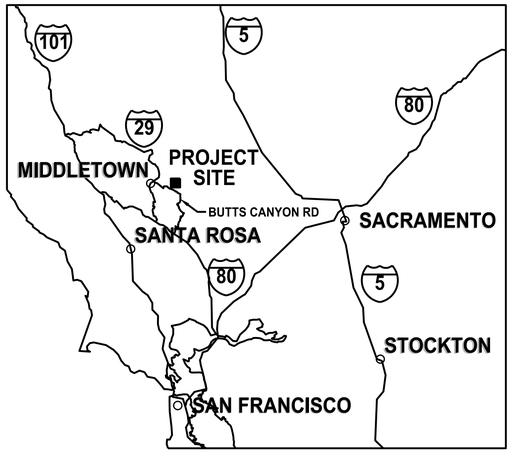


TENTATIVE MAP
SUBDIVISION MF

PERIPHERAL PARCEL PLAN

MF2.02

EQUESTRIAN SUBDIVISION



VICINITY MAP
NOT TO SCALE

LEGEND

PROPOSED SUBDIVISION EQ - EQUESTRIAN

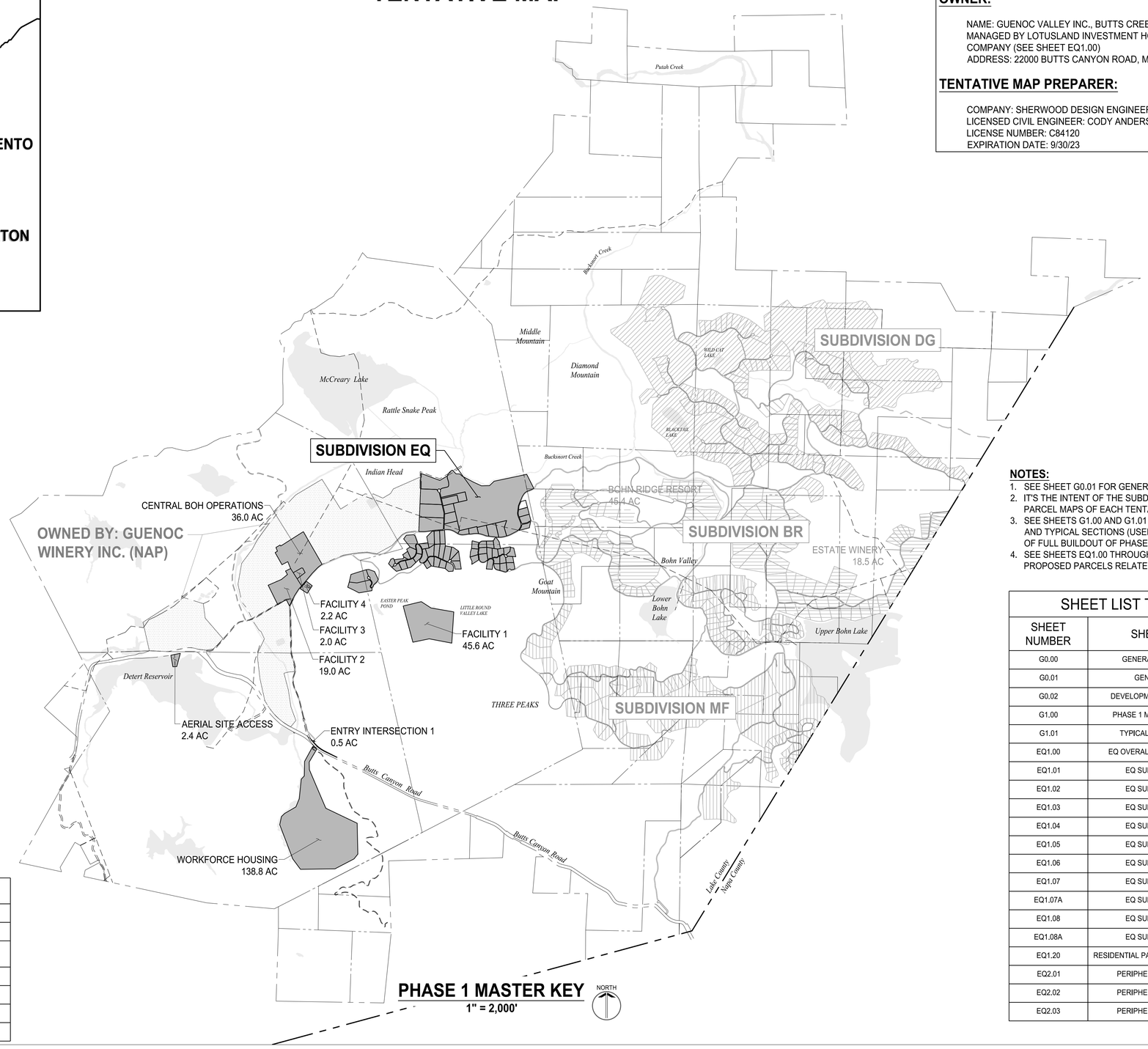
PROPOSED SUBDIVISION MF - MAHA FARMS
UNDER SEPARATE TENTATIVE MAP

PROPOSED SUBDIVISION DG -
DENNISTON GOLF ESTATES
UNDER SEPARATE TENTATIVE MAP

PROPOSED SUBDIVISION BR - BOHN RIDGE
UNDER SEPARATE TENTATIVE MAP

EXISTING PARCELS OWNED BY OTHERS;
NOT A PART (NAP) OF THIS TENTATIVE MAP

TENTATIVE MAP



PHASE 1 MASTER KEY
1" = 2,000'
NORTH

OWNER:

NAME: GUENOC VALLEY INC., BUTTS CREEK INC., BOHN VALLEY INC.
MANAGED BY LOTUSLAND INVESTMENT HOLDINGS, INC., A CALIFORNIA COMPANY (SEE SHEET EQ1.00)
ADDRESS: 22000 BUTTS CANYON ROAD, MIDDLETOWN, CA 95461

TENTATIVE MAP PREPARER:

COMPANY: SHERWOOD DESIGN ENGINEERS
LICENSED CIVIL ENGINEER: CODY ANDERSON, P.E.
LICENSE NUMBER: C84120
EXPIRATION DATE: 9/30/23

NOTES:

1. SEE SHEET G0.01 FOR GENERAL NOTES.
2. IT'S THE INTENT OF THE SUBDIVIDER TO PROCESS THE FINAL PARCEL MAPS OF EACH TENTATIVE MAP IN PHASES.
3. SEE SHEETS G1.00 AND G1.01 FOR PHASE 1 MASTER ROAD PLAN AND TYPICAL SECTIONS (USED FOR REFERENCE AND CONTEXT OF FULL BUILDOUT OF PHASE 1).
4. SEE SHEETS EQ1.00 THROUGH EQ2.03 FOR EXISTING AND PROPOSED PARCELS RELATED TO SUBDIVISION EQ.

SUBDIVISION LOT COUNTS

PARCEL TYPE	MAHA FARMS	EQUESTRIAN	DENNISTON GOLF	BOHN RIDGE	TOTAL
VILLA	73	67	133	112	385
RESORT RESIDENTIAL	104	0	7	30	141
COMMERCIAL	5	1	4	2	12
FACILITY	1	11	3	0	15
GOLF	0	0	4	0	4
PERIPHERAL	8	7	8	8	31

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
G0.00	GENERAL INFORMATION
G0.01	GENERAL NOTES
G0.02	DEVELOPMENT RESTRICTIONS
G1.00	PHASE 1 MASTER ROAD PLAN
G1.01	TYPICAL ROAD SECTIONS
EQ1.00	EQ OVERALL SUBDIVISION PLAN
EQ1.01	EQ SUBDIVISION PLAN
EQ1.02	EQ SUBDIVISION PLAN
EQ1.03	EQ SUBDIVISION PLAN
EQ1.04	EQ SUBDIVISION PLAN
EQ1.05	EQ SUBDIVISION PLAN
EQ1.06	EQ SUBDIVISION PLAN
EQ1.07	EQ SUBDIVISION PLAN
EQ1.07A	EQ SUBDIVISION PLAN
EQ1.08	EQ SUBDIVISION PLAN
EQ1.08A	EQ SUBDIVISION PLAN
EQ1.20	RESIDENTIAL PARCEL AVERAGE SLOPES
EQ2.01	PERIPHERAL PARCEL PLAN
EQ2.02	PERIPHERAL PARCEL PLAN
EQ2.03	PERIPHERAL PARCEL PLAN

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

SCALE: 1:2000
0 1"
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NO	DATE	ISSUANCE

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

EQUESTRIAN SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

GENERAL INFORMATION

G0.00

GENERAL NOTES:

1. REFER TO FINAL ADOPTED DEVELOPMENT AGREEMENT FOR FURTHER SUBDIVISION DETAILS, INCLUDING SEQUENCING AND EXPIRATION DETAILS.
2. THE PROPERTIES WITHIN THIS SUBDIVISION ARE PROPOSED TO BE REZONED TO A NEWLY FORMED ZONING DISTRICT, THE GUENOC VALLEY PLANNED DEVELOPMENT (GVPD) WITH OPEN SPACE AND AGRICULTURAL PRESERVE OVERLAYS/COMBINING DISTRICTS. REFER TO THE RELEVANT ZONING DISTRICTS FOR DEVELOPMENT REGULATIONS.
3. REFER TO THE SPECIFIC PLAN OF DEVELOPMENT FOR ALLOWED DEVELOPMENT INCLUDING PLANNED DEVELOPMENT DETAILS, DENSITY, AND SETBACKS.
4. REFER TO THE CC&R'S FOR FUTURE HOMEOWNERSHIP ASSOCIATION DETAILS AND MAINTENANCE REQUIREMENTS.
5. REFER TO THE WATER, WASTEWATER, AND ELECTRICAL FEASIBILITY REPORTS FOR THE PRIVATE UTILITY DISTRICT DETAILS.
6. REFER TO THE DESIGN GUIDELINES FOR LOT LAYOUT, DENSITY, BUILDING MASSING, LANDSCAPE DETAILS, ROAD AND PATHWAY DESIGN, STREET LIGHTING, DIRECTIONAL SIGNAGE AND RESIDENTIAL DESIGNS.
7. REFER TO THE FIRE MANAGEMENT PLAN FOR FIRE PREVENTION GUIDELINES AND VEGETATION FUEL REDUCTION SETBACKS.
8. ALL PROPOSED ROADWAYS WITHIN PROPERTY ARE PRIVATE AND ARE TYPICALLY INDEPENDENT INDIVIDUAL PARCELS, UNLESS OTHERWISE NOTED. THERE WILL BE NO PUBLIC RIGHTS OF WAY EXCEPT ALONG THE ENTRY ROADS UP TO THE FIRST GATE.
9. ALL ROADWAY CORRIDORS SHALL INCORPORATE EASEMENTS OF 50 FEET BEYOND EITHER SIDE OF THE EDGE OF PAVEMENT FOR VEGETATION MANAGEMENT, DEPENDING ON ENVIRONMENTAL CONSTRAINTS, WHICH SHALL BE FURTHER DEFINED IN AND MANAGED BY THE CC&RS.
10. ROAD NAMES ARE REFERENCED WITH NUMBERS, PROPOSED NAMES WILL BE PROVIDED IN SUBSEQUENT SUBMITTAL PRIOR TO HEARING.

SUBDIVISION NOTES:

1. SEE PARCELS SHEETS FOR BEARING, DISTANCE, AND CURVE INFORMATION OF PARCELS.
2. PERIPHERAL PARCELS ARE PROPOSED TO BE SUBDIVIDED AND ARE INCLUDED FOR REFERENCE. SEE PERIPHERAL PARCEL SHEETS FOR BEARING, DISTANCE, AND CURVE INFORMATION.
3. ENVIRONMENTAL PRESERVATION AREAS, INCLUDING SENSITIVE BIOLOGICAL SPECIES OR CULTURAL SITES WHERE APPLICABLE, WITHIN SUBDIVIDED PARCELS MAY BE IDENTIFIED AS CONCEPTUAL ON THE TENTATIVE MAP AND THEN FINAL ON THE FINAL MAP.
4. FOR WATER SUPPLY AND WASTEWATER DISPOSAL SYSTEMS AND DISTRIBUTION, REFER TO SPECIFIC PLAN OF DEVELOPMENT AND TECHNICAL FEASIBILITY REPORTS.
5. PROPOSED PRIVATE UTILITIES WILL BE REQUIRED THROUGHOUT THE SITE, INCLUDING SEWER, WATER, ELECTRIC, COMMUNICATIONS, AND LIQUID PROPANE. PRELIMINARY LOCATIONS OF MAJOR FACILITIES ARE SHOWN FOR REFERENCE IN TENTATIVE MAPS, HOWEVER, ADDITIONAL INFORMATION IS PROVIDED ON THE SPECIFIC PLAN OF DEVELOPMENT.

EASEMENTS:

1. EXISTING EASEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION PER RECORD DATA AND HAVE NOT BEEN FIELD SURVEYED.
2. ALL PROPOSED PRIVATE UTILITY AND ACCESS EASEMENTS (PUE), WHICH ARE TO BE SPECIFICALLY DEFINED DURING THE FINAL MAP STAGE, SHALL INCORPORATE THE FOLLOWING ELEMENTS WITHIN A COMBINED TYPICAL EASEMENT WIDTH OF 50 FEET TOTAL:
   a. TOTAL PAVED ROADWAY, INCLUDING SHOULDERS, FOR SHARED ACCESS (RANGES IN WIDTH FROM 22 TO 28 FEET FOR TWO-WAY ROADS AND 14 FEET FOR ONE-WAY ROADS).
   b. RETAINING AND DRAINAGE CONVEYANCE FEATURES (UP TO 12 FEET WIDE).
   c. UTILITY PIPING AND STRUCTURES (UP TO 10 FEET WIDE)
   d. EXCEPTIONS MAY OCCUR FOR SPECIFIC UTILITY STRUCTURES OR DRAINAGE FEATURES REQUIRING ADDITIONAL WIDTH
3. PROPOSED DRAINAGE MANAGEMENT EASEMENTS SHALL EXTEND TO 30 FEET FROM THE TOP OF BANKS OF PERENNIAL STREAMS AND 20 FEET FROM THE TOP OF BANKS OF INTERMITTENT STREAMS.

EXISTING CONDITIONS AND NATURAL RESOURCE PRESERVATION:

1. SETBACKS FOR DRAINAGES, RARE PLANTS, WOODLANDS, AND RIPARIAN ZONES WILL BE ADDRESSED WITHIN THE SPECIFIC PLAN OF DEVELOPMENT DOCUMENTATION AND THE ENVIRONMENTAL IMPACT REPORT, UNDER SEPARATE COVER.
2. FINAL CONFIGURATION OF DEDICATED OPEN SPACE SHALL BE DEVELOPED AS PART OF THE ENVIRONMENTAL REVIEW PROCESS.
3. OAK WOODLAND PRESERVATION AREAS WITHIN PARCELS MAY BE SUBJECT TO DEED RESTRICTIONS TO LIMIT REMOVAL OF TREES. FINAL LOCATIONS WILL BE DIRECTED BY THE ENVIRONMENTAL IMPACT REPORT AND WILL ULTIMATELY BE RECORDED IN THE FINAL MAP.
4. AREAS IDENTIFIED AS "DEVELOPMENT RESTRICTION AREAS" AS CONTAINING CULTURAL RESOURCES WILL BE DEED RESTRICTED TO PROHIBIT THEIR DISTURBANCE, AND MAY BE MORE ACCURATELY SURVEYED FOR INCLUSION ON THE FINAL MAP.
5. DEDICATED HABITAT CORRIDORS WITHIN PARCELS MAY BE SUBJECT TO DEED RESTRICTIONS TO LIMIT PLACEMENT, HEIGHT AND COMPOSITION OF FENCING, VEGETATION MANAGEMENT AND DISTURBANCE OF NATURAL RESOURCES. FINAL CONFIGURATIONS WILL ULTIMATELY BE RECORDED IN THE FINAL MAP, WITH THE TERMS OF SAID RESTRICTIONS TO BE INCLUDED IN THE COVENANTS, CONDITIONS AND RESTRICTIONS OF THE HOMEOWNERS' ASSOCIATIONS AND/OR OTHER REAL ESTATE PURCHASE AGREEMENTS.

PHASING NOTES:

1. FINAL PARCEL MAPS FILED WILL INDICATE SUBDIVISION CONSTRUCTION PHASING.
2. FINAL MAPS DEVELOPED FOR EACH AGREED UPON PHASE OF THE PROPOSED EVENTUAL SUBDIVISION WILL INCLUDE ALL PARCEL TYPES, INCLUDING THE ROAD PARCELS ADJACENT TO AND REQUIRED FOR EACH SUBDIVISION PHASE.

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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PROJECT NO. 18-016
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EQUESTRIAN SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

GENERAL NOTES

G0.01

LEGEND

PROPOSED PARCEL BOUNDARY

EXISTING PARCEL BOUNDARY

NOT A PART (NAP)

PRESERVED OPEN SPACE

DEVELOPMENT RESTRICTION

OAK WOODLAND PRESERVATION AREA

HABITAT CORRIDOR

COUNTY LINE

EXISTING ROAD AND UTILITY EASEMENT

NOTE:

1. DEDICATED HABITAT CORRIDOR, PRESERVED OPEN SPACE AND OAK WOODLAND PRESERVATION AREAS ARE SHOWN FOR ILLUSTRATIVE PURPOSES. FINAL CONFIGURATION IS SUBJECT TO CHANGE AND WILL BE INCORPORATED IN THE FINAL MAP.

0 1750' 3500' NORTH

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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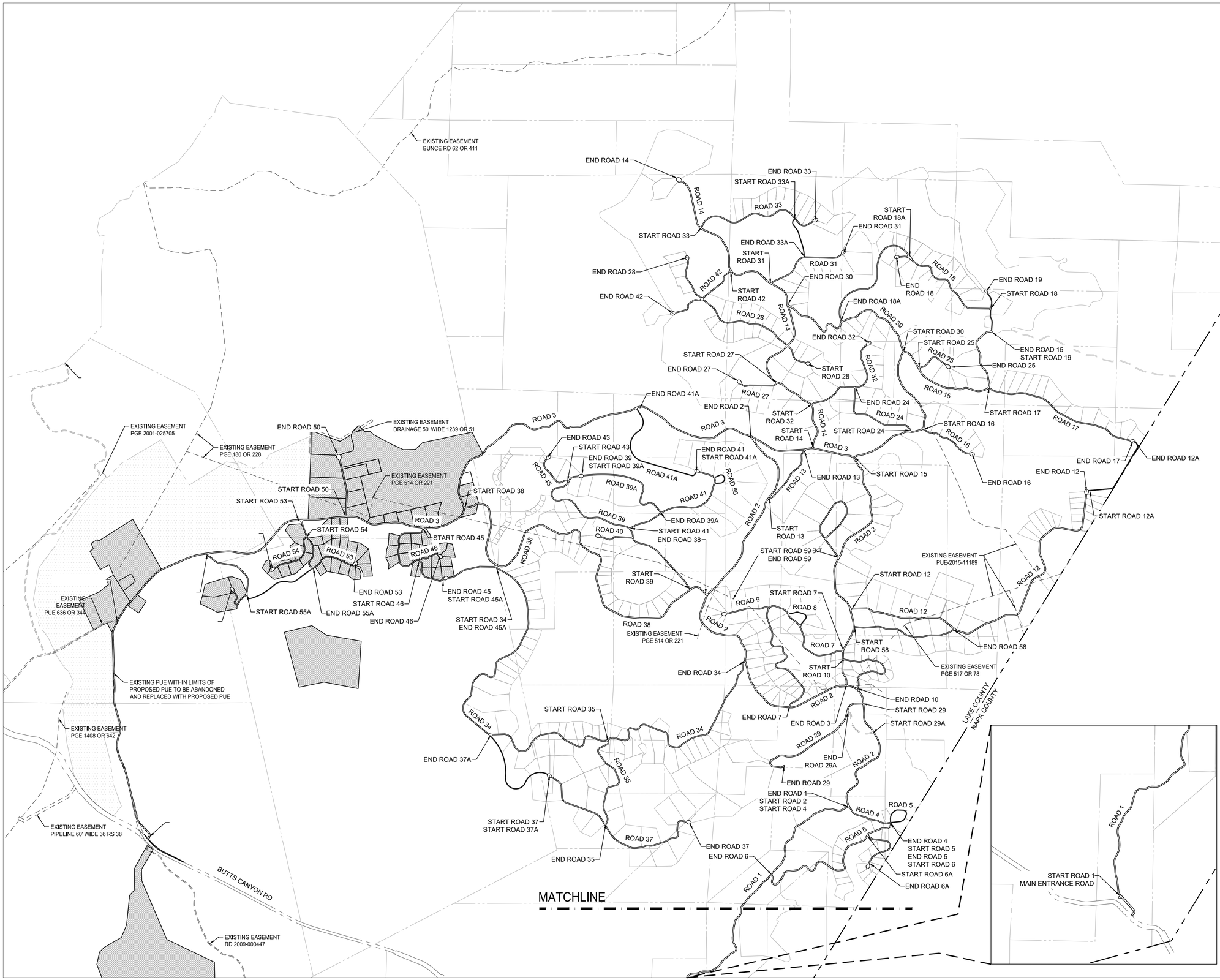
EQUESTRIAN SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

DEVELOPMENT RESTRICTIONS

G0.02



ROAD NAME	LENGTH [FT]	WIDTH [FT]	ROAD TYPE
ROAD 1	17,420	26	A
ROAD 2	14,896	26	A
ROAD 3	32,381	26	A
ROAD 4	1,133	22	B
ROAD 5	1,109	14	D
ROAD 6	4,602	26	A
ROAD 6A	1,327	22	B
ROAD 7	5,805	22	B
ROAD 8	785	14	D
ROAD 9	415	22	B
ROAD 10	2,215	22	B
ROAD 11	1,532	14	D
ROAD 12	8,154	26	A
ROAD 12A	1,900	14	D
ROAD 13	1,569	22	B
ROAD 14	8,716	26	A
ROAD 15	8,503	26	A
ROAD 16	1,331	22	B
ROAD 17	4,204	22	B
ROAD 18	2,776	22	B
ROAD 18A	3,160	16	C
ROAD 19	not used	not used	not used
ROAD 20	not used	not used	not used
ROAD 21	not used	not used	not used
ROAD 22	not used	not used	not used
ROAD 23	not used	not used	not used
ROAD 24	2,085	22	B
ROAD 25	802	22	B
ROAD 26	1,320	26	A
ROAD 27	915	22	B
ROAD 28	4,174	22	B
ROAD 29	3,227	26	A
ROAD 29A	937	16	C
ROAD 30	3,908	26	A
ROAD 31	1,950	22	B
ROAD 32	2,434	26	A
ROAD 33	3,090	22	B
ROAD 33A	1,025	16	C
ROAD 34	13,835	22	B
ROAD 35	2,582	22	B
ROAD 36	7,951	22	B
ROAD 37	5,034	22	B
ROAD 37A	2,515	16	C
ROAD 38	9,614	26	A
ROAD 39	6,025	22	B
ROAD 39A	2,522	16	C
ROAD 40	782	22	B
ROAD 41	2,980	22	B
ROAD 41A	2,883	14	D
ROAD 42	1,761	22	B
ROAD 43	950	22	B
ROAD 44	617	14	D
ROAD 45	4,310	22	B
ROAD 46	667	22	B
ROAD 48	not used	not used	not used
ROAD 49	not used	not used	not used
ROAD 50	9,093	26	A
ROAD 51	not used	not used	not used
ROAD 52	382	22	B
ROAD 53	2,501	22	B
ROAD 54	1,229	22	B
ROAD 55	2,274	22	B
ROAD 55A	1,995	14	D
ROAD 56	615	14	D
ROAD 57	1,387	26	A
ROAD 58	2,533	22	B
ROAD 59	2,825	22	B
ROAD 60	11,696	22	B

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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EQUESTRIAN SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

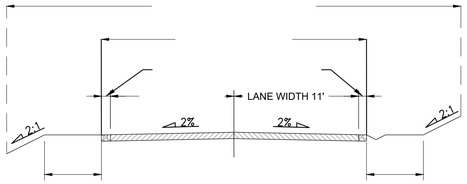
TENTATIVE MAP
SUBDIVISION EQ

PHASE 1
MASTER
ROAD PLAN

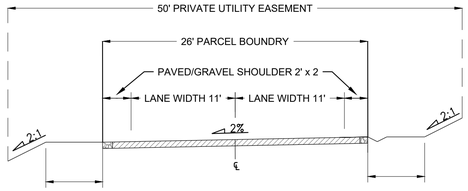
G1.00

TYPICAL ROAD SECTIONS

TYPE A - CROWNED/SUPERELEVATED PRIMARY 2 LANE ROAD



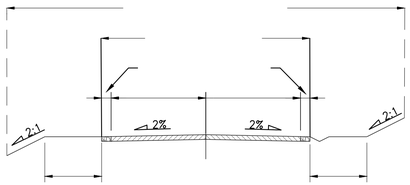
10' @ 10% MAX,
SEE NOTE 5



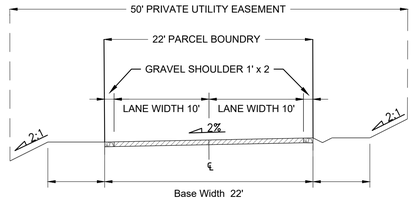
10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE B - CROWNED/SUPERELEVATED SECONDARY 2 LANE ROAD



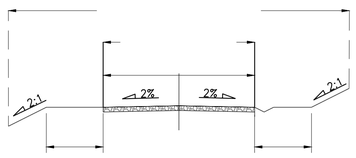
10' @ 10% MAX,
SEE NOTE 5



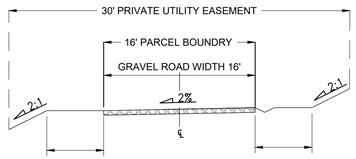
10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE C - CROWNED/SUPERELEVATED GRAVEL ROAD



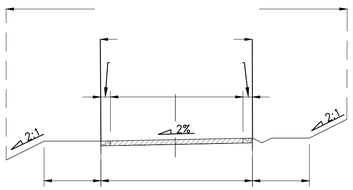
10' @ 10% MAX,



10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE D - ONE WAY ROAD



NOTES:

1. SLOPES SHOWN HEREIN REPRESENT TYPICAL OR MAXIMUM CONDITIONS AND ARE SUBJECT TO CHANGE PER PENDING DETAILED ROADWAY DESIGN.
2. EASEMENTS SHOWN HEREIN REPRESENT TYPICAL MINIMUM WIDTH AND COVERAGE SITUATIONS AND ARE SUBJECT TO INCREASING TO ACCOMMODATE SPECIFIC STRUCTURES OR FEATURES TO BE DESIGNED.
3. PLEASE REFER TO THE DESIGN GUIDELINES AS PART OF THE GVD ZONING DESIGNATION FOR ROADWAY DESIGN DETAILS.
4. IN ADDITION TO THE PUE, THERE ARE VEGETATION AND FUEL REDUCTION AREAS 50' ON EITHER SIDE OF THE EDGE OF PAVEMENT. REFER TO THE FIRE MANAGEMENT PLAN.
5. 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.

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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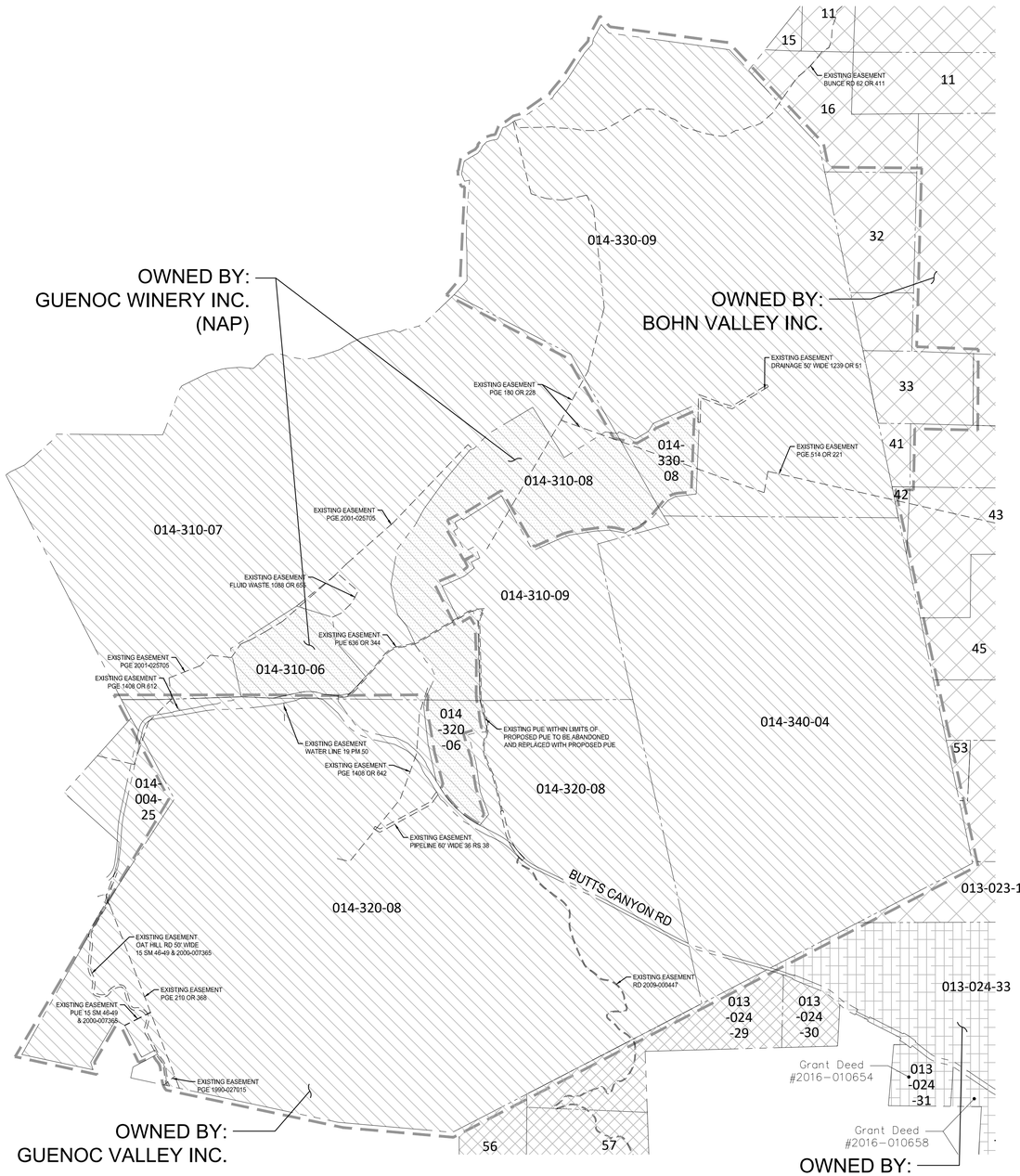
EQUESTRIAN SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

TYPICAL ROAD SECTIONS

G1.01

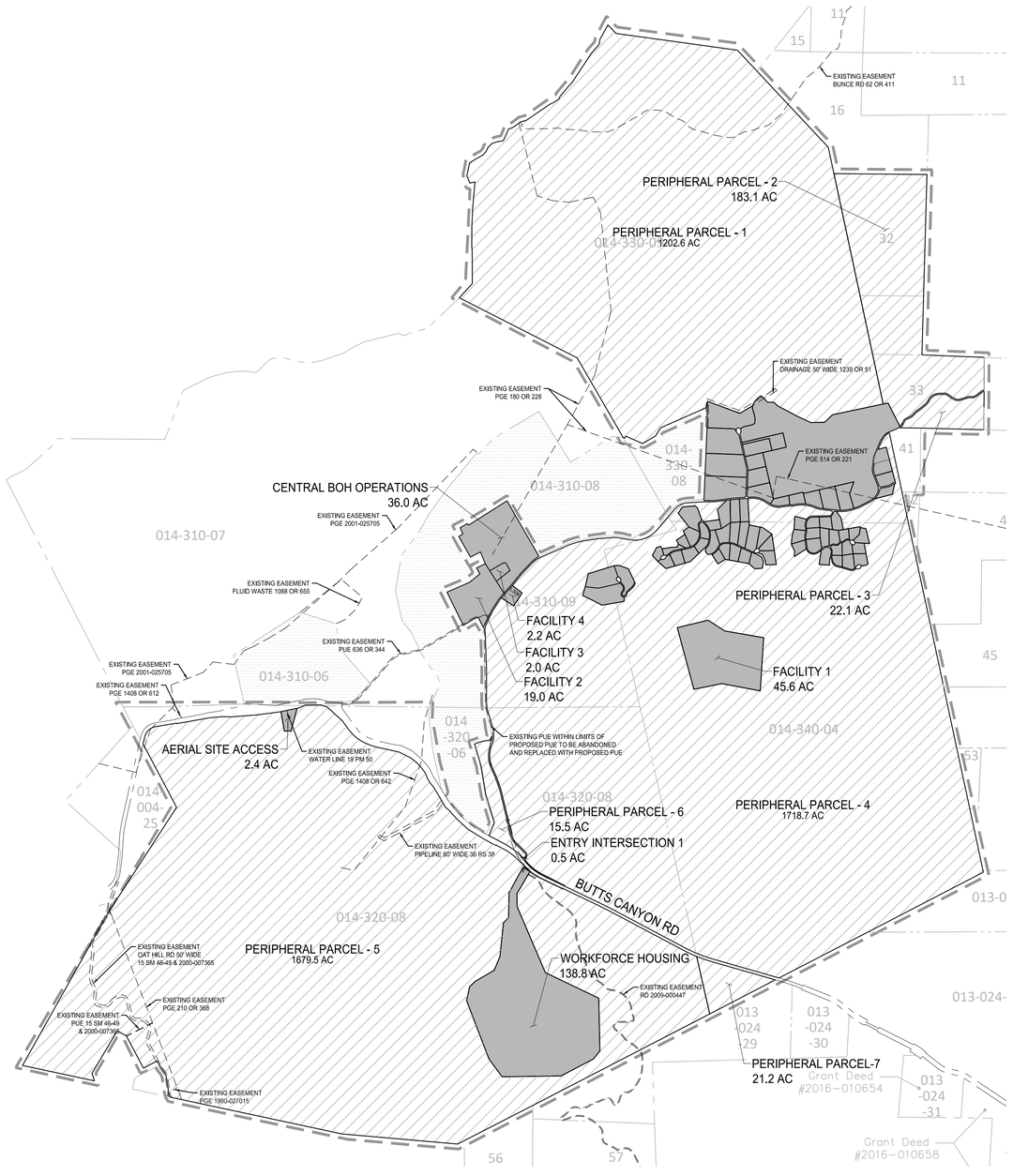
EXISTING PARCELS



EXISTING OWNERSHIP INFORMATION						
#	CC	APN	Owner	CC Doc #	Correction Deed	Approx. Acreage
32	11-66	013-016-05PT	Bohn Valley Inc.	2012005987		98
33	11-44	013-016-05PT, 013-023-10PT	Bohn Valley Inc.	2012005997		104
41	11-82	013-023-11	Bohn Valley Inc.	2012006009		11
-	-	014-330-091	Bohn Valley Inc.			
-	-	014-310-071	Bohn Valley Inc.			
-	-	014-310-091	Bohn Valley Inc.			
-	-	014-340-041	Bohn Valley Inc.			
-	-	014-320-080	Bohn Valley Inc.			

- Grant Deed #2016-016244 - Bohn Valley Inc APNs - 013-016-05, 013-023-10, 013-023-11
- Grant Deed #2016-010655 - Guenoc Valley Inc APNs - 014-310-07, 014-310-09, 014-330-09, 014-340-04, 014-004-25, 014-320-08
- Grant Deed #2016-010654 - Butts Creek Inc APN - 013-024-31
- Grant Deed #2016-010658 - Butts Creek Inc APNs - 013-024-35
- Grant Deed #2016-016243 - Butts Creek Inc APNs - 013-024-33

PROPOSED SUBDIVISION



PROPOSED PARCEL TYPES	
VILLA	67
RESORT RESIDENTIAL	0
COMMERCIAL	1
FACILITY	11
GOLF	0
PERIPHERAL	7

NOTES:
1. SEE SHEET G0.01 FOR GENERAL NOTES.
2. SEE SHEETS G1.00 AND G1.01 FOR PHASE 1 MASTER ROAD PLAN AND TYPICAL SECTIONS (USED FOR REFERENCE AND CONTEXT OF FULL BUILDOUT OF PHASE 1).
3. SEE SHEETS EQ1.00 THROUGH EQ1.08A FOR DETAILED SUBDIVISION OF PROPOSED ROAD, COMMERCIAL AND RESIDENTIAL PARCELS.
4. SEE SHEETS EQ2.01 THROUGH EQ2.03 FOR DETAILED PERIPHERAL PARCELS.

0 750' 1500' 3000' NORTH

SHERWOOD DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84470
CIVIL
STATE OF CALIFORNIA

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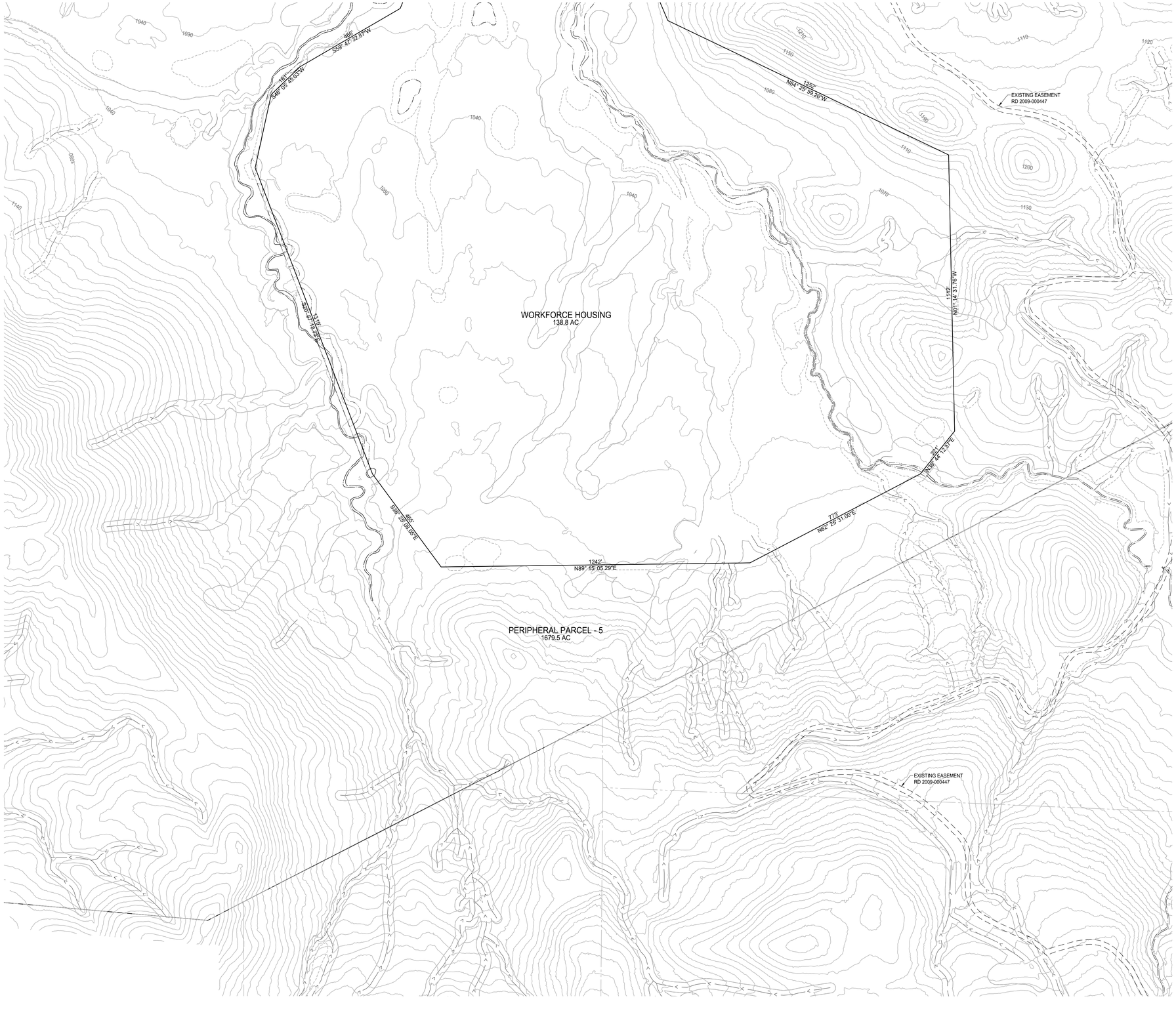
EQUESTRIAN SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

EQ OVERALL SUBDIVISION PLAN

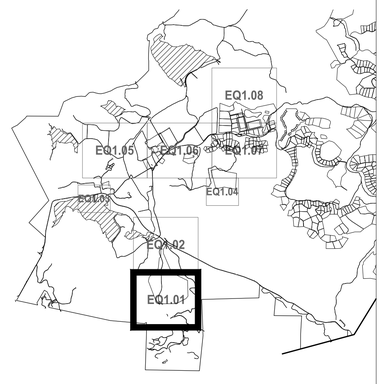
EQ1.00

P:\2018\18-016.1_MAHA_GNCV\03_DESIGN\01_CAD\01_TENT MAP\PKG2\PKG2-EXISTING PARCELS.DWG



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE



SHEET LAYOUT
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San Francisco, CA 94110
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REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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PROJECT NO. 18-016
DATE JULY 31, 2023
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CHECKED CA,MH,SG

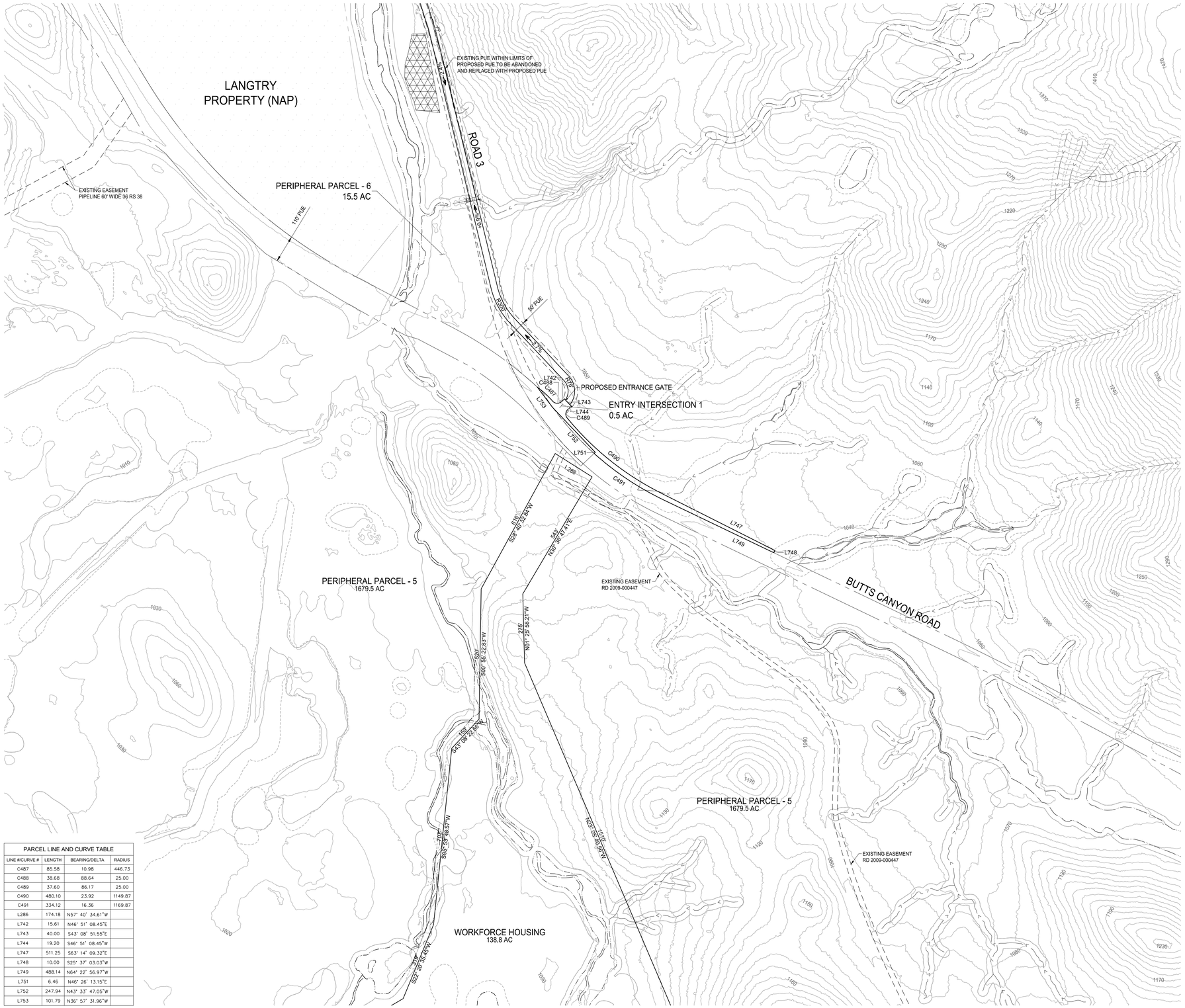
EQUESTRIAN SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

EQ SUBDIVISION PLAN

EQ1.01



PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C487	85.58	10.98	446.73
C488	38.68	88.64	25.00
C489	37.60	86.17	25.00
C490	480.10	23.92	1149.87
C491	334.12	16.36	1169.87
L286	174.18	N57° 40' 34.61"W	
L742	15.61	N46° 51' 08.45"E	
L743	40.00	S43° 08' 51.55"E	
L744	19.20	S46° 51' 08.45"W	
L747	511.25	S63° 14' 09.32"E	
L748	10.00	S25° 37' 03.03"W	
L749	488.14	N64° 22' 56.97"W	
L751	6.46	N46° 26' 13.15"E	
L752	247.94	N43° 33' 47.05"W	
L753	101.79	N36° 57' 31.96"W	

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK
- GROUND WATER WELL
- ELECTRICAL SUBSTATION
- WASTE WATER TREATMENT FACILITY
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK

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EQUESTRIAN SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

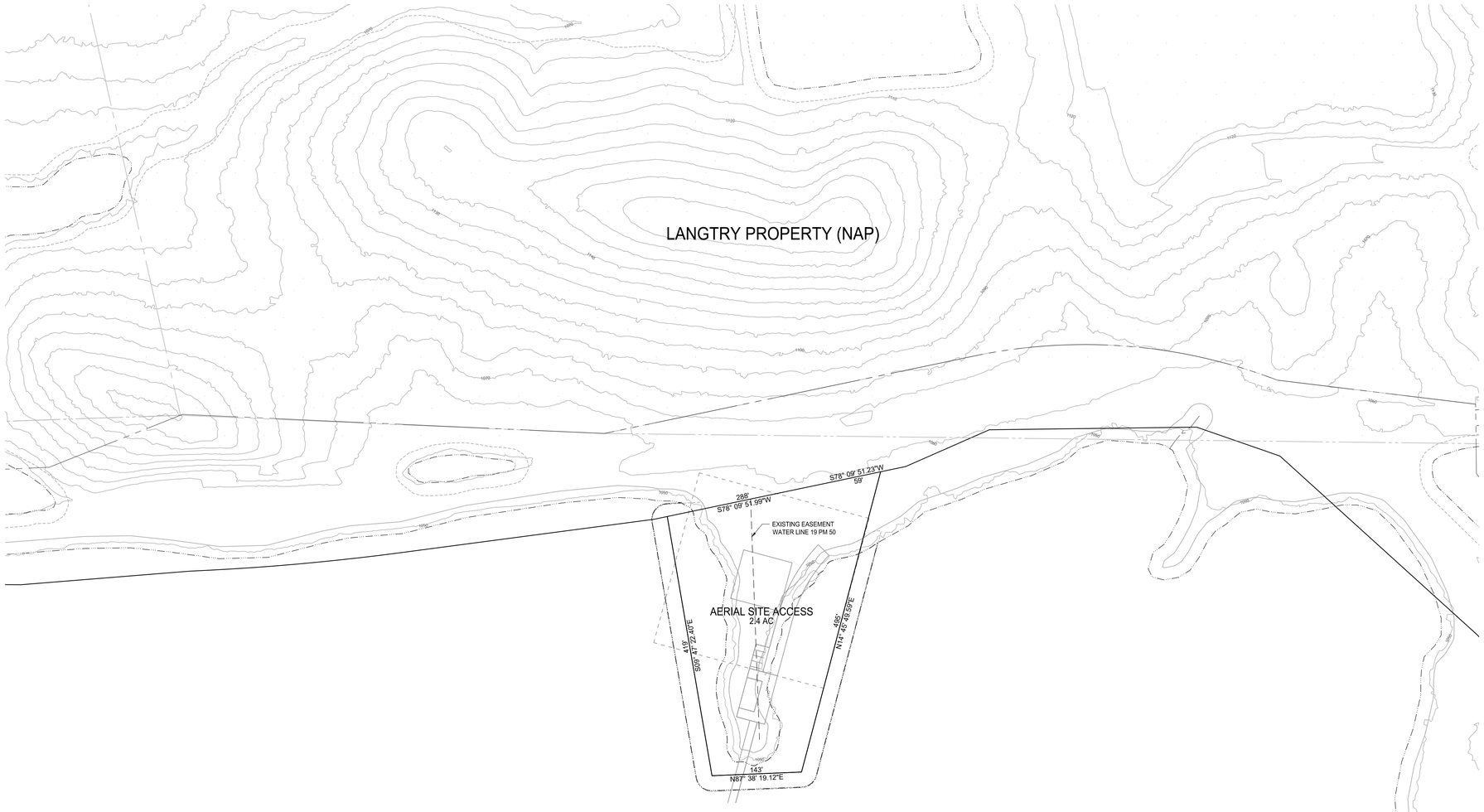
SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400'
NORTH

EQ SUBDIVISION PLAN

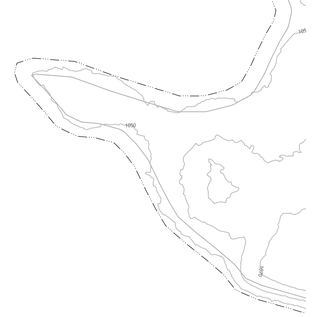
EQ1.02

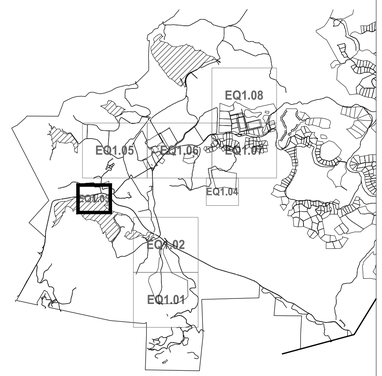
P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG2\PKG2-PARCELS AND ROADS.DWG



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL–DE–SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK





SHEET LAYOUT
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0 50' 100' 200' NORTH

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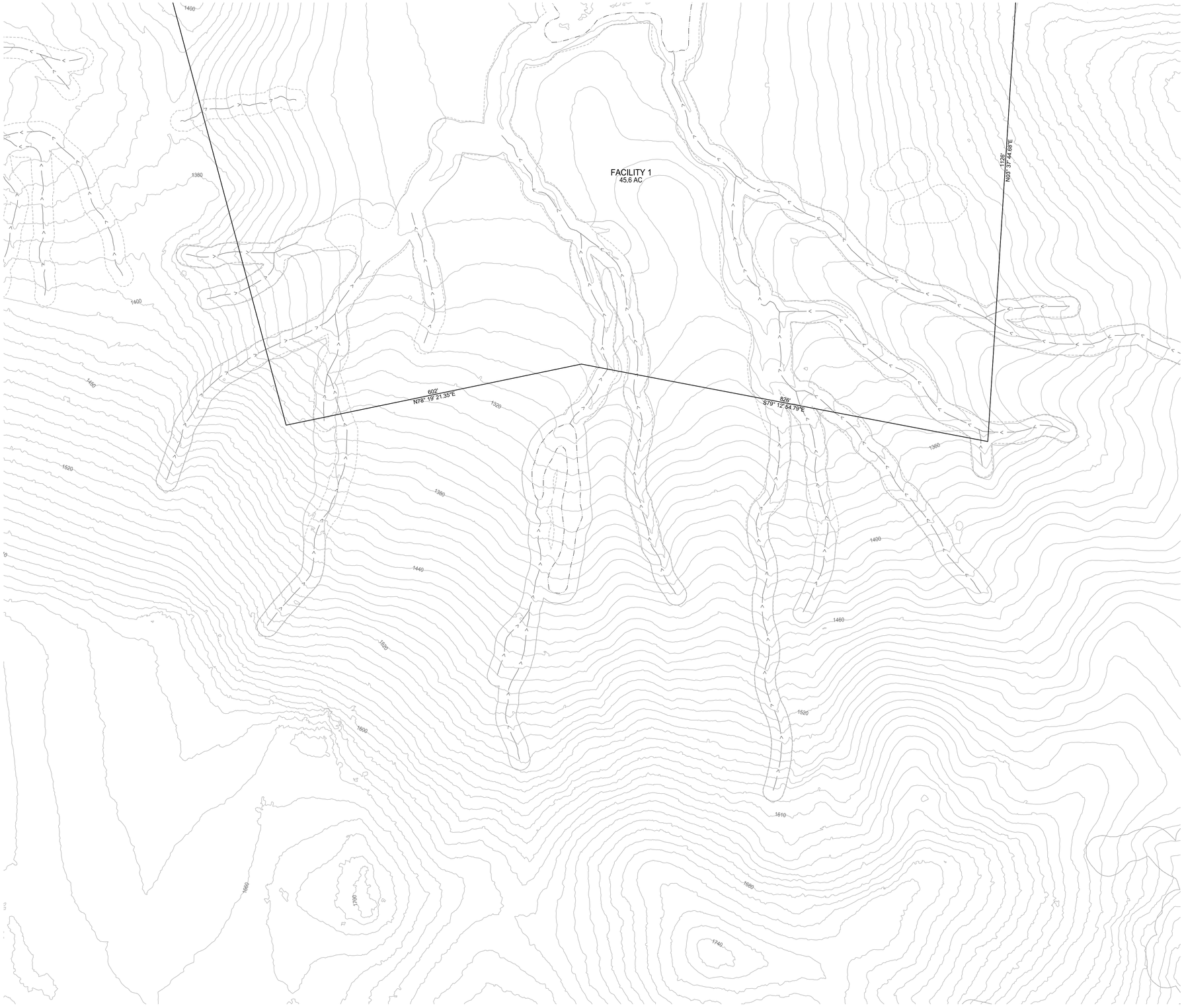
EQUESTRIAN SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

EQ SUBDIVISION PLAN

EQ1.03



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK (W)
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
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- FIRE TANK
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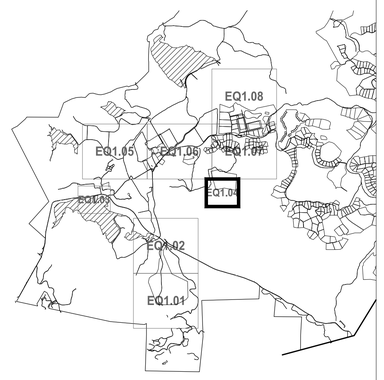
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ



SHEET LAYOUT
NOT TO SCALE

0 50' 100' 200' NORTH

EQ SUBDIVISION PLAN

EQ1.04

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L354	145.38	S21° 33' 13.72"E	
L402	262.13	N58° 48' 22.63"E	
L563	95.96	S58° 51' 48.28"W	

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK
- GROUND WATER WELL
- ELECTRICAL SUBSTATION
- WASTE WATER TREATMENT FACILITY
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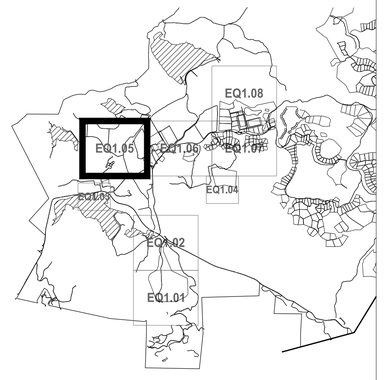

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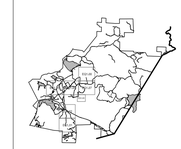
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA



TENTATIVE MAP
SUBDIVISION EQ

EQ SUBDIVISION PLAN

EQ1.05

P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG2\PKG2-PARCELS AND ROADS.DWG

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C120	90.43	76.60	67.64
C121	90.43	76.60	67.64
C122	90.43	76.59	67.64
C198	131.98	34.37	220.00
C243	138.21	71.34	111.00
C251	110.82	71.34	89.00
C265	39.81	30.02	76.00
C289	141.06	132.49	61.00
C301	33.84	52.92	36.63
C303	36.37	50.50	41.26
C308	133.82	196.59	39.00
C310	58.00	89.64	37.07
C344	16.06	1.79	513.00
C464	73.44	5.90	713.00
C465	78.88	8.81	513.00
C469	54.27	4.36	713.00

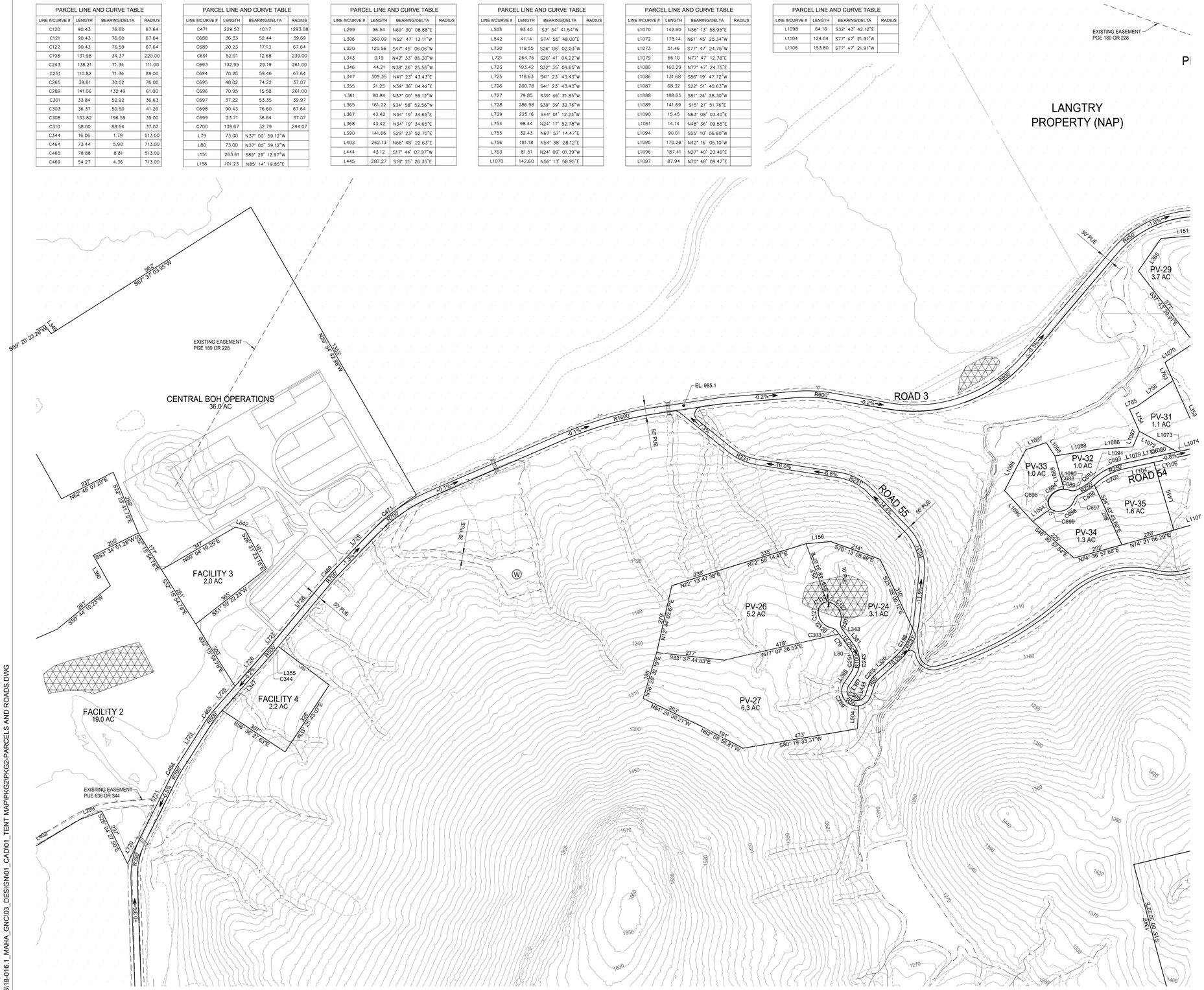
PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C471	229.53	10.17	1293.08
C688	36.33	52.44	39.69
C689	20.23	17.13	67.64
C691	52.91	12.68	239.00
C693	132.95	29.19	261.00
C694	70.20	59.46	67.64
C695	48.02	74.22	37.07
C696	70.95	15.58	261.00
C697	37.22	53.35	39.97
C698	90.43	76.60	67.64
C699	23.71	36.64	37.07
C700	139.67	32.79	244.07
L79	73.00	N37° 00' 59.12"W	
L80	73.00	N37° 00' 59.12"W	
L151	263.61	S85° 29' 12.97"W	
L156	101.23	N85° 14' 19.85"E	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L299	96.54	N69° 30' 08.88"E	
L306	260.09	N52° 47' 13.11"W	
L320	120.56	S47° 45' 06.06"W	
L343	0.19	N42° 33' 05.30"W	
L346	44.21	N38° 26' 25.56"W	
L347	309.35	N41° 23' 43.43"E	
L355	21.25	N39° 36' 04.42"E	
L361	80.84	N37° 00' 59.12"W	
L365	161.22	S34° 58' 52.56"W	
L367	43.42	N34° 19' 34.65"E	
L368	43.42	N34° 19' 34.65"E	
L390	141.66	S29° 23' 52.70"E	
L402	262.13	N58° 48' 22.63"E	
L444	43.12	S17° 44' 07.97"W	
L445	287.27	S16° 25' 26.35"E	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L504	93.40	S3° 34' 41.54"W	
L542	41.14	S74° 55' 48.00"E	
L720	119.55	S26° 06' 02.03"W	
L721	264.76	S26° 41' 04.22"W	
L723	193.42	S32° 35' 09.65"W	
L725	118.63	S41° 23' 43.43"W	
L726	200.78	S41° 23' 43.43"W	
L727	79.85	S39° 46' 21.85"W	
L728	286.98	S39° 39' 32.76"W	
L729	225.16	S44° 01' 12.23"W	
L754	98.44	N24° 17' 52.78"W	
L755	32.43	N67° 57' 14.47"E	
L756	181.18	N54° 38' 28.12"E	
L763	81.51	N24° 09' 01.39"W	
L1070	142.60	N56° 13' 58.95"E	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L1070	142.60	N56° 13' 58.95"E	
L1072	175.14	N61° 45' 25.34"W	
L1073	51.46	S77° 47' 24.75"W	
L1079	66.10	N77° 47' 12.78"E	
L1080	160.29	N77° 47' 24.75"E	
L1086	131.68	S86° 19' 47.72"W	
L1087	68.32	S22° 51' 40.63"W	
L1088	188.65	S81° 24' 28.30"W	
L1089	141.69	S15° 21' 51.76"E	
L1090	15.45	N63° 08' 03.40"E	
L1091	14.14	N48° 36' 09.55"E	
L1094	90.01	S55° 10' 06.60"W	
L1095	170.28	N42° 16' 05.10"W	
L1096	187.41	N27° 40' 23.46"E	
L1097	87.94	N70° 48' 09.47"E	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L1098	64.16	S32° 43' 42.12"E	
L1104	124.04	S77° 47' 21.91"W	
L1106	153.80	S77° 47' 21.91"W	



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK (W)
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE

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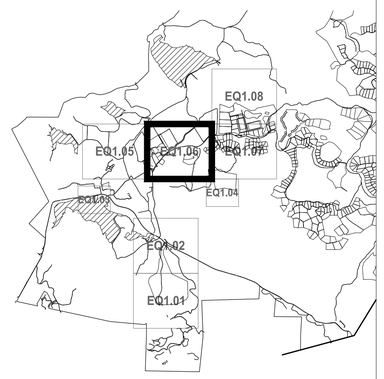
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ



SHEET LAYOUT
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0 100' 200' 400' NORTH

EQ SUBDIVISION PLAN

EQ1.06

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LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
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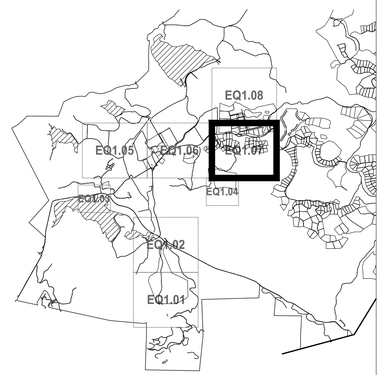
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ



SHEET LAYOUT
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0 100' 200' 400' NORTH

EQ SUBDIVISION PLAN

EQ1.07

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C103	39.43	26.24	86.10
C108	15.83	32.10	28.26
C297	37.04	49.64	42.74
C306	31.45	46.20	39.00
C309	69.61	58.96	67.64
C320	61.64	70.63	50.00
C406	54.64	13.21	237.00
C407	170.17	13.64	714.60
C416	31.85	15.21	120.00
C419	31.85	15.21	120.00
C441	86.31	6.30	784.79
C449	143.42	28.63	287.00
C451	50.89	83.31	35.00
C452	40.65	26.77	87.00
C453	96.93	33.65	165.04
C510	199.96	136.39	84.00
C517	45.27	39.46	65.72
C522	45.21	38.30	67.64
C527	49.40	94.35	30.00
C529	305.91	34.18	512.86
C530	129.04	7.49	987.00
C532	44.84	85.65	30.00
C533	11.91	2.18	313.00
C534	43.00	3.03	813.00
C535	227.02	38.60	337.00
C537	77.19	7.22	612.34
C541	208.52	16.76	713.00
C543	29.97	9.18	187.00
C545	5.02	0.46	623.40
C546	233.95	17.01	787.81
C547	94.08	11.07	487.00
C548	158.76	31.69	287.00
C549	170.54	52.25	187.00
C552	97.50	26.23	213.00
C554	79.47	14.55	313.00
C555	45.39	74.30	35.00
C557	52.80	26.77	113.00
C559	62.08	25.96	137.02
C578	156.41	28.63	313.00
C579	60.08	21.40	160.90
C581	88.10	23.94	210.90
C582	47.41	14.36	189.10
C583	25.79	1.59	928.51
C584	29.98	10.61	161.88
C585	184.16	75.97	138.90
C586	25.79	3.90	378.76
C587	78.91	23.94	188.90
C590	64.54	39.61	93.35
C591	45.54	1.99	1312.14
C592	40.57	78.95	29.45
C601	26.88	22.77	67.64
C602	37.22	53.35	39.97
C603	13.85	9.27	85.62
C604	101.23	67.74	85.62
C605	45.48	40.71	64.00
C606	47.07	35.67	75.61
C607	68.85	61.64	64.00
C608	90.21	60.10	86.00
C609	21.09	14.57	82.90
C610	157.37	64.85	139.04
C611	289.21	119.30	138.90
C612	73.30	19.89	211.10
C614	56.56	19.10	169.62
C621	207.00	133.11	89.10
C623	64.57	28.14	131.49
C624	23.88	8.50	161.00
C625	62.93	7.42	485.74
C626	152.49	62.86	139.00
C628	38.65	45.20	49.00
C629	45.67	18.83	139.00
C630	78.78	19.04	237.00
C631	48.89	75.56	37.07
C632	90.43	76.60	67.64
C633	37.22	53.35	39.97
C638	25.29	21.42	67.64
C639	70.02	108.21	37.07
C641	64.68	49.92	74.23
C642	37.23	52.92	40.31
C643	85.19	77.79	62.75
C645	63.08	42.02	86.01
C648	99.71	51.42	111.10
C649	92.52	61.64	86.00
C650	47.65	42.66	64.00
C651	27.47	52.46	30.00
C652	67.13	60.10	64.00
C653	45.21	38.30	67.64
C654	14.40	22.26	37.07
C655	35.65	33.49	61.00
C656	86.61	20.76	239.00
C657	160.40	66.12	139.00
C658	152.42	33.46	261.00
C661	100.20	22.00	261.00
C663	124.69	44.37	161.00
C664	69.09	24.59	161.00
C665	137.31	32.92	239.00
C668	42.33	28.87	84.00
C670	112.80	30.63	211.00
C672	169.56	26.91	361.00
C673	187.42	29.75	361.00
C674	30.75	10.65	165.36

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C675	103.85	69.19	86.00
C678	60.10	36.08	95.45
C679	403.16	79.93	289.01
C701	134.15	21.77	352.99
C702	196.43	35.76	314.70
C703	110.71	33.05	191.93
C704	335.23	56.66	339.00
C705	38.71	11.84	187.36
C706	36.41	69.54	30.00
C707	77.29	69.19	64.00
C708	134.94	24.86	311.00
L50	74.40	N80° 34' 21.21"W	
L53	237.42	S65° 19' 12.68"E	
L126	77.06	N1° 23' 24.50"W	
L138	158.93	N24° 24' 40.28"W	
L149	208.59	N88° 59' 01.24"E	
L150	181.25	S57° 58' 10.20"W	
L151	263.61	S85° 29' 12.97"W	
L169	198.54	N84° 28' 25.05"E	
L175	119.36	S80° 29' 20.88"E	
L182	347.54	N3° 55' 01.45"E	
L209	259.18	S75° 34' 39.53"E	
L226	299.17	S8° 12' 38.34"E	
L250	237.98	S66° 12' 11.78"E	
L307	27.71	N52° 43' 08.43"W	
L314	165.35	N48° 55' 31.45"W	
L327	252.72	N46° 21' 32.70"E	
L335	281.39	S7° 22' 18.53"E	
L353	290.08	N24° 09' 01.39"W	
L420	116.38	S23° 17' 22.53"E	
L426	46.23	N57° 58' 10.20"E	
L433	227.59	N19° 30' 53.81"W	
L434	231.29	N56° 31' 00.91"E	
L473	141.26	S9° 55' 04.13"W	
L615	295.20	N13° 03' 09.08"W	
L616	158.93	N2° 09' 18.62"E	
L618	250.96	N13° 03' 09.08"W	
L619	17.56	N2° 09' 18.62"E	
L620	362.57	N2° 09' 18.62"E	
L633	96.40	N69° 56' 03.61"W	
L634	64.83	N83° 08' 41.77"W	
L668	78.62	S82° 35' 25.91"W	
L669	185.80	S89° 04' 53.39"W	
L670	275.07	N83° 08' 41.77"W	
L698	38.25	N21° 28' 12.63"W	
L699	213.99	N21° 28' 12.63"W	
L702	163.86	S78° 51' 20.68"W	
L704	21.31	S52° 05' 18.58"W	
L795	113.05	S80° 06' 58.02"W	
L830	310.33	N88° 27' 30.42"E	
L833	65.88	S87° 48' 06.35"W	
L840	160.50	N89° 55' 07.28"W	
L842	316.24	S82° 35' 25.91"W	
L843	394.58	S2° 09' 18.62"W	
L847	29.65	S87° 48' 06.35"W	
L849	100.00	S85° 37' 15.62"W	
L850	69.07	S85° 37' 15.62"W	
L852	170.30	N2° 09' 18.62"E	
L859	113.44	N58° 01' 56.67"W	
L860	122.18	S31° 53' 09.32"W	
L861	9.50	N58° 50' 23.79"W	
L862	114.32	S81° 45' 19.56"W	
L865	199.61	N5° 48' 57.87"W	
L866	227.98	S12° 59' 45.26"E	
L867	48.73	S80° 15' 21.30"W	
L868	47.00	S89° 26' 23.12"W	
L874	53.60	S73° 32' 21.05"W	
L875	55.69	S73° 32' 21.05"W	
L877	243.19	S62° 28' 19.23"W	
L880	41.92	S30° 46' 52.07"W	
L881	386.61	S75° 21' 17.54"W	
L882	222.23	S10° 55' 50.03"W	
L883	41.92	N30° 46' 52.07"E	
L884	171.42	N78° 51' 32.84"E	
L885	21.31	N52° 05' 18.58"E	
L887	377.31	N74° 17' 34.12"E	
L888	88.55	N7° 09' 42.19"E	
L921	197.30	S7° 09' 42.19"W	
L924	252.24	S21° 28' 12.63"E	
L929	22.18	S10° 55' 04.18"E	
L933	248.41	S84° 17' 09.31"E	
L935	133.12	N17° 09' 14.21"E	
L937	303.25	N73° 10' 14.98"E	
L938	167.62	N25° 08' 08.42"W	
L939	112.26	N4° 15' 04.92"E	
L940	300.67	S57° 18' 15.58"W	
L941	160.97	S6° 53' 10.93"E	
L943	130.64	N88° 59' 01.24"E	
L947	279.97	S86° 11' 28.24"W	
L948	26.88	N10° 48' 22.11"W	
L949	172.96	S35° 18' 05.14"E	
L950	249.25	S11° 39' 08.53"E	
L951	26.01	S83° 08' 44.44"E	
L952	183.27	N86° 15' 23.76"W	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L953	121.78	S86° 44' 16.91"E	
L954	148.56	S8° 48' 26.51"W	
L955	182.81	S48° 00' 22.66"W	
L956	20.35	S4° 50' 29.83"E	
L957	252.34	N80° 21' 58.25"E	
L958	228.89	N4° 44' 12.67"W	
L959	248.20	S8° 36' 34.39"E	
L960	363.50	N0° 14' 42.83"W	
L961	122.45	S81° 50' 20.26"E	
L962	109.15	S80° 21' 58.25"W	
L963	109.03	S80° 21' 58.25"W	
L965	21.89	N47° 12' 41.53"E	
L970	27.60	S59° 15' 41.07"W	
L972	28.89	S45° 16' 07.24"W	
L973	12.27	N73° 05' 30.04"W	
L974	13.79	S46° 48' 37.68"W	
L976	233.22	S8° 30' 44.51"E	
L978	166.18	N6° 53' 10.93"W	
L979	113.00	S53° 48' 57.98"W	
L980	298.80	N82° 54' 09.18"E	
L981	72.25	N10° 15' 11.78"E	
L982	36.11	N6° 53' 10.93"W	
L983	218.04	S1° 43' 58.81"E	
L984	132.60	S3° 25' 37.58"W	
L985	217.07	S85° 37' 12.49"E	
L986	298.87	N8° 44' 28.69"E	
L987	83.99	N53° 48' 57.98"E	
L988	101.32	N76° 26' 50.47"W	
L990	75.87	N13° 35' 21.58"W	
L992	220.10	S89° 02' 12.37"E	
L993	241.62	S0° 30' 00.38"E	
L994	174.25	N73° 14' 51.41"W	
L995	19.74	N76° 26' 50.47"W	
L997	43.10	S61° 33' 15.99"W	
L1001	73.10	S81° 09' 35.50"W	
L1005	227.60	S10° 23' 05.74"E	
L1006	274.05	S88° 55' 53.23"W	
L1007	309.01	N6° 36' 56.25"W	
L1008	221.57	S10° 23' 05.74"E	
L1009	197.42	N6° 36' 56.25"W	
L1010	8.03	S61° 33' 15.99"W	
L1011	230.56	N81° 18' 14.26"E	
L1012	273.08	N0° 31' 29.57"W	
L1015	21.27	N47° 12' 41.53"E	
L1016	68.03	N6° 52' 34.50"E	
L1020	28.89	N45° 16' 07.24"E	
L1022	19.18	N47° 18' 56.74"E	
L1024	12.27	S73° 05' 30.04"E	
L1025	106.17	N72° 08' 57.46"W	
L1029	189.04	S64° 51' 54.91"E	
L1031	163.87	S65° 19' 12.68"E	
L1034	85.75	N79° 46' 52.57"W	
L1035	96.52	S88° 49' 53.45"E	
L1037	11.46	S87° 27' 26.00"E	
L1038	19.96	N25° 03' 04.55"E	
L1040	350.80	N8° 12' 38.34"W	
L1041	423.87	S43° 06' 50.98"W	
L1042	240.77	S54° 52' 50.02"E	
L1043	54.15	S80° 11' 43.41"E	
L1044	232.37	S79° 22' 29.42"E	
L1045	500.90	S10° 39' 01.03"W	
L1046	165.11	N65° 19' 12.68"W	
L1047	170.83	N65° 19' 12.68"W	
L1048	492.57	S6° 59' 11.34"W	
L1049	70.98	S1° 41' 56.33"E	
L1050	16.37	N88° 30' 43.39"W	
L1052	65.36	N65° 19' 12.68"W	
L1053	420.51	N3° 25' 08.35"E	
L1054	326.61	S17° 53' 25.65"E	
L1055	87.05	N88° 49' 53.45"W	
L1057	14.47	S25° 03' 04.55"W	
L1058	46.23	S57° 58' 10.20"W	
L1059	21.78	N41° 10' 34.14"E	
L1060	74.87	N10° 32' 41.37"E	
L1061	177.24	N86° 35' 37.65"E	
L1062	215.81	S11° 28' 59.78"E	
L1063	331.88	N81° 56' 29.27"E	
L1065	10.37	N46° 06' 47.95"W	
L1067	135.05	N80° 06' 58.02"E	
L1068	120.77	N10° 28' 21.77"W	
L1069	6.22	N58° 43' 03.54"E	
L1074	53.29	S74° 42' 45.62"W	
L1107	113.52	N74° 05' 14.80"E	
L1108	181.61	N33° 06' 04.21"W	
L1111	192.21	N78° 26' 22.24"W	
L1112	126.89	N46° 21' 32.70"E	
L1113	71.84	N49° 03' 57.32"E	
L1114	11.76	N41° 10' 34.14"E	
L1116	53.63	N10° 08' 32.60"E	
L1117	21.25	S10° 32' 41.37"W	
L1119	10.29	S46° 06' 47.95"E	
L1122	17.56	N58° 43' 03.54"E	
L1124	119.43	N10° 28' 21.77"W	

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DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

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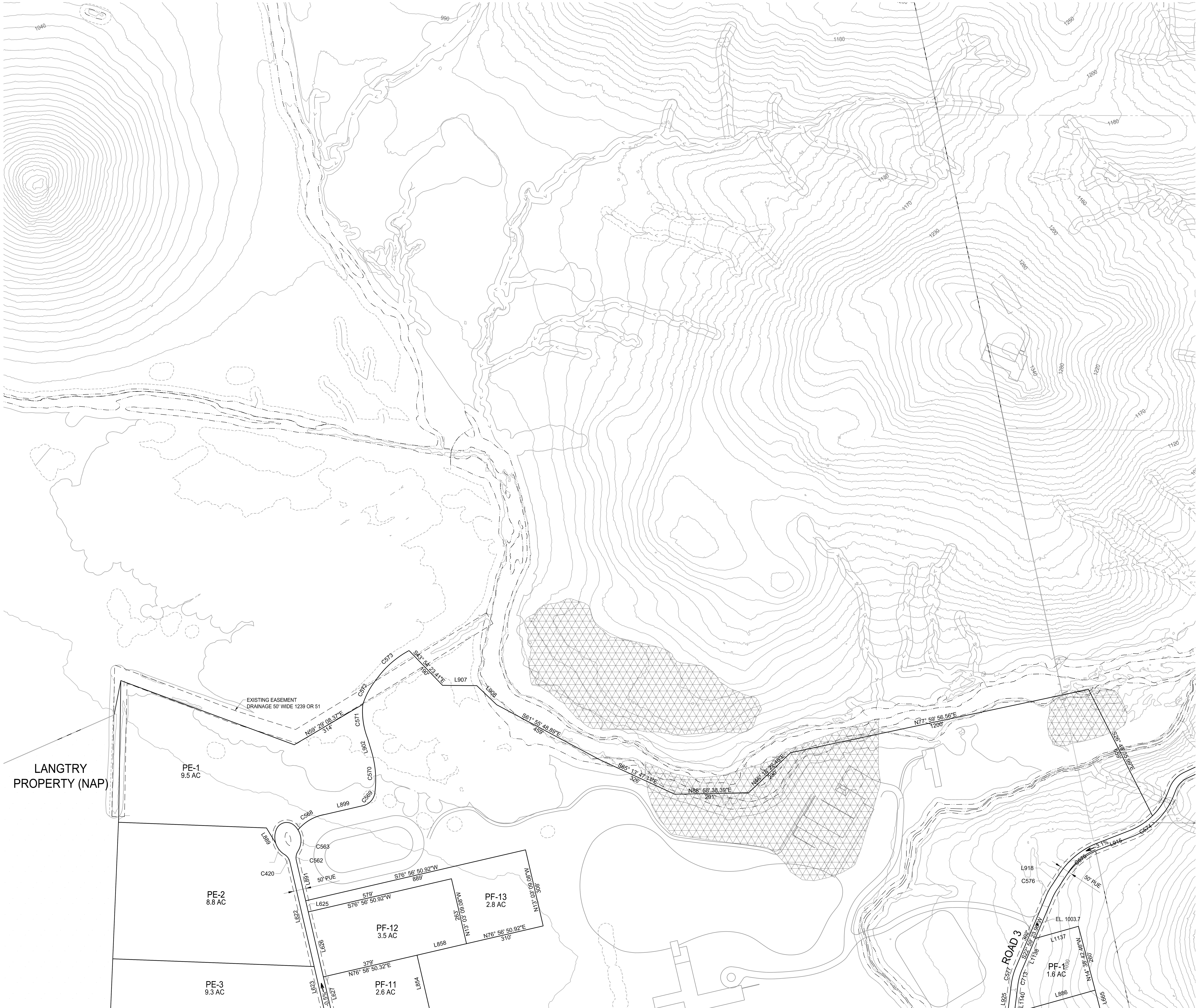
EQUESTRIAN SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

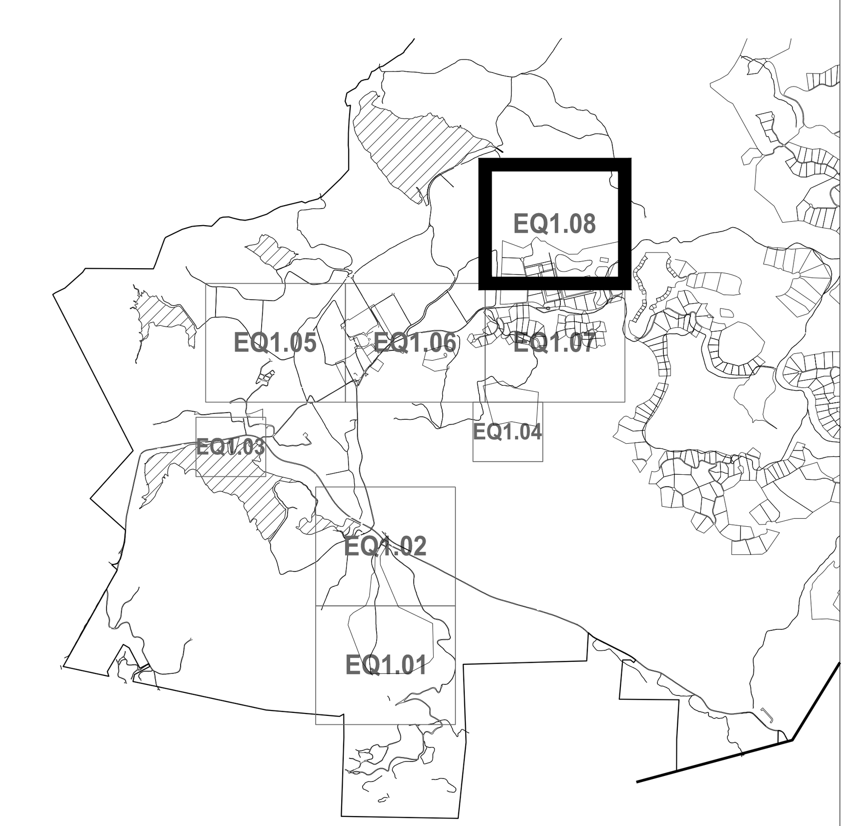
EQ SUBDIVISION PLAN

EQ1.07A



LEGEND

PARCEL BOUNDARY			
ROADWAY			
CUL-DE-SAC			
COUNTY LINE			
CULVERT		WASTE WATER TREATMENT FACILITY	WW
BRIDGE		WATER PUMP	
WATER TANK	W	FIRE HYDRANT	
GROUND WATER WELL	WELL	FIRE TANK	
ELECTRICAL SUBSTATION	ELEC	EXISTING POWER POLE	
DEVELOPMENT RESTRICTION AREA			
EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)			
EASEMENT			
EPHEMERAL STREAMS			
ORDINARY HIGH WATER MARK			
INTERMITTENT TOP OF BANK			
PERENNIAL TOP OF BANK			
EXISTING PARCEL BOUNDARY			
EPHEMERAL STREAM SETBACK			



SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400'
NORTH

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San Francisco, CA 94110
www.sherwoodengineers.com

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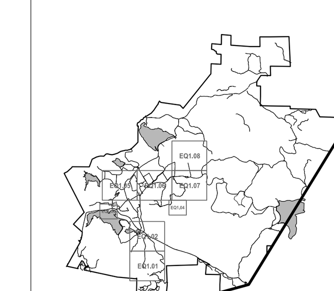
LAKE COUNTY
CALIFORNIA



TENTATIVE MAP SUBDIVISION EQ

EQ SUBDIVISION PLAN

EQ1.08

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C420	43.99	53.35	47.25
C561	53.44	38.30	79.95
C562	44.01	52.92	47.65
C563	85.79	61.48	79.95
C568	124.30	40.93	174.01
C569	72.68	69.40	60.00
C570	163.53	24.21	387.00
C571	135.17	25.64	302.01
C572	113.33	21.57	300.99
C573	172.34	26.71	369.68
C574	106.95	23.37	262.15
C575	193.66	35.45	313.00
C576	47.44	10.33	263.00
C577	72.66	15.83	263.00
C713	65.47	15.83	237.00
L622	419.89	N13° 03' 09.08"W	
L623	295.20	N13° 03' 09.08"W	
L625	45.14	N13° 03' 09.08"W	
L626	262.70	N13° 03' 09.08"W	
L627	250.96	N13° 03' 09.08"W	
L665	260.04	S14° 38' 42.46"E	
L854	299.66	N13° 03' 09.08"W	
L858	200.00	N76° 53' 04.68"E	
L886	330.45	N74° 17' 34.12"E	
L889	71.11	N31° 05' 32.95"W	
L891	159.75	N13° 03' 09.08"W	
L897	21.80	N2° 24' 07.36"E	
L899	155.32	N76° 56' 50.92"E	
L902	56.41	N16° 39' 48.10"W	
L907	134.85	S89° 28' 40.21"E	
L908	108.75	S46° 09' 45.59"E	
L915	137.39	S68° 46' 28.58"W	
L918	57.33	S33° 19' 29.85"W	
L925	197.30	S7° 09' 42.19"W	
L1137	176.52	S74° 17' 34.12"W	
L1138	132.90	S22° 59' 22.41"W	
L1140	108.76	S7° 09' 42.19"W	

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DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

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CODY ANDERSON
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CIVIL
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TENTATIVE MAP
SUBDIVISION EQ

EQ SUBDIVISION PLAN

EQ1.08A

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AVERAGE CROSS SLOPE TABLE		
PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
PE - 1	413,936	2.2%
PE - 2	404,329	1.3%
PE - 3	420,612	1.2%
PE - 4	383,179	1.0%
PF - 1	69,061	28.6%
PF - 2	95,891	24.9%
PF - 3	94,488	23.1%
PF - 4	163,443	3.9%
PF - 5	158,750	3.7%
PF - 6	108,485	2.6%
PF - 7	71,783	4.5%
PF - 8	63,780	2.7%
PF - 9	154,453	2.5%
PF - 10	152,287	3.3%
PF - 11	113,666	0.8%
PF - 12	152,160	1.2%
PF - 13	121,569	1.8%
PV - 1	133,695	27.2%
PV - 2	274,442	34.2%
PV - 3	227,971	32.1%
PV - 6	85,676	31.3%
PV - 7	72,754	22.6%
PV - 8	90,561	35.2%
PV - 9	96,066	24.3%
PV - 10	121,843	28.2%
PV - 11	97,809	32.2%
PV - 12	115,996	29.1%
PV - 13	88,329	34.4%
PV - 14	64,862	25.8%
PV - 15	75,549	29.8%
PV - 16	74,797	30.2%
PV - 17	44,394	27.8%
PV - 18	63,077	27.0%
PV - 19	58,897	33.1%
PV - 20	70,859	36.7%
PV - 22	162,730	31.9%
PV - 23	56,405	32.7%
PV - 24	56,072	35.3%
PV - 25	77,903	36.7%
PV - 26	89,344	35.3%
PV - 27	55,970	38.6%
PV - 29	87,199	22.6%

AVERAGE CROSS SLOPE TABLE		
PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
PV - 31	69,643	37.2%
PV - 33	55,920	37.9%
PV - 35	64,059	32.3%
PV - 37	65,754	26.1%
PV - 38	48,043	32.1%
PV - 39	74,543	29.9%
PV - 40	59,095	26.9%
PV - 41	51,562	36.1%
PV - 43	65,675	31.5%
PV - 44	72,224	26.1%
PV - 46	68,439	32.9%
PV - 47	61,448	30.7%
PV - 48	62,179	27.0%
PV - 49	83,569	24.1%
PV - 51	43,388	34.2%
PV - 52	50,278	34.2%
PV - 53	74,039	27.3%
PV - 56	71,790	27.5%
PV - 57	58,225	28.0%
PV - 58	71,074	22.5%
PV - 59	59,624	31.9%
PV - 69	68,214	37.1%
PV - 70	46,324	21.9%
PV - 71	43,789	31.8%
PV - 72	45,296	28.7%
AERIAL SITE ACCESS	124,076	9.5%
CENTRAL BOH OPERATIONS	1,569,208	4.4%
ENTRY INTERSECTION 1A	91,691	9.1%
ENTRY INTERSECTION 1B	19,890	10.9%
ENTRY INTERSECTION 2	182,824	14.1%
FACILITY 1	1,986,575	12.7%
FACILITY 2	829,702	3.2%
FACILITY 3	86,534	1.5%
FACILITY 4	94,822	19.7%
FACILITY 5	60,517	17.4%
WORKFORCE HOUSING	6,044,076	9.1%
EQUESTRIAN CENTER	4,371,615	5.9%

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84210
CIVIL
STATE OF CALIFORNIA

SCALE:
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NO	DATE	ISSUANCE

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

EQUESTRIAN SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

RESIDENTIAL PARCEL AVERAGE SLOPES

EQ1.20

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- REMAINDER PARCELS
- DEVELOPMENT PARCELS
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY

SHERWOOD DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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EQUESTRIAN SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

PERIPHERAL PARCEL PLAN

EQ2.01

0 500' 1000' 2000' NORTH

MATCHLINE - SEE EQ2.01

PERIPHERAL PARCEL - 5
1679.5 AC

DETERT
RESEVOIR

PERIPHERAL PARCEL - 6
15.5 AC

PERIPHERAL PARCEL-7
21.2 AC

LEGEND

PARCEL BOUNDARY

ROADWAY

CUL-DE-SAC

COUNTY LINE

REMAINDER PARCELS

DEVELOPMENT PARCELS

EPHEMERAL STREAMS

ORDINARY HIGH WATER MARK

INTERMITTENT TOP OF BANK

PERENNIAL TOP OF BANK

EXISTING PARCEL BOUNDARY

0 500' 1000' 2000' NORTH

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

EQUESTRIAN SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

PERIPHERAL PARCEL PLAN

EQ2.02

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C589	153.43	60.90	144.35
C600	77.58	69.34	64.10
C671	70.76	5.90	687.00
C673	448.75	41.94	613.00
C674	429.72	41.94	587.00
C675	170.34	16.63	587.00
C679	309.46	34.56	513.00
C680	19.37	2.16	513.00
C682	74.88	8.81	487.00
C685	169.16	28.76	337.00
C686	60.35	16.24	213.00
C687	170.09	31.14	313.00
C688	52.98	16.23	187.00
C689	155.97	31.14	287.00
C691	228.71	49.83	263.00
C692	20.84	5.61	213.00
C693	86.44	43.83	113.00
C696	28.27	6.16	263.00
C697	19.24	4.19	263.00
C700	206.10	49.83	237.00
C701	18.30	5.61	187.00
C702	66.55	43.83	87.00
C703	129.87	31.40	237.00
C704	42.75	10.33	237.00
C706	25.47	6.16	237.00
C707	17.34	4.19	237.00
C708	133.65	26.59	288.00
C709	22.01	4.35	289.58
C710	111.12	26.59	239.45
C712	51.94	18.26	163.00
C713	119.42	41.98	163.00
C715	109.59	38.52	163.00
C716	44.79	12.07	212.66
C717	89.40	23.02	222.53
C721	92.74	38.78	137.00
C722	43.65	18.26	137.00
C723	100.37	41.98	137.00
C724	28.70	12.00	137.00
C725	92.11	38.52	137.00
C726	39.32	12.07	186.66
C727	79.32	23.13	196.53
C729	53.46	27.10	113.00
C733	135.23	88.04	88.00
C734	36.14	23.80	87.00
C737	199.96	136.39	84.00
C738	52.84	44.76	67.64
C739	93.67	86.57	62.00
C740	37.23	52.92	40.31
C741	12.70	19.67	36.99
C746	110.33	38.78	163.00
C752	68.24	64.10	61.00
C754	28.29	30.02	54.00
C756	119.19	28.22	242.00
C758	68.69	41.46	94.91
C778	24.48	14.74	95.17
C780	174.92	30.84	325.00
C781	79.24	25.94	175.00
C783	329.16	66.18	284.97
C790	339.28	5.09	3819.55
C803	550.33	34.65	909.90
C808	452.26	23.67	1094.88
C815	350.72	8.93	2249.75
C823	354.69	13.97	1454.84
C825	62.20	4.37	814.88
C844	218.27	15.63	800.00
C848	411.78	2.37	9968.89
C850	306.49	5.80	3029.66
C855	37.60	86.17	25.00
C856	480.10	23.92	1149.87
C857	414.25	2.37	10028.68
C858	621.97	12.00	2969.68
C859	87.66	0.52	9601.05
C861	44.03	1.52	1655.40
C863	47.00	1.12	2401.90
C869	48.74	3.78	739.48
C870	132.44	7.49	1013.00
C871	50.08	0.11	25460.53
C874	640.78	59.99	612.00
C875	115.64	5.04	1314.18
C876	148.60	15.91	535.20
C877	19.11	1.91	572.73
C878	413.95	14.67	1616.28
C884	406.82	14.99	1554.82
C885	85.58	10.98	446.73
C886	113.33	21.57	300.99
C887	172.34	26.71	369.68
C894	37.23	52.92	40.31
C896	27.18	42.00	37.07
C897	90.43	76.59	67.64
C899	56.01	45.20	71.00
C900	176.63	62.86	161.00
C901	305.03	108.62	160.90
C902	177.05	0.40	25469.88
C903	211.42	4.45	2719.56
C904	250.15	20.86	687.00
C905	52.29	4.36	687.00
C906	42.84	0.32	7770.50
C907	81.94	5.96	787.87
C908	267.56	31.48	487.00
C909	254.77	40.21	363.00
C910	78.73	7.68	587.00
C911	34.11	2.62	746.70
C912	365.17	30.46	687.00
C913	60.64	13.21	263.00
C914	328.04	6.20	3029.66
C918	89.68	16.47	312.00
C919	78.78	19.04	237.00
C920	53.86	102.87	30.00
C921	326.01	42.74	437.00
L246	268.02	N79° 41' 52.34"W	
L247	155.44	N79° 47' 54.98"W	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L248	85.75	N79° 46' 52.57"W	
L250	105.33	S77° 59' 56.56"W	
L254	1949.12	N12° 03' 25.93"W	
L256	73.10	S81° 09' 35.50"W	
L257	449.17	S10° 23' 05.74"E	
L270	339.23	N88° 59' 01.24"E	
L278	64.16	S32° 43' 42.12"E	
L284	1332.92	N88° 30' 26.27"W	
L290	48.11	S88° 48' 32.05"E	
L295	1332.92	N88° 30' 26.27"W	
L296	105.60	N88° 23' 36.48"E	
L297	105.60	N88° 23' 36.48"E	
L305	2610.06	N12° 04' 40.74"W	
L306	51.13	S61° 33' 02.19"W	
L312	158.52	S86° 05' 25.65"W	
L313	26.93	N19° 38' 28.81"E	
L314	181.25	S57° 58' 10.20"W	
L316	144.30	S61° 06' 04.08"W	
L319	75.87	N13° 35' 21.58"W	
L321	2450.89	S84° 58' 57.99"E	
L326	230.50	N83° 08' 42.66"W	
L327	138.28	N83° 39' 35.97"E	
L335	1949.62	S30° 02' 00.23"E	
L336	406.72	S42° 31' 23.97"W	
L337	256.82	S40° 02' 29.01"W	
L350	249.25	S11° 39' 08.53"E	
L354	189.36	S58° 45' 38.92"W	
L360	14.41	S0° 39' 33.31"E	
L367	3704.67	S77° 54' 08.00"E	
L370	383.89	S66° 11' 53.81"E	
L381	118.19	S79° 55' 54.96"W	
L383	18.24	N17° 28' 27.27"E	
L392	562.51	S0° 14' 54.00"E	
L396	162.09	N72° 56' 06.74"E	
L402	193.16	N71° 33' 54.18"E	
L405	278.86	S12° 11' 17.04"W	
L408	263.61	N85° 29' 12.97"E	
L433	1052.58	N66° 15' 03.20"E	
L435	44.84	S35° 25' 37.85"W	
L438	60.39	S65° 05' 14.96"E	
L439	60.39	S65° 05' 14.96"E	
L442	189.04	S64° 51' 54.91"E	
L446	9.50	N64° 43' 15.04"E	
L471	162.52	N62° 36' 12.00"E	
L472	2105.45	S62° 42' 57.61"W	
L473	1622.31	N62° 49' 42.35"E	
L474	4203.65	N62° 38' 49.15"E	
L478	2751.76	S62° 33' 51.89"W	
L488	140.92	S44° 07' 03.10"W	
L493	397.22	S0° 26' 08.28"W	
L497	319.59	N59° 19' 05.35"E	
L499	96.40	N69° 56' 03.61"W	
L514	137.06	S3° 59' 31.00"E	
L518	88.53	N64° 57' 05.59"E	
L519	88.53	N64° 57' 05.59"E	
L520	306.66	S56° 36' 27.63"E	
L527	228.45	S23° 08' 52.97"W	
L530	7.32	S62° 21' 40.64"W	
L533	79.32	N55° 40' 40.57"E	
L534	79.32	N55° 40' 40.57"E	
L536	112.72	S72° 37' 54.93"W	
L543	75.30	S53° 05' 08.61"E	
L544	75.30	S53° 05' 08.61"E	
L546	260.12	N52° 47' 13.11"W	
L548	150.77	N52° 24' 27.32"E	
L549	150.77	N52° 24' 27.32"E	
L555	251.71	S46° 19' 15.41"W	
L565	165.35	N48° 55' 31.45"W	
L567	65.91	N43° 36' 35.54"E	
L568	66.30	N43° 36' 35.54"E	
L581	141.48	N50° 04' 18.13"E	
L582	141.48	N50° 04' 18.13"E	
L583	22.00	N47° 51' 21.57"W	
L590	168.36	S22° 27' 43.00"E	
L594	304.16	N44° 42' 17.03"W	
L595	304.16	N44° 42' 17.03"W	
L597	20.12	N33° 47' 54.63"E	
L604	54.45	S21° 47' 24.07"W	
L605	729.83	S33° 17' 26.98"W	
L612	134.64	S42° 48' 23.04"W	
L614	179.11	S53° 48' 10.96"W	
L617	269.99	S73° 53' 37.46"W	
L619	601.70	S55° 38' 22.00"W	
L620	10.06	N41° 23' 43.43"E	
L623	112.36	N86° 15' 23.76"W	
L629	51.46	S62° 43' 22.01"W	
L633	422.88	S2° 47' 19.99"W	
L636	96.15	N30° 49' 11.77"E	
L637	98.29	N30° 57' 26.32"E	
L650	20.35	S4° 50' 29.83"E	
L657	97.77	S38° 08' 18.01"W	
L659	119.36	S80° 29' 20.88"E	
L660	19.20	N21° 07' 20.20"E	
L661	19.20	N21° 07' 20.20"E	
L666	326.07	N33° 25' 43.07"E	
L667	81.40	N33° 19' 29.85"E	
L668	130.33	S74° 19' 19.03"W	
L671	193.42	N32° 35' 09.65"E	
L672	229.34	N32° 01' 49.80"W	
L673	325.10	S13° 09' 09.31"E	
L678	2665.83	S32° 59' 13.13"W	
L679	8.25	N63° 23' 51.61"E	
L686	511.12	S5° 10' 01.02"W	
L689	136.69	S56° 07' 45.09"W	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L690	1515.23	S27° 51' 45.73"E	
L691	97.64	N27° 33' 09.56"E	
L694	558.56	N26° 49' 35.99"W	
L695	264.76	N26° 41' 04.22"E	
L702	199.72	N31° 32' 32.84"E	
L705	728.37	S69° 40' 22.75"E	
L707	2791.57	S62° 57' 44.38"E	
L712	203.27	N23° 55' 09.67"W	
L713	203.27	N23° 55' 09.67"W	
L717	116.38	S23° 17' 22.53"E	
L720	298.10	N23° 03' 23.29"E	
L722	169.53	N22° 59' 25.18"E	
L725	57.60	S29° 48' 30.86"W	
L735	267.88	N19° 43' 36.61"W	
L736	267.88	N19° 43' 36.61"W	
L743	65.92	S73° 29' 08.24"W	
L744	106.58	N18° 01' 28.27"E	
L745	156.61	N9° 53' 27.29"E	
L748	614.68	N16° 58' 19.00"W	
L750	478.29	N16° 41' 57.20"W	
L751	386.06	N16° 32' 19.41"W	
L767	990.76	N13° 34' 05.84"W	
L768	990.76	N13° 34' 05.84"W	
L770	361.36	N80° 21' 58.25"E	
L772	1243.85	N12° 45' 25.11"W	
L774	2186.23	S12° 14' 32.71"E	
L775	35.16	S12° 13' 28.63"E	
L776	1314.36	S12° 11' 26.26"E	
L777	1272.52	S12° 07' 11.31"E	
L780	252.13	S41° 22' 00.96"W	
L781	1331.19	S12° 02' 42.42"E	
L782	2668.96	S12° 01' 09.59"E	
L783	413.36	N12° 01' 05.09"W	
L784	674.75	S11° 34' 24.61"E	
L786	117.22	S0° 36' 45.03"E	
L788	70.37	S10° 44' 42.13"W	
L796	141.26	S9° 55' 04.13"W	
L800	623.22	N9° 31' 12.26"W	
L802	86.51	S64° 30' 10.84"W	
L804	172.96	S35° 18' 05.14"E	
L826	30.62	S82° 29' 41.23"E	
L829	137.96	N11° 05' 58.20"E	
L831	834.80	N2° 04' 30.63"W	
L841	815.97	S0° 22' 25.89"W	
L843	662.88	N0° 05' 15.64"E	
L845	111.42	N77° 47' 04.00"E	
L846	48.11	S88° 48' 32.05"E	
L848	162.09	N72° 56' 06.74"E	
L851	335.05	N72° 56' 14.47"E	
L852	101.23	N85° 14' 19.85"E	
L853	213.53	S70° 13' 08.89"E	
L854	309.84	S25° 05' 00.12"E	
L855	279.36	N12° 44' 02.67"E	
L856	194.52	N16° 26' 32.19"E	
L857	262.72	N64° 24' 30.21"W	
L858	191.48	N62° 08' 56.81"W	
L859	472.71	S80° 19' 33.31"W	
L860	93.40	S3° 34' 41.54"W	
L864	120.56	S47° 45' 06.06"W	
L874	669.33	N76° 29' 55.54"E	
L875	416.44	S57° 08' 51.44"E	
L876	833.17	S80° 08' 50.90"E	
L877	1125.88	S3° 37' 44.68"W	
L878	826.02	N79° 12' 54.79"W	
L879	601.94	S78° 19' 21.35"W	
L880	1349.12	N15° 00' 30.22"W	
L891	62.88	S19° 34' 55.77"W	
L893	215.81	N11° 28' 59.78"W	
L894	331.88	N81° 56' 29.27"E	
L895	78.76	S42° 24' 46.49"E	
L924	386.10	N75° 21' 17.54"E	
L925	222.19	N10° 55' 50.03"E	
L931	190.14	S43° 54' 23.41"E	
L932	134.85	S89° 28' 40.21"E	
L933	108.75	S46° 09' 45.59"E	
L934	459.31	S61° 55' 48.89"E	
L935	325.62	S65° 13' 47.11"E	
L937	3683.62	N29° 15' 56.00"E	
L938	1553.09	N77° 54' 08.00"W	
L939	166.49	S17° 55' 31.09"E	
L940	1045.84	S30° 38' 12.85"W	
L941	222.93	N60° 14' 05.10"W	
L942	768.35	N27° 53' 33.15"W	
L943	328.88	S62° 06' 26.86"W	
L944	99.99	N27° 56' 41.52"W	
L945	147.08	N33° 02' 05.84"W	
L947	321.29	N8° 20' 44.03"W	
L950	5.44	N34° 17' 15.69"W	
L951	157.95	S13° 48' 04.21"W	
L952	440.90	S80° 35' 36.06"W	
L953	10.01	N12° 30' 43.12"W	
L954	702.38	S79° 58' 18.98"W	
L955	244.05	S84° 12' 36.03"W	
L956	242.96	N89° 38' 29.98"W	
L957	269.52	S85° 23' 55.95"W	
L958	406.06	S82° 29' 14.05"W	
L959	21.13	S78° 09' 51.99"W	
L960	419.00	N9° 47' 22.40"W	
L961	142.73	S87° 38' 19.12"W	
L962	494.57	S14° 45' 49.59"W	
L963	40.70	S78° 09' 51.23"W	
L964	145.56	S66° 16' 18.20"W	
L965	330.31	S89° 16' 36.24"W	
L966	140.40	N70° 51' 23.33"W	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L967	376.37	N47° 49' 29.72"W	
L968	49.03	N47° 49' 28.99"W	
L969	226.97	N36° 03' 23.03"W	
L970	108.03	N68° 46' 45.17"W	
L971	399.96	N77° 27' 03.02"W	
L972	147.29	N77° 27' 04.03"W	
L973	278.66	N63° 22' 37.22"W	
L974	126.56	N22° 16' 19.94"W	
L975	99.99	N31° 21' 49.90"W	
L976	101.11	N39° 53' 40.75"W	
L977	315.27	N31° 21' 50.03"W	
L978	190.87	N29° 15' 57.35"W	
L979	105.81	N51° 08' 13.31"W	
L980	212.35	N47° 42' 36.80"W	
L981	361.34	N58° 28' 58.21"W	
L982	186.03	N60° 44' 34.98"W	
L983	99.99	N62° 16' 59.15"W	
L984	50.98	N73° 35' 34.44"W	
L985	107.52	N62° 16' 59.13"W	
L986	120.51	N62° 16' 58.71"W	
L987	247.99	N44° 43' 05.53"W	
L988	174.15	S57° 40' 40.65"E	
L989	615.56	N28° 40' 52.84"E	
L990	520.27	N0° 55' 22.83"E	
L991	159.25	N43° 08' 22.66"E	
L992	707.36	N5° 53' 48.57"E	
L993	319.32	N22° 20' 35.45"E	
L994	465.76	N59° 47' 32.87"E	
L995	161.27	N46° 05' 45.03"E	
L996	301.63	N12° 21' 28.16"E	
L997	1319.30	N20° 57' 18.73"W	
L998	464.78	N36° 25' 08.05"W	
L999	1242.48	S89° 15' 05.29"W	
L1000	772.90	S62° 25' 31.00"W	
L1001	1111.72	S1° 14' 31.76"E	
L1002	1251.83	S64° 25' 59.26"E	
L1003	1509.93	S23° 05' 40.56"E	
L1004	275.37	S1° 25' 58.21"E	
L1005	542.63	S30° 36' 47.41"W	
L1006	569.02	N64° 22' 56.99"W	
L1007	10.00	S25° 37' 03.01"W	
L1008	789.53	N64° 22' 56.99"W	
L1009	1656.24	N62° 00' 56.98"W	
L1019	7.17	N43° 08' 51.55"W	
L1020	19.20	N46° 51' 08.45"E	
L1023	511.25	N63° 14' 09.32"W	
L1024	10.00	N25° 37' 03.03"E	
L1025	789.49	N64° 22' 56.97"W	
L1027	1656.24	N62° 00' 56.99"W	
L1029	1467.85	N74° 00' 56.99"W	
L1037	183.25	S82° 35' 25.91"W	
L1040	288.48	S86° 26' 05.21"W	
L1046	234.65	N80° 26' 07.50"W	
L1047	269.56	S85° 18' 42.89"W	
L1050	237.55	N72° 13' 47.38"E	
L1051	177.34	S81° 31' 15.57"W	
L1052	573.75	S66° 34' 28.56"W	
L1065	357.95	N62° 16' 59.00"W	
L1068	15.61	S46° 51' 08.45"W	
L1069	6.77	N43° 08' 51.55"W	
L1070	113.69	S10° 06' 25.09"W	
L1071	347.20	S28° 53' 23.01"W	
L1072	248.00	N43° 05' 17.94"W	
L1073	2588.36	N82° 07' 45.00"W	
L1074	601.24	N43° 03' 51.99"W	
L1075	2203.90	N43° 06' 24.18"W	
L1076	569.72	N12° 04' 25.78"W	
L1077	291.02	N88° 58' 38.39"E	
L1078	229.55	N46° 18' 22.48"E	
L1079	1094.18	N77° 59' 56.56"E	
L1080	313.75	N59° 29' 08.37"E	
L1083	260.04	S14° 38' 42.46"E	
L1084	260.04	S14° 38' 42.46"E	
L1085	250.43	S14° 38' 42.46"E	
L1086	26.38	S14° 38' 42.46"E	
L1088	161.22	N34° 58' 52.56"E	
L1089	370.65	N37° 43' 20.91"W	
L1090	142.60	N56° 13' 58.95"E	
L1091	81.51	N24° 09' 01.39"W	
L1092	181.18	N54° 38' 28.12"E	
L1093	32.43	N67° 57' 14.47"E	
L1094	98.44	N24° 17' 52.78"W	
L1095	68.32	N22° 51' 40.63"E	
L1096	188.65	N81° 24' 28.30"E	
L1097	131.68	N86° 19' 47.72"E	
L1098	187.41	N27° 40' 23.46"E	
L1099	170.48	N42° 11' 16.31"W	
L1100	224.77	N48° 34' 55.68"W	
L1101	266.54	S74° 36' 57.68"W	
L1102	87.94	N70° 48' 09.47"E	
L1103	206.67	S19° 30' 53.72"E	
L1110	120.45	N76° 26' 50.47"W	
L1112	173.63	N73° 14' 51.41"W	
L1114	132.60	S3° 25' 37.58"W	
L1115	217.07	N85° 37' 12.49"W	
L1116	298.87	N8° 44' 28.69"E	
L1118	300.67	S57° 18' 15.58"W	
L1119	83.99	S53° 48' 57.98"W	
L1120	112.26	N4° 15' 04.92"E	
L1121	167.62	N25° 08' 08.42"W	
L1122	183.40	N5° 04' 56.12"E	
L1123	133.12	N17° 09' 14.21"E	
L1124	276.79	N4° 12' 27.22"E	
L1125	260.11	S75° 45' 08.91"E	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L1125	260.11	S75° 45' 08.91"E	
L1128	334.81	S40° 22' 49.75"W	
L1129	287.47	S39° 39' 32.58"W	
L1132	225.16	S44° 01' 12.23"W	
L1136	136.41	N58° 05' 12.69"W	
L1138	114.32	S81° 45' 19.56"W	
L1143	561.16	S3° 11' 52.19"E	
L1144	284.33	S79° 22' 29.42"E	
L1145	240.70	S55° 04' 28.92"E	
L1146	350.80	S8° 12' 38.34"E	
L1147	299.17	S8° 12' 38.34"E	
L1148	226.59	S88° 36' 35.50"W	
L1149	77.06	N1° 23' 24.50"W	
L1150	158.93	N24° 24' 40.28"W	
L1151	99.86	N72° 08' 55.95"W	
L1152	1560.79	S62° 33' 37.99"W	
L1153	1404.30	S74° 00' 56.98"E	
L1155	1964.26	S89° 29' 00.47"E	
L1156	2565.10	S1° 36' 12.92"W	
L1157	1317.42	S87° 43' 58.23"E	
L1158	685.23	S0° 22' 25.86"W	
L1159	186.76	N62° 28' 14.75"E	
L1160	60.76	N62° 28' 34.05"E	
L1163	271.01	N44° 08' 24.89"E	
L1164	176.52	N74° 17' 34.12"E	

P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG2\PKG2-REMAINDER PARCELS.DWG

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84770
CIVIL
STATE OF CALIFORNIA

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PROJECT NO. 18-016
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EQUESTRIAN SUBDIVISION

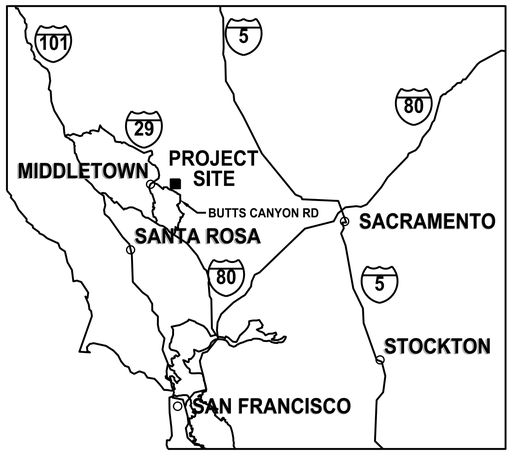
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION EQ

PERIPHERAL PARCEL PLAN

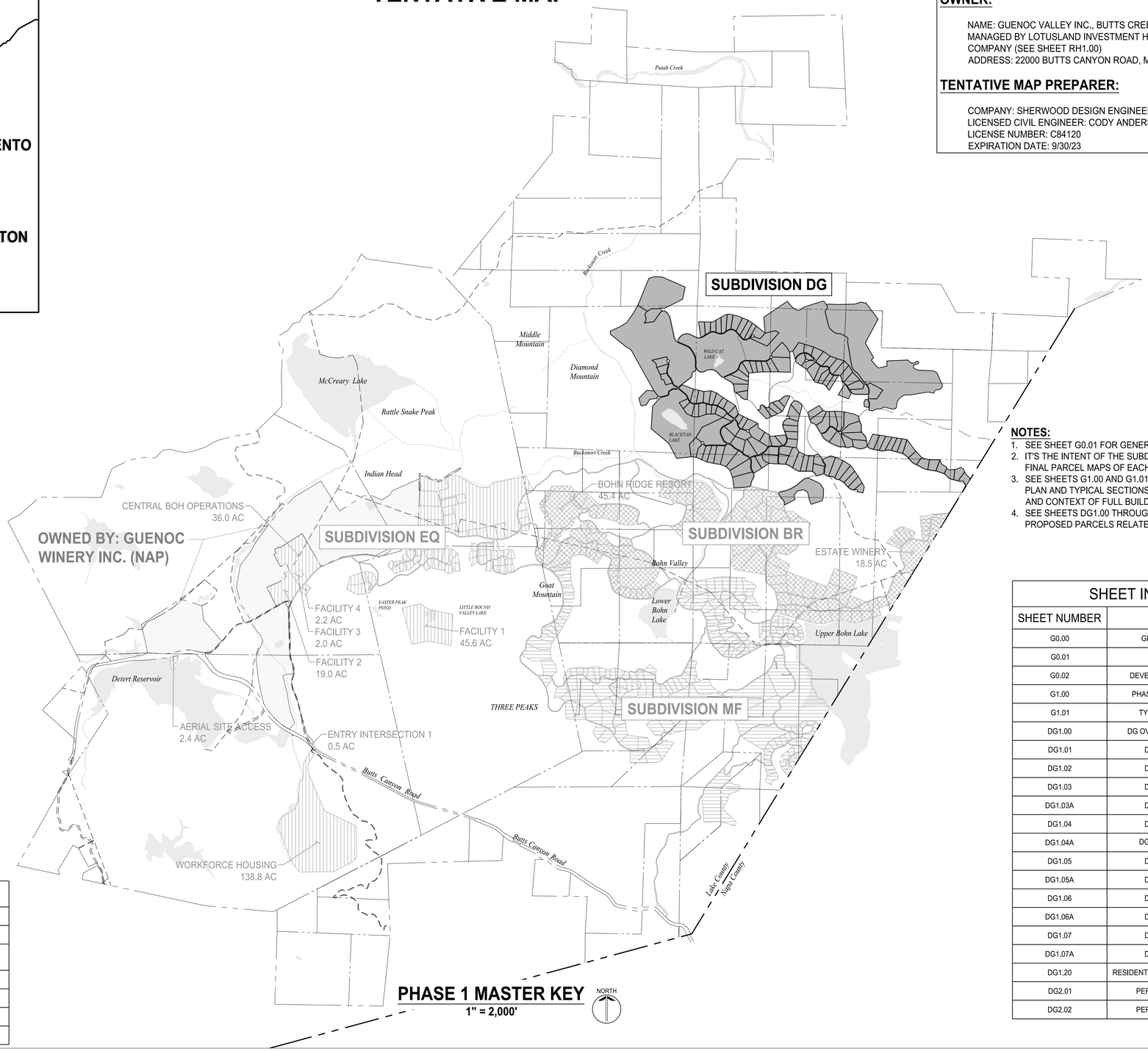
EQ2.03

DENNISTON GOLF ESTATES SUBDIVISION



VICINITY MAP
NOT TO SCALE

TENTATIVE MAP



PHASE 1 MASTER KEY
1" = 2,000'
NORTH

LEGEND

- PROPOSED SUBDIVISION DG - DENNISTON GOLF ESTATES
- PROPOSED SUBDIVISION MF - MAHA FARMS UNDER SEPARATE TENTATIVE MAP
- PROPOSED SUBDIVISION EQ - EQUESTRIAN UNDER SEPARATE TENTATIVE MAP
- PROPOSED SUBDIVISION BR - BOHN RIDGE UNDER SEPARATE TENTATIVE MAP
- EXISTING PARCELS OWNED BY OTHERS; NOT A PART (NAP) OF THIS TENTATIVE MAP

OWNER:

NAME: GUENOC VALLEY INC., BUTTS CREEK INC., BOHN VALLEY INC.
MANAGED BY LOTUSLAND INVESTMENT HOLDINGS, INC., A CALIFORNIA COMPANY (SEE SHEET RH1.00)
ADDRESS: 22000 BUTTS CANYON ROAD, MIDDLETOWN, CA 95461

TENTATIVE MAP PREPARER:

COMPANY: SHERWOOD DESIGN ENGINEERS
LICENSED CIVIL ENGINEER: CODY ANDERSON, P.E.
LICENSE NUMBER: C84120
EXPIRATION DATE: 9/30/23

NOTES:

1. SEE SHEET G0.01 FOR GENERAL NOTES.
2. IT'S THE INTENT OF THE SUBDIVIDER TO PROCESS THE FINAL PARCEL MAPS OF EACH TENTATIVE MAP IN PHASES.
3. SEE SHEETS G1.00 AND G1.01 FOR PHASE 1 MASTER ROAD PLAN AND TYPICAL SECTIONS (USED FOR REFERENCE AND CONTEXT OF FULL BUILDOUT OF PHASE 1).
4. SEE SHEETS DG1.00 THROUGH DG2.02 FOR EXISTING AND PROPOSED PARCELS RELATED TO SUBDIVISION DG.

SUBDIVISION LOT COUNTS

PARCEL TYPE	MAHA FARMS	EQUESTRIAN	DENNISTON GOLF	BOHN RIDGE	TOTAL
VILLA	73	67	133	112	385
RESORT RESIDENTIAL	104	0	7	30	141
COMMERCIAL	5	1	4	2	12
FACILITY	1	11	3	0	15
GOLF	0	0	4	0	4
PERIPHERAL	8	7	8	8	31

SHEET INDEX

SHEET NUMBER	SHEET TITLE
G0.00	GENERAL INFORMATION
G0.01	GENERAL NOTES
G0.02	DEVELOPMENT RESTRICTIONS
G1.00	PHASE 1 MASTER ROAD PLAN
G1.01	TYPICAL ROAD SECTIONS
DG1.00	DG OVERALL SUBDIVISION PLAN
DG1.01	DG SUBDIVISION PLAN
DG1.02	DG SUBDIVISION PLAN
DG1.03	DG SUBDIVISION PLAN
DG1.03A	DG SUBDIVISION PLAN
DG1.04	DG SUBDIVISION PLAN
DG1.04A	DG SUBDIVISION PLAN (3)
DG1.05	DG SUBDIVISION PLAN
DG1.05A	DG SUBDIVISION PLAN
DG1.06	DG SUBDIVISION PLAN
DG1.06A	DG SUBDIVISION PLAN
DG1.07	DG SUBDIVISION PLAN
DG1.07A	DG SUBDIVISION PLAN
DG1.20	RESIDENTIAL PARCEL AVERAGE SLOPES
DG2.01	PERIPHERAL PARCEL PLAN
DG2.02	PERIPHERAL PARCEL PLAN

SHERWOOD DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84120
CIVIL
STATE OF CALIFORNIA

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PROJECT NO. 18-016
DATE JULY 31, 2023
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DENNISTON GOLF ESTATES SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

GENERAL INFORMATION

G0.00

GENERAL NOTES:

1. REFER TO FINAL ADOPTED DEVELOPMENT AGREEMENT FOR FURTHER SUBDIVISION DETAILS, INCLUDING SEQUENCING AND EXPIRATION DETAILS.
2. THE PROPERTIES WITHIN THIS SUBDIVISION ARE PROPOSED TO BE REZONED TO A NEWLY FORMED ZONING DISTRICT, THE GUENOC VALLEY PLANNED DEVELOPMENT (GVPD) WITH OPEN SPACE AND AGRICULTURAL PRESERVE OVERLAYS/COMBINING DISTRICTS. REFER TO THE RELEVANT ZONING DISTRICTS FOR DEVELOPMENT REGULATIONS.
3. REFER TO THE SPECIFIC PLAN OF DEVELOPMENT FOR ALLOWED DEVELOPMENT INCLUDING PLANNED DEVELOPMENT DETAILS, DENSITY, AND SETBACKS.
4. REFER TO THE CC&R'S FOR FUTURE HOMEOWNERSHIP ASSOCIATION DETAILS AND MAINTENANCE REQUIREMENTS.
5. REFER TO THE WATER, WASTEWATER, AND ELECTRICAL FEASIBILITY REPORTS FOR THE PRIVATE UTILITY DISTRICT DETAILS.
6. REFER TO THE DESIGN GUIDELINES FOR LOT LAYOUT, DENSITY, BUILDING MASSING, LANDSCAPE DETAILS, ROAD AND PATHWAY DESIGN, STREET LIGHTING, DIRECTIONAL SIGNAGE AND RESIDENTIAL DESIGNS.
7. REFER TO THE FIRE MANAGEMENT PLAN FOR FIRE PREVENTION GUIDELINES AND VEGETATION FUEL REDUCTION SETBACKS.
8. ALL PROPOSED ROADWAYS WITHIN PROPERTY ARE PRIVATE AND ARE TYPICALLY INDEPENDENT INDIVIDUAL PARCELS, UNLESS OTHERWISE NOTED. THERE WILL BE NO PUBLIC RIGHTS OF WAY EXCEPT ALONG THE ENTRY ROADS UP TO THE FIRST GATE.
9. ALL ROADWAY CORRIDORS SHALL INCORPORATE EASEMENTS OF 50 FEET BEYOND EITHER SIDE OF THE EDGE OF PAVEMENT FOR VEGETATION MANAGEMENT, DEPENDING ON ENVIRONMENTAL CONSTRAINTS, WHICH SHALL BE FURTHER DEFINED IN AND MANAGED BY THE CC&RS.
10. ROAD NAMES ARE REFERENCED WITH NUMBERS, PROPOSED NAMES WILL BE PROVIDED IN SUBSEQUENT SUBMITTAL PRIOR TO HEARING.

SUBDIVISION NOTES:

1. SEE PARCELS SHEETS FOR BEARING, DISTANCE, AND CURVE INFORMATION OF PARCELS.
2. PERIPHERAL PARCELS ARE PROPOSED TO BE SUBDIVIDED AND ARE INCLUDED FOR REFERENCE. SEE PERIPHERAL PARCEL SHEETS FOR BEARING, DISTANCE, AND CURVE INFORMATION.
3. ENVIRONMENTAL PRESERVATION AREAS, INCLUDING SENSITIVE BIOLOGICAL SPECIES OR CULTURAL SITES WHERE APPLICABLE, WITHIN SUBDIVIDED PARCELS MAY BE IDENTIFIED AS CONCEPTUAL ON THE TENTATIVE MAP AND THEN FINAL ON THE FINAL MAP.
4. FOR WATER SUPPLY AND WASTEWATER DISPOSAL SYSTEMS AND DISTRIBUTION, REFER TO SPECIFIC PLAN OF DEVELOPMENT AND TECHNICAL FEASIBILITY REPORTS.
5. PROPOSED PRIVATE UTILITIES WILL BE REQUIRED THROUGHOUT THE SITE, INCLUDING SEWER, WATER, ELECTRIC, COMMUNICATIONS, AND LIQUID PROPANE. PRELIMINARY LOCATIONS OF MAJOR FACILITIES ARE SHOWN FOR REFERENCE IN TENTATIVE MAPS, HOWEVER, ADDITIONAL INFORMATION IS PROVIDED ON THE SPECIFIC PLAN OF DEVELOPMENT.

EASEMENTS:

1. EXISTING EASEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION PER RECORD DATA AND HAVE NOT BEEN FIELD SURVEYED.
2. ALL PROPOSED PRIVATE UTILITY AND ACCESS EASEMENTS (PUE), WHICH ARE TO BE SPECIFICALLY DEFINED DURING THE FINAL MAP STAGE, SHALL INCORPORATE THE FOLLOWING ELEMENTS WITHIN A COMBINED TYPICAL EASEMENT WIDTH OF 50 FEET TOTAL:
   a. TOTAL PAVED ROADWAY, INCLUDING SHOULDERS, FOR SHARED ACCESS (RANGES IN WIDTH FROM 22 TO 28 FEET FOR TWO-WAY ROADS AND 14 FEET FOR ONE-WAY ROADS).
   b. RETAINING AND DRAINAGE CONVEYANCE FEATURES (UP TO 12 FEET WIDE).
   c. UTILITY PIPING AND STRUCTURES (UP TO 10 FEET WIDE)
   d. EXCEPTIONS MAY OCCUR FOR SPECIFIC UTILITY STRUCTURES OR DRAINAGE FEATURES REQUIRING ADDITIONAL WIDTH
3. PROPOSED DRAINAGE MANAGEMENT EASEMENTS SHALL EXTEND TO 30 FEET FROM THE TOP OF BANKS OF PERENNIAL STREAMS AND 20 FEET FROM THE TOP OF BANKS OF INTERMITTENT STREAMS.

EXISTING CONDITIONS AND NATURAL RESOURCE PRESERVATION:

1. SETBACKS FOR DRAINAGES, RARE PLANTS, WOODLANDS, AND RIPARIAN ZONES WILL BE ADDRESSED WITHIN THE SPECIFIC PLAN OF DEVELOPMENT DOCUMENTATION AND THE ENVIRONMENTAL IMPACT REPORT, UNDER SEPARATE COVER.
2. FINAL CONFIGURATION OF DEDICATED OPEN SPACE SHALL BE DEVELOPED AS PART OF THE ENVIRONMENTAL REVIEW PROCESS.
3. OAK WOODLAND PRESERVATION AREAS WITHIN PARCELS MAY BE SUBJECT TO DEED RESTRICTIONS TO LIMIT REMOVAL OF TREES. FINAL LOCATIONS WILL BE DIRECTED BY THE ENVIRONMENTAL IMPACT REPORT AND WILL ULTIMATELY BE RECORDED IN THE FINAL MAP.
4. AREAS IDENTIFIED AS "DEVELOPMENT RESTRICTION AREAS" AS CONTAINING CULTURAL RESOURCES WILL BE DEED RESTRICTED TO PROHIBIT THEIR DISTURBANCE, AND MAY BE MORE ACCURATELY SURVEYED FOR INCLUSION ON THE FINAL MAP.
5. DEDICATED HABITAT CORRIDORS WITHIN PARCELS MAY BE SUBJECT TO DEED RESTRICTIONS TO LIMIT PLACEMENT, HEIGHT AND COMPOSITION OF FENCING, VEGETATION MANAGEMENT AND DISTURBANCE OF NATURAL RESOURCES. FINAL CONFIGURATIONS WILL ULTIMATELY BE RECORDED IN THE FINAL MAP, WITH THE TERMS OF SAID RESTRICTIONS TO BE INCLUDED IN THE COVENANTS, CONDITIONS AND RESTRICTIONS OF THE HOMEOWNERS' ASSOCIATIONS AND/OR OTHER REAL ESTATE PURCHASE AGREEMENTS.

PHASING NOTES:

1. FINAL PARCEL MAPS FILED WILL INDICATE SUBDIVISION CONSTRUCTION PHASING.
2. FINAL MAPS DEVELOPED FOR EACH AGREED UPON PHASE OF THE PROPOSED EVENTUAL SUBDIVISION WILL INCLUDE ALL PARCEL TYPES, INCLUDING THE ROAD PARCELS ADJACENT TO AND REQUIRED FOR EACH SUBDIVISION PHASE.

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84270
CIVIL
STATE OF CALIFORNIA

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PROJECT NO. 18-016
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DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

GENERAL NOTES

G0.01

LEGEND

- PROPOSED PARCEL BOUNDARY
- EXISTING PARCEL BOUNDARY
- NOT A PART (NAP)
- PRESERVED OPEN SPACE
- DEVELOPMENT RESTRICTION
- OAK WOODLAND PRESERVATION AREA
- HABITAT CORRIDOR
- COUNTY LINE
- EXISTING ROAD AND UTILITY EASEMENT

NOTE:

1. DEDICATED HABITAT CORRIDOR, PRESERVED OPEN SPACE AND OAK WOODLAND PRESERVATION AREAS ARE SHOWN FOR ILLUSTRATIVE PURPOSES. FINAL CONFIGURATION IS SUBJECT TO CHANGE AND WILL BE INCORPORATED IN THE FINAL MAP.

0 1750' 3500' NORTH

SHERWOOD DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84470
CIVIL
STATE OF CALIFORNIA

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DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

DEVELOPMENT RESTRICTIONS

G0.02

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DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84470
CIVIL
STATE OF CALIFORNIA

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DENNISTON GOLF ESTATES SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

PHASE 1
MASTER
ROAD PLAN

G1.00

ROAD NAME	LENGTH [FT]	WIDTH [FT]	ROAD TYPE
ROAD 1	17,420	26	A
ROAD 2	14,896	26	A
ROAD 3	32,381	26	A
ROAD 4	1,133	22	B
ROAD 5	1,109	14	D
ROAD 6	4,602	26	A
ROAD 7	5,635	22	B
ROAD 8	785	14	D
ROAD 9	415	22	B
ROAD 10	1,023	22	B
ROAD 11	1,532	14	D
ROAD 12	8,154	26	A
ROAD 13	1,569	22	B
ROAD 14	9,411	26	A
ROAD 15	10,724	26	A
ROAD 16	1,331	22	B
ROAD 17	4,204	22	B
ROAD 18	2,776	22	B
ROAD 19	13,490	16	C
ROAD 20	15,689	22	B
ROAD 21	3,401	22	B
ROAD 22	5,112	22	B
ROAD 23	2,198	22	B
ROAD 24	2,279	22	B
ROAD 25	802	22	B
ROAD 26	1,320	26	A
ROAD 27	915	22	B
ROAD 28	4,172	22	B
ROAD 29	3,227	26	A
ROAD 30	3,908	26	A
ROAD 31	1,920	22	B
ROAD 32	2,420	26	A
ROAD 33	3,125	22	B
ROAD 34	13,835	22	B
ROAD 35	2,582	22	B
ROAD 36	7,951	22	B
ROAD 37	5,034	22	B
ROAD 38	9,614	26	A
ROAD 39	6,025	22	B
ROAD 40	782	22	B
ROAD 41	2,980	22	B
ROAD 42	1,685	22	B
ROAD 43	950	22	B
ROAD 44	617	14	D
ROAD 45	4,310	22	B
ROAD 46	667	22	B
ROAD 48	not used	not used	not used
ROAD 49	not used	not used	not used
ROAD 50	9,093	26	A
ROAD 51	not used	not used	not used
ROAD 52	382	22	B
ROAD 53	2,501	22	B
ROAD 54	1,229	22	B
ROAD 55	2,274	22	B
ROAD 56	615	14	D
ROAD 57	1,387	26	A

0 550' 1100' 2200'
NORTH

MATCHLINE

LAKE COUNTY
NAPA COUNTY

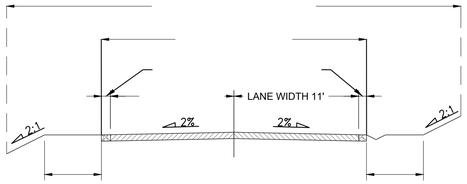
EXISTING EASEMENT BUNCE RD 62 OR 411
EXISTING EASEMENT PGE 2001-025705
EXISTING EASEMENT PGE 180 OR 228
EXISTING EASEMENT DRAINAGE 50' WIDE 1239 OR 51
EXISTING EASEMENT PGE 514 OR 221
EXISTING EASEMENT PUE 636 OR 344
EXISTING PUE WITHIN LIMITS OF PROPOSED PUE TO BE ABANDONED AND REPLACED WITH PROPOSED PUE
EXISTING EASEMENT PGE 1408 OR 642
EXISTING EASEMENT PIPELINE 60' WIDE 36 RS 38
EXISTING EASEMENT RD 2009-000447
EXISTING EASEMENT PUE-2015-11189
EXISTING EASEMENT PGE 517 OR 78
BUTTS CANYON RD

END ROAD 14
START ROAD 33
END ROAD 33
START ROAD 33A
END ROAD 33A
START ROAD 31
END ROAD 31
START ROAD 18A
END ROAD 28
END ROAD 42
START ROAD 42
END ROAD 30
END ROAD 18
END ROAD 19
START ROAD 18
END ROAD 18A
START ROAD 27
END ROAD 27
START ROAD 28
END ROAD 32
START ROAD 30
START ROAD 25
END ROAD 15
START ROAD 19
END ROAD 25
END ROAD 41A
END ROAD 2
START ROAD 32
END ROAD 24
START ROAD 24
START ROAD 14
START ROAD 16
START ROAD 17
END ROAD 16
END ROAD 17
END ROAD 12A
END ROAD 50
START ROAD 50
START ROAD 53
START ROAD 54
START ROAD 38
START ROAD 45
END ROAD 43
START ROAD 43
END ROAD 39
START ROAD 39A
END ROAD 41
START ROAD 41A
END ROAD 13
START ROAD 15
END ROAD 12
START ROAD 12A
START ROAD 13
END ROAD 39A
END ROAD 40
START ROAD 41
END ROAD 38
START ROAD 59
END ROAD 59
START ROAD 39
START ROAD 12
START ROAD 7
END ROAD 53
START ROAD 46
END ROAD 45
START ROAD 45A
START ROAD 55A
END ROAD 55A
END ROAD 46
START ROAD 34
END ROAD 45A
END ROAD 34
START ROAD 58
END ROAD 58
START ROAD 10
END ROAD 10
START ROAD 29
END ROAD 7
END ROAD 3
START ROAD 29A
START ROAD 35
END ROAD 37A
END ROAD 29A
END ROAD 29
END ROAD 1
START ROAD 2
START ROAD 4
START ROAD 37
START ROAD 37A
END ROAD 35
END ROAD 37
END ROAD 6
END ROAD 4
START ROAD 5
END ROAD 5
START ROAD 6
START ROAD 6A
END ROAD 6A
START ROAD 1
MAIN ENTRANCE ROAD

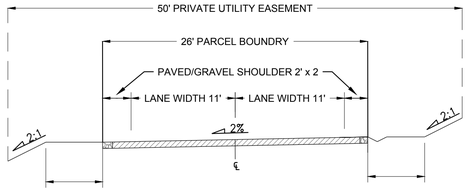
ROAD 14
ROAD 33
ROAD 31
ROAD 18
ROAD 19
ROAD 42
ROAD 28
ROAD 30
ROAD 25
ROAD 32
ROAD 27
ROAD 15
ROAD 17
ROAD 24
ROAD 16
ROAD 3
ROAD 43
ROAD 41A
ROAD 41
ROAD 56
ROAD 13
ROAD 2
ROAD 39A
ROAD 39
ROAD 40
ROAD 38
ROAD 54
ROAD 53
ROAD 46
ROAD 45
ROAD 12
ROAD 9
ROAD 8
ROAD 7
ROAD 10
ROAD 34
ROAD 35
ROAD 29
ROAD 37
ROAD 4
ROAD 5
ROAD 6
ROAD 1

TYPICAL ROAD SECTIONS

TYPE A - CROWNED/SUPERELEVATED PRIMARY 2 LANE ROAD



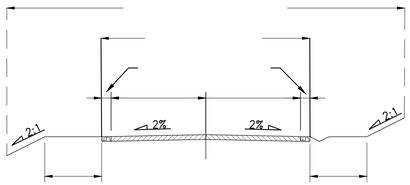
10' @ 10% MAX,
SEE NOTE 5



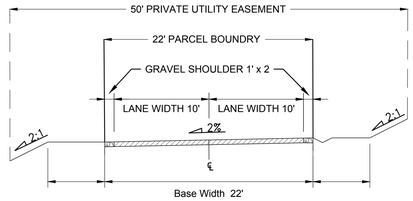
10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE B - CROWNED/SUPERELEVATED SECONDARY 2 LANE ROAD



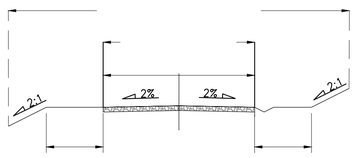
10' @ 10% MAX,
SEE NOTE 5



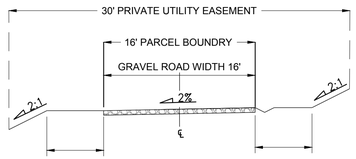
10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE C - CROWNED/SUPERELEVATED GRAVEL ROAD



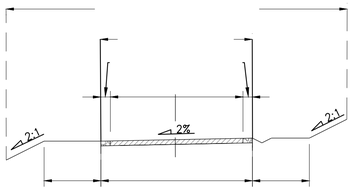
10' @ 10% MAX,



10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE D - ONE WAY ROAD



NOTES:

1. SLOPES SHOWN HEREIN REPRESENT TYPICAL OR MAXIMUM CONDITIONS AND ARE SUBJECT TO CHANGE PER PENDING DETAILED ROADWAY DESIGN.
2. EASEMENTS SHOWN HEREIN REPRESENT TYPICAL MINIMUM WIDTH AND COVERAGE SITUATIONS AND ARE SUBJECT TO INCREASING TO ACCOMMODATE SPECIFIC STRUCTURES OR FEATURES TO BE DESIGNED.
3. PLEASE REFER TO THE DESIGN GUIDELINES AS PART OF THE GVD ZONING DESIGNATION FOR ROADWAY DESIGN DETAILS.
4. IN ADDITION TO THE PUE, THERE ARE VEGETATION AND FUEL REDUCTION AREAS 50' ON EITHER SIDE OF THE EDGE OF PAVEMENT. REFER TO THE FIRE MANAGEMENT PLAN.
5. 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.

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84210
CIVIL
STATE OF CALIFORNIA

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CHECKED CA,MH,SG

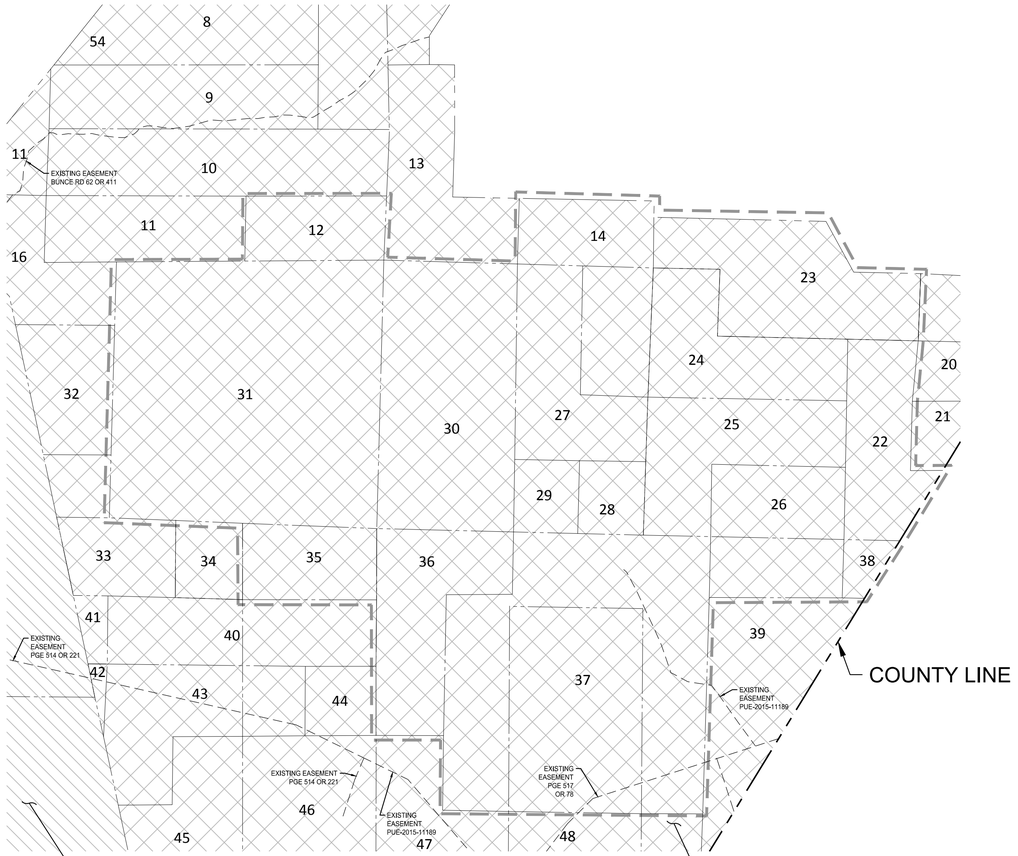
DENNISTON
GOLF ESTATES
SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

TYPICAL
ROAD
SECTIONS

G1.01

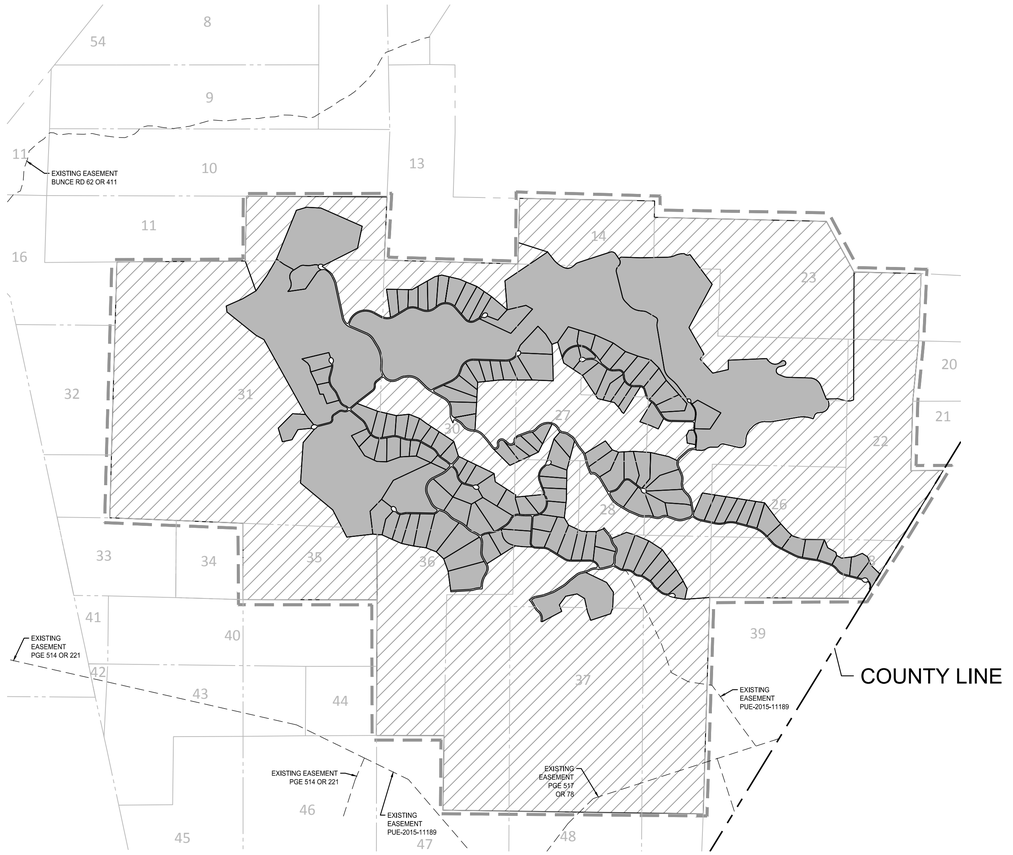
EXISTING PARCELS



EXISTING OWNERSHIP INFORMATION						
#	CC	APN	Owner	CC Doc #	Correction Deed	Approx. Acreage
12	11-57	013-016-04PT	Bohn Valley Inc.	2012006020		80
14	11-40	013-021-06PT, 013-021-09PT	Bohn Valley Inc.	2012006018		160
22	11-83	013-021-10PT	Bohn Valley Inc.	2012017319		126
23	12-16	013-022-02PT	Bohn Valley Inc.	2013003323		18
24	11-77	013-021-10PT	Bohn Valley Inc.	2012017317		160
25	11-76	013-021-10PT	Bohn Valley Inc.	2012017316		160
26	11-90	013-021-10PT, 013-022-02PT	Bohn Valley Inc.	2012017323		160
27	11-60	013-021-09PT	Bohn Valley Inc.	2012006022		160
28	11-86	013-021-09PT	Bohn Valley Inc.	2012005988		40
29	11-86	013-021-09PT	Bohn Valley Inc.	2012005994		40
30	11-65	013-021-09PT	Bohn Valley Inc.	2012006004		320
31	11-74	013-016-06	Bohn Valley Inc.	2012005991		640
35	11-33	013-023-07PT	Bohn Valley Inc.	2012006015		80
36	11-30	013-022-01	Bohn Valley Inc.	2012006016		160
37	11-64	013-022-01PT, 013-022-02PT, 013-022-05PT	Bohn Valley Inc.	2012006005		600
38	12-16	013-022-02PT	Bohn Valley Inc.	2013003323		18

- Grant Deed #2016-016244 - Bohn Valley Inc
  APNs - 013-015-29, 013-016-04, 013-016-06, 013-016-08, 013-019-05, 013-019-09, 013-021-05, 013-021-06, 013-021-09, 013-021-10, 013-022-02, 013-023-07
- Grant Deed #2016-010655 - Guenoc Valley Inc
  APNs - 014-330-09

PROPOSED SUBDIVISION



PROPOSED PARCEL TYPES	
VILLA	28
RESORT RESIDENTIAL	40
COMMERCIAL	3
FACILITY	5
GOLF	4
PERIPHERAL	7

NOTES:
1. SEE SHEET G0.01 FOR GENERAL NOTES.
2. SEE SHEETS G1.00 AND G1.01 FOR PHASE 1 MASTER ROAD PLAN AND TYPICAL SECTIONS (USED FOR REFERENCE AND CONTEXT OF FULL BUILDOUT OF PHASE 1).
3. SEE SHEETS DG1.00 THROUGH DG1.08 FOR DETAILED SUBDIVISION OF PROPOSED ROAD, COMMERCIAL AND RESIDENTIAL PARCELS.
4. SEE SHEETS DG2.01 THROUGH DG2.02 FOR DETAILED PERIPHERAL PARCELS.

0 750' 1500' 3000' NORTH

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2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
JODY ANDERSON
EXP: 9/30/23
No. 84470
CIVIL
STATE OF CALIFORNIA

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DENNISTON GOLF ESTATES SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

DG OVERALL SUBDIVISION PLAN

DG1.00

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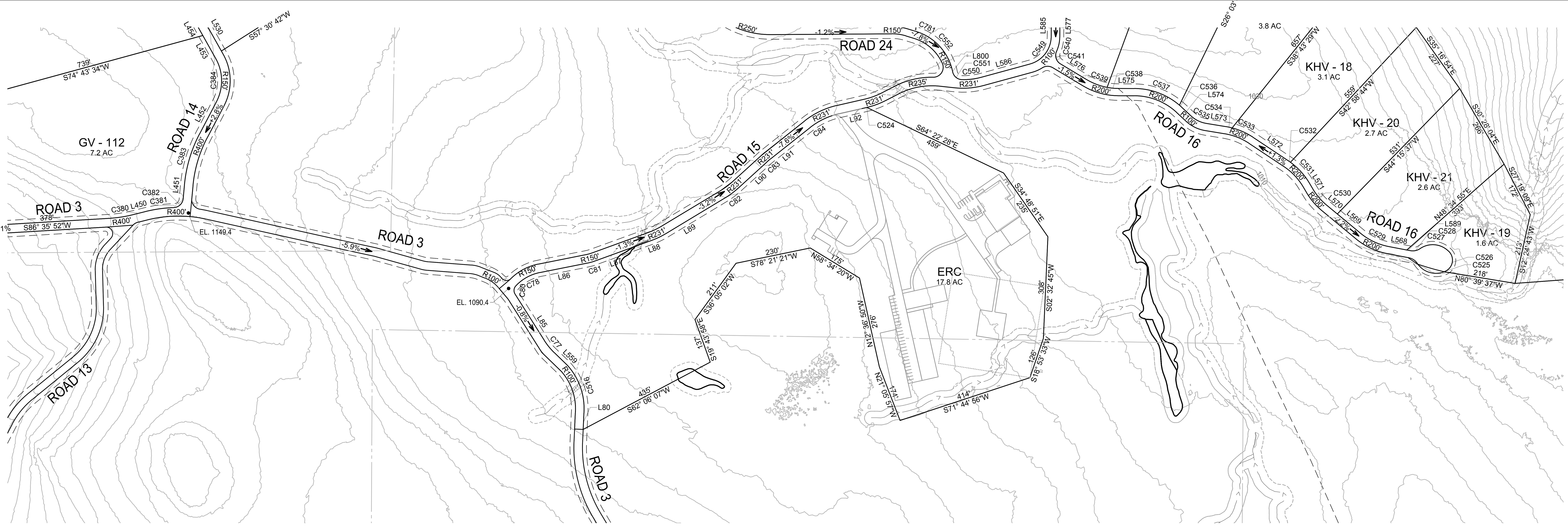
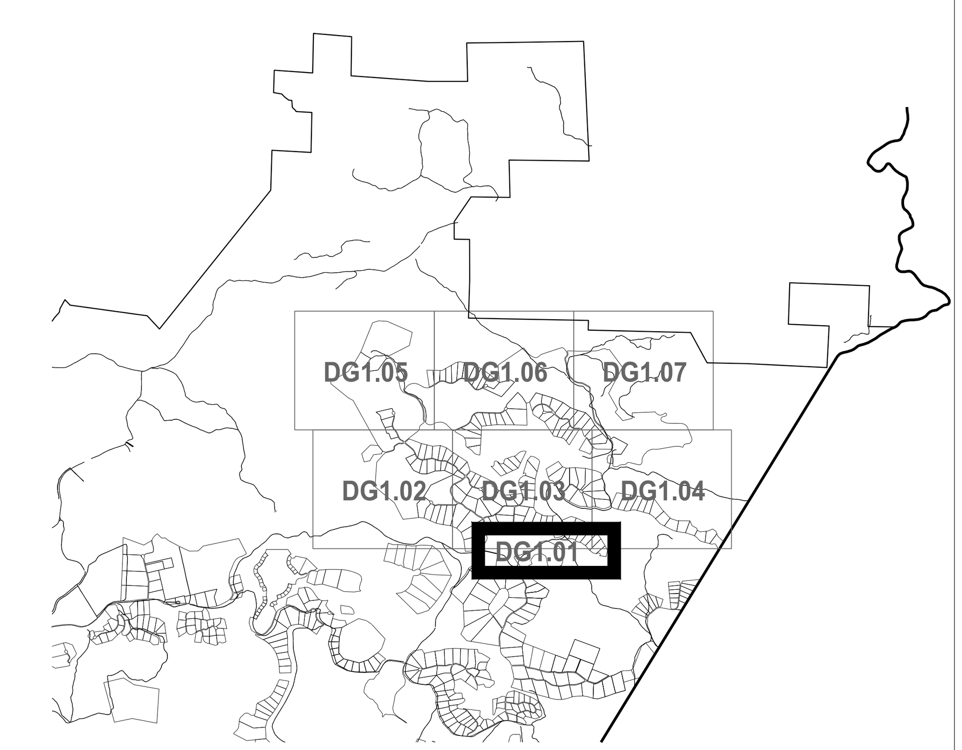


PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C77	47.68	13.66	200.00
C78	81.55	34.11	137.00
C80	27.06	75.93	20.42
C81	24.72	8.69	163.00
C82	47.68	11.20	244.00
C83	14.92	3.92	218.00
C84	96.95	25.48	218.00
C516	164.60	48.23	195.53
C524	0.62	0.14	244.00
L80	43.84	N2° 31' 19.59"E	
L85	166.26	N32° 17' 30.25"W	
L86	146.64	N78° 43' 17.80"E	
L87	181.93	N70° 01' 50.65"E	
L88	181.93	N70° 01' 50.65"E	
L89	210.53	N58° 53' 58.44"E	
L90	118.62	N47° 42' 11.07"E	
L91	152.45	N51° 37' 31.78"E	
L92	86.75	N77° 06' 27.47"E	
L559	53.76	N45° 57' 00.71"W	

LEGEND

PARCEL BOUNDARY			
ROADWAY			
CUL-DE-SAC			
COUNTY LINE			
CULVERT		WASTE WATER TREATMENT FACILITY	WW
BRIDGE		WATER PUMP	
WATER TANK	W	FIRE HYDRANT	
GROUND WATER WELL	WELL	FIRE TANK	
ELECTRICAL SUBSTATION	ELEC	EXISTING POWER POLE	
DEVELOPMENT RESTRICTION AREA			
EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)			
EASEMENT			
EPHEMERAL STREAMS			
ORDINARY HIGH WATER MARK			
INTERMITTENT TOP OF BANK			
PERENNIAL TOP OF BANK			
EXISTING PARCEL BOUNDARY			
EPHEMERAL STREAM SETBACK			



SHEET LAYOUT

NOT TO SCALE

0 100' 200' 400'

NORTH

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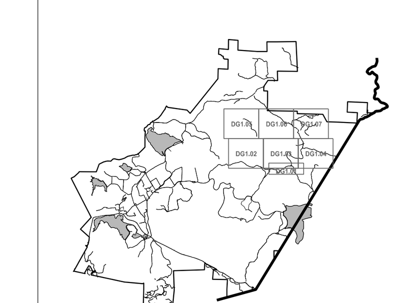
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA



TENTATIVE MAP

SUBDIVISION DG

DG SUBDIVISION PLAN

DG1.01

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PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C1	57.82	13.98	237.00
C50	116.58	41.46	161.10
C52	42.44	26.25	92.61
C53	59.46	38.28	89.00
C54	86.03	44.41	111.00
C55	100.40	66.20	86.89
C363	50.75	78.44	37.07
C364	46.50	39.39	67.64
C368	125.42	83.51	86.06
C369	37.22	53.35	39.97
C370	52.37	44.34	67.67
C371	76.49	68.48	64.00
C375	68.98	44.41	89.00
C376	95.71	49.41	111.00
C377	32.94	62.90	30.00
C378	88.71	74.86	67.90
C395	38.88	11.79	189.00
C396	35.56	18.36	111.00
C397	85.68	44.22	111.00
C398	33.85	48.59	39.92
C399	29.09	24.64	67.64
C400	70.82	60.41	67.17
C401	23.83	36.82	37.07
C402	49.71	73.85	38.57
C403	88.67	75.27	67.49
C404	31.16	44.29	40.31
C405	97.21	62.58	89.00
C406	43.40	11.79	211.00
C418	108.85	26.10	239.00
C419	73.29	16.09	261.00
C420	121.17	29.05	239.00
C421	61.05	13.40	261.00
C422	186.14	40.86	261.00
C423	95.60	20.99	261.00
C424	110.18	26.41	239.00
C427	231.59	50.45	263.00
C443	96.33	23.52	234.65
C445	53.03	100.71	30.17
C446	120.32	26.41	261.00
C447	101.32	22.14	262.26
C448	233.89	56.07	239.00
C449	52.73	11.58	261.00
C450	79.59	17.47	261.00
C451	67.11	16.09	239.00
C452	111.68	24.52	261.00
L2	698.53	N12° 05' 17.61"W	
L65	237.66	N75° 34' 12.13"E	
L66	36.22	N23° 39' 20.68"W	
L67	204.46	N50° 00' 51.23"E	
L68	38.70	S65° 08' 39.53"E	
L69	38.70	N65° 08' 39.53"W	
L70	33.01	S78° 31' 06.72"E	
L465	186.23	S89° 05' 17.50"E	
L466	71.69	S89° 05' 17.50"E	
L467	65.92	N79° 07' 36.01"E	
L468	8.51	N38° 17' 37.72"W	
L469	8.61	S38° 17' 37.72"E	
L470	65.92	S79° 07' 36.01"W	
L471	518.89	N89° 05' 17.50"W	
L479	93.37	S86° 44' 29.16"E	
L480	47.55	S86° 44' 29.16"E	
L481	84.97	S70° 39' 06.88"E	
L482	43.40	S70° 39' 06.88"E	
L483	112.22	N80° 18' 01.32"E	
L484	92.34	N80° 17' 57.25"E	
L485	52.44	S24° 26' 58.54"E	
L486	84.72	S24° 26' 56.10"E	
L487	300.25	S50° 51' 48.29"E	
L488	106.85	N56° 21' 53.10"E	
L489	237.66	N75° 34' 11.26"E	
L492	80.93	N26° 03' 59.06"W	
L496	136.87	S23° 39' 20.68"E	
L499	150.00	S14° 50' 51.00"W	
L502	282.15	N50° 51' 49.02"W	
L503	115.85	N24° 26' 58.54"W	
L504	204.55	S80° 17' 59.48"W	
L505	128.36	N70° 39' 06.88"W	
L506	75.99	N86° 44' 29.16"W	
L507	64.94	N86° 44' 29.16"W	
L791	0.00	N23° 39' 20.52"W	
L796	32.65	S78° 31' 00.85"E	
L797	146.66	N50° 00' 51.23"E	

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK
- GROUND WATER WELL
- ELECTRICAL SUBSTATION
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE

SHERWOOD DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84470
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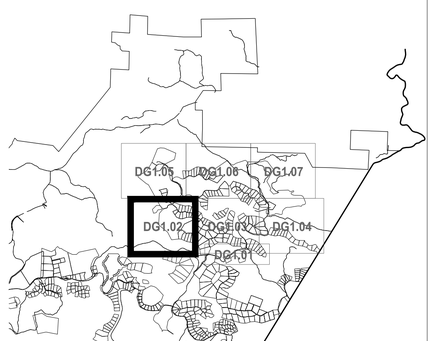
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG



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DG SUBDIVISION PLAN

DG1.02

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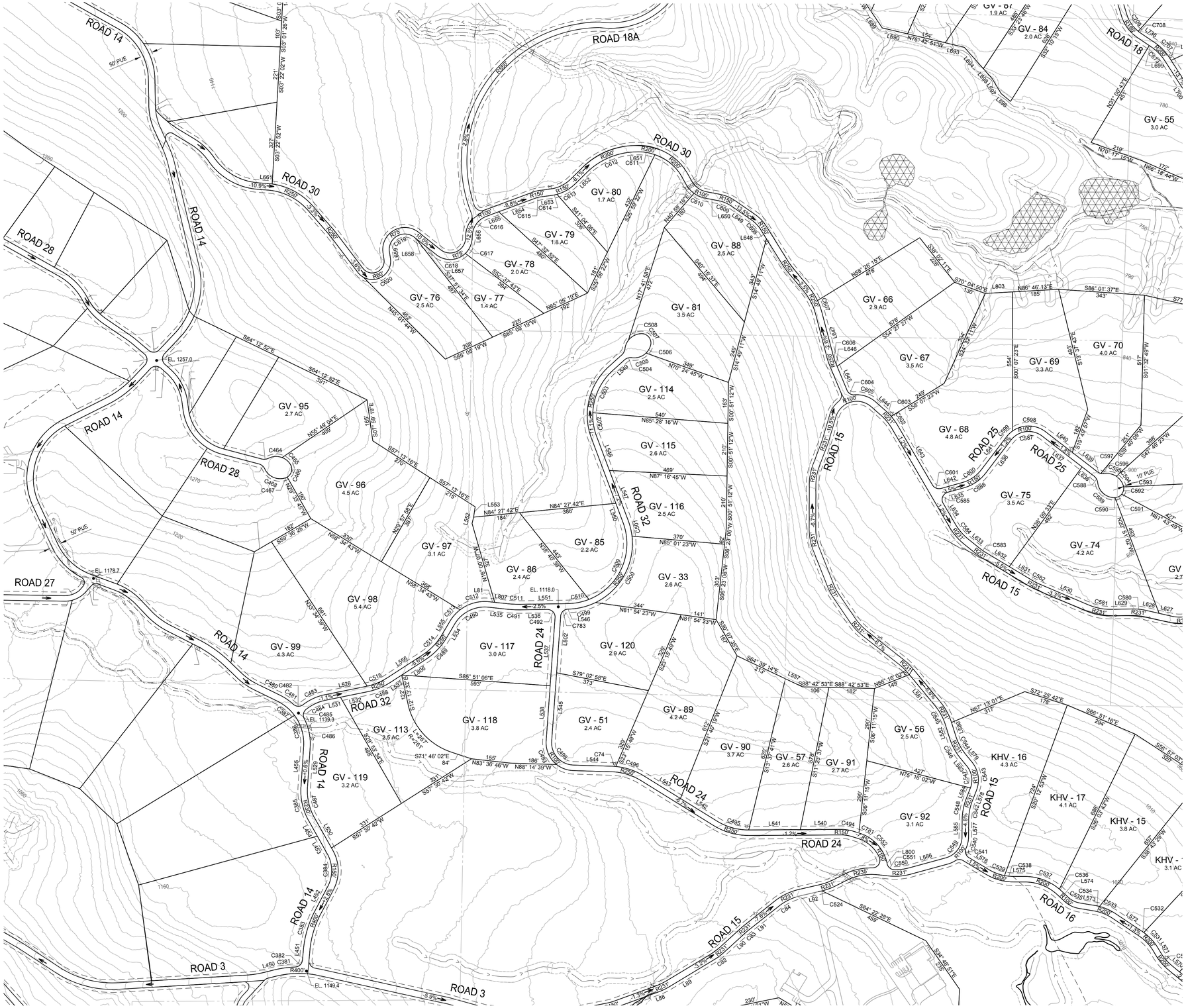

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL–DE–SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK
- GROUND WATER WELL
- ELECTRICAL SUBSTATION
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
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- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE

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San Francisco, CA 94110
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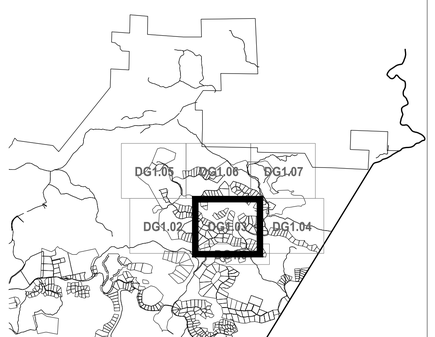
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG



SHEET LAYOUT
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DG SUBDIVISION PLAN

DG1.03

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C380	72.04	10.67	387.00
C381	86.97	12.36	403.28
C382	43.26	82.61	30.00
C383	161.50	22.40	413.00
C384	136.28	57.00	137.00
C385	140.78	33.06	244.00
C386	131.60	40.32	187.00
C387	89.72	27.49	187.00
C388	82.42	17.96	263.00
C389	151.62	17.84	487.00
C390	106.59	19.51	313.00
C391	103.12	24.79	238.35
C392	26.24	66.85	22.49
C393	67.61	34.90	111.00
C394	30.96	15.98	111.00
C407	61.84	39.81	89.00
C408	41.80	101.00	23.71
C409	173.98	37.90	263.00
C410	401.72	87.52	262.98
C411	119.19	17.65	387.00
C412	16.54	2.45	387.00
C413	48.73	93.06	30.00
C414	25.16	6.03	239.00
C415	89.87	19.73	261.00
C416	27.40	6.01	261.00
C417	127.81	30.64	239.00
C453	139.57	30.64	261.00
C454	74.60	23.43	182.42
C455	33.00	7.91	239.00
C456	27.47	6.03	261.00
C457	45.84	89.57	29.32
C458	87.81	17.33	290.31
C459	86.74	16.26	305.58
C460	48.12	91.90	30.00
C461	17.45	5.29	189.00
C462	205.32	61.92	190.00
C463	35.67	49.43	41.35
C464	52.46	44.43	67.64
C465	55.47	51.58	61.62
C466	46.22	71.41	37.09
C467	11.94	18.46	37.07
C468	90.43	76.59	67.64
C469	33.90	50.77	38.26
C470	63.86	17.34	211.00
C471	184.98	50.23	211.00
C472	134.72	40.84	189.00
C473	46.13	88.10	30.00
C474	144.85	20.09	413.00
C475	354.51	85.70	237.00
C476	185.52	44.85	237.00
C477	115.09	26.47	249.09
C478	97.73	19.35	289.34
C479	159.81	17.85	513.00
C480	102.66	1.18	5000.00
C481	63.53	17.09	213.00
C482	42.30	80.79	30.00
C483	96.90	26.31	211.00
C484	87.65	26.57	189.00
C485	41.64	79.53	30.00
C486	116.33	31.29	213.00
C487	125.78	33.06	218.00
C488	98.11	21.54	261.00
C489	120.43	26.44	261.00
C490	158.94	65.51	139.00
C491	61.38	6.88	511.00
C492	49.69	94.90	30.00
C493	107.85	55.67	111.00
C494	49.50	17.62	161.00
C495	133.82	32.08	239.00
C496	119.86	26.31	261.00
C498	143.48	92.37	89.00
C499	114.10	25.05	261.00
C500	321.68	70.62	261.00
C501	63.50	14.03	259.34
C502	95.71	22.93	239.19
C503	189.46	45.44	238.91
C504	33.92	51.14	38.00
C505	58.18	49.39	67.50
C506	32.25	27.38	67.50
C507	76.07	117.57	37.07
C508	57.04	48.42	67.50
C509	371.35	89.02	239.00
C510	86.60	20.76	239.00
C511	58.74	6.88	489.00
C512	122.55	43.61	161.00
C513	61.54	21.90	161.00
C514	110.28	26.44	239.00
C515	86.99	20.85	239.00
C540	46.59	23.99	111.30
C541	43.13	82.38	30.00
C542	79.37	20.86	218.00
C543	119.62	60.65	113.00
C544	82.99	21.81	218.00
C545	83.85	22.04	218.00
C546	92.88	21.81	244.00
C547	92.10	60.65	87.00
C548	88.84	20.86	244.00
C549	112.84	74.31	87.00
C550	59.86	18.01	190.46
C551	40.30	76.96	30.00
C552	169.09	60.17	161.00
C578	141.44	49.02	165.33
C579	93.46	39.09	137.00
C580	59.60	13.99	244.00
C581	92.43	24.29	218.00

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C582	29.93	7.87	218.00
C583	29.88	7.85	218.00
C584	79.66	20.94	218.00
C585	54.86	104.77	30.00
C586	104.07	37.04	161.00
C587	140.17	90.24	89.00
C588	37.23	52.92	40.31
C589	90.43	76.59	67.64
C590	6.60	10.20	37.07
C591	30.95	47.84	37.07
C592	30.95	47.84	37.07
C593	7.57	11.69	37.07
C594	45.21	38.30	67.64
C595	45.21	38.30	67.64
C596	18.61	26.68	39.97
C597	18.61	26.68	39.97
C598	140.27	72.40	111.00
C599	34.55	17.83	111.00
C600	89.85	37.04	139.00
C601	39.39	75.23	30.00
C602	44.91	10.55	244.00
C603	33.06	7.76	244.00
C604	34.60	66.09	30.00
C605	93.76	47.10	114.05
C606	32.45	7.85	237.00
C607	51.42	11.16	264.03
C608	56.34	23.56	137.00
C609	57.28	23.96	137.00
C610	49.91	25.22	113.40
C611	72.61	22.31	186.49
C612	211.72	42.27	287.00
C613	82.76	29.09	163.00
C614	22.37	7.86	163.00
C615	30.63	12.81	137.00
C616	103.67	68.27	87.00
C617	68.88	44.84	88.00
C618	126.20	82.16	88.00
C619	148.31	137.06	62.00
C620	163.54	128.36	73.00
C621	206.25	49.86	237.00
C622	115.31	26.13	252.85
C623	52.72	8.20	368.55
C624	55.48	8.20	387.83
C625	21.17	40.43	30.00
C626	152.39	33.20	263.00
C627	121.89	26.55	263.00
C673	76.42	23.17	189.00
C707	85.32	23.17	211.00
C708	12.09	4.98	139.00
C709	82.26	33.91	139.00
C781	169.09	60.17	161.00
C783	44.18	84.37	30.00
C785	150.40	40.84	211.00
L77	13.21	N32° 52' 36.85"W	
L81	22.99	N83° 53' 42.26"W	
L82	31.86	N7° 42' 47.45"W	
L450	38.80	S75° 55' 55.00"W	
L451	42.05	S5° 17' 41.27"W	
L452	110.18	S27° 42' 03.27"W	
L453	80.52	S29° 17' 44.28"E	
L454	70.62	S29° 17' 44.28"E	
L455	161.04	S3° 45' 42.03"W	
L456	102.65	S64° 02' 52.62"E	
L457	61.25	S46° 05' 25.65"E	
L458	12.06	S63° 11' 06.43"E	
L459	110.71	S63° 11' 06.43"E	
L460	61.00	S43° 40' 21.36"E	
L461	74.42	S69° 47' 34.91"E	
L462	29.75	N41° 57' 23.29"E	
L463	22.78	S41° 40' 58.56"W	
L464	260.97	S89° 05' 17.50"E	
L471	518.89	N89° 05' 17.50"W	
L472	181.02	S24° 56' 35.07"E	
L473	187.03	S63° 26' 22.46"W	
L474	72.80	S43° 20' 40.75"W	
L475	62.98	S49° 43' 08.14"E	
L476	114.45	S55° 44' 59.21"E	
L477	18.27	S30° 00' 22.99"E	
L478	261.25	S60° 38' 46.23"E	
L508	235.32	N60° 40' 12.99"W	
L509	33.12	N60° 38' 46.23"W	
L510	18.27	N30° 00' 22.99"W	
L511	114.45	N55° 44' 59.21"W	
L512	67.32	N49° 47' 35.22"W	
L513	110.23	S43° 14' 20.54"W	
L514	104.38	N43° 19' 56.14"E	
L515	26.65	N48° 33' 08.84"W	
L516	153.02	N75° 17' 01.31"W	
L517	153.02	S75° 17' 01.31"E	
L518	31.86	S7° 42' 47.45"E	
L520	29.37	S48° 33' 08.84"E	
L521	76.73	N43° 20' 40.75"E	
L522	194.12	N63° 24' 29.46"E	
L523	181.02	N24° 56' 35.07"W	
L524	110.49	N69° 47' 34.91"W	
L525	61.00	N43° 40' 21.36"W	
L526	122.77	N63° 11' 06.43"W	
L528	171.81	S78° 33' 39.23"W	
L529	161.04	N3° 45' 42.03"E	
L530	139.07	N29° 17' 44.28"W	
L531	58.49	N78° 33' 59.66"E	
L532	110.47	N78° 33' 59.66"E	
L533	54.48	N57° 01' 45.09"E	
L534	63.04	N30° 35' 30.72"E	
L535	70.31	S83° 53' 42.26"E	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L536	104.40	N89° 13' 20.52"E	
L537	272.81	S4° 07' 21.69"W	
L538	219.51	S4° 07' 21.69"W	
L540	162.47	S89° 38' 51.91"W	
L541	205.57	S89° 38' 51.91"W	
L542	170.53	N58° 16' 15.17"W	
L543	170.53	N58° 16' 15.17"W	
L544	152.91	N88° 14' 39.03"W	
L545	272.92	N4° 07' 21.69"E	
L546	0.17	N88° 39' 02.38"E	
L547	213.75	N20° 33' 45.19"W	
L548	145.56	N20° 33' 45.19"W	
L549	65.92	N47° 48' 03.26"E	
L550	82.25	S20° 33' 45.19"E	
L551	185.66	S89° 13' 20.52"W	
L555	63.04	S30° 35' 30.72"W	
L556	169.12	S57° 01' 45.09"W	
L576	92.38	N59° 00' 50.37"W	
L577	66.80	N0° 26' 34.40"E	
L578	44.61	N21° 18' 12.05"E	
L579	39.49	N39° 21' 00.46"W	
L580	57.49	N17° 32' 20.91"W	
L581	162.60	S39° 34' 38.10"E	
L582	57.49	S17° 32' 20.91"E	
L583	39.49	S39° 21' 00.46"E	
L584	44.61	S21° 18' 12.05"W	
L585	66.80	S0° 26' 34.40"W	
L586	151.44	S74° 45' 27.94"W	
L626	184.58	N70° 57' 23.69"W	
L627	52.82	N77° 15' 19.79"W	
L628	52.82	N77° 15' 19.79"W	
L629	79.66	S88° 45' 00.59"W	
L630	213.68	N66° 57' 26.70"W	
L631	108.99	N59° 05' 29.10"W	
L632	108.99	N59° 05' 29.10"W	
L633	58.19	N51° 14' 16.41"W	
L634	95.53	N30° 18' 05.08"W	
L635	68.46	N74° 28' 05.28"E	
L636	166.24	N37° 25' 51.72"E	
L637	200.81	S52° 19' 58.61"E	
L638	56.83	S52° 19' 58.61"E	
L639	123.17	N52° 19' 58.61"W	
L640	134.47	N52° 19' 58.61"W	
L641	166.24	S37° 25' 51.72"W	
L642	90.07	S74° 27' 59.98"W	
L643	274.59	N30° 18' 02.17"W	
L644	52.11	N48° 36' 38.45"W	
L645	103.37	N22° 31' 01.57"W	
L646	14.17	N22° 31' 01.57"W	
L647	175.67	N14° 40' 18.19"W	
L648	42.00	S31° 50' 47.94"E	
L649	95.16	S55° 24' 32.68"E	
L650	52.41	S79° 21' 54.74"E	
L651	9.91	N87° 55' 33.42"E	
L652	66.86	N45° 39' 30.24"E	
L653	39.83	N82° 29' 29.59"E	
L654	151.09	N69° 40' 55.26"E	
L655	51.74	N69° 40' 55.26"E	
L656	0.00	N1° 24' 32.80"E	
L657	103.27	S51° 34' 54.66"E	
L658	8.19	S51° 34' 54.66"E	
L659	26.41	N8° 38' 31.47"W	
L661	54.95	N85° 13' 10.39"W	
L662	71.20	N58° 47' 14.29"W	
L663	14.94	N2° 51' 33.64"W	
L664	97.05	N0° 57' 18.67"W	
L665	230.74	N60° 42' 32.59"W	
L689	79.73	N33° 59' 54.12"W	
L690	103.86	N76° 42' 51.19"W	
L693	78.35	N76° 42' 51.19"W	
L694	114.38	N41° 42' 19.36"W	
L696	48.97	N50° 02' 39.70"W	
L697	68.79	N30° 44' 57.20"W	
L698	53.23	N41° 42' 19.36"W	
L699	10.05	S56° 02' 38.28"E	
L700	279.20	S32° 55' 24.47"E	
L734	165.93	N32° 52' 36.85"W	
L736	66.14	N56° 02' 38.28"W	
L737	134.73	N17° 09' 07.09"W	
L798	60.82	N46° 05' 37.50"W	
L800	3.63	N12° 33' 44.91"W	
L802	226.44	S4° 07' 21.69"W	
L803	108.43	N86° 46' 13.48"E	
L806	114.63	S57° 01' 45.09"W	
L807	47.32	N83° 53' 42.26"W	

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84210
CIVIL
STATE OF CALIFORNIA

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NO	DATE	ISSUANCE

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

DENNISTON GOLF ESTATES SUBDIVISION

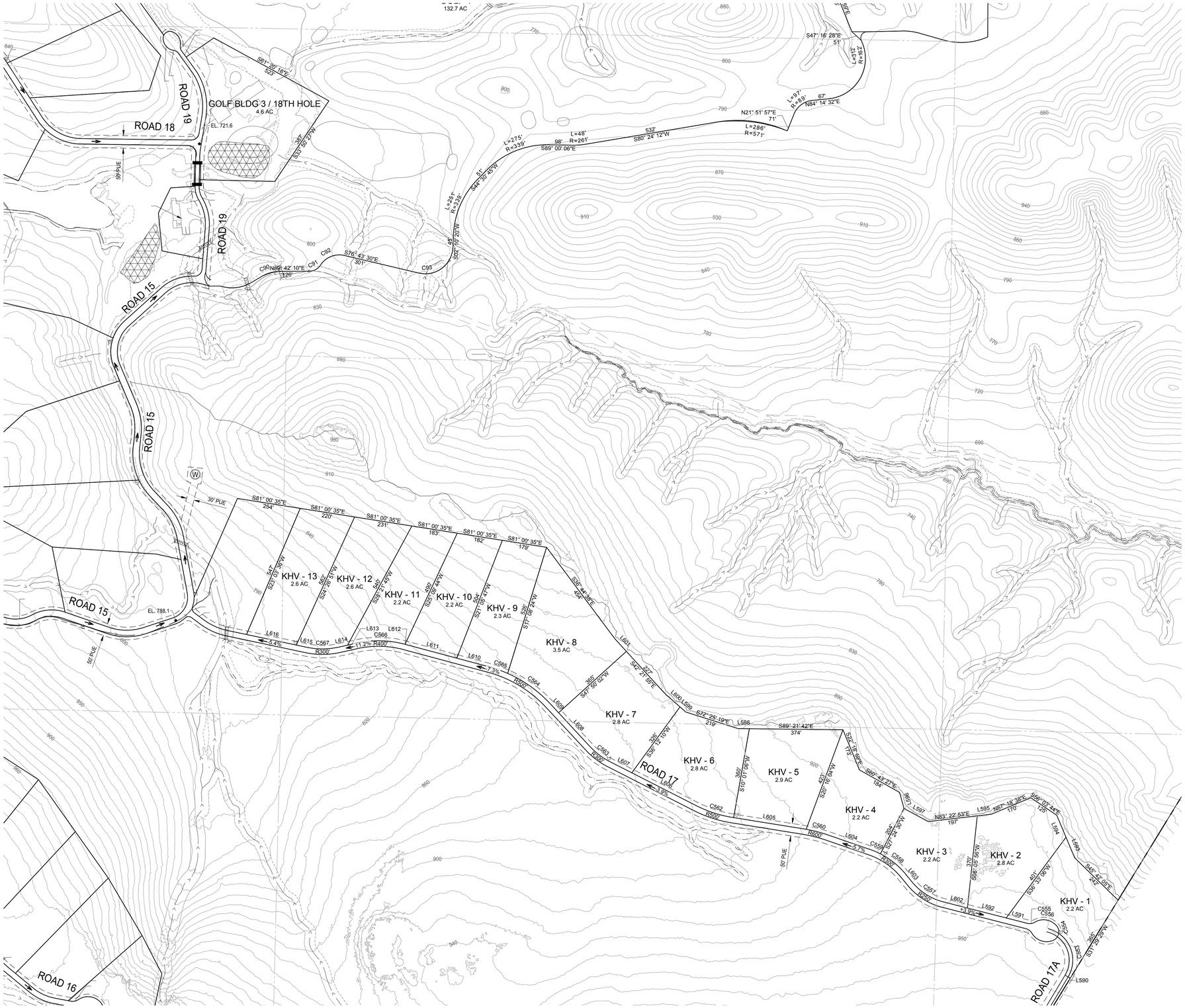
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

DG SUBDIVISION PLAN

DG1.03A

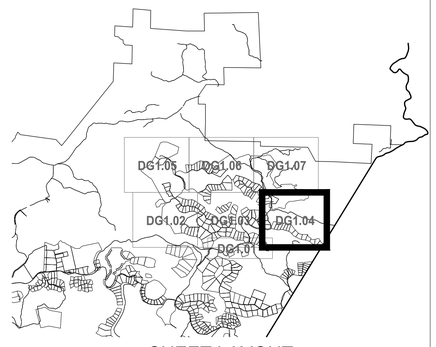
P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG3\PKG3-PARCELS AND ROADS.DWG



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK (W)
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE

SHEET LAYOUT
NOT TO SCALE



0 100' 200' 400' NORTH

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84770
CIVIL
STATE OF CALIFORNIA

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DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

DG SUBDIVISION PLAN

DG1.04

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C86	124.69	35.11	203.50
C87	46.52	31.36	85.00
C88	62.26	77.66	45.93
C89	129.51	48.02	154.54
C90	71.00	28.52	142.63
C91	53.50	57.35	53.45
C92	114.18	71.83	91.08
C93	193.91	101.10	109.89
C525	1.11	0.94	67.64
C526	76.07	117.57	37.07
C527	90.43	76.60	67.64
C528	37.22	53.35	39.97
C529	94.98	28.79	189.00
C530	64.57	19.58	189.00
C553	196.17	86.80	129.49
C554	34.88	53.90	37.07
C555	37.22	53.35	39.97
C556	90.43	76.60	67.64
C557	151.40	36.38	238.42
C558	128.64	23.15	318.35
C559	42.89	8.43	291.57
C560	92.57	9.27	572.05
C562	158.02	19.06	474.90
C563	101.29	20.08	289.00
C564	208.03	23.33	511.00
C565	77.99	8.02	557.00
C566	196.65	27.41	411.00
C567	123.23	24.43	289.00
C568	102.59	24.55	239.38
C569	39.78	20.17	113.00
C570	25.63	73.41	20.00
C571	119.93	42.15	163.00
C572	110.59	29.06	218.00
C573	135.53	31.83	244.00
C574	74.83	17.57	244.00
C575	125.70	33.04	218.00
C576	124.92	82.27	87.00
C577	141.54	37.20	218.00
C578	141.44	49.02	165.33
C579	93.46	39.09	137.00
C674	38.72	10.51	211.00
C675	55.92	31.36	102.18
C676	114.94	35.12	187.50
C698	41.22	87.46	27.00
C699	65.54	74.86	50.16
C700	27.10	53.54	29.00
C701	186.24	41.45	257.41
C702	37.72	8.48	255.00
C705	46.37	80.37	33.06
C706	195.21	58.82	190.16
C707	85.32	23.17	211.00
C724	174.10	41.20	242.14
C725	27.07	53.49	29.00
C726	65.81	76.95	49.00
C727	14.09	29.90	27.00
L93	27.26	S1° 09' 10.36"W	
L94	176.04	S4° 28' 09.71"W	
L95	2.31	S30° 12' 15.27"E	
L96	44.56	N89° 50' 53.96"E	
L97	44.89	N59° 12' 35.92"E	
L568	55.89	N79° 07' 37.81"W	
L569	91.62	N50° 20' 12.04"W	
L570	41.50	N50° 20' 12.04"W	
L589	7.96	N79° 07' 37.81"W	
L590	9.99	N62° 13' 20.34"W	
L591	83.92	N75° 40' 11.81"W	
L592	159.53	N75° 40' 11.81"W	
L593	89.17	S22° 47' 22.87"E	
L594	95.12	S22° 47' 22.87"E	
L595	56.69	N83° 22' 53.32"E	
L596	66.32	S15° 21' 29.35"E	
L597	109.83	S61° 31' 47.31"E	
L598	44.75	S89° 21' 42.42"E	
L600	81.68	S48° 27' 04.19"E	
L601	69.07	S42° 21' 54.95"E	
L602	98.59	N75° 40' 11.81"W	
L603	41.44	N39° 22' 38.89"W	
L604	177.05	N70° 59' 06.16"W	
L605	280.77	N80° 49' 55.30"W	
L606	287.91	N62° 59' 38.48"W	
L607	96.67	N62° 59' 38.48"W	
L608	184.34	N42° 54' 44.03"W	
L609	51.06	N42° 54' 44.03"W	
L610	133.82	N74° 59' 00.10"W	
L611	214.00	N74° 59' 00.34"W	
L612	0.00	N75° 02' 46.95"W	
L613	35.49	S77° 32' 20.38"W	
L614	38.99	S77° 32' 20.38"W	
L615	44.88	N78° 01' 47.05"W	
L616	203.21	N78° 01' 47.05"W	
L617	78.86	N78° 01' 47.05"W	
L618	48.41	N53° 26' 10.33"W	
L619	58.21	S22° 54' 01.15"E	
L620	111.67	S22° 54' 01.15"E	
L621	53.45	S6° 09' 51.36"W	
L622	78.81	S43° 16' 44.20"E	
L623	88.93	S10° 25' 31.84"E	
L624	137.28	S10° 25' 31.84"E	
L625	121.76	S71° 50' 34.75"W	
L626	184.58	N70° 57' 23.69"W	
L627	52.82	N77° 15' 19.79"W	
L700	279.20	S32° 55' 24.47"E	
L701	88.70	N1° 09' 10.36"E	
L702	97.80	N86° 16' 42.01"E	
L703	2.37	S30° 12' 15.27"E	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L705	124.19	S4° 30' 50.88"W	
L727	28.08	N35° 53' 37.33"W	
L729	72.03	N35° 53' 37.33"W	
L730	128.21	N9° 37' 45.25"E	
L732	426.15	N89° 13' 49.34"W	
L733	90.28	N32° 52' 34.57"W	
L734	165.93	N32° 52' 36.85"W	
L743	73.15	S9° 37' 46.66"W	
L744	99.62	S35° 53' 37.33"E	
L745	325.32	S35° 53' 37.33"E	
L804	101.87	N77° 44' 30.01"W	

P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG3\PKG3-PARCELS AND ROADS.DWG

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REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
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No. 84270
CIVIL
STATE OF CALIFORNIA

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PROJECT NO. 18-016
DATE JULY 31, 2023
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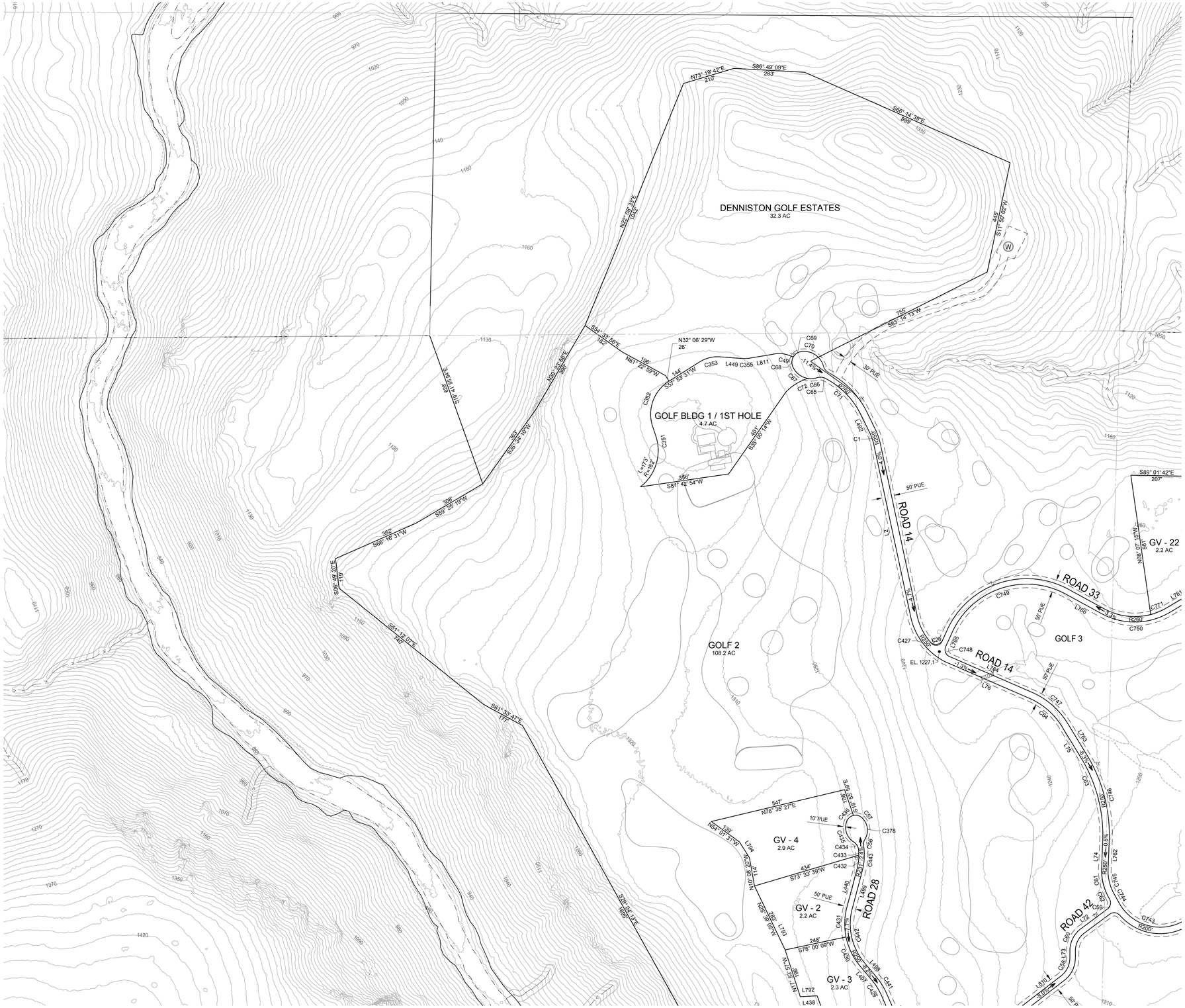
DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

DG SUBDIVISION PLAN (3)

DG1.04A



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK (W)
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE

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DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84270
CIVIL
STATE OF CALIFORNIA

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DATE JULY 31, 2023
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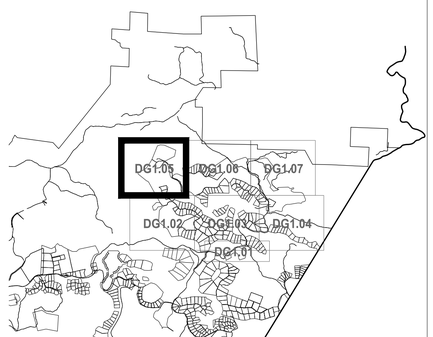
DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG



SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400' NORTH

DG SUBDIVISION PLAN

DG1.05

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C628	8.16	7.89	59.22
C629	64.43	123.06	30.00
C630	51.00	11.20	261.00
C631	103.26	22.64	261.29
C632	57.61	12.67	260.48
C633	133.59	32.00	239.21
C634	168.46	40.08	240.85
C635	70.23	15.54	258.95
C636	158.58	34.81	261.00
C637	37.33	52.92	40.42
C638	90.33	76.51	67.64
C639	2.19	3.38	37.16
C640	73.77	113.74	37.16
C641	15.10	18.33	47.19
C642	75.36	63.83	67.64
C643	37.73	53.35	40.52
C644	209.51	50.23	239.00
C645	329.92	72.42	261.00
C646	147.31	35.32	239.00
C647	46.71	11.20	239.00
C648	51.31	18.26	161.00
C649	96.90	13.31	417.21
C650	38.20	72.96	30.00
C651	367.99	61.33	343.77
C652	76.41	4.22	1037.77
C653	348.81	62.11	321.77
C654	145.71	25.94	321.77
C655	251.29	16.99	847.55
C656	63.73	17.30	211.00
C657	75.12	143.46	30.00
C658	37.23	52.92	40.31
C659	72.16	61.12	67.64
C660	18.27	15.47	67.64
C661	59.92	93.02	36.90
C662	106.34	91.95	66.27
C663	37.22	53.35	39.97
C664	143.07	43.37	189.00
C665	14.79	4.02	211.00
C666	140.25	38.08	211.00
C667	128.69	82.85	89.00
C668	7.87	5.07	89.00
C669	84.97	23.07	211.00
C670	179.82	48.83	211.00
C712	83.52	25.31	189.09
C713	196.08	59.44	189.00
C714	35.77	18.47	111.00
C715	134.55	69.45	111.00
C716	72.30	21.92	189.00
C717	66.57	20.18	189.00
C718	13.04	24.91	30.00
C719	55.94	3.83	836.50
C720	272.41	18.67	836.00
C721	117.13	8.02	836.63
C722	161.75	26.96	343.77
C723	367.99	61.33	343.77
C734	115.75	31.15	212.92
C735	126.49	58.92	123.00
C736	134.46	79.42	97.00
C737	124.86	73.75	97.00
C738	56.79	23.75	137.00
C739	181.80	63.90	163.00
C740	278.24	30.19	528.00
C741	278.24	50.93	313.00
C742	77.72	20.91	213.00
C751	240.30	56.76	242.58
C752	262.55	57.57	261.29
C753	367.17	87.83	239.52
C754	221.01	78.65	161.00
C755	37.23	52.92	40.31
C756	84.01	71.16	67.64
C757	6.42	9.34	39.39
C758	76.07	117.57	37.07
C759	90.43	76.60	67.64
C760	37.74	53.53	40.40
C761	118.82	48.98	139.00
C762	72.00	29.68	139.00
C763	28.79	7.02	235.00
C764	207.79	45.71	260.44
C765	151.78	32.83	264.91
C766	128.69	30.85	239.00
C767	106.24	26.42	230.39
C768	83.99	16.70	288.20
C769	123.60	27.03	261.99
C770	44.61	9.25	276.25
L665	230.74	N60° 42' 32.59"W	
L666	187.12	N65° 42' 34.46"E	
L667	166.51	N65° 42' 34.46"E	
L668	50.72	N54° 30' 46.05"E	
L669	90.16	N19° 11' 50.51"E	
L670	106.21	S88° 22' 41.75"E	
L671	219.04	S88° 22' 41.75"E	
L672	198.21	S88° 22' 41.75"E	
L673	115.05	S88° 22' 41.75"E	
L675	126.24	N23° 36' 03.00"E	
L676	638.51	N88° 22' 41.75"W	
L677	120.52	S69° 12' 08.31"W	
L678	90.16	S19° 11' 50.51"W	
L679	50.72	S54° 30' 46.05"W	
L680	353.63	S65° 42' 34.46"W	
L681	182.84	N45° 14' 17.37"W	
L682	89.65	N16° 23' 50.29"W	
L683	40.61	S84° 59' 14.05"W	
L684	44.60	S84° 59' 14.05"W	
L685	85.21	N84° 59' 14.05"E	
L686	36.42	S51° 38' 30.49"E	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L687	0.00	N16° 03' 52.29"W	
L688	195.72	S51° 38' 30.49"E	
L691	89.58	N86° 15' 31.30"E	
L692	48.19	S5° 49' 34.32"E	
L739	48.19	N5° 49' 34.32"W	
L740	89.58	S86° 15' 31.30"W	
L741	138.12	N51° 38' 30.49"W	
L742	78.52	N13° 23' 26.29"W	
L751	121.64	S44° 35' 27.24"E	
L752	492.06	S13° 45' 03.08"E	
L753	19.87	S45° 10' 06.15"W	
L754	110.87	S34° 15' 08.79"E	
L756	122.75	N71° 34' 24.15"E	
L757	64.00	N47° 49' 25.78"E	
L760	55.16	S83° 49' 42.33"W	
L761	87.82	S62° 55' 22.37"W	
L767	268.07	N59° 00' 49.98"E	
L768	98.27	S69° 52' 18.08"E	
L769	91.51	N53° 49' 29.40"E	
L770	295.31	S40° 54' 17.35"E	
L771	101.00	N60° 26' 34.05"E	
L772	48.15	N60° 26' 32.00"E	
L773	48.76	S60° 26' 01.78"W	
L774	100.39	S60° 26' 46.69"W	
L775	131.66	N40° 54' 17.35"W	
L776	175.07	N40° 54' 17.35"W	
L778	55.94	S53° 49' 29.40"W	
L779	96.67	N69° 52' 18.08"W	
L780	162.06	S58° 56' 44.76"W	
L781	115.24	S59° 00' 50.75"W	
L782	70.92	S89° 01' 41.55"E	
L783	136.30	N60° 27' 33.26"E	
L784	67.62	N77° 39' 36.65"E	
L785	67.62	N77° 39' 36.65"E	
L813	98.08	S83° 35' 20.64"W	

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2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84470
CIVIL
STATE OF CALIFORNIA

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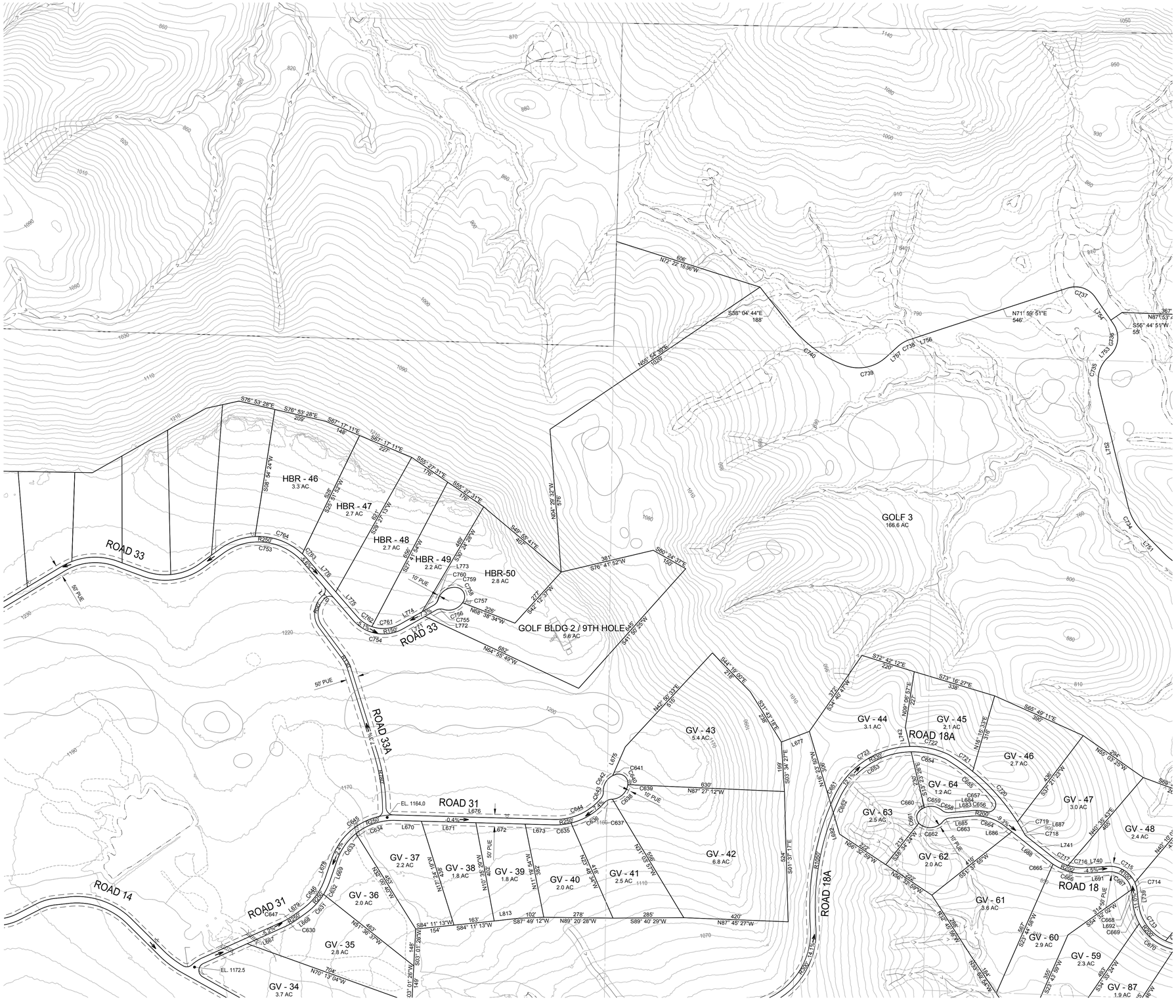
DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

DG SUBDIVISION PLAN

DG1.05A



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK
- GROUND WATER WELL
- ELECTRICAL SUBSTATION
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
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- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE

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San Francisco, CA 94110
www.sherwoodengineers.com

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CODY ANDERSON
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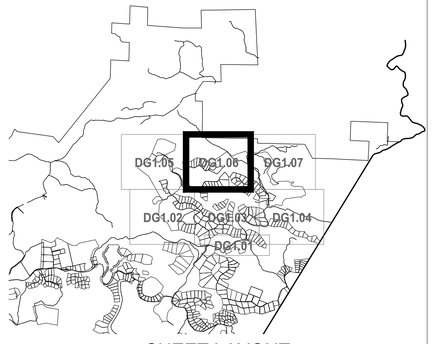
DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG



SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400' NORTH

DG SUBDIVISION PLAN

DG1.06

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C628	8.16	7.89	59.22
C629	64.43	123.06	30.00
C630	51.00	11.20	261.00
C631	103.26	22.64	261.29
C632	57.61	12.67	260.48
C633	133.59	32.00	239.21
C634	168.46	40.08	240.85
C635	70.23	15.54	258.95
C636	158.58	34.81	261.00
C637	37.33	52.92	40.42
C638	90.33	76.51	67.64
C639	2.19	3.38	37.16
C640	73.77	113.74	37.16
C641	15.10	18.33	47.19
C642	75.36	63.83	67.64
C643	37.73	53.35	40.52
C644	209.51	50.23	239.00
C645	329.92	72.42	261.00
C646	147.31	35.32	239.00
C647	46.71	11.20	239.00
C648	51.31	18.26	161.00
C649	96.90	13.31	417.21
C650	38.20	72.96	30.00
C651	367.99	61.33	343.77
C652	76.41	4.22	1037.77
C653	348.81	62.11	321.77
C654	145.71	25.94	321.77
C655	251.29	16.99	847.55
C656	63.73	17.30	211.00
C657	75.12	143.46	30.00
C658	37.23	52.92	40.31
C659	72.16	61.12	67.64
C660	18.27	15.47	67.64
C661	59.92	93.02	36.90
C662	106.34	91.95	66.27
C663	37.22	53.35	39.97
C664	143.07	43.37	189.00
C665	14.79	4.02	211.00
C666	140.25	38.08	211.00
C667	128.69	82.85	89.00
C668	7.87	5.07	89.00
C669	84.97	23.07	211.00
C670	179.82	48.83	211.00
C712	83.52	25.31	189.09
C713	196.08	59.44	189.00
C714	35.77	18.47	111.00
C715	134.55	69.45	111.00
C716	72.30	21.92	189.00
C717	66.57	20.18	189.00
C718	13.04	24.91	30.00
C719	55.94	3.83	836.50
C720	272.41	18.67	836.00
C721	117.13	8.02	836.63
C722	161.75	26.96	343.77
C723	367.99	61.33	343.77
C734	115.75	31.15	212.92
C735	126.49	58.92	123.00
C736	134.46	79.42	97.00
C737	124.86	73.75	97.00
C738	56.79	23.75	137.00
C739	181.80	63.90	163.00
C740	278.24	30.19	528.00
C741	278.24	50.93	313.00
C742	77.72	20.91	213.00
C751	240.30	56.76	242.58
C752	262.55	57.57	261.29
C753	367.17	87.83	239.52
C754	221.01	78.65	161.00
C755	37.23	52.92	40.31
C756	84.01	71.16	67.64
C757	6.42	9.34	39.39
C758	76.07	117.57	37.07
C759	90.43	76.60	67.64
C760	37.74	53.53	40.40
C761	118.82	48.98	139.00
C762	72.00	29.68	139.00
C763	28.79	7.02	235.00
C764	207.79	45.71	260.44
C765	151.78	32.83	264.91
C766	128.69	30.85	239.00
C767	106.24	26.42	230.39
C768	83.99	16.70	288.20
C769	123.60	27.03	261.99
C770	44.61	9.25	276.25
L665	230.74	N60° 42' 32.59"W	
L666	187.12	N65° 42' 34.46"E	
L667	166.51	N65° 42' 34.46"E	
L668	50.72	N54° 30' 46.05"E	
L669	90.16	N19° 11' 50.51"E	
L670	106.21	S88° 22' 41.75"E	
L671	219.04	S88° 22' 41.75"E	
L672	198.21	S88° 22' 41.75"E	
L673	115.05	S88° 22' 41.75"E	
L675	126.24	N23° 36' 03.00"E	
L676	638.51	N88° 22' 41.75"W	
L677	120.52	S69° 12' 08.31"W	
L678	90.16	S19° 11' 50.51"W	
L679	50.72	S54° 30' 46.05"W	
L680	353.63	S65° 42' 34.46"W	
L681	182.84	N45° 14' 17.37"W	
L682	89.65	N16° 23' 50.29"W	
L683	40.61	S84° 59' 14.05"W	
L684	44.60	S84° 59' 14.05"W	
L685	85.21	N84° 59' 14.05"E	
L686	36.42	S51° 38' 30.49"E	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L687	0.00	N16° 03' 52.29"W	
L688	195.72	S51° 38' 30.49"E	
L691	89.58	N86° 15' 31.30"E	
L692	48.19	S5° 49' 34.32"E	
L739	48.19	N5° 49' 34.32"W	
L740	89.58	S86° 15' 31.30"W	
L741	138.12	N51° 38' 30.49"W	
L742	78.52	N13° 23' 26.29"W	
L751	121.64	S44° 35' 27.24"E	
L752	492.06	S13° 45' 03.08"E	
L753	19.87	S45° 10' 06.15"W	
L754	110.87	S34° 15' 08.79"E	
L756	122.75	N71° 34' 24.15"E	
L757	64.00	N47° 49' 25.78"E	
L760	55.16	S83° 49' 42.33"W	
L761	87.82	S62° 55' 22.37"W	
L767	268.07	N59° 00' 49.98"E	
L768	98.27	S69° 52' 18.08"E	
L769	91.51	N53° 49' 29.40"E	
L770	295.31	S40° 54' 17.35"E	
L771	101.00	N60° 26' 34.05"E	
L772	48.15	N60° 26' 32.00"E	
L773	48.76	S60° 26' 01.78"W	
L774	100.39	S60° 26' 46.69"W	
L775	131.66	N40° 54' 17.35"W	
L776	175.07	N40° 54' 17.35"W	
L778	55.94	S53° 49' 29.40"W	
L779	96.67	N69° 52' 18.08"W	
L780	162.06	S58° 56' 44.76"W	
L781	115.24	S59° 00' 50.75"W	
L782	70.92	S89° 01' 41.55"E	
L783	136.30	N60° 27' 33.26"E	
L784	67.62	N77° 39' 36.65"E	
L785	67.62	N77° 39' 36.65"E	
L813	98.08	S83° 35' 20.64"W	

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SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
JODY ANDERSON
EXP: 9/30/23
No. 84210
CIVIL
STATE OF CALIFORNIA

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PROJECT NO. 18-016

DATE JULY 31, 2023

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DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

DG SUBDIVISION PLAN

DG1.06A

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
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- WASTE WATER TREATMENT FACILITY (WW)
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SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84770
CIVIL
STATE OF CALIFORNIA

SCALE: 1:200
0 1"
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NO	DATE	ISSUANCE

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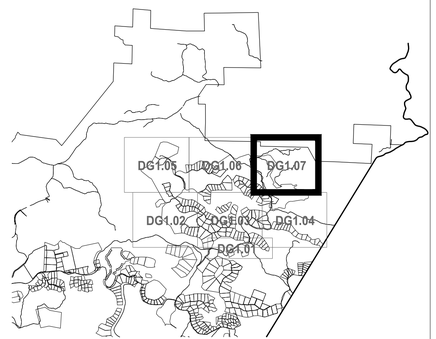
PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG



SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400' NORTH

DG SUBDIVISION PLAN

DG1.07

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C85	40.96	52.92	44.34
C671	47.36	12.86	211.00
C672	17.08	11.00	89.00
C686	3.18	4.47	40.78
C687	99.47	76.59	74.41
C710	54.06	27.91	111.00
C711	88.21	45.53	111.00
C712	83.52	25.31	189.09
C727	14.09	29.90	27.00
C728	147.08	13.44	627.00
C729	217.02	39.73	313.00
C730	122.23	23.11	303.00
C731	87.32	73.46	68.11
C732	66.36	24.22	157.00
C733	230.02	39.58	333.00
C737	124.86	73.75	97.00
L695	110.66	N89° 24' 40.96"E	
L737	134.73	N17° 09' 07.09"W	
L738	111.12	S89° 24' 40.96"W	
L745	325.32	S35° 53' 37.33"E	
L746	90.78	S49° 20' 00.86"E	
L747	818.65	S9° 36' 26.00"E	
L748	8.30	S13° 30' 23.88"W	
L749	204.30	S59° 56' 58.07"E	
L750	82.03	S84° 10' 03.71"E	

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2548 Mission Street
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REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84720
CIVIL
STATE OF CALIFORNIA

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DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

DG SUBDIVISION PLAN

DG1.07A

P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG3\PKG3-PARCELS AND ROADS.DWG

AVERAGE CROSS SLOPE TABLE		
PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
GV - 1	215,728	19.8%
GV - 2	96,561	7.5%
GV - 3	101,378	16.2%
GV - 4	126,592	4.4%
GV - 5	139,534	17.1%
GV - 6	102,968	10.0%
GV - 7	95,464	11.4%
GV - 8	97,989	10.0%
GV - 9	84,694	9.4%
GV - 10	86,155	9.7%
GV - 11	72,773	8.7%
GV - 12	107,448	13.9%
GV - 13	81,588	18.7%
GV - 14	51,003	11.9%
GV - 15	97,122	11.3%
GV - 16	52,323	10.8%
GV - 17	63,897	8.5%
GV - 18	118,177	4.7%
GV - 19	92,292	6.9%
GV - 20	114,851	12.5%
GV - 21	67,699	15.0%
GV - 22	97,680	8.5%
GV - 23	83,757	8.6%
GV - 24	71,857	8.9%
GV - 25	97,402	10.3%
GV - 33	114,023	14.6%
GV - 34	161,605	7.7%
GV - 35	123,849	8.2%
GV - 36	84,854	8.4%
GV - 37	93,827	9.0%
GV - 38	77,697	10.4%
GV - 39	76,263	13.9%
GV - 40	86,752	19.0%
GV - 41	106,459	21.6%
GV - 42	296,185	25.0%
GV - 43	234,451	15.2%
GV - 44	137,136	24.8%
GV - 45	90,731	24.9%
GV - 46	117,302	19.6%
GV - 47	130,190	33.1%
GV - 48	105,245	24.9%
GV - 49	137,927	31.9%
GV - 50	130,360	27.8%
GV - 51	106,209	10.8%
GV - 52	126,723	22.7%
GV - 53	133,843	27.2%
GV - 54	134,021	27.0%
GV - 55	129,739	20.7%

AVERAGE CROSS SLOPE TABLE		
PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
GV - 56	110,695	22.6%
GV - 57	111,430	20.4%
GV - 58	176,417	22.8%
GV - 59	98,174	19.5%
GV - 60	127,993	17.4%
GV - 61	154,715	22.6%
GV - 62	86,366	28.9%
GV - 63	107,427	31.4%
GV - 64	50,805	36.2%
GV - 65	140,631	11.6%
GV - 66	128,434	20.7%
GV - 67	152,891	20.6%
GV - 68	208,380	15.7%
GV - 69	143,516	18.6%
GV - 70	173,858	14.9%
GV - 71	218,000	22.4%
GV - 72	198,400	21.0%
GV - 73	119,160	19.0%
GV - 74	182,484	14.3%
GV - 75	154,118	8.3%
GV - 76	109,441	25.0%
GV - 77	64,003	21.6%
GV - 78	89,059	17.5%
GV - 79	77,245	15.6%
GV - 80	75,688	15.6%
GV - 81	150,425	22.3%
GV - 82	82,108	15.0%
GV - 83	133,340	9.6%
GV - 84	86,471	20.3%
GV - 85	95,999	17.0%
GV - 86	103,880	13.9%
GV - 87	82,785	17.2%
GV - 88	108,403	33.4%
GV - 89	182,964	18.0%
GV - 90	160,107	17.4%
GV - 91	118,193	22.0%
GV - 92	135,896	14.4%
GV - 93	52,471	11.6%
GV - 94	77,946	13.9%
GV - 95	117,640	17.1%
GV - 96	195,681	24.5%
GV - 97	132,462	16.4%
GV - 98	232,577	17.8%
GV - 99	186,424	17.5%
GV - 100	178,601	20.5%
GV - 101	183,034	17.8%
GV - 102	164,418	11.3%
GV - 103	141,581	18.9%

AVERAGE CROSS SLOPE TABLE		
PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
GV - 104	189,541	24.5%
GV - 105	112,568	19.8%
GV - 106	113,894	13.2%
GV - 107	133,698	7.2%
GV - 108	179,035	15.6%
GV - 109	277,294	11.6%
GV - 110	262,877	9.1%
GV - 111	281,291	5.8%
GV - 112	314,105	14.3%
GV - 113	107,047	8.3%
GV - 114	106,967	18.5%
GV - 115	110,962	19.4%
GV - 116	109,784	18.3%
GV - 117	129,005	5.3%
GV - 118	161,464	6.2%
GV - 119	137,283	7.4%
GV - 120	126,215	12.3%
GOLF BLDG 1 / 1ST HOLE	211,173	9.8%
GOLF BLDG 2 / 9TH HOLE	242,854	14.7%
GOLF BLDG 3 / 18TH HOLE	196,171	10.3%
DENNISTON GOLF ESTATES	1,408,648	16.1%
GOLF 1	2,911,649	13.2%
GOLF 2	4,685,798	12.5%
GOLF 3	7,253,945	17.1%
GOLF 4	5,620,034	15.6%
HBR - 44	116,084	13.8%
HBR - 45	105,905	17.3%
HBR - 46	144,211	18.2%
HBR - 47	119,626	20.5%
HBR - 48	119,066	18.8%
HBR - 49	95,723	19.5%
HBR - 50	123,330	18.0%
KHV - 1	97,359	20.9%
KHV - 2	119,906	9.1%
KHV - 3	97,103	5.4%
KHV - 4	96,072	6.9%
KHV - 5	126,676	8.6%
KHV - 6	122,511	9.0%
KHV - 7	121,701	6.4%
KHV - 8	153,846	11.7%
KHV - 9	98,826	17.8%
KHV - 10	96,060	19.6%
KHV - 11	94,400	22.6%
KHV - 12	112,777	22.0%
KHV - 13	113,583	19.4%
KHV - 14	130,054	17.1%
KHV - 15	166,381	20.3%
KHV - 16	185,887	19.5%

AVERAGE CROSS SLOPE TABLE		
PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
KHV - 17	179,244	21.0%
KHV - 18	135,245	20.1%
KHV - 19	68,490	9.5%
KHV - 20	118,513	17.8%
KHV - 21	114,864	14.2%
ERC	774,768	9.7%
GOLF MAINTENANCE BLDG 1	694,996	9.7%
GOLF MAINTENANCE BLDG 2	43,698	7.9%

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REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84270
CIVIL
STATE OF CALIFORNIA

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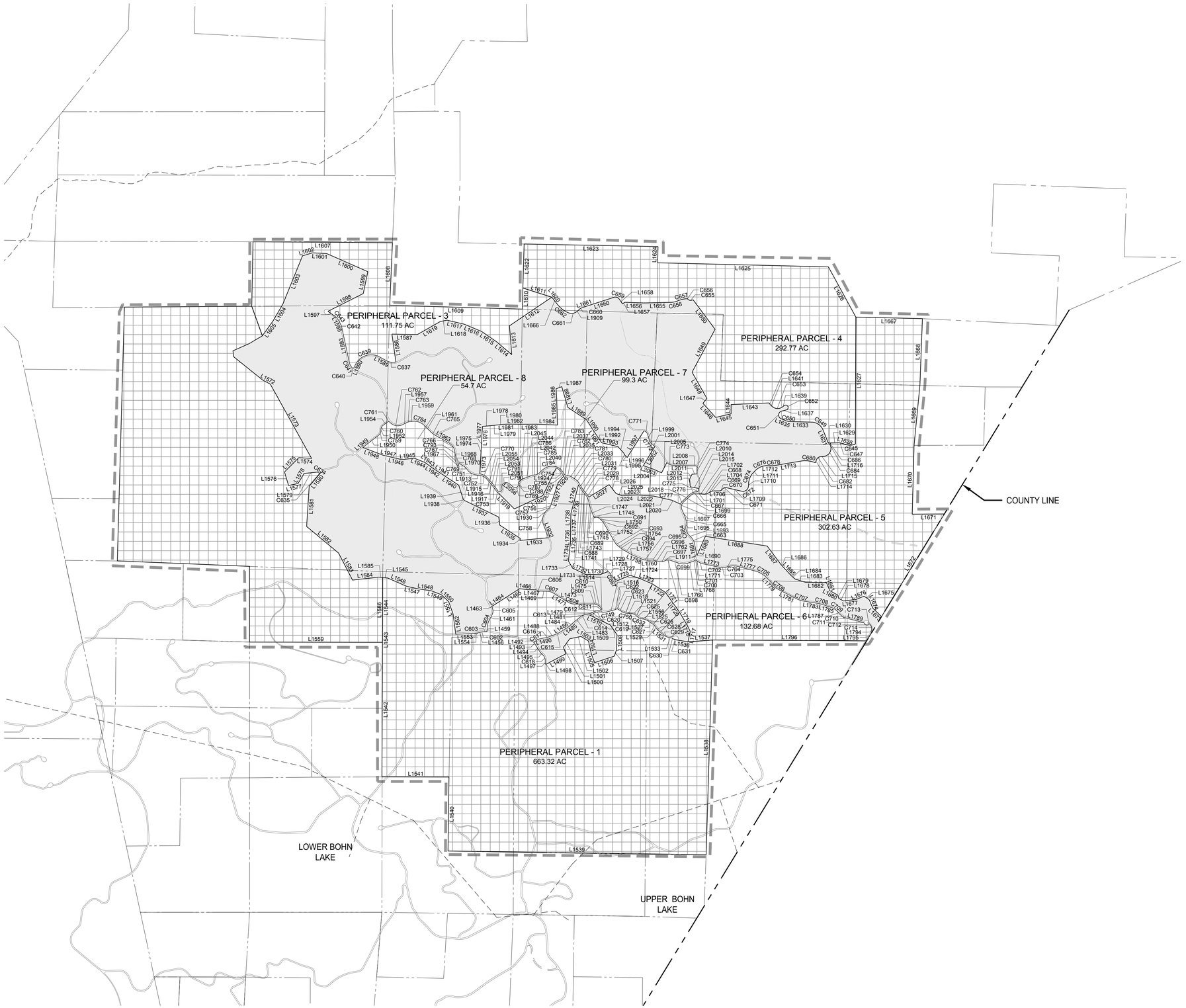
CHECKED CA,MH,SG

DENNISTON GOLF ESTATES SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

RESIDENTIAL PARCEL AVERAGE SLOPES

DG1.20



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- REMAINDER PARCELS
- DEVELOPMENT PARCELS
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84470
CIVIL
STATE OF CALIFORNIA

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DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

PERIPHERAL PARCEL PLAN

DG2.01

0 500' 1000' 2000' NORTH

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C602	61.95	9.17	387.00
C603	68.53	10.13	387.61
C604	151.33	22.40	387.00
C605	162.15	57.00	163.00
C606	71.09	36.70	111.00
C607	125.03	29.97	239.00
C608	146.14	32.08	261.00
C609	42.74	17.62	139.00
C610	116.85	48.17	139.00
C611	60.38	115.33	30.00
C612	120.83	27.92	248.00
C613	54.29	14.27	218.00
C614	108.52	25.48	244.00
C615	42.35	11.13	218.00
C616	20.78	8.69	137.00
C617	97.03	34.11	163.00
C618	142.66	48.26	169.37
C619	60.15	14.12	244.00
C620	129.04	33.30	222.00
C622	33.39	16.61	115.21
C623	33.12	63.25	30.00
C625	141.16	42.79	189.00
C626	80.07	24.27	189.00
C627	84.31	25.56	189.00
C628	72.09	19.58	211.00
C629	106.03	28.80	210.97
C630	35.93	2.70	762.20
C631	83.01	6.27	759.05
C632	66.41	34.28	111.00
C634	37.02	42.98	49.36
C635	26.72	22.46	68.17
C637	191.03	43.38	252.32
C639	572.40	94.19	348.20
C640	49.22	112.80	25.00
C641	126.92	30.68	237.00
C642	64.16	13.98	263.00
C643	129.68	28.25	263.00
C645	180.89	39.71	261.00
C647	71.08	17.04	239.00
C649	285.16	64.49	253.34
C650	63.76	18.54	197.04
C651	204.43	144.59	81.01
C652	173.56	202.93	49.00
C653	224.80	80.00	161.00
C654	49.07	31.47	89.33
C655	102.66	78.85	74.60
C656	40.96	52.92	44.34
C657	173.66	22.06	450.95
C658	140.14	23.29	344.74
C659	124.86	73.75	97.00
C660	56.79	23.75	137.00
C661	181.80	63.90	163.00
C662	278.24	30.19	528.00
C663	141.16	33.15	244.00
C664	190.15	49.98	218.00
C665	125.44	29.46	244.00
C666	172.73	72.24	137.00
C667	165.26	59.77	158.42
C668	129.76	49.57	150.00
C669	70.53	17.23	234.52
C670	53.69	59.64	51.58
C671	114.56	73.57	89.22
C672	193.17	99.67	111.05
C674	250.86	42.40	339.00
C676	275.04	46.49	339.00
C678	48.26	10.59	261.00
C680	286.72	33.59	489.00
C682	96.89	62.38	89.00
C684	298.02	106.06	161.00
C686	48.27	110.63	25.00
C687	93.85	22.04	244.00
C688	36.31	7.91	263.00
C689	103.76	25.08	237.00
C690	36.01	7.85	263.00
C691	104.59	68.88	87.00
C692	69.67	18.31	218.00
C693	89.16	20.94	244.00
C694	33.45	7.85	244.00
C695	103.45	24.29	244.00
C696	53.25	13.99	218.00
C697	111.20	39.09	163.00
C698	108.53	45.39	137.00
C699	158.42	37.20	244.00
C700	49.05	24.87	113.00
C701	27.78	79.59	20.00
C702	112.03	24.59	261.00
C703	132.61	24.43	311.00
C704	186.55	27.48	389.00
C705	273.72	32.07	489.00
C706	109.00	20.08	311.00
C707	159.09	17.84	511.00
C708	101.23	9.85	589.00
C709	159.43	31.61	289.00
C710	165.33	36.29	261.00
C711	37.23	52.92	40.31
C712	90.43	76.59	67.64
C713	26.61	41.13	37.07
C714	171.22	84.30	116.37
C749	91.06	21.38	244.00
C750	113.63	30.86	211.00
C751	239.17	51.91	263.99
C752	185.01	44.73	237.00
C753	29.46	23.12	73.00
C754	143.25	43.07	190.54
C755	49.55	25.13	113.00

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C756	33.39	28.29	67.64
C757	35.67	49.43	41.35
C758	311.42	68.36	261.00
C759	100.47	51.37	112.06
C760	83.07	53.48	89.00
C761	44.85	85.65	30.00
C762	282.91	76.10	213.00
C763	68.23	20.91	187.00
C764	255.13	50.93	287.00
C765	111.52	15.47	413.00
C766	247.17	59.75	237.00
C767	107.35	23.39	263.00
C768	51.47	147.46	20.00
C769	94.56	22.86	237.00
C770	188.35	41.03	263.00
C771	97.46	62.74	89.00
C772	109.29	38.89	161.00
C773	142.31	38.64	211.00
C774	66.32	113.40	33.51
C775	46.19	88.44	29.93
C776	142.66	44.57	183.37
C777	81.75	28.74	162.99
C778	63.73	13.88	263.00
C779	32.72	7.91	237.00
C780	67.03	23.56	163.00
C781	68.15	23.96	163.00
C782	76.58	50.43	87.00
C783	135.85	36.54	213.00
C784	348.93	67.80	294.87
C785	88.07	36.83	137.00
C786	36.44	12.81	163.00
C787	65.44	33.18	113.00
C788	7.28	35.09	11.89
C789	137.44	127.01	62.00
C790	210.51	137.06	88.00
C791	124.26	151.48	47.00
C793	247.17	59.75	237.00
L1456	29.78	N75° 55' 55.00"E	
L1459	94.35	N5° 17' 46.18"E	
L1461	110.18	N27° 42' 03.27"E	
L1463	12.08	N29° 17' 44.28"W	
L1464	330.81	N57° 30' 41.66"E	
L1465	330.81	N57° 30' 41.66"E	
L1466	154.99	S83° 36' 45.52"E	
L1467	185.61	S88° 14' 39.03"E	
L1469	152.91	S88° 14' 39.03"E	
L1471	341.07	S58° 16' 15.17"E	
L1473	368.04	N89° 38' 51.91"E	
L1475	26.16	S72° 44' 11.24"E	
L1479	44.89	S62° 50' 19.66"W	
L1481	86.75	S77° 06' 27.47"W	
L1483	169.14	S51° 25' 54.77"W	
L1484	118.62	S47° 42' 11.07"W	
L1485	42.53	S53° 18' 04.75"W	
L1486	210.53	S58° 53' 58.44"W	
L1488	181.93	S70° 01' 50.65"W	
L1490	146.64	S78° 43' 17.80"W	
L1492	44.52	S49° 49' 52.63"W	
L1493	41.68	S40° 10' 07.37"E	
L1494	191.53	S32° 17' 30.25"E	
L1495	80.05	S45° 57' 00.71"E	
L1497	44.56	S2° 31' 19.59"W	
L1498	26.00	S87° 28' 40.41"E	
L1499	435.47	N62° 06' 07.40"E	
L1500	136.90	N19° 43' 58.48"W	
L1501	211.27	N36° 05' 01.60"E	
L1502	229.50	N78° 21' 20.84"E	
L1503	174.71	S58° 34' 19.61"E	
L1504	275.67	S12° 36' 49.94"E	
L1505	174.16	S21° 05' 57.02"E	
L1506	414.22	N71° 44' 56.23"E	
L1507	125.84	N18° 53' 33.00"E	
L1508	308.20	N2° 32' 45.02"E	
L1509	235.07	N34° 48' 50.85"W	
L1510	459.37	N64° 22' 27.91"W	
L1512	44.89	N62° 50' 19.66"E	
L1514	43.71	S83° 51' 31.24"E	
L1516	151.44	N74° 45' 27.94"E	
L1519	106.67	S59° 00' 46.21"E	
L1521	47.51	S89° 52' 10.84"E	
L1525	60.59	S80° 35' 30.74"E	
L1527	126.98	S56° 19' 07.92"E	
L1529	21.66	S30° 45' 40.61"E	
L1531	133.12	S50° 20' 12.04"E	
L1533	63.84	S79° 07' 52.09"E	
L1536	217.65	S80° 39' 36.79"E	
L1537	492.73	N85° 44' 49.24"E	
L1538	4285.36	S1° 43' 24.83"W	
L1539	5151.23	N89° 11' 52.78"W	
L1540	1477.48	N0° 46' 00.15"E	
L1541	1338.18	N89° 53' 46.22"W	
L1542	2684.86	N0° 14' 45.77"E	
L1543	97.47	N0° 40' 45.20"E	
L1544	1196.10	N0° 06' 24.52"E	
L1545	97.58	S85° 06' 01.51"E	
L1546	422.40	S66° 19' 45.57"E	
L1547	242.07	S78° 00' 12.76"E	
L1548	251.54	S81° 41' 37.68"E	
L1549	214.38	S68° 29' 54.61"E	
L1550	203.70	S46° 42' 57.63"E	
L1551	259.08	S19° 34' 13.39"E	
L1552	411.17	S7° 33' 00.84"E	
L1553	365.76	N86° 35' 52.13"E	
L1554	82.31	N85° 51' 36.84"E	
L1556	37.43	N47° 04' 35.77"W	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L1559	2652.65	N89° 53' 29.93"W	
L1560	1510.42	N0° 00' 00.00"E	
L1561	1323.70	N87° 33' 25.40"W	
L1562	1317.42	N87° 43' 55.42"W	
L1563	1244.70	N1° 36' 12.92"E	
L1564	2565.10	N1° 36' 12.92"E	
L1565	1257.20	N1° 36' 12.92"E	
L1566	2540.91	N89° 36' 20.58"E	
L1567	627.71	S19° 41' 55.94"E	
L1568	308.00	S59° 25' 19.01"W	
L1569	351.86	S66° 16' 31.36"W	
L1570	119.00	S6° 49' 20.20"E	
L1571	739.75	S51° 12' 06.91"E	
L1572	176.62	S61° 33' 45.96"E	
L1573	1695.24	S29° 04' 13.54"E	
L1574	255.86	N86° 33' 36.09"W	
L1575	403.84	S44° 57' 57.72"W	
L1576	282.05	S16° 41' 58.10"E	
L1577	194.97	N77° 57' 05.77"E	
L1578	231.69	N30° 46' 03.97"E	
L1579	272.36	N84° 00' 46.46"E	
L1580	348.89	S40° 13' 17.27"W	
L1581	804.01	S3° 43' 09.20"W	
L1582	831.06	S50° 15' 01.73"E	
L1583	605.60	S27° 16' 38.94"E	
L1584	518.91	N83° 31' 13.88"E	
L1585	86.14	S85° 06' 01.51"E	
L1586	1293.57	S0° 08' 59.79"W	
L1587	505.60	N89° 01' 41.55"W	
L1588	561.03	S8° 07' 15.09"E	
L1589	162.58	N61° 22' 49.91"W	
L1590	51.97	S24° 25' 58.49"W	
L1593	698.53	N12° 05' 17.91"W	
L1595	80.30	N26° 03' 56.51"W	
L1597	172.29	N54° 19' 02.01"W	
L1598	789.65	N63° 14' 13.31"E	
L1599	445.32	N11° 50' 02.18"E	
L1600	895.35	N66° 14' 39.32"W	
L1601	282.60	N86° 49' 08.88"W	
L1602	210.18	S73° 19' 42.04"W	
L1603	1042.16	S22° 08' 33.13"W	
L1604	389.63	S30° 23' 56.27"W	
L1605	362.91	S35° 34' 09.63"W	
L1606	1285.86	N1° 06' 44.97"E	
L1607	2781.96	S89° 39' 17.02"E	
L1608	1251.07	S2° 28' 27.18"W	
L1609	2645.82	S88° 20' 24.31"E	
L1610	421.75	N1° 37' 24.67"E	
L1611	605.55	S72° 22' 16.96"E	
L1612	1019.67	S55° 54' 38.73"W	
L1613	575.63	S4° 29' 31.51"E	
L1614	407.23	N49° 55' 41.25"W	
L1615	351.10	N55° 27' 31.39"W	
L1616	375.46	N67° 17' 11.43"W	
L1617	357.56	N76° 53' 27.96"W	
L1618	135.25	S77° 39' 36.65"W	
L1619	525.14	S60° 27' 33.26"W	
L1620	0.18	N38° 04' 43.91"W	
L1622	878.12	N1° 37' 24.67"E	
L1623	2671.81	S88° 54' 09.36"E	
L1624	323.81	S1° 17' 42.65"W	
L1625	3408.81	S88° 37' 52.03"E	
L1626	1141.58	S28° 37' 50.78"E	
L1627	2532.39	S0° 11' 20.10"W	
L1628	98.05	N74° 09' 05.34"W	
L1629	140.69	S88° 48' 31.42"W	
L1630	60.29	N89° 35' 00.26"W	
L1631	276.01	N21° 48' 58.93"W	
L1633	450.00	N88° 22' 55.29"W	
L1635	113.19	N67° 51' 06.29"W	
L1637	93.16	N75° 34' 40.71"E	
L1639	43.49	S52° 38' 36.49"W	
L1641	42.04	N47° 05' 21.41"W	
L1643	763.76	S87° 33' 47.03"W	
L1644	185.46	S0° 00' 00.00"E	
L1645	317.04	S76° 55' 59.18"W	
L1646	378.53	N41° 51' 48.58"W	
L1647	125.58	N39° 25' 22.90"E	
L1648	601.67	N29° 32' 05.08"W	
L1649	971.50	N28° 11' 50.78"E	
L1650	738.00	N36° 41' 31.41"W	
L1655	540.77	S88° 42' 02.45"W	
L1656	385.70	N87° 58' 36.24"W	
L1657	54.74	S55° 44' 51.21"W	
L1658	110.87	N34° 15' 08.79"W	
L1660	546.03	S71° 59' 51.25"W	
L1661	122.75	S71° 34' 24.15"W	
L1666	188.21	N38° 04' 43.91"W	
L1667	1328.68	S88° 39' 36.86"E	
L1668	1332.21	S2° 09' 08.62"W	
L1669	1202.37	S5° 32' 27.79"W	
L1670	1373.60	S1° 32' 49.09"W	
L1671	641.00	N89° 40' 06.90"E	
L1672	2402.42	S31° 28' 42.86"W	
L1673	241.97	N45° 42' 05.19"W	
L1674	184.29	N22° 47' 22.87"W	
L1675	125.04	N56° 03' 43.77"W	
L1676	170.33	S67° 18' 38.20"W	
L1677	253.85	S83° 22' 53.32"W	
L1678	109.83	N61° 31' 47.31"W	
L1679	66.32	N15° 21' 29.35"W	
L1680	183.70	N60° 43' 27.28"W	
L1681	173.12	N22° 18' 58.63"W	
L1682	418.28	N89° 21' 42.42"W	
L1683	219.26	N72° 25' 19.41"W	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L1684	112.17	N48° 27' 04.19"W	
L1685	226.83	N42° 21' 54.95"W	
L1686	69.07	N42° 21' 54.95"W	
L1687	454.49	N36° 44' 37.87"W	
L1688	1248.65	N81° 00' 35.30"W	
L1689	412.67	S23° 39' 22.11"W	
L1690	9.76	N66° 20' 37.89"W	
L1691	226.21	N10° 25' 31.84"W	
L1693	78.22	N43° 14' 02.94"W	
L1695	51.26	N6° 09' 51.36"E	
L1697	168.21	N22° 54' 01.15"W	
L1699	194.34	N47° 59' 30.10"E	
L1701	21.25	S73° 11' 24.31"E	
L1702	44.56	N89° 50' 53.96"E	
L1704	44.89	N59° 12' 35.92"E	
L1706	125.58	N89° 42' 10.27"E	
L1709	300.71	S76° 43' 30.27"E	
L1710	45.16	N2° 10' 19.82"E	
L1711	51.12	N44° 30' 44.78"E	
L1712	97.99	S89° 00' 06.26"E	
L1713	532.46	N80° 24' 12.33"E	
L1714	71.42	N21° 51' 57.45"E	
L1715	67.17	N84° 14' 31.56"E	
L1716	13.94	N21° 48' 58.93"W	
L1717	213.34	N12° 24' 42.86"E	
L1718	172.22	N27° 19' 08.93"W	
L1719	265.88	N30° 28' 03.68"W	
L1720	227.21	N35° 16' 54.28"W	
L1721	254.11	N35° 22' 33.46"W	
L1722	320.11	N56° 57' 03.31"W	
L1723	294.49	N66° 51' 15.85"W	
L1724	177.52	N72° 25' 42.21"W	
L1725	317.00	S67° 13' 01.38"W	
L1727	171.03	N39° 34' 38.10"W	
L1728	27.33	S32° 27' 32.15"W	
L1729	149.00	S68° 16' 02.24"W	
L1730	182.01	N88° 42' 52.72"W	
L1731	105.79	N88° 42' 52.72"W	
L1732	288.09	N64° 39' 14.20"W	
L1733	166.74	N30° 07' 34.63"W	
L1734	302.70	N6° 23' 06.19"E	
L1735	62.10	N6° 23' 06.19"E	
L1736	209.85	N0° 51' 12.26"E	
L1737	209.85	N0° 51' 12.26"E	
L1738	163.37	N0° 51' 12.26"E	
L1739	249.04	N14° 49' 11.29"E	
L1740	343.02	N14° 49' 11.29"E	
L1741	121.34	S31° 50' 47.94"E	
L1743	99.77	S39° 45' 21.94"E	
L1745	175.67	S14° 40' 18.19"E	
L1747	116.85	S22° 31' 01.57"E	
L1748	50.24	S27° 29' 19.35"E	
L1750	52.11	S48° 36' 38.45"E	
L1752	454.92	S30° 18' 02.92"E	
L1754	58.19	S51° 14' 16.41"E	
L1756	217.98	S59° 05' 29.10"E	
L1757	33.47	S63° 01' 27.90"E	
L1758	213.68	S66° 57' 26.70"E	
L1760	79.66	N88° 45' 00.59"E	
L1762	105.64	S77° 15' 19.79"E	
L1766	184.58	S70° 57' 23.69"E	
L1768	121.76	N71° 50' 34.75"E	
L1771	45.06	S53° 26' 10.33"E	
L1773	326.96	S78° 01' 47.05"E	
L1775	74.48	N77° 32' 20.38"E	
L1777	347.37	S74° 59' 00.10"E	
L1779	235.40	S42° 54' 44.03"E	
L1781	384.58	S62° 59' 38.48"E	
L1783	286.50	S80° 49' 55.30"E	
L1785	177.05	S70° 59' 06.16"E	
L1787	41.44	S39° 22' 38.89"E	
L1789	342.05	S75° 40' 13.87"E	
L1794	23.98	S60° 15' 29.40"E	
L1795	202.30	S31° 29' 28.81"W	
L1796	3073.24	N89° 39' 59.37"W	
L1909	64.00	S47° 49' 25.78"W	
L1911	12.26	N63° 39' 22.26"E	
L1913	38.01	S85° 47' 21.32"E	
L1915	123.79	S41° 03' 41.88"E	
L1916	16.11	S39° 06' 51.20"E	
L1917	177.22	S37° 10' 00.52"E	
L1919	462.32	S45° 01' 43.90"E	
L1920	624.90	N65° 05' 18.94"E	
L1922	181.25	N25° 59' 21.97"E	
L1924	31.99	S28° 55' 50.84"E	
L1926	180.32	S40° 59' 16.11"W	
L1927	472.10	S17° 41' 57.74"W	
L1930	65.92	S47° 48' 03.26"W	
L1932	277.07	S20° 33' 45.19"E	
L1933	569.62	S84° 27' 42.43"W	
L1934	41.57	N8° 34' 09.11"E	
L1935	485.28	N57° 13' 15.78"W	
L1936	165.04	N7° 59' 19.39"W	
L1937	765.83	N64° 12' 51.91"W	
L1938	28.88	N41° 31' 40.36"W	
L1939	294.71	N17° 30' 26.99"W	
L1940	347.55	N56° 43' 15.45"W	
L1941	187.66	N56° 43' 15.45"W	
L1942	100.69	N56° 43' 15.45"W	
L1943	181.62	N53° 59' 44.67"W	
L1944	225.70	N68° 29' 53.39"W	
L1945	251.50	S83° 35' 33.20"W	
L1946	191.20	N76° 45' 57.16"W	
L1947	191.20	N76° 45' 57.16"W	
L1948	432.71	N69° 04' 50.82"W	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L1949	45.78	N50° 00' 51.23"E	
L1950	357.10	N52° 20' 13.69"E	
L1952	30.38	N0° 26' 20.51"E	
L1954	124.86	N53° 22' 13.91"E	
L1957	87.82	N62° 55' 22.37"E	
L1959	55.16	N83° 49' 42.33"E	
L1961	182.84	S45° 14' 17.37"E	
L1963	313.90	S60° 42' 32.59"E	
L1967	75.20	S24° 20' 33.83"E	
L1968	35.67	N22° 27' 32.63"E	
L1970	81.10	S58° 37' 44.89"E	
L1973	326.78	N3° 22' 51.51"E	
L1974	220.62	N3° 22' 02.00"E	
L1975	103.17	N3° 03' 12.18"E	
L1976	148.81	N3° 01' 26.27"E	
L1977	148.81	N3° 01' 26.27"E	
L1978	154.42	N84° 11' 13.15"E	
L1979	162.71	N84° 11' 13.15"E	
L1980	98.08	N83° 35' 20.64"E	
L1981	101.94	N87° 49' 11.51"E	
L1982	278.12	S89° 20' 27.91"E	
L1983	284.66	N89° 40' 28.58"E	
L1984	419.86	S87° 45' 26.86"E	
L1985	523.66	N1° 37' 17.05"W	
L1986	199.36	N3° 34' 26.55"W	
L1987	120.52	N69° 12' 08.31"E	
L1988	430.47	S16° 23' 50.29"E	
L1989	444.53	S56° 32' 58.93"E	
L1990	288.03	S32° 45' 55.65"E	
L1991	183.84	S33° 59' 54.12"E	
L1992	79.73	S33° 59' 54.12"E	
L1993	336.28	S76° 42' 51.19"E	
L1994	167.61	S41° 42' 19.36"E	
L1995	68.79	S30° 44' 57.20"E	
L1996	48.97	S50° 02' 39.70"E	
L1997	626.28	N32° 10' 15.40"E	
L1999	134.73	S17° 09' 07.09"E	
L2001	56.09	S56° 02' 38.28"E	
L2002	450.65	S31° 00' 43.40"W	
L2003	219.04	S70° 17' 15.18"E	
L2004	172.32	S66° 18' 43.98"E	
L2005	231.92	N27° 23' 11.86"E	
L2007	414.06	S89° 08' 42.91"E	
L2008	30.01	S89° 09' 32.99"E	
L2010	115.95	S1° 09' 10.36"W	
L2011	97.80	S86° 39' 32.21"W	
L2012	111.49	S25° 57' 00.51"W	
L2013	152.15	S5° 27' 24.90"E	
L2014	165.71	S79° 02' 39.99"E	
L2015	41.91	S4° 20' 12.10"W	
L2018	198.63	S47° 59' 33.43"W	
L2020	189.08	N64° 58' 52.30"W	
L2021	366.77	N77° 10' 20.81"W	
L2022	343.10	N86° 01' 36.61"W	
L2023	184.55	S86° 46' 13.48"W	
L2024	108.43	S86° 46' 13.48"W	
L2025	130.07	N70° 04' 49.54"W	
L2026	225.51	N38° 02' 10.84"W	
L2027	478.26	S58° 26' 15.00"W	
L2029	99.77	N39° 45' 21.94"W	
L2031	163.34	N31° 50' 47.94"W	
L2033	95.16	N55° 24' 32.68"W	
L2035	52.41	N39° 21' 54.74"W	
L2037	31.99	N28° 55' 50.84"W	
L2040	66.86	S45° 39' 30.24"W	
L2042	40.17	S82° 29' 29.59"W	
L2044	202.83	S69° 40' 55.26"W	
L2045	68.13	S52° 08' 10.09"W	
L2051	26.41	S8° 38' 31.47"E	
L2053	177.22	N37° 10' 00.52"W	
L2054	17.87	N39° 06' 51.20"W	
L2055	123.79	N41° 03' 41.88"W	
L2056	111.46	N51° 34' 54.66"W	

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
JODY ANDERSON
EXP: 9/30/23
No. 84210
CIVIL
STATE OF CALIFORNIA

SCALE: N/A
0 1"
Note: If this graphic scale does not equal 1", this sheet has been modified from its original size.

NO	DATE	ISSUANCE

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

DENNISTON GOLF ESTATES SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION DG

PERIPHERAL PARCEL PLAN

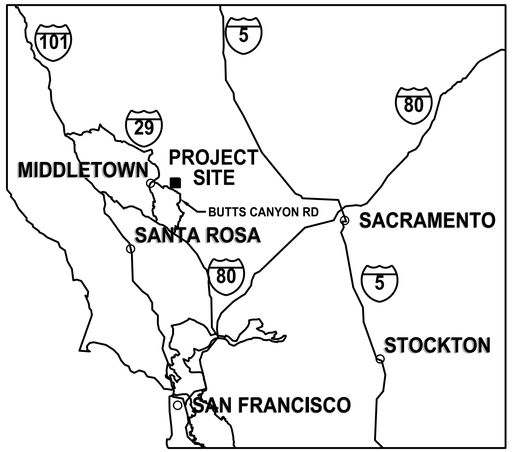
DG2.02

0 500' 1000' 2000' NORTH

P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG3\PKG3-REMAINDER PARCELS.DWG

BOHN RIDGE SUBDIVISION

TENTATIVE MAP



VICINITY MAP
NOT TO SCALE

LEGEND

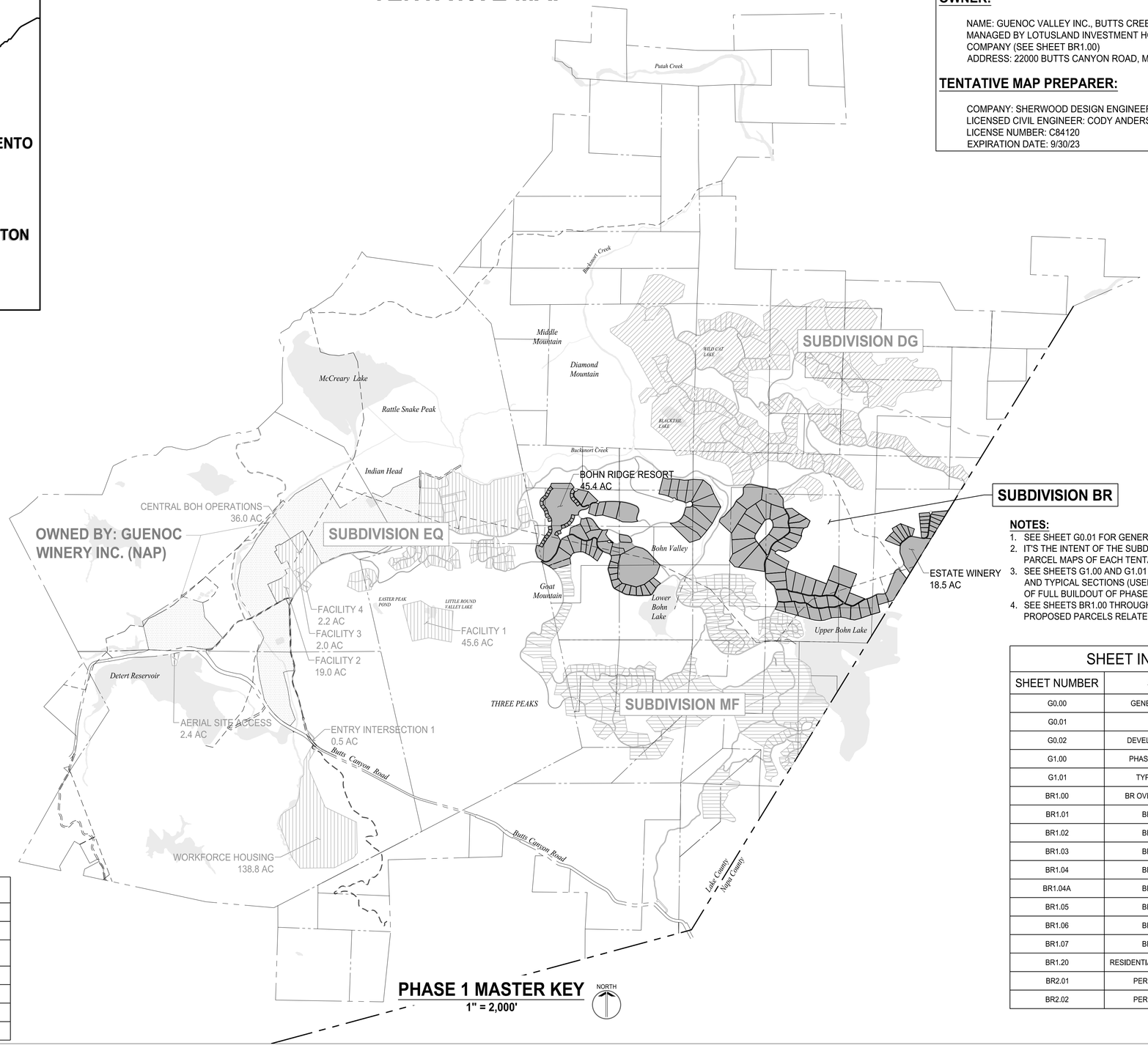
PROPOSED SUBDIVISION BR - BOHN RIDGE

PROPOSED SUBDIVISION MF - MAHA FARMS
UNDER SEPARATE TENTATIVE MAP

PROPOSED SUBDIVISION EQ - EQUESTRIAN
UNDER SEPARATE TENTATIVE MAP

PROPOSED SUBDIVISION DG -
DENNISTON GOLF ESTATES
UNDER SEPARATE TENTATIVE MAP

EXISTING PARCELS OWNED BY OTHERS;
NOT A PART (NAP) OF THIS TENTATIVE MAP



PHASE 1 MASTER KEY
1" = 2,000'
NORTH

OWNER:

NAME: GUENOC VALLEY INC., BUTTS CREEK INC., BOHN VALLEY INC.
MANAGED BY LOTUSLAND INVESTMENT HOLDINGS, INC., A CALIFORNIA COMPANY (SEE SHEET BR1.00)
ADDRESS: 22000 BUTTS CANYON ROAD, MIDDLETOWN, CA 95461

TENTATIVE MAP PREPARER:

COMPANY: SHERWOOD DESIGN ENGINEERS
LICENSED CIVIL ENGINEER: CODY ANDERSON, P.E.
LICENSE NUMBER: C84120
EXPIRATION DATE: 9/30/23

NOTES:

1. SEE SHEET G0.01 FOR GENERAL NOTES.
2. IT'S THE INTENT OF THE SUBDIVIDER TO PROCESS THE FINAL PARCEL MAPS OF EACH TENTATIVE MAP IN PHASES.
3. SEE SHEETS G1.00 AND G1.01 FOR PHASE 1 MASTER ROAD PLAN AND TYPICAL SECTIONS (USED FOR REFERENCE AND CONTEXT OF FULL BUILDOUT OF PHASE 1).
4. SEE SHEETS BR1.00 THROUGH BR2.02 FOR EXISTING AND PROPOSED PARCELS RELATED TO SUBDIVISION BR.

SUBDIVISION LOT COUNTS

PARCEL TYPE	MAHA FARMS	EQUESTRIAN	DENNISTON GOLF	BOHN RIDGE	TOTAL
VILLA	73	67	133	112	385
RESORT RESIDENTIAL	104	0	7	30	141
COMMERCIAL	5	1	4	2	12
FACILITY	1	11	3	0	15
GOLF	0	0	4	0	4
PERIPHERAL	8	7	8	8	31

SHEET INDEX

SHEET NUMBER	SHEET TITLE
G0.00	GENERAL NOTES AND INDEX
G0.01	GENERAL NOTES
G0.02	DEVELOPMENT RESTRICTIONS
G1.00	PHASE 1 MASTER ROAD PLAN
G1.01	TYPICAL ROAD SECTIONS
BR1.00	BR OVERALL SUBDIVISION PLAN
BR1.01	BR SUBDIVISION PLAN
BR1.02	BR SUBDIVISION PLAN
BR1.03	BR SUBDIVISION PLAN
BR1.04	BR SUBDIVISION PLAN
BR1.04A	BR SUBDIVISION PLAN
BR1.05	BR SUBDIVISION PLAN
BR1.06	BR SUBDIVISION PLAN
BR1.07	BR SUBDIVISION PLAN
BR1.20	RESIDENTIAL PARCEL AVERAGE SLOPES
BR2.01	PERIPHERAL PARCEL PLAN
BR2.02	PERIPHERAL PARCEL PLAN

SHERWOOD DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

SCALE: 1:2000
0 1"
Note: If this graphic scale does not equal 1", the sheet has been modified from its original size.

NO	DATE	ISSUANCE

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

BOHN RIDGE SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

GENERAL NOTES AND INDEX
G0.00

GENERAL NOTES:

1. REFER TO FINAL ADOPTED DEVELOPMENT AGREEMENT FOR FURTHER SUBDIVISION DETAILS, INCLUDING SEQUENCING AND EXPIRATION DETAILS.
2. THE PROPERTIES WITHIN THIS SUBDIVISION ARE PROPOSED TO BE REZONED TO A NEWLY FORMED ZONING DISTRICT, THE GUENOC VALLEY PLANNED DEVELOPMENT (GVPD) WITH OPEN SPACE AND AGRICULTURAL PRESERVE OVERLAYS/COMBINING DISTRICTS. REFER TO THE RELEVANT ZONING DISTRICTS FOR DEVELOPMENT REGULATIONS.
3. REFER TO THE SPECIFIC PLAN OF DEVELOPMENT FOR ALLOWED DEVELOPMENT INCLUDING PLANNED DEVELOPMENT DETAILS, DENSITY, AND SETBACKS.
4. REFER TO THE CC&R'S FOR FUTURE HOMEOWNERSHIP ASSOCIATION DETAILS AND MAINTENANCE REQUIREMENTS.
5. REFER TO THE WATER, WASTEWATER, AND ELECTRICAL FEASIBILITY REPORTS FOR THE PRIVATE UTILITY DISTRICT DETAILS.
6. REFER TO THE DESIGN GUIDELINES FOR LOT LAYOUT, DENSITY, BUILDING MASSING, LANDSCAPE DETAILS, ROAD AND PATHWAY DESIGN, STREET LIGHTING, DIRECTIONAL SIGNAGE AND RESIDENTIAL DESIGNS.
7. REFER TO THE FIRE MANAGEMENT PLAN FOR FIRE PREVENTION GUIDELINES AND VEGETATION FUEL REDUCTION SETBACKS.
8. ALL PROPOSED ROADWAYS WITHIN PROPERTY ARE PRIVATE AND ARE TYPICALLY INDEPENDENT INDIVIDUAL PARCELS, UNLESS OTHERWISE NOTED. THERE WILL BE NO PUBLIC RIGHTS OF WAY EXCEPT ALONG THE ENTRY ROADS UP TO THE FIRST GATE.
9. ALL ROADWAY CORRIDORS SHALL INCORPORATE EASEMENTS OF 50 FEET BEYOND EITHER SIDE OF THE EDGE OF PAVEMENT FOR VEGETATION MANAGEMENT, DEPENDING ON ENVIRONMENTAL CONSTRAINTS, WHICH SHALL BE FURTHER DEFINED IN AND MANAGED BY THE CC&RS.
10. ROAD NAMES ARE REFERENCED WITH NUMBERS, PROPOSED NAMES WILL BE PROVIDED IN SUBSEQUENT SUBMITTAL PRIOR TO HEARING.

SUBDIVISION NOTES:

1. SEE PARCELS SHEETS FOR BEARING, DISTANCE, AND CURVE INFORMATION OF PARCELS.
2. PERIPHERAL PARCELS ARE PROPOSED TO BE SUBDIVIDED AND ARE INCLUDED FOR REFERENCE. SEE PERIPHERAL PARCEL SHEETS FOR BEARING, DISTANCE, AND CURVE INFORMATION.
3. ENVIRONMENTAL PRESERVATION AREAS, INCLUDING SENSITIVE BIOLOGICAL SPECIES OR CULTURAL SITES WHERE APPLICABLE, WITHIN SUBDIVIDED PARCELS MAY BE IDENTIFIED AS CONCEPTUAL ON THE TENTATIVE MAP AND THEN FINAL ON THE FINAL MAP.
4. FOR WATER SUPPLY AND WASTEWATER DISPOSAL SYSTEMS AND DISTRIBUTION, REFER TO SPECIFIC PLAN OF DEVELOPMENT AND TECHNICAL FEASIBILITY REPORTS.
5. PROPOSED PRIVATE UTILITIES WILL BE REQUIRED THROUGHOUT THE SITE, INCLUDING SEWER, WATER, ELECTRIC, COMMUNICATIONS, AND LIQUID PROPANE. PRELIMINARY LOCATIONS OF MAJOR FACILITIES ARE SHOWN FOR REFERENCE IN TENTATIVE MAPS, HOWEVER, ADDITIONAL INFORMATION IS PROVIDED ON THE SPECIFIC PLAN OF DEVELOPMENT.

EASEMENTS:

1. EXISTING EASEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION PER RECORD DATA AND HAVE NOT BEEN FIELD SURVEYED.
2. ALL PROPOSED PRIVATE UTILITY AND ACCESS EASEMENTS (PUE), WHICH ARE TO BE SPECIFICALLY DEFINED DURING THE FINAL MAP STAGE, SHALL INCORPORATE THE FOLLOWING ELEMENTS WITHIN A COMBINED TYPICAL EASEMENT WIDTH OF 50 FEET TOTAL:
   a. TOTAL PAVED ROADWAY, INCLUDING SHOULDERS, FOR SHARED ACCESS (RANGES IN WIDTH FROM 22 TO 28 FEET FOR TWO-WAY ROADS AND 14 FEET FOR ONE-WAY ROADS).
   b. RETAINING AND DRAINAGE CONVEYANCE FEATURES (UP TO 12 FEET WIDE).
   c. UTILITY PIPING AND STRUCTURES (UP TO 10 FEET WIDE)
   d. EXCEPTIONS MAY OCCUR FOR SPECIFIC UTILITY STRUCTURES OR DRAINAGE FEATURES REQUIRING ADDITIONAL WIDTH
3. PROPOSED DRAINAGE MANAGEMENT EASEMENTS SHALL EXTEND TO 30 FEET FROM THE TOP OF BANKS OF PERENNIAL STREAMS AND 20 FEET FROM THE TOP OF BANKS OF INTERMITTENT STREAMS.

EXISTING CONDITIONS AND NATURAL RESOURCE PRESERVATION:

1. SETBACKS FOR DRAINAGES, RARE PLANTS, WOODLANDS, AND RIPARIAN ZONES WILL BE ADDRESSED WITHIN THE SPECIFIC PLAN OF DEVELOPMENT DOCUMENTATION AND THE ENVIRONMENTAL IMPACT REPORT, UNDER SEPARATE COVER.
2. FINAL CONFIGURATION OF DEDICATED OPEN SPACE SHALL BE DEVELOPED AS PART OF THE ENVIRONMENTAL REVIEW PROCESS.
3. OAK WOODLAND PRESERVATION AREAS WITHIN PARCELS MAY BE SUBJECT TO DEED RESTRICTIONS TO LIMIT REMOVAL OF TREES. FINAL LOCATIONS WILL BE DIRECTED BY THE ENVIRONMENTAL IMPACT REPORT AND WILL ULTIMATELY BE RECORDED IN THE FINAL MAP.
4. AREAS IDENTIFIED AS "DEVELOPMENT RESTRICTION AREAS" AS CONTAINING CULTURAL RESOURCES WILL BE DEED RESTRICTED TO PROHIBIT THEIR DISTURBANCE, AND MAY BE MORE ACCURATELY SURVEYED FOR INCLUSION ON THE FINAL MAP.
5. DEDICATED HABITAT CORRIDORS WITHIN PARCELS MAY BE SUBJECT TO DEED RESTRICTIONS TO LIMIT PLACEMENT, HEIGHT AND COMPOSITION OF FENCING, VEGETATION MANAGEMENT AND DISTURBANCE OF NATURAL RESOURCES. FINAL CONFIGURATIONS WILL ULTIMATELY BE RECORDED IN THE FINAL MAP, WITH THE TERMS OF SAID RESTRICTIONS TO BE INCLUDED IN THE COVENANTS, CONDITIONS AND RESTRICTIONS OF THE HOMEOWNERS' ASSOCIATIONS AND/OR OTHER REAL ESTATE PURCHASE AGREEMENTS.

PHASING NOTES:

1. FINAL PARCEL MAPS FILED WILL INDICATE SUBDIVISION CONSTRUCTION PHASING.
2. FINAL MAPS DEVELOPED FOR EACH AGREED UPON PHASE OF THE PROPOSED EVENTUAL SUBDIVISION WILL INCLUDE ALL PARCEL TYPES, INCLUDING THE ROAD PARCELS ADJACENT TO AND REQUIRED FOR EACH SUBDIVISION PHASE.

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
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CIVIL
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BOHN RIDGE SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

GENERAL NOTES

G0.01

LEGEND

- PROPOSED PARCEL BOUNDARY
- EXISTING PARCEL BOUNDARY
- NOT A PART (NAP)
- PRESERVED OPEN SPACE
- DEVELOPMENT RESTRICTION
- OAK WOODLAND PRESERVATION AREA
- HABITAT CORRIDOR
- COUNTY LINE
- EXISTING ROAD AND UTILITY EASEMENT

NOTE:

1. DEDICATED HABITAT CORRIDOR, PRESERVED OPEN SPACE AND OAK WOODLAND PRESERVATION AREAS ARE SHOWN FOR ILLUSTRATIVE PURPOSES. FINAL CONFIGURATION IS SUBJECT TO CHANGE AND WILL BE INCORPORATED IN THE FINAL MAP.

0 1750' 3500' NORTH

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2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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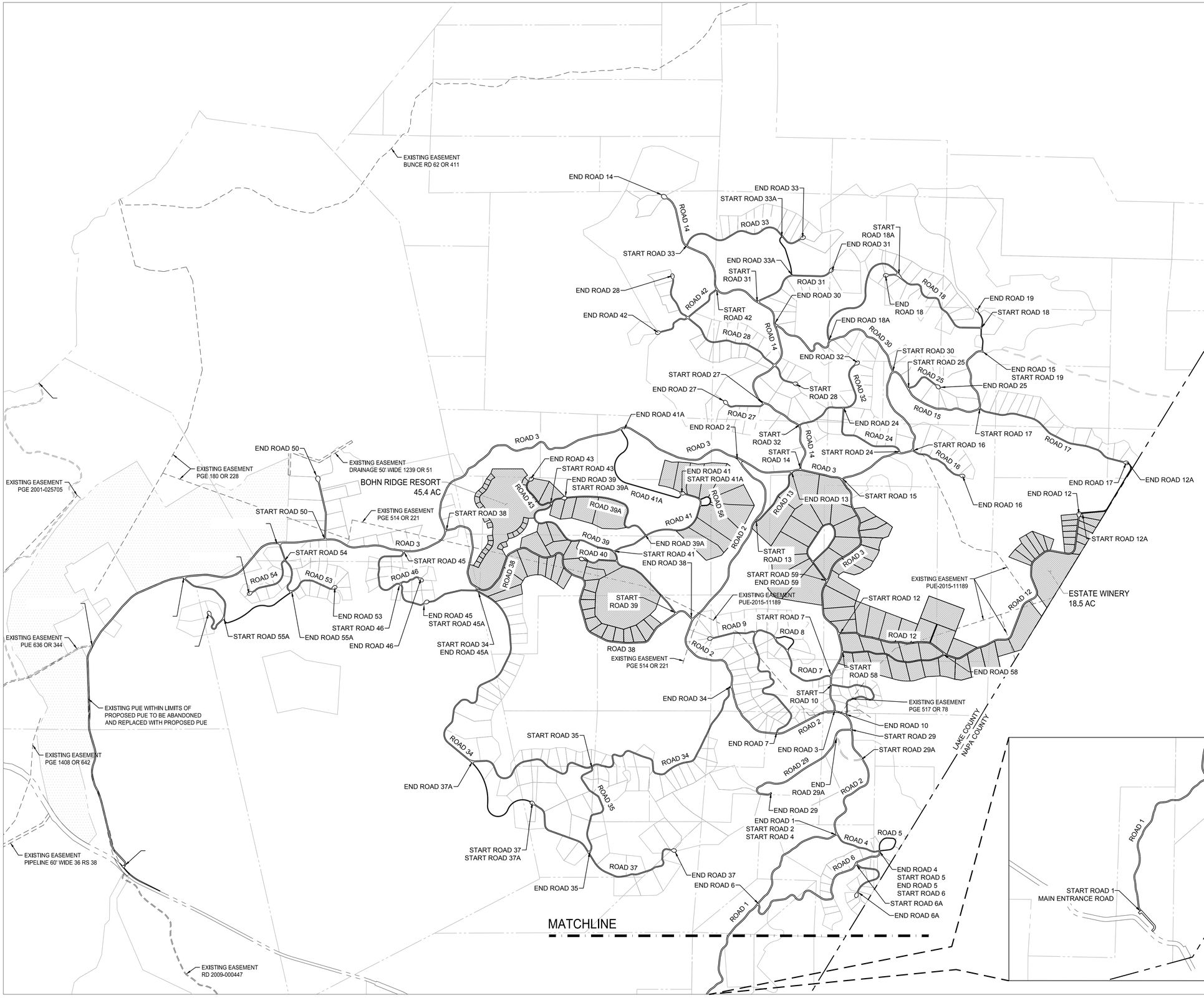
BOHN RIDGE SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

DEVELOPMENT RESTRICTIONS

G0.02



ROAD NAME	LENGTH [FT]	WIDTH [FT]	ROAD TYPE
ROAD 1	17,420	26	A
ROAD 2	14,896	26	A
ROAD 3	32,381	26	A
ROAD 4	1,133	22	B
ROAD 5	1,109	14	D
ROAD 6	4,602	26	A
ROAD 6A	1,327	22	B
ROAD 7	5,805	22	B
ROAD 8	785	14	D
ROAD 9	415	22	B
ROAD 10	2,215	22	B
ROAD 11	1,532	14	D
ROAD 12	8,154	26	A
ROAD 12A	1,900	14	D
ROAD 13	1,559	22	B
ROAD 14	8,716	26	A
ROAD 15	8,503	26	A
ROAD 16	1,331	22	B
ROAD 17	4,204	22	B
ROAD 18	2,776	22	B
ROAD 18A	3,160	16	C
ROAD 19	not used	not used	not used
ROAD 20	not used	not used	not used
ROAD 21	not used	not used	not used
ROAD 22	not used	not used	not used
ROAD 23	not used	not used	not used
ROAD 24	2,085	22	B
ROAD 25	802	22	B
ROAD 26	1,320	26	A
ROAD 27	915	22	B
ROAD 28	4,174	22	B
ROAD 29	3,227	26	A
ROAD 29A	937	16	C
ROAD 30	3,908	26	A
ROAD 31	1,950	22	B
ROAD 32	2,434	26	A
ROAD 33	3,090	22	B
ROAD 33A	1,025	16	C
ROAD 34	13,835	22	B
ROAD 35	2,582	22	B
ROAD 36	7,951	22	B
ROAD 37	5,034	22	B
ROAD 37A	2,515	16	C
ROAD 38	9,614	26	A
ROAD 39	6,025	22	B
ROAD 39A	2,522	16	C
ROAD 40	782	22	B
ROAD 41	2,980	22	B
ROAD 41A	2,883	14	D
ROAD 42	1,761	22	B
ROAD 43	950	22	B
ROAD 44	617	14	D
ROAD 45	4,310	22	B
ROAD 46	667	22	B
ROAD 48	not used	not used	not used
ROAD 49	not used	not used	not used
ROAD 50	9,093	26	A
ROAD 51	not used	not used	not used
ROAD 52	382	22	B
ROAD 53	2,501	22	B
ROAD 54	1,229	22	B
ROAD 55	2,274	22	B
ROAD 55A	1,995	14	D
ROAD 56	615	14	D
ROAD 57	1,387	26	A
ROAD 58	2,533	22	B
ROAD 59	2,825	22	B
ROAD 60	11,696	22	B

0 550' 1100' 2200'

NORTH

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DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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BOHN RIDGE SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

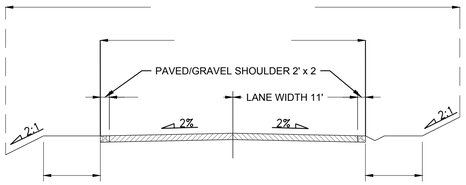
TENTATIVE MAP
SUBDIVISION BR

PHASE 1
MASTER
ROAD PLAN

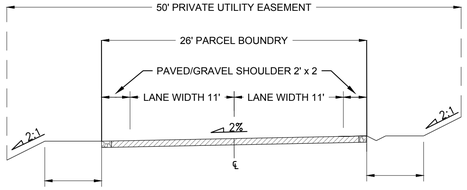
G1.00

TYPICAL ROAD SECTIONS

TYPE A - CROWNED/SUPERELEVATED PRIMARY 2 LANE ROAD



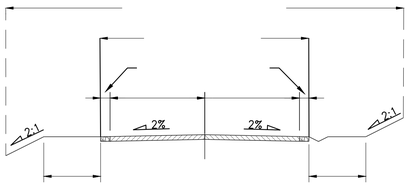
10' @ 10% MAX,
SEE NOTE 5



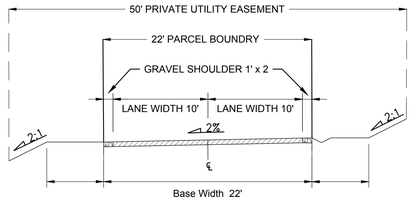
10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE B - CROWNED/SUPERELEVATED SECONDARY 2 LANE ROAD



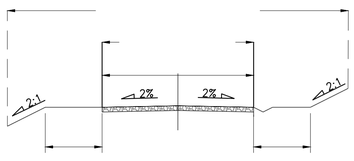
10' @ 10% MAX,
SEE NOTE 5



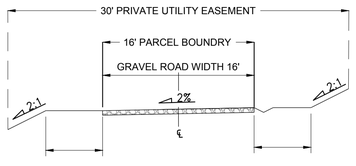
10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE C - CROWNED/SUPERELEVATED GRAVEL ROAD



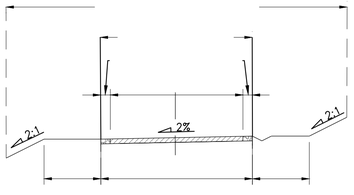
10' @ 10% MAX,



10' @ 10% MAX,
SEE NOTE 5

10' @ 10% MAX,
SEE NOTE 5

TYPE D - ONE WAY ROAD



10' @ 10% MAX,

NOTES:

1. SLOPES SHOWN HEREIN REPRESENT TYPICAL OR MAXIMUM CONDITIONS AND ARE SUBJECT TO CHANGE PER PENDING DETAILED ROADWAY DESIGN.
2. EASEMENTS SHOWN HEREIN REPRESENT TYPICAL MINIMUM WIDTH AND COVERAGE SITUATIONS AND ARE SUBJECT TO INCREASING TO ACCOMMODATE SPECIFIC STRUCTURES OR FEATURES TO BE DESIGNED.
3. PLEASE REFER TO THE DESIGN GUIDELINES AS PART OF THE GVD ZONING DESIGNATION FOR ROADWAY DESIGN DETAILS.
4. IN ADDITION TO THE PUE, THERE ARE VEGETATION AND FUEL REDUCTION AREAS 50' ON EITHER SIDE OF THE EDGE OF PAVEMENT. REFER TO THE FIRE MANAGEMENT PLAN.
5. 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.

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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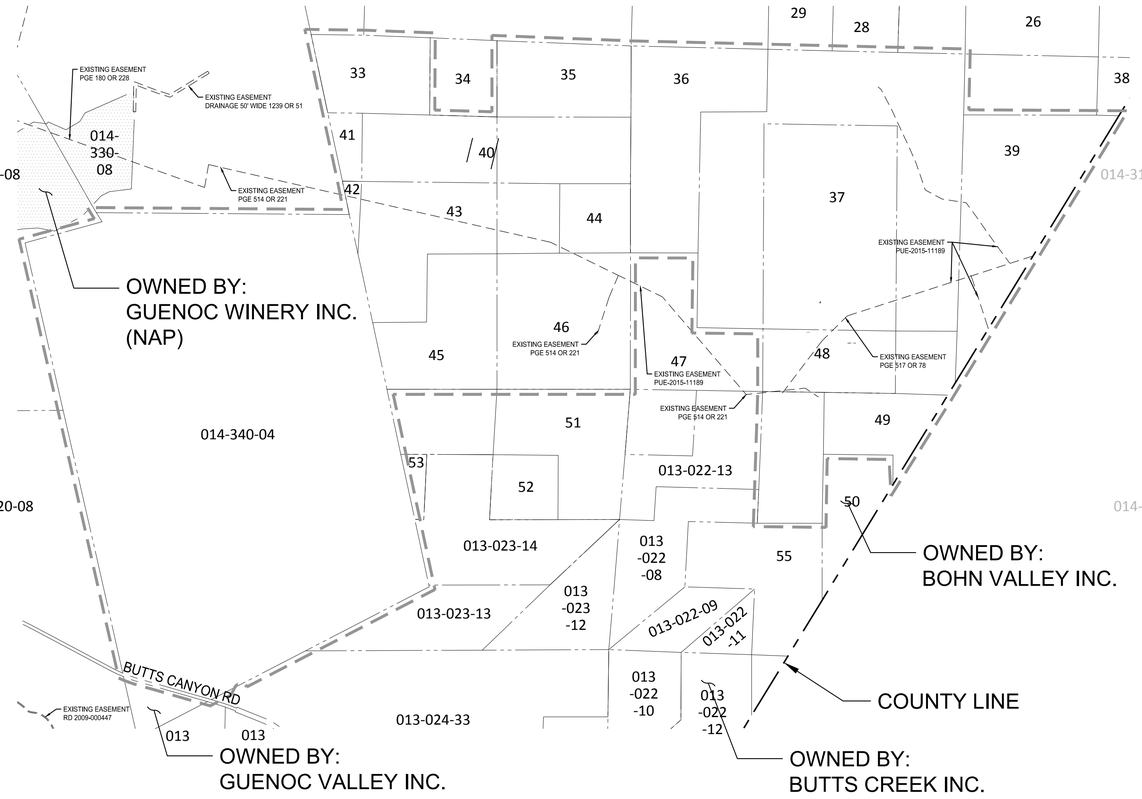
BOHN RIDGE SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

TYPICAL ROAD SECTIONS

G1.01

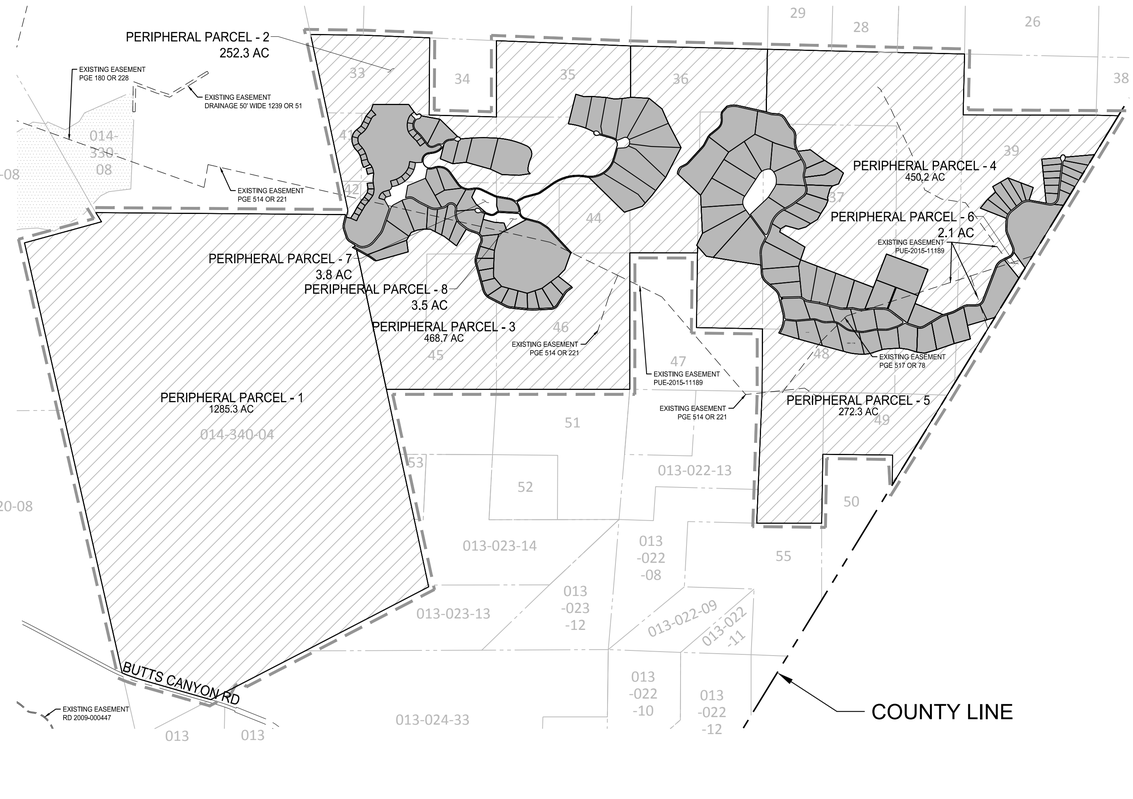
EXISTING PARCELS



EXISTING OWNERSHIP INFORMATION						
#	CC	APN	Owner	CC Doc #	Correction Deed	Approx. Acreage
33	11-44	013-016-05PT, 013-023-10PT	Bohn Valley Inc.	2012005997		104
35	11-33	013-023-07PT	Bohn Valley Inc.	2012006015		80
36	11-30	013-022-01	Bohn Valley Inc.	2012006016		160
37	11-64	013-022-01PT, 013-022-02PT, 013-022-05PT	Bohn Valley Inc.	2012006005		600
39	11-92	013-022-02PT	Bohn Valley Inc.	2012017325		185
40	11-61	013-023-07PT, 013-023-10PT	Bohn Valley Inc.	2012006023		160
41	11-82	013-023-11	Bohn Valley Inc.	2012006009		11
42	11-81	013-023-10PT	Bohn Valley Inc.	2012006008		7
43	11-36	013-023-10PT, 013-023-07PT	Bohn Valley Inc.	2012006017		160
44	11-75	013-023-07PT	Bohn Valley Inc.	2012005992		40
45	11-32	013-023-15PT, 013-023-10PT	Bohn Valley Inc.	2012006011		165
46	11-34	013-023-07PT	Bohn Valley Inc.	2012006012		160
48	11-55	013-022-05PT, 013-022-14PT	Bohn Valley Inc.	2012006003		160
49	11-85	013-022-02PT, 013-022-14PT	Bohn Valley Inc.	2012017321		102
-	-	014-340-041	Bohn Valley Inc.			

- Grant Deed #2016-016244 - Bohn Valley Inc
  APNs - 013-016-05, 013-022-01, 013-022-02, 013-022-05, 013-022-14, 013-023-07, 013-023-10, 013-023-11, 013-023-15
- Grant Deed #2016-010655 - Guenoc Valley Inc
  APNs - 014-310-07, 014-310-09, 014-330-09, 014-340-04, 014-320-08
- Grant Deed #2016-016243 - Butts Creek Inc
  APNs - 013-022-08, 013-023-12, 013-024-33, 013-022-09, 013-022-10, 013-024-34, 013-022-11, 013-022-12

PROPOSED SUBDIVISION



PROPOSED PARCEL TYPES	
VILLA	99
RESORT RESIDENTIAL	30
COMMERCIAL	3
FACILITY	0
GOLF	0
PERIPHERAL	8

NOTES:
1. SEE SHEET G0.01 FOR GENERAL NOTES.
2. SEE SHEETS G1.00 AND G1.01 FOR PHASE 1 MASTER ROAD PLAN AND TYPICAL SECTIONS (USED FOR REFERENCE AND CONTEXT OF FULL BUILDOUT OF PHASE 1).
3. SEE SHEETS BR1.00 THROUGH BR1.07 FOR DETAILED SUBDIVISION OF PROPOSED ROAD, COMMERCIAL AND RESIDENTIAL PARCELS.
4. SEE SHEETS BR2.01 THROUGH BR2.02 FOR DETAILED PERIPHERAL PARCELS.

0 750' 1500' 3000' NORTH

SHERWOOD DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84170
CIVIL
STATE OF CALIFORNIA

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BOHN RIDGE SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

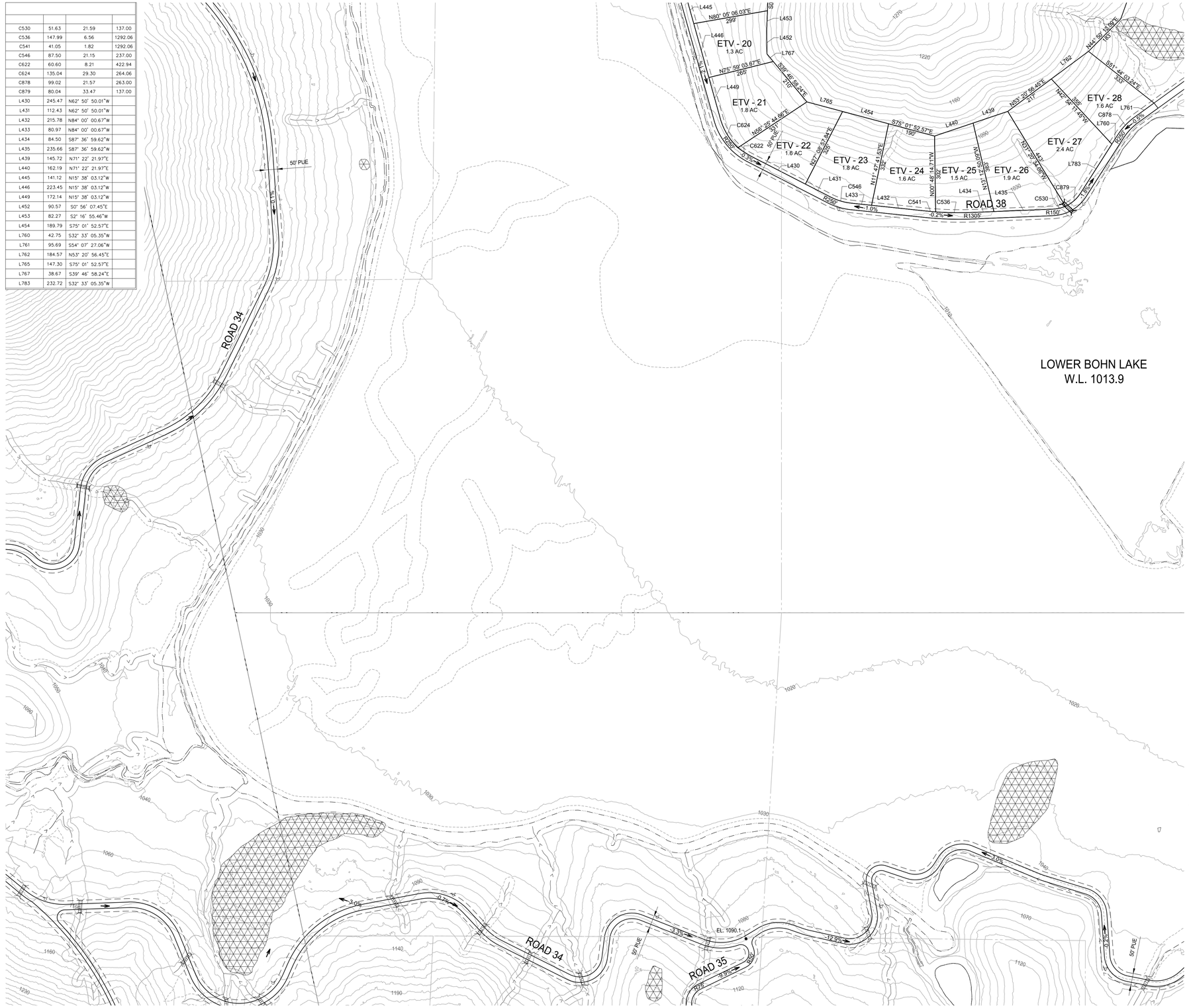
TENTATIVE MAP
SUBDIVISION BR

BR OVERALL SUBDIVISION PLAN

BR1.00

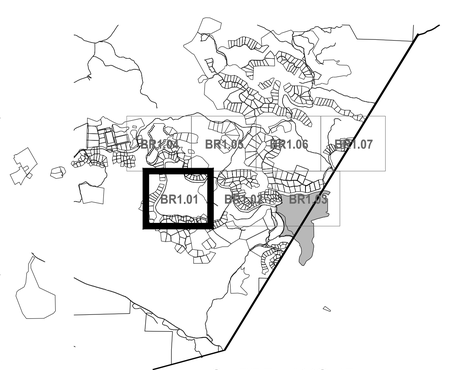
P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PK04\PK04-EXISTING PARCELS.DWG

C530	51.63	21.59	137.00
C536	147.99	6.56	1292.06
C541	41.05	1.82	1292.06
C546	87.50	21.15	237.00
C622	60.60	8.21	422.94
C624	135.04	29.30	264.06
C878	99.02	21.57	263.00
C879	80.04	33.47	137.00
L430	245.47	N62° 50' 50.01"W	
L431	112.43	N62° 50' 50.01"W	
L432	215.78	N84° 00' 00.67"W	
L433	80.97	N84° 00' 00.67"W	
L434	84.50	S87° 36' 59.62"W	
L435	235.66	S87° 36' 59.62"W	
L439	145.72	N71° 22' 21.97"E	
L440	162.19	N71° 22' 21.97"E	
L445	141.12	N15° 38' 03.12"W	
L446	223.45	N15° 38' 03.12"W	
L449	172.14	N15° 38' 03.12"W	
L452	90.57	S0° 56' 07.45"E	
L453	82.27	S2° 16' 55.46"W	
L454	189.79	S75° 01' 52.57"E	
L760	42.75	S32° 33' 05.35"W	
L761	95.69	S54° 07' 27.06"W	
L762	184.57	N53° 20' 56.45"E	
L765	147.30	S75° 01' 52.57"E	
L767	38.67	S39° 46' 58.24"E	
L783	232.72	S32° 33' 05.35"W	



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK
- GROUND WATER WELL
- ELECTRICAL SUBSTATION
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE



SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400' NORTH

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

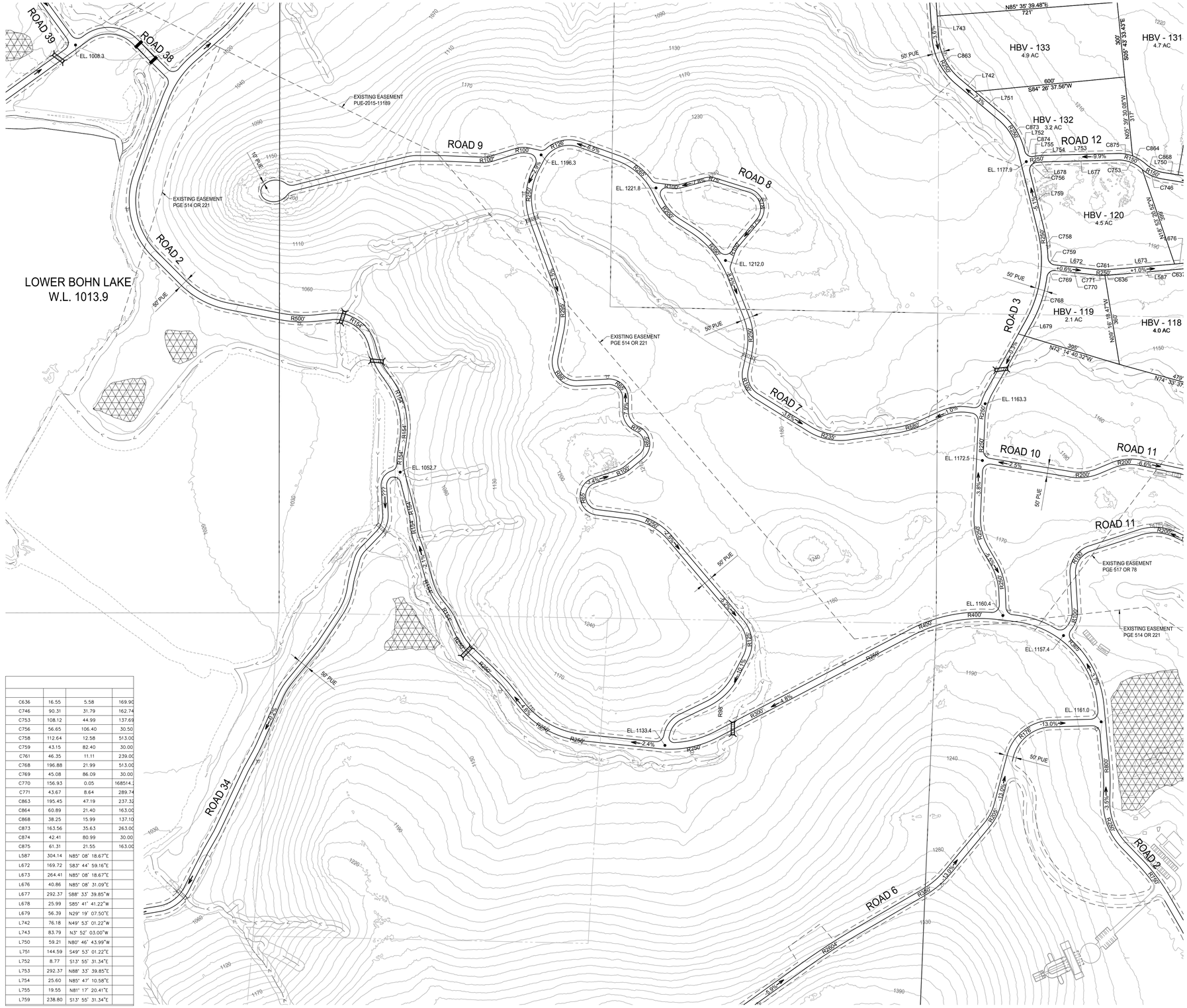
BOHN RIDGE SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

BR SUBDIVISION PLAN

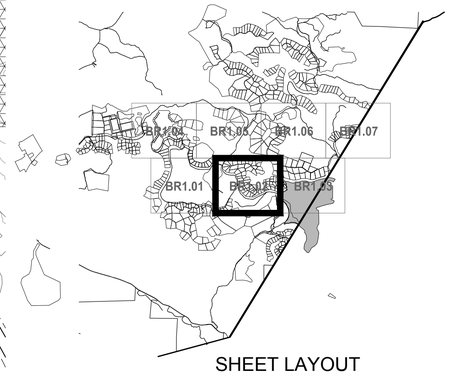
BR1.01



C636	16.55	5.58	169.90
C746	90.31	31.79	162.74
C753	108.12	44.99	137.68
C756	56.65	106.40	30.50
C758	112.64	12.58	513.00
C759	43.15	82.40	30.00
C761	46.35	11.11	239.00
C768	196.88	21.99	513.00
C769	45.08	86.09	30.00
C770	156.93	0.05	168514.1
C771	43.67	8.64	289.74
C863	195.45	47.19	237.32
C864	60.89	21.40	163.00
C868	38.25	15.99	137.10
C873	163.56	35.63	263.00
C874	42.41	80.99	30.00
C875	61.31	21.55	163.00
L587	304.14	N85° 08' 18.67"E	
L672	169.72	S83° 44' 59.16"E	
L673	264.41	N85° 08' 18.67"E	
L676	40.86	N85° 08' 31.09"E	
L677	292.37	S88° 33' 39.85"W	
L678	25.99	S85° 41' 41.22"W	
L679	56.39	N29° 19' 07.50"E	
L742	76.18	N49° 53' 01.22"W	
L743	83.79	N3° 52' 03.00"W	
L750	59.21	N80° 46' 43.99"W	
L751	144.59	S49° 53' 01.22"E	
L752	8.77	S13° 55' 31.34"E	
L753	292.37	N88° 33' 39.85"E	
L754	25.60	N85° 47' 10.58"E	
L755	19.55	N81° 17' 20.41"E	
L759	238.80	S13° 55' 31.34"E	

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK
- GROUND WATER WELL
- ELECTRICAL SUBSTATION
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE



SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400' NORTH

SHERWOOD DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

BOHN RIDGE SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

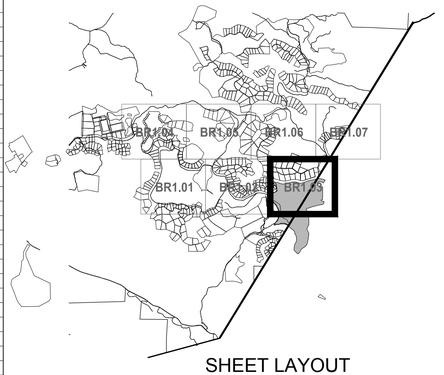
BR SUBDIVISION PLAN

BR1.02

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C451	46.95	9.73	276.42
C452	58.37	14.11	237.00
C453	16.02	6.87	133.57
C454	85.33	20.63	237.00
C456	73.39	16.16	260.16
C457	50.11	9.17	313.00
C458	64.77	14.11	263.00
C459	118.16	49.42	137.00
C460	45.37	10.97	237.00
C461	34.55	8.35	237.00
C462	76.42	16.60	263.69
C480	140.58	49.41	163.00
C481	113.34	39.84	163.00
C483	70.67	17.09	237.00
C489	15.99	5.62	163.00
C637	43.04	10.39	237.27
C647	126.07	27.68	261.00
C648	151.32	0.87	10000.00
C652	418.43	21.03	1139.74
C703	149.46	36.13	237.00
C704	59.58	113.78	30.00
C705	50.17	11.82	243.22
C706	77.38	18.55	239.00
C727	40.08	8.00	287.00
C729	94.69	20.63	263.00
C731	35.83	14.98	137.00
C735	78.49	18.82	239.00
C737	71.73	13.94	294.78
C742	78.42	17.09	263.00
C743	122.17	26.82	261.00
C744	115.44	27.68	239.00
C764	123.26	26.66	264.89
C765	105.58	25.11	240.89
C767	51.12	11.22	261.00
C773	63.97	15.34	239.00
C775	108.10	23.15	267.54
C777	65.97	2.76	1371.96
C778	97.08	23.27	239.00
C783	62.53	14.99	239.00
C785	190.73	20.47	533.91
C786	85.72	18.82	261.00
C787	58.57	13.43	249.80
C788	148.14	0.85	10000.00
C790	89.89	19.59	262.89
C791	157.39	0.11	84611.52
C795	78.90	16.69	270.88
C796	32.25	61.34	30.13
C797	108.23	26.16	237.00
C799	83.12	29.22	163.00
L472	161.23	S73° 38' 12.07"W	
L475	199.76	N61° 36' 48.72"E	
L476	9.94	N62° 48' 38.51"E	
L477	104.62	N72° 47' 30.72"E	
L478	166.98	S20° 48' 11.06"W	
L479	455.43	S21° 13' 28.22"W	
L480	456.04	N21° 13' 28.14"E	
L481	159.18	N21° 26' 08.01"E	
L545	178.36	N71° 54' 08.39"W	
L546	165.00	N58° 40' 55.70"E	
L547	379.75	S58° 40' 55.70"W	
L549	74.42	N72° 47' 32.69"E	
L551	185.06	N88° 42' 53.32"W	
L552	135.15	S82° 06' 43.81"W	
L554	41.36	S82° 06' 43.81"W	
L555	94.91	N77° 15' 29.89"W	
L565	148.84	N75° 09' 23.21"W	
L566	167.69	N80° 46' 43.99"W	
L578	154.75	N82° 06' 48.43"W	
L636	190.89	S88° 43' 56.11"E	
L638	78.48	S61° 12' 06.77"W	
L639	146.54	S72° 06' 31.74"W	
L640	161.85	N89° 20' 27.48"W	
L657	79.02	S82° 30' 06.48"E	
L658	187.99	N78° 40' 52.96"E	
L659	176.50	S82° 06' 43.81"W	
L661	94.91	N77° 15' 29.89"W	
L662	26.54	S87° 45' 29.33"W	
L663	148.14	S54° 49' 34.88"E	
L664	99.83	S82° 30' 06.48"E	
L665	144.04	S87° 45' 29.33"W	
L666	202.28	N75° 09' 24.59"W	
L667	233.62	N80° 44' 18.44"W	
L668	204.33	N75° 12' 11.00"W	
L674	56.84	S69° 12' 28.05"E	
L675	109.61	N87° 03' 59.63"E	
L680	43.01	N88° 02' 56.61"E	
L681	70.99	S69° 12' 28.05"E	
L683	179.39	N78° 40' 52.96"E	
L684	27.53	S82° 30' 06.48"E	
L685	21.28	S89° 20' 27.48"E	
L686	42.78	S73° 10' 23.74"W	
L688	50.37	S89° 20' 27.48"E	
L689	101.98	S89° 20' 27.48"E	
L690	164.90	S81° 35' 41.78"E	
L691	186.45	S73° 02' 30.42"E	
L692	167.74	N71° 54' 08.39"W	
L693	115.68	S61° 11' 07.22"W	
L694	43.45	S65° 58' 36.75"W	
L695	141.80	S89° 49' 42.32"E	

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK (W)
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE



SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400' NORTH

SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

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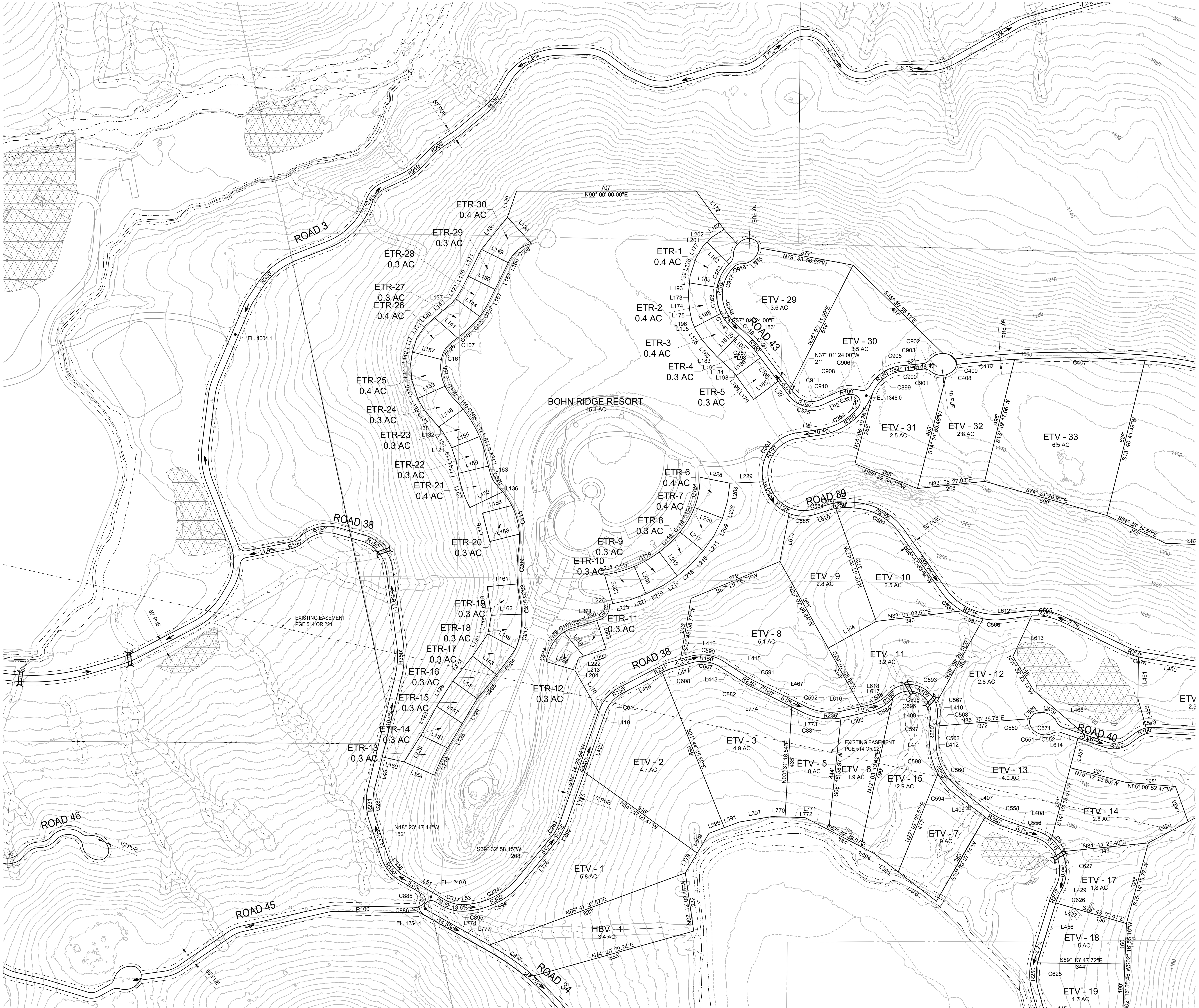
CHECKED CA,MH,SG

BOHN RIDGE SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

BR SUBDIVISION PLAN

BR1.03



LEGEND

PARCEL BOUNDARY
ROADWAY
CUL-DE-SAC
COUNTY LINE
CULVERT
WASTE WATER TREATMENT FACILITY — WW
BRIDGE
WATER PUMP
WATER TANK — W
FIRE HYDRANT
GROUND WATER WELL — WELL
FIRE TANK
ELECTRICAL SUBSTATION — ELEC
EXISTING POWER POLE
DEVELOPMENT RESTRICTION AREA
EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
EASEMENT
EPHEMERAL STREAMS
ORDINARY HIGH WATER MARK
INTERMITTENT TOP OF BANK
PERENNIAL TOP OF BANK
EXISTING PARCEL BOUNDARY
EPHEMERAL STREAM SETBACK

SHEET LAYOUT
NOT TO SCALE

0 100' 200' 400'
NORTH

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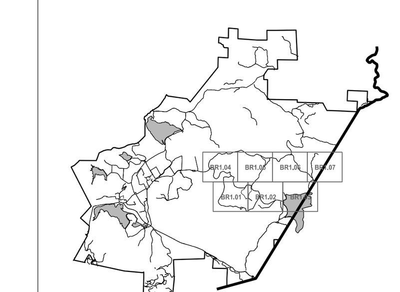
CALIFORNIA



TENTATIVE MAP
SUBDIVISION BR

BR SUBDIVISION PLAN

BR1.04

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C105	111.06	10.78	590.44
C107	25.88	2.51	590.44
C108	139.60	14.83	539.36
C110	59.81	6.35	539.36
C114	353.58	43.49	465.79
C116	113.46	13.96	465.79
C117	94.10	11.57	465.79
C118	32.42	3.99	465.79
C119	125.67	16.42	438.40
C121	45.54	5.95	438.40
C124	202.65	35.25	329.40
C126	80.71	14.04	329.40
C127	100.94	17.68	327.14
C129	36.36	6.37	327.14
C158	171.19	56.35	174.05
C160	56.49	18.59	174.05
C161	7.19	2.37	174.05
C162	105.98	35.52	170.97
C163	105.25	35.27	170.97
C164	61.63	20.65	170.97
C179	131.73	53.07	142.21
C181	43.24	17.42	142.21
C204	127.07	4.18	1740.89
C205	121.41	5.51	1263.56
C207	34.51	2.75	720.09
C208	63.84	6.36	575.07
C209	201.65	20.29	569.50
C210	119.26	12.15	562.17
C211	142.83	18.76	436.22
C214	51.20	8.19	358.22
C216	56.47	9.67	334.64
C217	195.96	33.60	334.16
C224	225.79	45.08	287.00
C225	241.17	48.91	282.50
C257	37.66	9.03	239.00
C268	182.26	43.98	237.44
C287	78.69	20.31	222.00
C289	121.90	32.04	218.00
C303	263.85	93.90	161.00
C308	114.21	47.75	137.05
C317	86.24	36.07	137.00
C318	97.83	40.91	137.00
C320	53.22	27.23	112.00
C325	149.98	77.41	111.00
C326	77.21	42.63	103.78
C327	53.22	34.20	89.17
C336	74.53	82.12	52.00
C355	59.32	113.28	30.00
C407	513.92	7.63	3857.49
C408	27.90	23.63	67.64
C409	32.52	50.27	37.07
C410	229.30	3.40	3858.77
C547	64.66	22.73	163.00
C550	35.10	54.24	37.07
C551	100.77	85.31	67.68
C552	31.96	45.80	39.98
C556	59.66	20.97	163.00
C558	76.03	18.38	237.00
C560	195.32	47.22	237.00
C562	54.25	13.12	237.00
C565	15.69	3.76	239.00
C566	82.42	18.09	261.00
C567	55.81	28.30	113.00
C568	3.48	0.84	237.00
C569	35.96	55.57	37.07
C570	90.43	76.59	67.64
C571	37.30	53.00	40.32
C573	30.37	15.68	111.00
C576	19.09	4.19	261.00
C580	110.78	24.32	261.00
C581	205.06	49.16	239.00
C584	29.49	7.07	239.00
C585	107.14	38.13	161.00
C586	65.86	15.79	239.00
C587	89.70	19.69	261.00
C588	81.65	34.15	137.00
C590	140.42	49.36	163.00
C591	26.41	6.82	222.00
C592	151.99	39.23	222.00
C593	231.12	117.19	113.00
C594	108.37	23.61	263.00
C595	71.39	47.01	87.00
C596	149.52	98.47	87.00
C597	64.06	13.96	263.00
C598	108.37	23.61	263.00
C607	118.02	49.36	137.00
C608	44.06	11.58	218.00
C610	106.19	42.85	142.00
C625	111.19	26.88	237.00
C626	46.53	11.25	237.00
C627	158.80	55.82	163.00
C881	155.76	35.99	248.00
C882	29.50	6.82	248.00
C884	97.15	34.15	163.00
C885	33.88	64.71	30.00
C886	38.95	122.45	18.23
C892	87.90	20.31	248.00
C894	246.24	45.08	313.00
C895	110.95	38.56	164.88
C897	202.92	11.50	1011.00
C899	152.11	62.70	139.00
C900	37.50	53.20	40.39
C901	62.59	53.66	66.84
C902	58.00	49.87	66.64
C903	37.49	53.61	40.07
C905	153.62	54.67	161.00
C906	40.41	68.75	33.68
C908	74.03	37.57	112.89

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C910	75.07	48.33	89.01
C911	45.60	29.36	89.00
C915	99.81	84.92	67.34
C916	34.67	49.29	40.29
C917	122.80	46.53	151.21
C918	126.72	48.08	151.01
C919	108.91	0.35	17644.34
C920	42.33	8.18	296.37
L45	130.45	N13° 38' 31.33"E	
L51	191.04	N59° 18' 33.67"W	
L53	8.33	S84° 37' 28.38"W	
L92	76.51	N65° 33' 45.57"E	
L94	89.17	S81° 41' 40.03"W	
L98	29.12	N37° 01' 24.00"W	
L99	72.52	S37° 01' 24.00"E	
L100	115.90	N37° 01' 24.00"W	
L101	49.07	N46° 03' 04.89"W	
L102	57.37	N46° 03' 04.89"W	
L111	61.57	N3° 49' 23.84"W	
L112	47.63	N7° 57' 49.20"E	
L113	113.75	N8° 05' 21.64"W	
L114	45.49	N9° 51' 30.73"W	
L115	74.74	N10° 26' 30.63"E	
L116	115.90	S14° 29' 12.69"E	
L117	60.83	N17° 48' 24.65"E	
L118	77.67	N17° 56' 00.49"W	
L119	58.67	N18° 20' 34.18"W	
L120	108.90	N19° 21' 07.65"E	
L121	30.93	N26° 22' 12.22"W	
L122	129.85	S28° 23' 49.94"W	
L123	46.00	N29° 02' 07.47"W	
L124	113.96	S30° 43' 01.87"W	
L125	112.93	S30° 44' 55.10"W	
L126	45.51	N31° 42' 51.62"W	
L127	43.73	N32° 22' 10.55"E	
L128	117.96	N32° 22' 17.50"E	
L129	124.31	S32° 26' 14.70"W	
L130	106.63	S34° 28' 07.98"W	
L131	56.60	N35° 37' 42.06"E	
L132	21.18	N38° 27' 45.02"W	
L133	47.34	N38° 28' 24.45"W	
L134	125.20	S38° 34' 29.84"W	
L135	163.05	N38° 56' 26.60"E	
L136	36.59	S41° 12' 14.08"E	
L137	20.71	N41° 12' 32.07"E	
L138	46.51	N42° 13' 42.43"W	
L139	140.55	S42° 20' 16.72"E	
L140	48.21	N48° 32' 13.15"E	
L141	120.76	N48° 40' 38.52"W	
L142	91.05	N49° 33' 53.44"E	
L143	119.09	S52° 25' 00.47"E	
L144	118.04	S53° 32' 49.41"E	
L145	118.54	S54° 16' 47.84"E	
L146	118.10	N54° 17' 50.94"E	
L147	121.66	N56° 16' 13.78"W	
L148	124.42	N61° 55' 16.24"W	
L149	118.00	S63° 37' 55.20"E	
L150	118.00	S63° 37' 59.28"E	
L151	116.64	S64° 24' 31.91"E	
L152	143.41	S64° 29' 02.82"W	
L153	118.02	S65° 44' 43.52"W	
L154	131.22	N66° 19' 23.36"W	
L155	117.98	S67° 45' 45.89"W	
L156	119.17	S75° 29' 09.21"W	
L157	118.21	N75° 41' 29.92"W	
L158	120.16	N75° 46' 08.77"E	
L159	121.64	N76° 20' 58.74"E	
L160	87.99	N76° 56' 41.83"W	
L161	120.33	N84° 50' 36.78"E	
L162	120.16	S87° 55' 53.97"W	
L163	28.76	S14° 44' 41.65"E	
L164	41.68	S14° 44' 41.65"E	
L166	8.30	S26° 22' 04.88"W	
L167	58.18	S26° 22' 04.88"W	
L168	117.77	S26° 22' 04.88"W	
L170	58.18	N26° 22' 04.88"E	
L171	117.77	N26° 22' 04.88"E	
L172	186.35	S36° 02' 20.67"E	
L173	32.70	S2° 47' 40.36"E	
L174	33.94	S5° 32' 52.43"E	
L175	41.27	S11° 33' 18.58"E	
L176	74.55	S18° 18' 55.36"W	
L177	49.33	S30° 49' 18.49"W	
L178	49.69	S33° 10' 34.04"E	
L179	61.30	S37° 00' 11.03"E	
L180	82.42	S41° 59' 00.20"E	
L181	122.98	S43° 58' 55.64"W	
L182	121.97	N45° 16' 27.38"W	
L183	5.00	S46° 34' 52.66"E	
L184	34.81	S48° 13' 12.73"E	
L185	120.16	N53° 08' 44.47"E	
L186	119.05	N53° 15' 13.79"E	
L187	56.37	S56° 59' 37.16"W	
L188	117.66	N62° 25' 55.22"E	
L189	110.46	N80° 50' 07.90"W	
L190	48.53	S46° 34' 51.17"E	
L192	29.42	S5° 44' 17.35"W	
L193	41.35	S5° 44' 17.35"W	
L195	12.11	S21° 57' 34.94"E	
L196	28.61	S21° 57' 34.94"E	
L198	21.48	S35° 52' 57.04"E	
L199	54.83	S35° 52' 57.04"E	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L201	26.11	S44° 18' 52.72"W	
L202	53.11	S44° 18' 52.72"W	
L203	69.88	S7° 22' 50.46"W	
L204	40.89	S15° 45' 50.46"W	
L205	118.09	S16° 00' 01.08"E	
L206	71.72	S16° 24' 50.90"W	
L207	118.00	S18° 06' 42.15"E	
L208	118.00	N22° 59' 12.50"W	
L209	75.85	S25° 41' 54.67"W	
L210	189.48	S29° 32' 59.69"E	
L211	72.99	S35° 38' 12.99"W	
L212	118.00	S36° 57' 29.27"E	
L213	13.47	S37° 57' 51.93"W	
L214	121.84	N39° 07' 48.93"W	
L215	71.24	S41° 47' 49.78"W	
L216	72.37	S49° 48' 06.95"W	
L217	117.61	S51° 37' 52.45"E	
L218	66.63	S56° 06' 35.56"W	
L219	75.68	S63° 28' 27.91"W	
L220	118.00	N69° 02' 03.49"W	
L221	66.28	S69° 56' 44.73"W	
L222	15.77	S70° 33' 14.21"W	
L223	93.16	S72° 21' 59.61"W	
L224	118.26	S73° 25' 59.87"E	
L225	70.13	S73° 15' 55.34"W	
L226	14.76	S77° 18' 03.78"W	
L227	27.95	S78° 35' 16.86"W	
L228	119.74	N78° 45' 03.60"W	
L229	131.16	S87° 35' 45.59"W	
L230	59.52	N71° 57' 15.92"E	
L371	74.13	S71° 57' 15.92"W	
L391	64.16	N69° 39' 15.96"E	
L393	119.64	S77° 24' 39.71"W	
L394	59.48	N62° 32' 39.07"W	
L395	118.23	N52° 27' 43.19"W	
L397	129.55	N80° 36' 35.47"E	
L398	64.16	N69° 39' 15.96"E	
L399	90.90	N30° 49' 56.98"E	
L405	189.84	N52° 27' 43.19"W	
L406	145.87	S52° 37' 03.33"E	
L407	141.15	N52° 37' 03.33"W	
L408	138.20	N70° 59' 51.96"W	
L409	30.92	S8° 33' 27.89"W	
L410	30.92	S8° 33' 27.89"W	
L411	29.37	S5° 23' 55.08"E	
L412	29.37	N5° 23' 55.08"W	
L413	64.32	N56° 44' 09.84"W	
L415	112.41	S56° 44' 09.84"E	
L416	38.36	N73° 54' 23.43"E	
L417	77.75	S73° 54' 23.43"W	
L418	178.72	S62° 19' 38.26"W	
L419	36.53	S19° 14' 26.54"W	
L420	208.96	S19° 14' 26.54"W	
L425	147.74	N19° 43' 39.87"W	
L426	177.33	N61° 57' 43.86"E	
L427	139.37	N73° 43' 03.41"W	
L429	7.39	N28° 31' 15.65"E	
L456	246.90	N16° 58' 09.50"E	
L457	119.91	S14° 40' 18.51"W	
L458	120.21	S15° 39' 33.68"E	
L460	227.20	N80° 25' 02.54"W	
L461	164.62	S0° 37' 37.82"W	
L464	216.83	N60° 52' 51.16"E	
L466	265.98	N49° 10' 54.08"W	
L467	227.83	S63° 33' 06.20"E	
L612	94.14	S82° 36' 08.52"W	
L613	176.07	N24° 53' 57.35"E	
L614	67.80	S71° 21' 00.92"E	
L615	89.83	S71° 21' 00.92"E	
L616	72.10	N77° 13' 15.68"E	
L617	33.52	N77° 13' 15.68"E	
L618	6.23	N43° 04' 23.81"E	
L619	192.60	S10° 47' 04.88"W	
L620	52.80	S72° 41' 30.09"W	
L621	15.58	N84° 27' 04.67"W	
L770	51.33	S88° 24' 17.65"E	
L771	78.22	N88° 24' 17.65"W	
L772	105.84	N62° 32' 39.07"W	
L773	47.26	S63° 33' 06.20"E	
L774	180.57	N63° 33' 06.20"W	
L775	208.96	S19° 14' 26.54"W	
L776	208.05	S39° 32' 58.15"W	
L777	280.90	S60° 38' 52.93"E	
L778	29.46	N59° 18' 33.67"W	
L779	90.90	N30° 49' 56.98"E	

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www.sherwoodengineers.com

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LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

BR SUBDIVISION PLAN

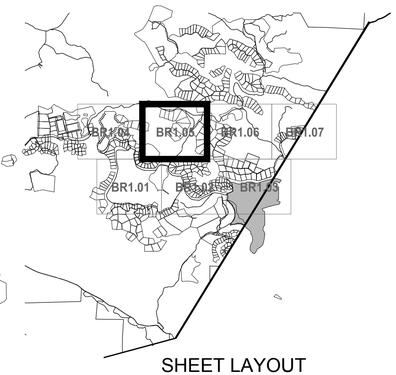
BR1.04A

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C383	307.36	35.35	498.16
C384	313.12	36.01	498.16
C385	47.69	5.49	498.16
C386	37.15	70.96	30.00
C387	87.32	46.76	107.00
C388	47.78	25.59	107.00
C389	12.48	8.72	82.00
C390	61.57	32.97	107.00
C391	55.84	39.02	82.00
C392	68.31	47.73	82.00
C393	28.94	66.33	25.00
C394	21.86	9.50	131.81
C395	41.37	17.98	131.81
C396	27.97	5.24	306.00
C397	32.11	45.65	40.31
C398	43.20	36.60	67.64
C399	47.22	40.00	67.64
C400	30.30	46.82	37.07
C401	179.05	7.72	1328.73
C402	354.96	15.31	1328.73
C403	568.28	20.10	1620.23
C404	309.11	98.96	178.96
C405	224.85	16.65	773.53
C406	105.51	63.07	95.86
C574	50.89	97.19	30.00
C575	323.14	77.66	238.41
C617	60.04	14.39	239.00
C809	27.60	6.62	239.00
C810	68.20	14.97	261.00
C811	38.85	20.05	111.00
C812	13.02	29.84	25.00
C813	89.24	21.57	237.00

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C880	75.38	18.07	239.00
C929	179.19	26.53	387.00
C930	17.23	32.90	30.00
C931	69.32	44.62	89.00
C932	193.01	52.41	211.00
L443	442.45	S61° 57' 43.86"W	
L459	349.60	S86° 50' 57.75"E	
L594	119.65	S66° 15' 22.71"W	
L595	116.71	N87° 01' 56.21"E	
L596	12.01	N18° 16' 46.35"W	
L597	158.94	S66° 07' 49.75"E	
L599	49.66	N69° 01' 40.05"W	
L600	168.97	N74° 15' 52.64"W	
L601	42.74	S74° 15' 52.64"E	
L602	161.46	N9° 59' 23.35"W	
L603	67.48	S14° 05' 24.01"W	
L604	169.10	N73° 06' 11.41"W	
L605	154.78	S88° 02' 54.47"W	
L606	282.22	N85° 38' 49.40"W	
L607	172.61	S80° 01' 23.45"E	
L608	149.92	N86° 26' 27.87"E	
L609	180.99	N82° 05' 49.45"E	
L653	644.82	N42° 35' 48.20"W	
L654	122.75	N56° 59' 22.16"W	
L700	137.12	N80° 24' 22.06"W	
L704	21.69	S11° 07' 13.54"W	
L705	33.74	S32° 41' 42.63"W	
L706	106.45	S62° 32' 23.20"W	
L708	140.33	S27° 30' 46.58"W	
L724	173.49	N33° 03' 59.41"E	
L764	341.12	N19° 41' 00.79"E	
L769	230.09	N75° 03' 35.32"W	
L780	225.26	N81° 10' 41.33"E	

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK (W)
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE



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LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

BR SUBDIVISION PLAN

BR1.05

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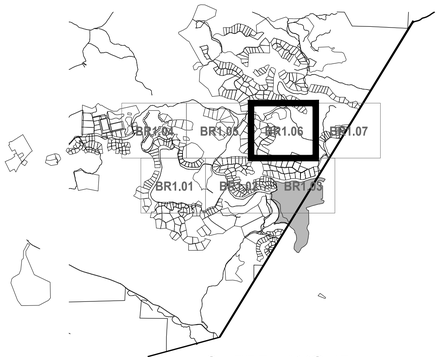
PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C438	114.86	38.09	172.79
C439	20.51	4.95	237.48
C442	80.37	26.57	173.31
C444	349.87	41.14	487.29
C806	33.37	63.66	30.03
C807	226.52	31.50	412.00
C808	100.90	26.95	214.51
C814	167.74	45.47	211.38
C828	77.56	40.03	111.00
C832	59.29	8.11	418.92
C837	165.89	64.66	147.00
C838	88.37	8.63	587.00
C841	75.64	20.54	211.00
C845	397.36	44.38	512.97
C846	78.51	11.15	403.56
C847	60.89	116.34	29.99
C848	36.08	7.34	281.67
C850	186.63	44.92	238.04
C852	65.79	17.76	212.24
C853	115.23	31.29	211.00
C856	14.28	6.02	135.78
C857	64.44	20.29	181.98
C858	32.39	6.45	287.76
C859	130.42	28.33	263.80
C860	66.42	14.82	256.77
C861	109.77	25.92	242.61
C862	200.11	29.51	388.58
C872	90.79	12.24	424.95
C876	141.92	3.23	2514.36
C877	92.29	8.63	613.00
C922	142.65	48.23	169.46
C923	179.95	24.97	413.00
C926	74.88	19.80	216.71
C927	53.59	27.66	111.00
L484	120.89	S58° 07' 58.90"W	
L485	260.06	N74° 23' 59.45"W	
L486	155.27	S73° 14' 08.01"W	
L487	114.01	S54° 31' 08.39"W	
L490	176.75	S32° 52' 54.16"W	
L491	121.30	S22° 42' 46.99"W	
L492	58.22	S11° 18' 55.82"E	
L493	178.49	S16° 21' 21.17"W	
L494	76.82	S42° 00' 05.58"W	
L495	124.27	S71° 14' 26.23"W	
L496	158.71	S52° 19' 10.59"E	
L530	131.54	N12° 50' 53.70"W	
L532	62.58	N12° 24' 45.57"W	
L534	196.89	N52° 14' 38.63"E	
L538	17.08	N60° 52' 12.00"E	
L696	19.27	S35° 52' 01.58"E	
L698	120.49	S27° 09' 30.50"W	
L701	149.70	S36° 14' 18.89"E	
L702	25.77	S36° 05' 54.38"E	
L714	11.14	S33° 49' 34.24"E	
L715	157.78	N30° 40' 05.33"W	
L716	53.65	N65° 28' 12.79"W	
L718	109.04	S60° 52' 12.00"W	
L719	236.47	S52° 14' 38.63"W	
L720	50.98	S12° 24' 45.57"E	
L722	112.94	S33° 13' 59.59"W	
L723	10.08	S33° 14' 02.51"W	
L726	115.72	S16° 29' 15.18"W	
L727	482.63	N36° 05' 54.38"W	
L728	456.44	N46° 29' 00.28"E	
L729	49.94	S60° 49' 21.85"W	
L730	143.14	S12° 24' 45.57"E	
L731	22.90	S16° 16' 34.45"W	
L732	47.17	N2° 32' 08.34"W	
L733	30.45	N33° 49' 34.24"W	
L734	56.50	S30° 40' 05.33"E	
L736	247.36	S83° 13' 40.56"W	
L737	216.68	S30° 36' 57.81"E	
L739	132.32	N17° 08' 13.59"E	
L740	69.36	S27° 32' 55.20"W	
L744	147.99	S27° 38' 02.48"W	
L745	131.01	S16° 38' 47.29"W	
L746	12.07	S18° 59' 47.66"W	
L747	196.02	N57° 51' 54.28"W	
L748	63.33	N15° 03' 09.04"E	
L756	157.44	S59° 01' 18.39"W	
L757	137.44	S29° 49' 27.70"W	
L758	39.58	N52° 14' 38.63"E	
L795	47.37	N74° 33' 19.78"E	

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK (W)
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
- DEVELOPMENT RESTRICTION AREA
- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
- EASEMENT
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY
- EPHEMERAL STREAM SETBACK
- WASTE WATER TREATMENT FACILITY (WW)
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE



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LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

BR SUBDIVISION PLAN

BR1.06

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C130	82.29	17.93	263.00
C131	62.55	13.63	263.00
C132	47.31	10.31	263.00
C133	97.99	21.35	263.00
C134	85.55	18.64	263.00
C269	204.79	49.51	237.00
C270	200.28	48.42	237.00
C271	101.98	24.65	237.00
C291	103.92	35.87	166.00
C292	162.99	56.93	164.04
C309	223.53	93.48	137.00
C331	55.09	42.42	74.41
C332	76.46	58.87	74.41
C337	40.96	52.92	44.34
C338	40.94	53.35	43.97
C482	165.85	40.10	237.00
L300	156.83	N2° 27' 06.22"E	
L301	15.22	N3° 39' 36.05"E	
L302	39.99	N6° 53' 30.61"E	
L303	20.55	N6° 53' 45.81"E	
L304	15.16	N10° 27' 54.96"E	
L305	295.38	N22° 12' 11.22"W	
L306	233.39	N50° 52' 10.37"E	
L308	63.41	N79° 37' 15.03"W	
L309	368.76	S79° 37' 15.59"E	
L310	150.06	N6° 53' 35.77"E	
L311	157.87	N6° 53' 35.77"E	
L312	181.57	N6° 53' 35.77"E	
L313	164.58	N6° 53' 35.77"E	
L314	80.18	S6° 53' 35.77"W	
L315	138.74	N6° 53' 35.77"E	
L316	135.92	N6° 53' 35.77"E	
L317	147.69	N6° 57' 24.94"E	
L318	170.98	N6° 50' 17.81"E	
L319	3.29	S50° 52' 10.37"W	
L320	93.61	S50° 52' 10.37"W	
L321	136.49	N50° 52' 10.37"E	
L322	139.30	S5° 40' 49.21"E	
L323	122.74	S5° 49' 38.50"E	
L324	130.90	S5° 40' 49.21"E	
L325	126.37	S5° 40' 49.21"E	
L326	153.95	S5° 40' 49.21"E	
L327	202.03	N5° 40' 49.21"W	
L328	186.83	S84° 07' 39.38"E	
L329	151.30	S31° 29' 28.81"W	
L330	152.11	S31° 29' 28.81"W	
L331	172.38	S31° 29' 28.81"W	
L335	122.35	S27° 32' 31.02"E	
L336	170.47	N60° 04' 13.65"E	
L337	176.89	S60° 04' 13.65"W	
L471	54.20	N61° 12' 39.87"E	

LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- CULVERT
- BRIDGE
- WATER TANK (W)
- GROUND WATER WELL (WELL)
- ELECTRICAL SUBSTATION (ELEC)
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- EXISTING PG&E POLE LINE EASEMENT (NO WIDTH GIVEN)
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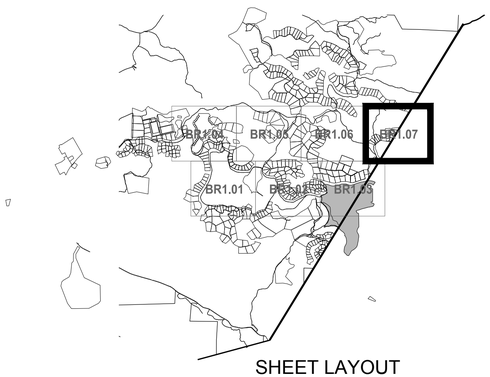
- WATER PUMP
- FIRE HYDRANT
- FIRE TANK
- EXISTING POWER POLE



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SHERWOOD
DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No.84120
CIVIL
STATE OF CALIFORNIA

SCALE: 1:200
0 1"
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NO	DATE	ISSUANCE

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

BOHN RIDGE SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

BR SUBDIVISION PLAN

BR1.07

AVERAGE CROSS SLOPE TABLE		
PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
ETR - 1	16,652	18.30
ETR - 2	15,906	21.93
ETR - 3	15,557	21.09
ETR - 4	13,884	16.50
ETR - 5	13,909	14.32
ETR - 6	15,422	11.05
ETR - 7	15,324	21.51
ETR - 8	15,080	26.18
ETR - 9	15,015	24.45
ETR - 10	15,183	25.82
ETR - 11	13,601	32.69
ETR - 12	12,346	27.42
ETR - 13	14,752	4.51
ETR - 14	14,424	0.98
ETR - 15	13,902	11.08
ETR - 16	14,754	10.06
ETR - 17	14,254	6.29
ETR - 18	13,240	19.14
ETR - 19	14,079	19.40
ETR - 20	14,377	29.21
ETR - 21	16,760	36.95
ETR - 22	13,456	29.38
ETR - 23	13,162	16.80
ETR - 24	15,121	13.09
ETR - 25	17,237	11.89
ETR - 26	16,198	16.67
ETR - 27	13,907	28.79
ETR - 28	13,294	33.75
ETR - 29	13,897	29.28
ETR - 30	16,628	19.19
ETV - 1	253,399	32.05
ETV - 2	203,002	30.05
ETV - 3	212,359	27.04
ETV - 5	77,525	26.08
ETV - 6	82,083	24.32
ETV - 7	83,342	10.19
ETV - 8	221,176	24.47
ETV - 9	123,144	27.94
ETV - 10	108,400	21.67
ETV - 11	140,726	27.35
ETV - 12	121,276	24.30
ETV - 13	173,409	23.64
ETV - 14	122,515	23.06
ETV - 15	126,619	16.36
ETV - 16	100,154	26.79
ETV - 17	78,289	19.46
ETV - 18	63,216	21.99
ETV - 19	72,219	24.67

AVERAGE CROSS SLOPE TABLE		
PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
ETV - 20	57,545	29.18
ETV - 21	78,010	30.80
ETV - 22	68,766	26.88
ETV - 23	79,391	26.21
ETV - 24	70,112	28.06
ETV - 25	64,955	27.14
ETV - 26	83,930	23.49
ETV - 27	104,610	24.10
ETV - 28	68,848	27.84
ETV - 29	157,448	13.05
ETV - 30	152,435	12.79
ETV - 31	109,907	15.13
ETV - 32	122,984	17.70
ETV - 33	283,854	17.16
ETV - 34	461,326	23.78
ETV - 35	202,449	23.60
ETV - 36	196,744	22.85
ETV - 37	243,615	24.13
ETV - 38	299,960	23.95
ETV - 39	300,977	26.15
ETV - 40	280,663	24.17
ETV - 41	302,813	20.34
ETV - 42	413,099	26.71
ETV - 43	284,229	29.20
ETV - 44	355,457	26.52
ETV - 47	1,592,459	25.91
HBV - 108	433,337	10.82
HBV - 109	124,423	9.48
HBV - 110	207,390	11.88
HBV - 111	200,189	12.57
HBV - 112	174,690	16.20
HBV - 113	179,277	19.62
HBV - 114	142,321	24.95
HBV - 115	155,746	20.25
HBV - 116	190,648	22.32
HBV - 117	210,194	16.61
HBV - 118	173,232	11.24
HBV - 119	91,502	10.01
HBV - 120	197,761	11.01
HBV - 121	156,922	14.44
HBV - 122	142,728	13.76
HBV - 123	179,321	13.34
HBV - 124	159,051	9.04
HBV - 125	176,658	7.16
HBV - 126	236,317	12.18
HBV - 127	213,151	13.56
HBV - 128	192,338	11.77
HBV - 129	240,392	9.56

AVERAGE CROSS SLOPE TABLE		
PARCEL NAME	AREA (SQ.FT.)	MEAN SLOPE (%)
HBV - 130	242,131	13.76
HBV - 131	204,818	15.32
HBV - 132	140,866	14.12
HBV - 133	213,474	15.59
HBV - 134	263,318	16.38
HBV - 135	236,578	11.94
HBV - 136	162,257	6.56
HBV - 137	144,643	8.58
HBV - 138	133,158	11.97
HBV - 139	104,258	9.44
HBV - 140	161,666	8.75
HBV - 141	122,973	9.33
HBV - 142	100,019	10.52
HBV - 143	230,653	8.05
HBV - 144	227,048	13.57
HBV - 145	222,278	8.42
HBV - 146	216,870	10.05
HBV - 147	247,301	5.16
HBV - 148	266,008	11.49
HBV - 149	315,410	15.84
HBV - 150	319,256	16.17
HBV - 151	275,771	11.89
HBV - 152	399,797	15.00
HBV - 153	522,922	16.99
HBV - 154	524,729	24.60
HBV - 155	532,906	21.05
HBV - 156	379,922	14.08
HBW - 1	48,931	14.12
HBW - 2	47,127	10.17
HBW - 3	43,556	10.41
HBW - 4	43,359	14.01
HBW - 5	43,693	15.61
HBW - 6	44,169	12.80
HBW - 7	49,062	17.02
HBW - 8	45,915	15.42
HBW - 9	50,772	15.28
HBW - 10	59,259	14.84
HBW - 11	65,353	16.74
HBW - 12	74,385	21.09
HBW - 13	45,837	17.99
HBW - 14	61,358	21.38
HBW - 15	86,742	20.35
HBW - 16	97,422	13.16
HBW - 17	74,929	10.80
HBW - 18	80,256	4.25
BOHN RIDGE RESORT	1,978,241	15.33
ESTATE WINERY	804,533	19.56

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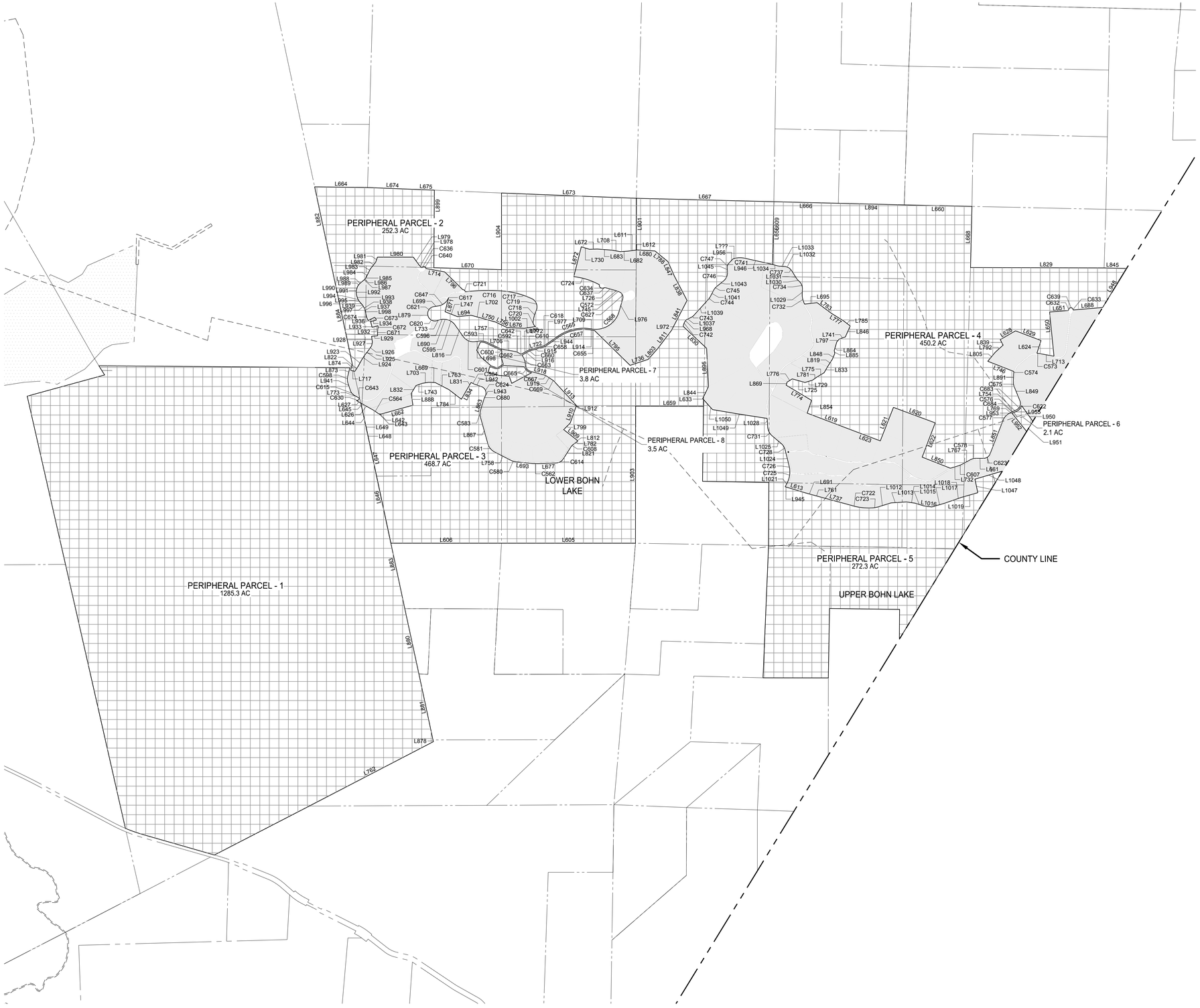
BOHN RIDGE SUBDIVISION
GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

RESIDENTIAL PARCEL AVERAGE SLOPES

BR1.20



LEGEND

- PARCEL BOUNDARY
- ROADWAY
- CUL-DE-SAC
- COUNTY LINE
- REMAINDER PARCELS
- DEVELOPMENT PARCELS
- EPHEMERAL STREAMS
- ORDINARY HIGH WATER MARK
- INTERMITTENT TOP OF BANK
- PERENNIAL TOP OF BANK
- EXISTING PARCEL BOUNDARY

0 500' 1000' 2000' NORTH

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GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

PERIPHERAL PARCEL PLAN

BR2.01

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
C562	192.85	8.38	1318.06
C564	159.96	9.28	988.00
C565	697.17	44.88	890.05
C568	697.28	83.90	476.16
C572	25.96	5.24	284.00
C573	35.12	7.65	263.00
C574	38.70	8.43	263.00
C575	113.17	24.65	263.00
C576	22.66	4.94	263.00
C577	184.05	40.10	263.00
C578	131.14	28.57	263.00
C580	97.10	21.15	263.00
C581	216.72	47.21	263.00
C583	151.05	32.91	263.00
C584	79.65	17.35	263.00
C592	127.93	28.08	261.00
C593	150.25	32.98	261.00
C595	223.93	49.16	261.00
C596	104.12	22.86	261.00
C598	136.44	32.04	244.00
C600	66.76	16.00	239.00
C601	259.06	62.10	239.00
C607	46.28	11.19	237.00
C608	89.23	21.57	237.00
C610	51.15	13.89	211.00
C614	156.65	55.07	163.00
C615	116.39	40.91	163.00
C617	0.89	0.37	139.01
C618	48.11	19.83	139.00
C620	230.72	95.10	139.00
C621	227.80	93.90	139.00
C622	211.25	88.35	137.00
C623	165.12	69.06	137.00
C624	237.96	99.52	137.00
C627	164.56	85.10	110.79
C630	44.04	28.35	89.00
C632	44.12	26.69	94.69
C633	22.95	10.24	128.45
C634	90.43	76.60	67.64
C636	45.21	38.30	67.64
C637	31.05	44.51	39.97
C639	83.68	117.57	40.78
C640	66.64	103.00	37.07
C642	29.07	66.63	25.00
C643	50.99	116.85	25.00
C647	274.35	60.23	261.00
C655	61.32	7.05	498.16
C657	679.94	44.88	868.05
C658	55.72	19.83	161.00
C660	45.82	13.89	189.00
C662	49.24	108.51	26.00
C663	158.32	29.01	312.68
C665	177.87	73.32	139.00
C667	82.32	18.07	261.00
C669	65.56	14.39	261.00
C671	137.81	13.87	569.34
C672	59.25	12.02	282.50
C673	64.58	13.10	282.50
C674	142.83	18.76	436.22
C680	51.63	11.25	263.00
C683	146.78	51.59	163.00
C684	20.42	4.94	237.00
C714	363.59	7.01	2969.68
L???	38.95	S75° 55' 55.00"W	
L605	2638.84	N90° 00' 00.00"E	
L606	2178.82	N90° 00' 00.00"E	
L609	1238.81	S1° 03' 38.36"W	
L611	166.17	S82° 05' 49.45"W	
L612	14.81	S82° 05' 49.45"W	
L613	399.49	S73° 11' 47.03"E	
L619	963.69	S69° 13' 23.68"E	
L620	876.93	S69° 38' 02.95"E	
L621	709.25	N21° 25' 49.34"E	
L622	721.53	S20° 48' 11.06"W	
L623	576.76	S69° 13' 23.68"E	
L624	263.58	S17° 55' 36.90"W	
L626	249.44	N60° 38' 52.93"W	
L627	97.90	N60° 38' 52.93"W	
L628	347.36	N60° 04' 13.65"E	
L629	536.56	S69° 13' 04.32"E	
L630	599.05	N46° 57' 50.96"W	
L633	27.57	N41° 44' 11.47"W	
L642	45.09	N80° 55' 28.80"W	
L643	45.09	N80° 55' 28.80"W	
L644	304.31	S12° 25' 43.42"E	
L645	88.93	S12° 25' 43.42"E	
L646	1351.16	S12° 03' 06.83"E	
L647	715.96	S12° 03' 06.83"E	
L648	182.48	S12° 03' 06.86"E	
L649	182.48	S12° 03' 06.86"E	
L650	875.28	N5° 40' 49.21"W	
L651	372.15	N85° 24' 10.28"E	
L656	1238.81	S1° 03' 38.36"W	
L659	1338.18	S89° 53' 46.22"E	
L660	1333.75	N88° 43' 34.41"W	
L661	141.80	S89° 49' 42.32"E	
L662	654.90	S74° 20' 59.24"W	
L663	4944.59	N89° 33' 15.31"W	
L664	1041.75	S89° 17' 01.99"E	
L666	1270.92	N88° 35' 12.34"W	
L667	2709.09	S88° 35' 12.22"E	
L668	1205.03	N1° 20' 47.58"E	
L669	129.55	N88° 24' 17.65"W	
L670	1333.04	S88° 19' 14.80"E	
L672	154.78	S88° 02' 54.47"W	
L673	2658.29	S87° 45' 15.30"E	
L674	990.82	S87° 44' 05.73"E	
L675	326.60	S87° 43' 55.08"E	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L676	338.04	S87° 39' 07.92"E	
L677	320.15	N87° 36' 59.62"E	
L680	354.49	N86° 37' 49.90"W	
L682	149.92	S86° 26' 27.87"W	
L683	282.22	N85° 38' 49.40"W	
L688	582.61	N85° 04' 46.13"E	
L690	15.58	N84° 27' 04.67"W	
L691	150.20	S74° 33' 37.17"E	
L693	296.75	S84° 00' 00.67"E	
L694	265.94	N83° 55' 27.93"E	
L695	247.25	N83° 14' 13.84"E	
L698	94.14	S82° 36' 08.52"W	
L699	89.17	N81° 41' 40.03"E	
L702	250.11	S74° 24' 20.98"E	
L703	129.55	S80° 36' 35.47"W	
L706	227.20	N80° 25' 02.54"W	
L708	172.61	N80° 01' 23.45"W	
L709	4.25	N80° 01' 20.32"W	
L713	306.54	S79° 37' 15.03"E	
L714	377.46	N79° 33' 56.65"W	
L717	87.99	S76° 56' 41.83"E	
L722	256.12	S74° 55' 37.70"W	
L724	1581.15	S74° 41' 26.66"W	
L725	260.06	N74° 23' 59.45"W	
L726	213.45	S74° 15' 52.64"E	
L729	155.27	S73° 14' 08.01"W	
L730	169.10	N73° 06' 11.41"W	
L732	179.04	N72° 47' 32.69"E	
L733	52.80	S72° 41' 30.09"W	
L736	375.36	N71° 48' 58.28"E	
L737	614.90	S74° 55' 22.34"E	
L741	124.27	S71° 14' 26.23"W	
L743	128.33	S69° 39' 15.96"W	
L745	49.66	S69° 01' 40.05"E	
L746	553.53	N68° 34' 57.86"W	
L747	264.86	S68° 29' 34.38"E	
L750	250.11	S74° 24' 20.98"E	
L754	72.18	N66° 08' 47.83"E	
L756	255.12	S64° 38' 34.50"E	
L757	278.56	N64° 24' 49.71"W	
L758	357.90	S62° 50' 50.01"E	
L760	2105.45	N62° 42' 57.61"E	
L761	144.65	S74° 33' 37.17"E	
L762	2751.76	N62° 33' 51.89"E	
L763	308.92	N62° 32' 39.07"W	
L767	195.36	N61° 36' 10.67"E	
L769	66.31	N61° 12' 39.87"E	
L772	146.68	S61° 02' 16.78"W	
L773	102.38	N59° 18' 33.67"W	
L774	581.41	S59° 09' 44.78"E	
L775	157.44	S59° 01' 18.39"W	
L776	120.89	S58° 07' 58.90"W	
L777	291.98	S58° 07' 29.54"E	
L781	114.01	S54° 31' 08.39"W	
L782	96.73	N54° 07' 24.92"E	
L783	348.61	S53° 15' 22.48"E	
L784	308.07	N52° 27' 43.19"W	
L785	158.71	S52° 19' 10.59"E	
L788	330.92	N50° 41' 05.91"W	
L792	211.01	N47° 56' 36.14"E	
L795	982.19	S45° 33' 29.24"E	
L796	496.96	N45° 30' 55.11"W	
L797	76.82	S42° 00' 05.58"W	
L799	182.53	N44° 50' 12.09"E	
L803	285.79	N41° 22' 46.57"E	
L805	228.52	N39° 32' 37.82"E	
L811	446.60	N37° 12' 10.38"E	
L812	26.02	N38° 09' 38.00"W	
L816	282.17	N35° 17' 33.92"W	
L819	176.75	S32° 52' 54.16"W	
L821	275.47	N32° 33' 05.35"E	
L822	124.31	N32° 26' 14.70"E	
L825	213.48	S32° 04' 35.93"E	
L829	2631.80	N89° 50' 52.89"W	
L831	113.19	S30° 50' 36.14"W	
L832	181.81	S30° 49' 56.98"W	
L833	137.44	S29° 49' 27.70"W	
L834	270.34	S29° 43' 15.60"W	
L838	542.23	N27° 35' 32.49"W	
L839	122.35	N27° 32' 31.02"W	
L841	666.37	N27° 26' 36.03"E	
L844	262.52	N25° 37' 15.48"E	
L845	441.53	N88° 35' 03.77"W	
L846	235.82	S23° 58' 33.41"W	
L847	311.12	N23° 49' 58.27"W	
L848	121.30	S22° 42' 46.99"W	
L849	295.38	N22° 12' 11.22"W	
L850	598.66	S68° 27' 54.69"E	
L851	707.70	N21° 06' 55.39"E	
L854	266.60	S18° 53' 05.89"W	
L863	222.02	S17° 16' 23.71"W	
L864	178.49	S16° 21' 21.17"W	
L867	536.71	S15° 38' 03.12"E	
L868	225.26	N81° 10' 41.33"E	
L869	63.33	S15° 03' 09.04"W	
L871	286.00	S14° 06' 08.47"W	
L872	606.83	S14° 05' 24.01"W	
L873	176.86	N13° 38' 31.33"E	
L874	135.14	N13° 38' 31.33"E	
L876	3400.76	S12° 48' 27.94"E	
L877	5332.14	S12° 47' 06.30"E	
L878	35.16	N12° 13' 28.63"W	
L879	8.63	N12° 12' 13.98"W	
L880	1314.36	N12° 11' 26.26"W	

PARCEL LINE AND CURVE TABLE			
LINE #/CURVE #	LENGTH	BEARING/DELTA	RADIUS
L881	1331.19	N12° 02' 42.42"W	
L882	1584.21	N12° 01' 09.67"W	
L883	1317.79	N11° 59' 09.39"W	
L884	1977.51	N11° 57' 18.27"W	
L885	58.22	S11° 18' 55.82"E	
L888	231.66	S8° 12' 03.15"E	
L891	156.83	N2° 27' 06.22"E	
L894	1299.38	N88° 35' 12.34"W	
L895	755.54	N2° 43' 57.02"W	
L899	1527.81	S0° 22' 25.89"W	
L901	1018.81	S0° 08' 46.83"W	
L903	2700.77	N0° 02' 53.64"E	
L904	1510.42	N0° 00' 00.00"E	
L909	332.92	N51° 44' 03.24"W	
L910	341.12	N19° 41' 00.79"E	
L912	22.00	N47° 24' 11.80"E	
L913	644.82	N42° 35' 47.88"W	
L914	4.25	S80° 01' 20.32"E	
L915	256.12	N74° 55' 37.70"E	
L916	120.57	N60° 34' 42.32"E	
L918	255.73	N75° 03' 35.32"W	
L919	122.75	N56° 59' 22.16"W	
L923	129.85	N28° 23' 49.94"E	
L924	117.96	N32° 22' 17.50"E	
L925	125.20	N38° 34' 29.84"E	
L926	106.63	N34° 28' 07.98"E	
L927	74.74	S10° 26' 30.63"W	
L928	113.75	S8° 05' 21.64"E	
L929	120.33	S84° 50' 36.78"W	
L932	120.16	N75° 46' 08.77"E	
L933	115.90	S14° 29' 12.69"E	
L934	119.17	S75° 29' 09.21"W	
L936	143.41	N64° 29' 02.82"E	
L937	58.67	N18° 20' 34.18"W	
L938	30.93	N26° 22' 12.22"W	
L939	21.18	N38° 27' 45.02"W	
L941	151.98	N18° 23' 47.44"W	
L942	138.20	S70° 59' 51.96"E	
L943	7.39	S28° 31' 15.65"W	
L944	298.67	N55° 05' 53.75"E	
L945	22.10	S73° 27' 55.69"E	
L946	416.51	N77° 29' 07.51"W	
L948	901.67	N31° 29' 28.81"E	
L950	380.92	S35° 34' 05.91"E	
L951	234.30	S31° 29' 28.81"W	
L952	457.58	N38° 41' 17.75"W	
L953	12.11	N61° 12' 22.83"E	
L955	72.47	N66° 08' 46.39"E	
L956	123.06	S43° 01' 55.57"W	
L968	36.31	S36° 21' 48.42"W	
L972	30.63	N46° 57' 50.96"W	
L976	269.63	S16° 04' 31.20"W	
L977	298.67	S55° 05' 53.75"W	
L978	79.42	S41° 53' 38.78"E	
L979	186.35	S36° 02' 20.67"E	
L980	707.36	N90° 00' 00.00"E	
L981	108.90	N19° 21' 07.65"E	
L982	163.05	N38° 56' 26.60"E	
L983	117.77	N26° 22' 04.88"E	
L984	58.18	N26° 22' 04.88"E	
L985	43.73	N32° 22' 10.55"E	
L986	20.71	N41° 12' 32.07"E	
L987	91.05	N49° 33' 53.44"E	
L988	48.21	N48° 32' 13.15"E	
L989	56.60	N35° 37' 42.06"E	
L990	60.83	N17° 48' 24.65"E	
L991	47.63	N7° 57' 49.20"E	
L992	61.57	N3° 49' 23.84"W	
L993	77.67	N17° 56' 00.49"W	
L994	46.00	N29° 02' 07.47"W	
L995	47.34	N38° 28' 24.45"W	
L996	46.51	N42° 13' 42.43"W	
L997	45.51	N31° 42' 51.62"W	
L998	45.49	N9° 51' 30.73"W	
L1001	1467.85	N74° 00' 56.99"W	

SHERWOOD DESIGN ENGINEERS
2548 Mission Street
San Francisco, CA 94110
www.sherwoodengineers.com

REGISTERED PROFESSIONAL ENGINEER
CODY ANDERSON
EXP: 9/30/23
No. 84270
CIVIL
STATE OF CALIFORNIA

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NO	DATE	ISSUANCE

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PROJECT NO. 18-016
DATE JULY 31, 2023
DRAWN DN,AR,MR,JS,TS
CHECKED CA,MH,SG

BOHN RIDGE SUBDIVISION

GUENOC VALLEY
LAKE COUNTY
CALIFORNIA

TENTATIVE MAP
SUBDIVISION BR

PERIPHERAL PARCEL PLAN

BR2.02

0 500' 1000' 2000' NORTH

P:\2018\18-016.1_MAHA_GNC\03_DESIGN\01_CAD\01_TENT MAP\PKG4\PKG4-REMAINDER PARCELS.DWG

Appendix F

Updated Wildfire Prevention Plan

DRAFT

MAHÁ

GUENOC VALLEY

WILDFIRE PREVENTION PLAN

FOR THE FIRST PHASE OF THE
MAHA RESORT AT GUENOC VALLEY

2020 ORIGINAL PLAN
2023 UPDATED PLAN
2024 UPDATED PLAN, #1
2024 UPDATED PLAN, #2
2025 UPDATED PLAN

ACKNOWLEDGMENTS

The *Maha Guenoc Valley 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.

DRAFT

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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 Maha Resort at Guenoc Valley 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 *Maha Guenoc Valley 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, Maha Resort at Guenoc Valley will offer a dynamic and effective ability to reduce wildfire risk for all residents, visitors, and workers.

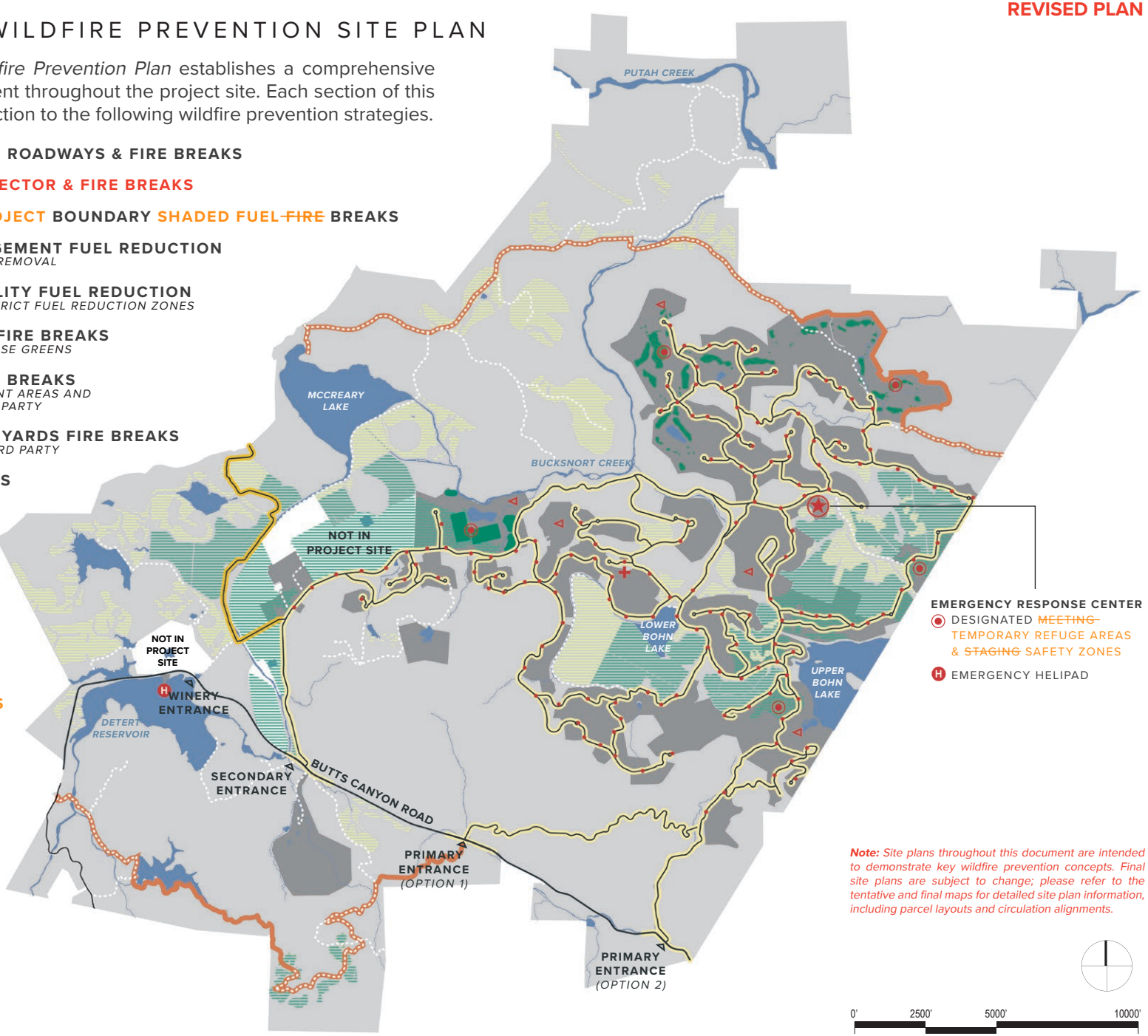
This document was initially revised in June 2020 to reflect the applicant's commitment to timely implementation of roadway fire breaks upon occupancy and to require primary structures to be equipped with an exterior fire suppression system.

OVERVIEW
COMPREHENSIVE WILDFIRE PREVENTION SITE PLAN

The *Maha Guenoc Valley 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.

REVISED PLAN

- **PRIMARY TWO-WAY ACCESS ROADWAYS & FIRE BREAKS**
- **EMERGENCY ACCESS CONNECTOR & FIRE BREAKS**
- **~~VOLUNTARY~~ ~~PROPERTY~~ PROJECT BOUNDARY SHADED FUEL ~~FIRE~~ 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 ~~MEETING~~ TEMPORARY REFUGE AREAS & ~~STAGING~~ 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 *Maha Guenoc Valley 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 Maha Resort at Guenoc Valley 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.

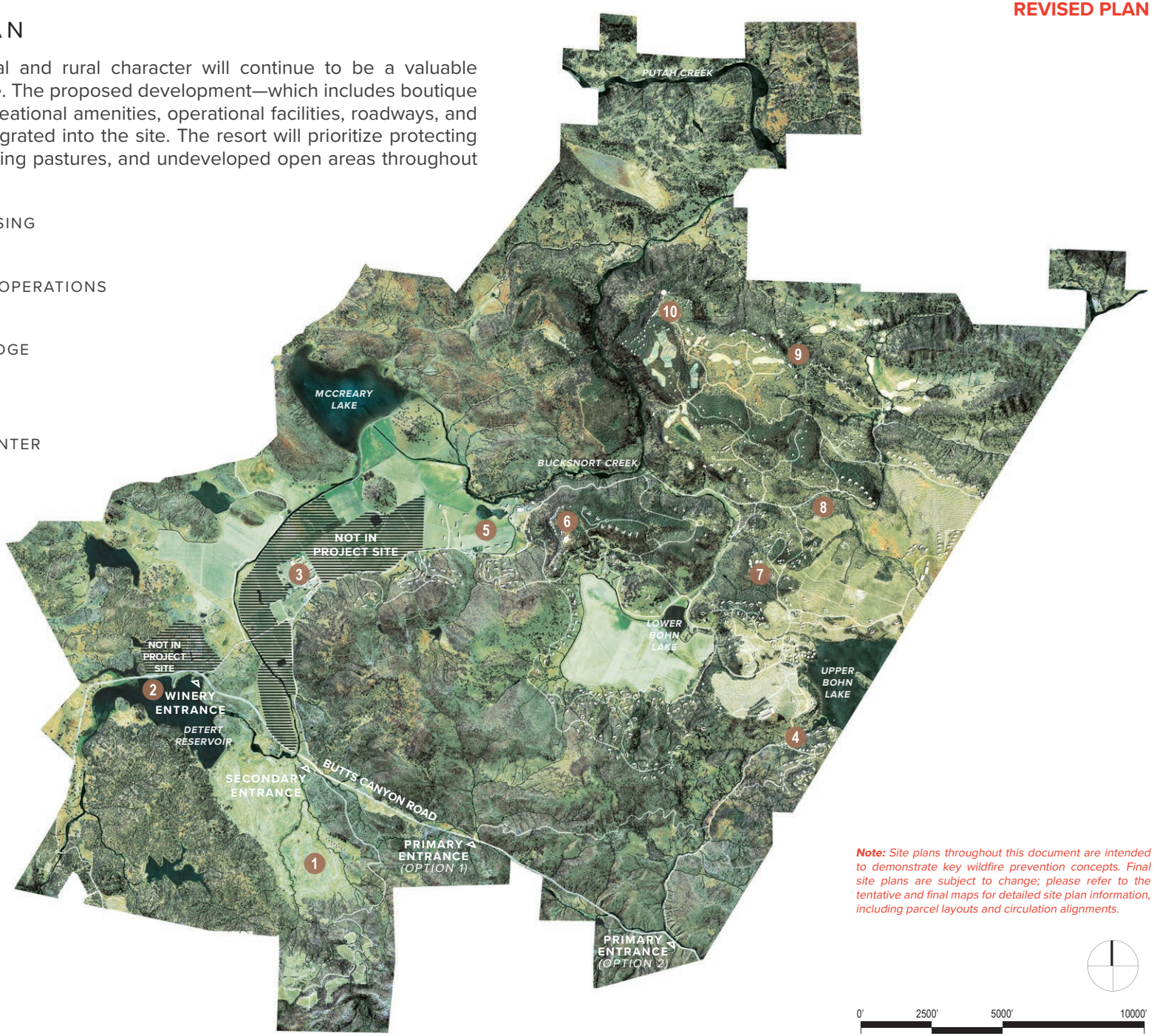
PROJECT SITE LOCATION
In resort site is located approximately 100 miles north of the Bay Area on the border of Napa and Lake County with close access to Clearlake and Santa Rosa.

SITE CONTEXT
PROJECT SITE PLAN

REVISED 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 SPA & WELLNESS
8 EMERGENCY RESPONSE CENTER
9 GOLF COURSE
10 DENNISTON GOLF ESTATES
~~RESORT AT TROUT FLAT~~
~~TENT CAMP AREA~~



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.*

0' 2500' 5000' 10000'

SITE CONTEXT
WILDFIRE HISTORY

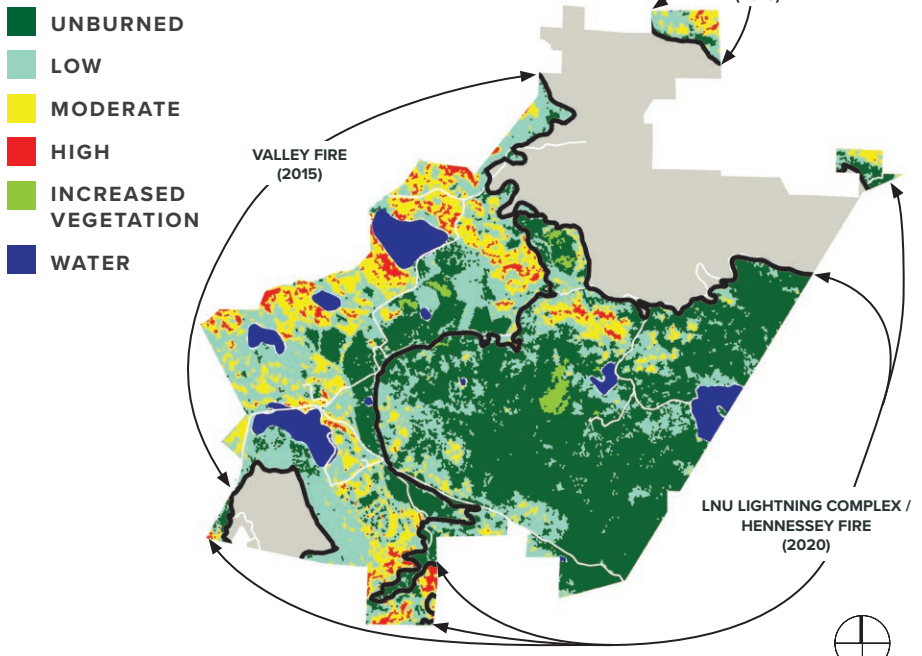
Guenoc Valley is located in a fire prone region of California. Although wildfire is a year-round possibility, risk increases during the late summer into the fall. During this time of the year, hot days with a lack of precipitation dry out vegetation, which increases the risk for wildfire, particularly 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.

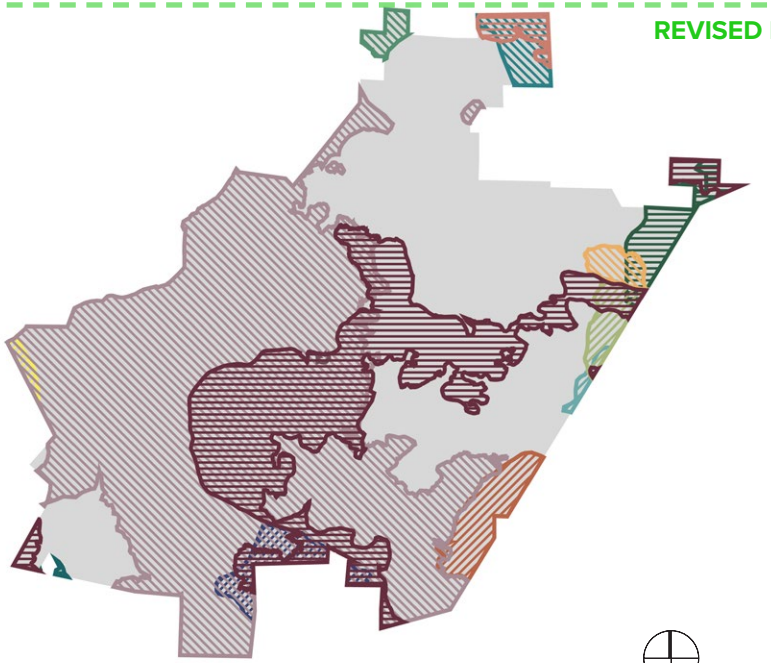
The scale, severity, and effects of the most recent wildfires are all important considerations in developing a rigorous wildfire prevention strategy.

REVISED MAP



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

REVISED MAP



SITE WILDFIRE HISTORY SINCE 1950s
SOURCE: Historic Fire Perimeters, California Department of Forestry and Fire Protection (CAL FIRE), May 2024

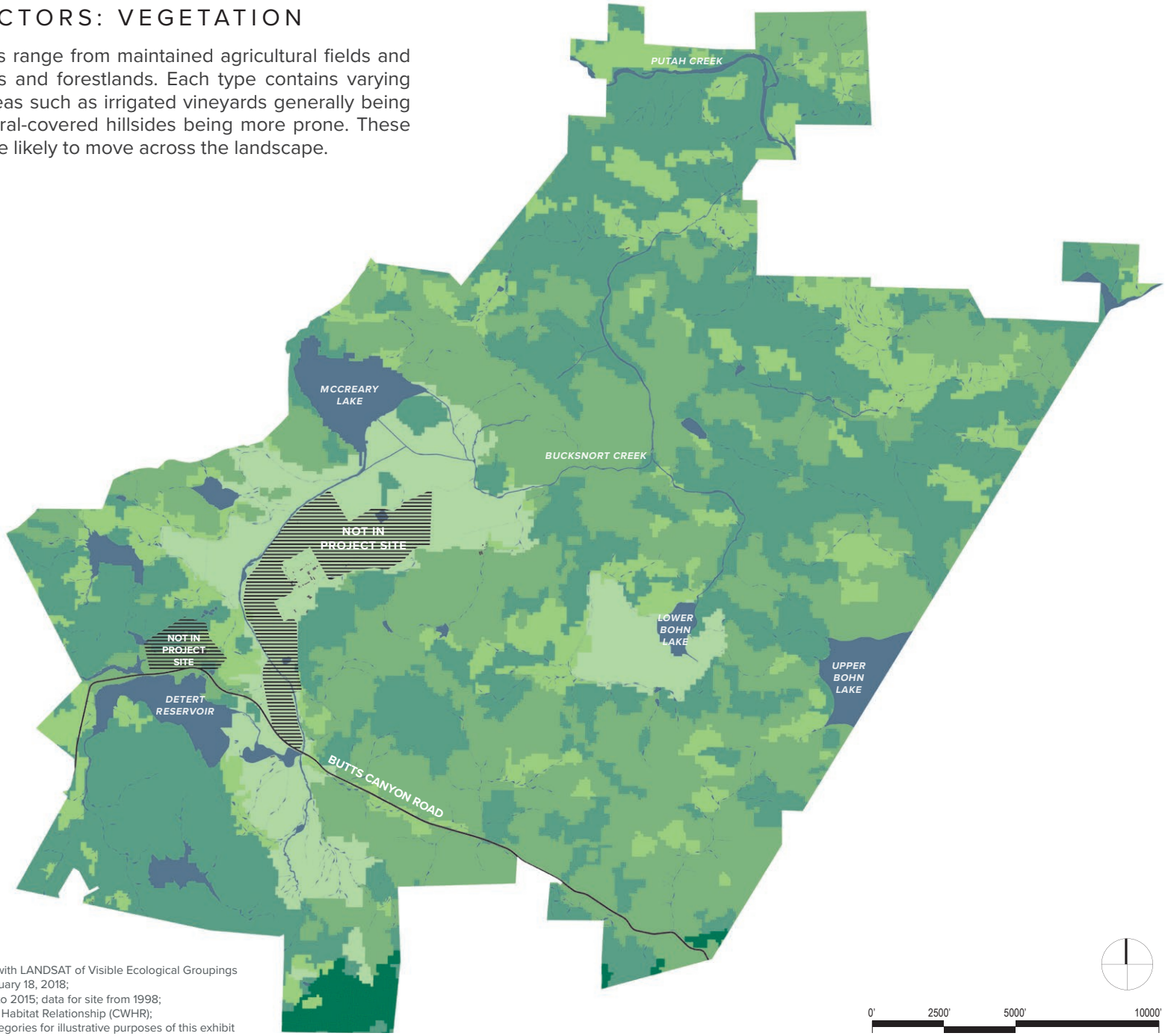
SITE CONTEXT

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



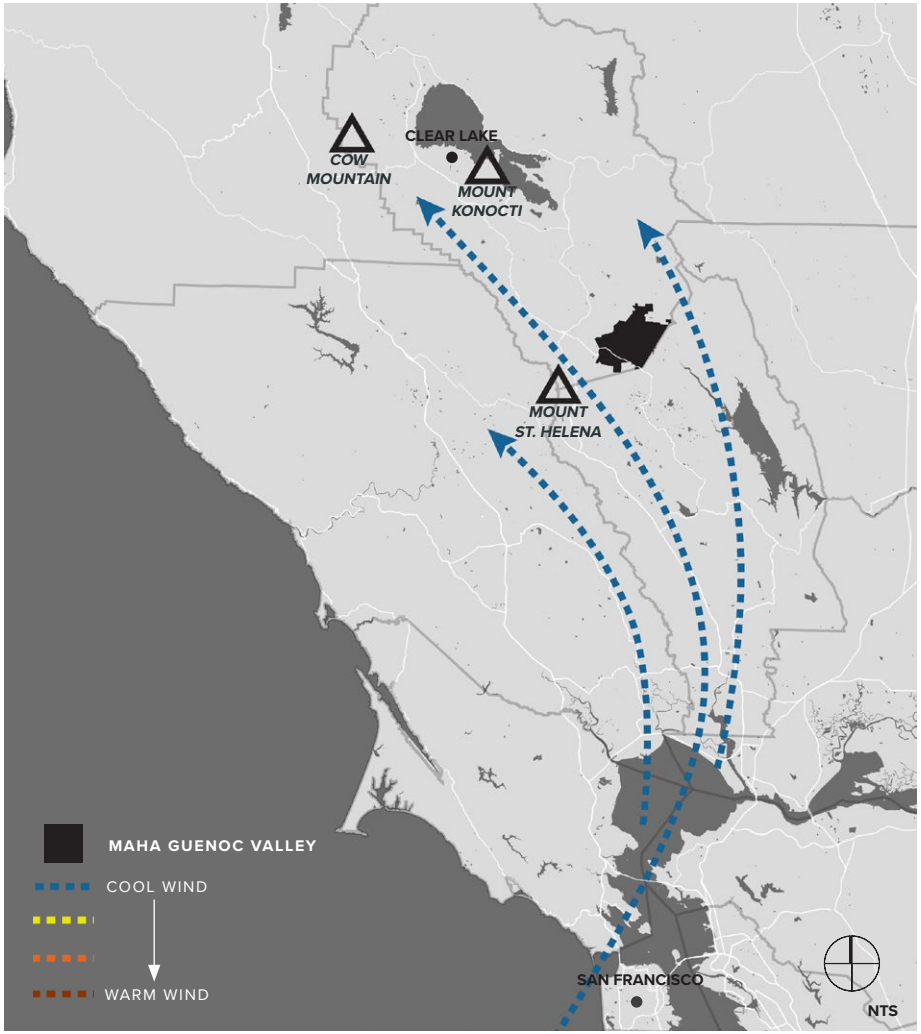
SOURCE:
U.S. Forest Service, Classification and Assessment with LANDSAT of Visible Ecological Groupings (CALVEG), EVeg Mid Region 5 North Coast Mid, January 18, 2018;
data source information ranges from the year 1998 to 2015; data for site from 1998;
data source crosswalked with the California Wildlife Habitat Relationship (CWHR);
CWHR categories simplified to the above seven categories for illustrative purposes of this exhibit

SITE CONTEXT

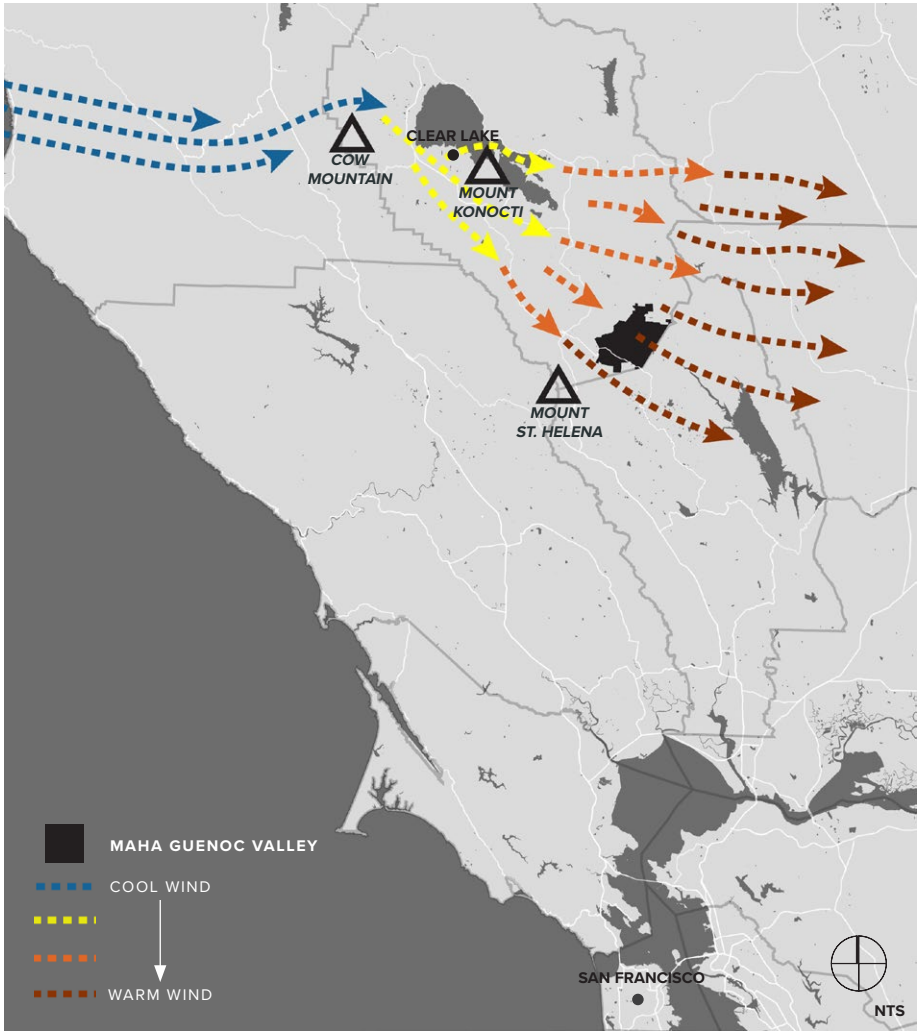
WILDFIRE RISK FACTORS: REGIONAL WIND PATTERNS

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.



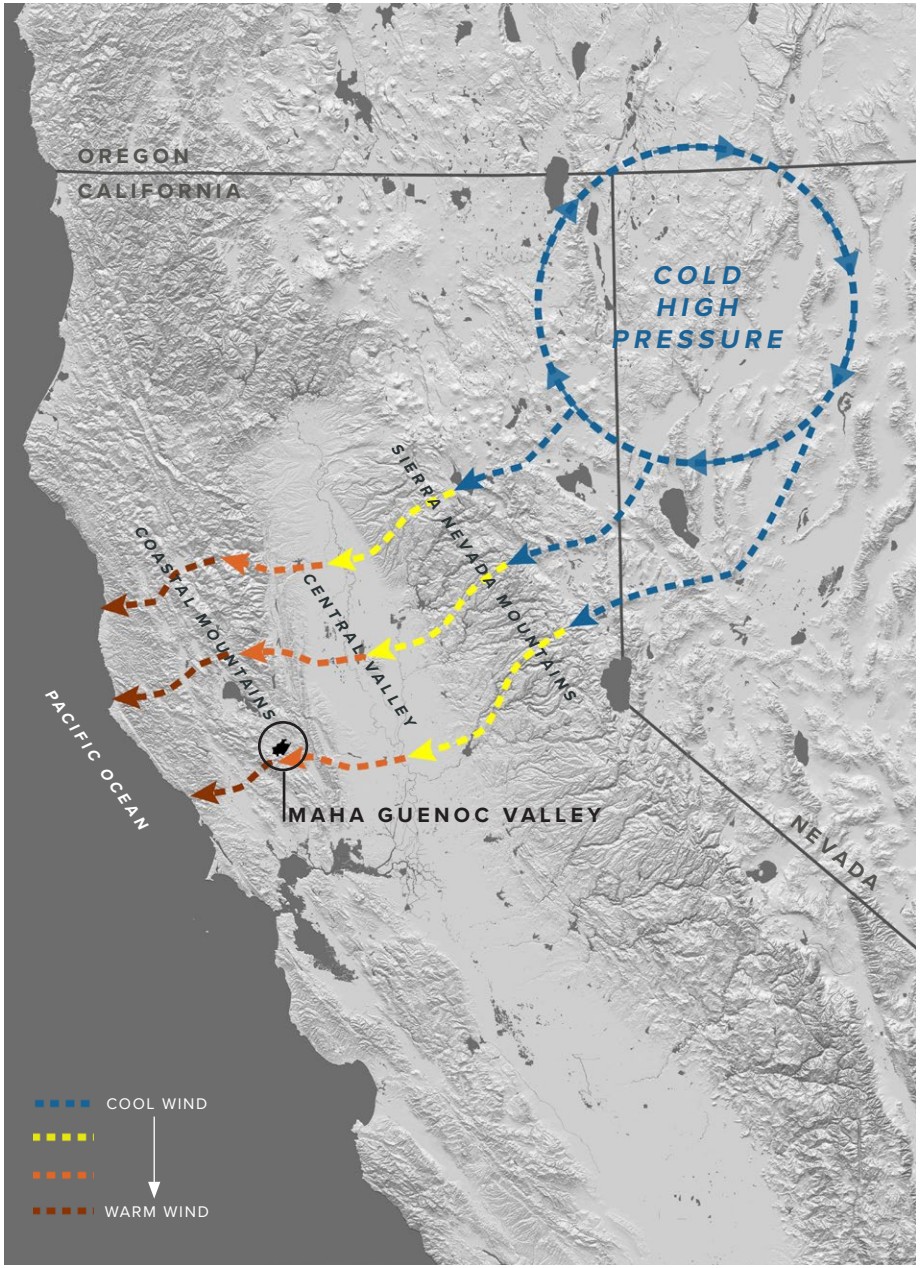
MORNING KONOCTI WIND PATTERNS
SUNRISE – NOON



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

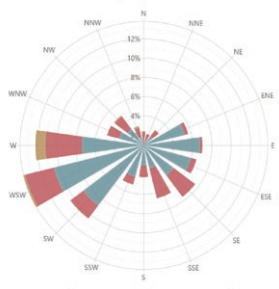
WILDFIRE RISK FACTORS: LOCAL WIND PATTERNS

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.

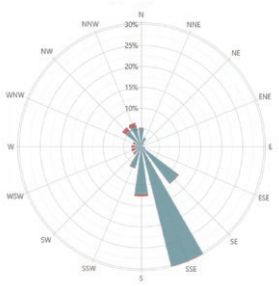
WIND DIRECTION

WIND SPEED

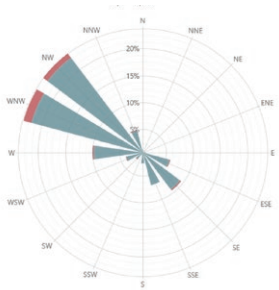
- > 0 to 5 mph
- > 5 to 10 mph
- > 10 to 20 mph
- > 20 to 30 mph
- > 30 mph



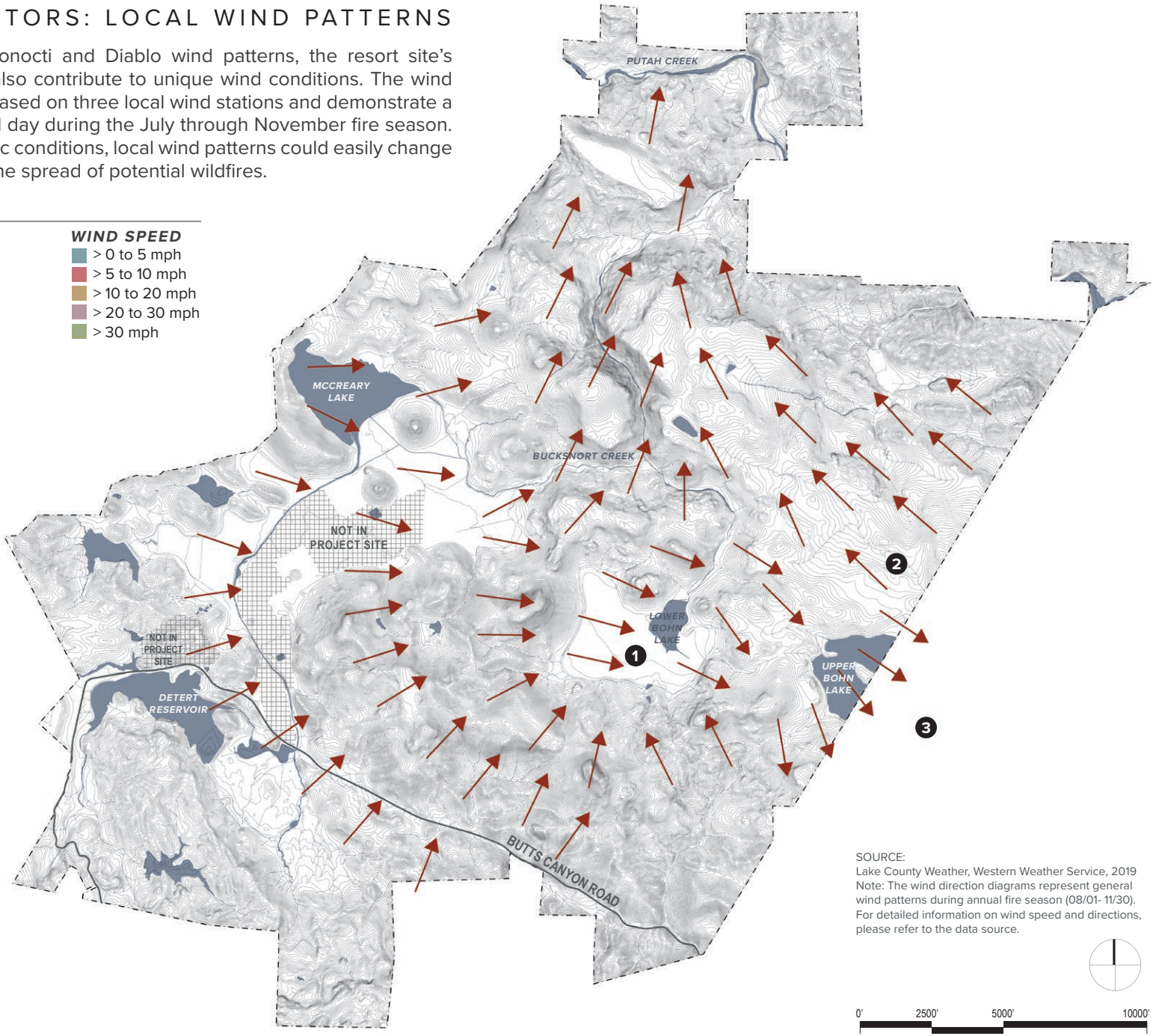
1 LOWER BOHN



2 UPPER BOHN NORTH



3 UPPER BOHN SOUTH



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'

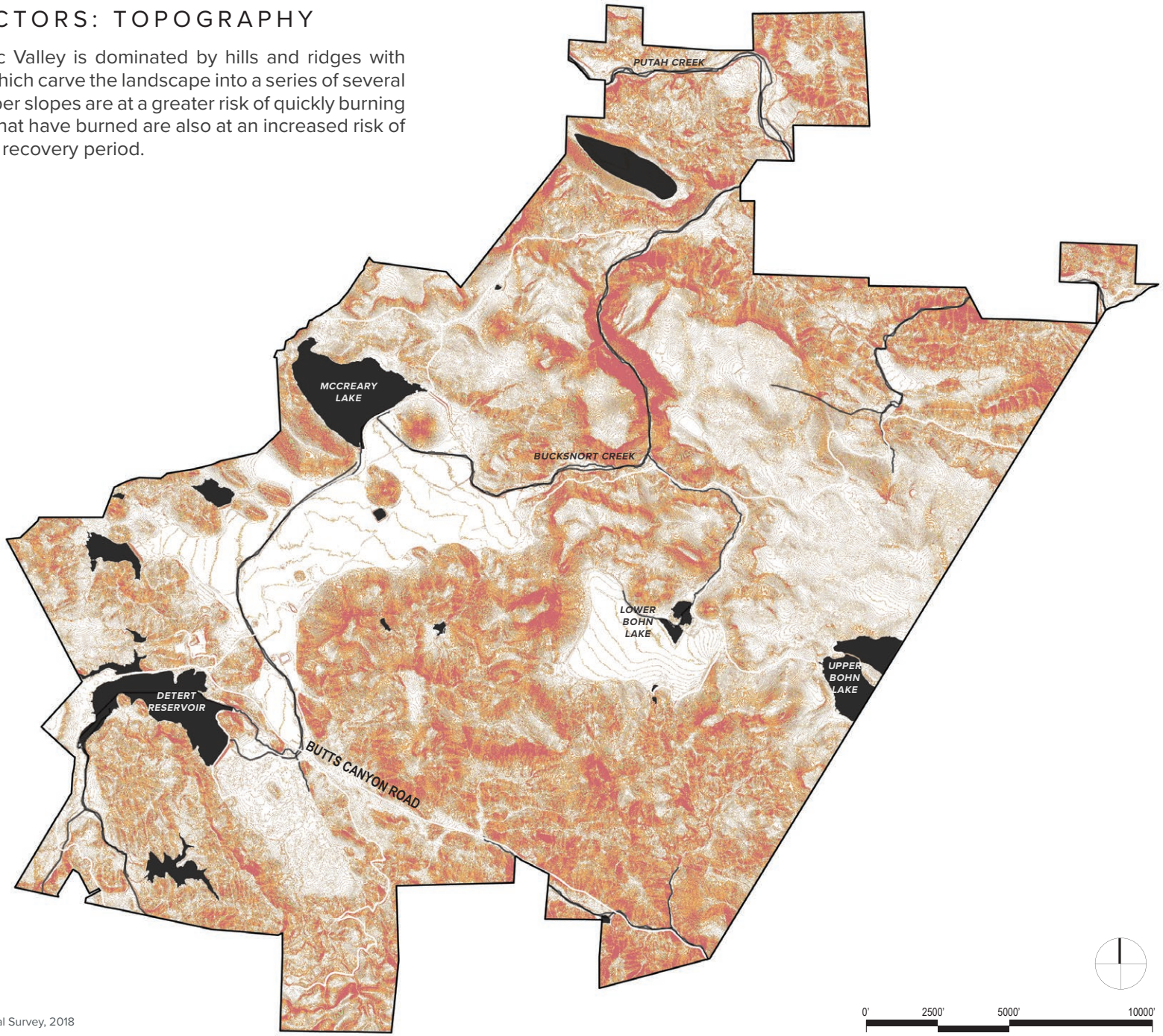
SITE CONTEXT

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

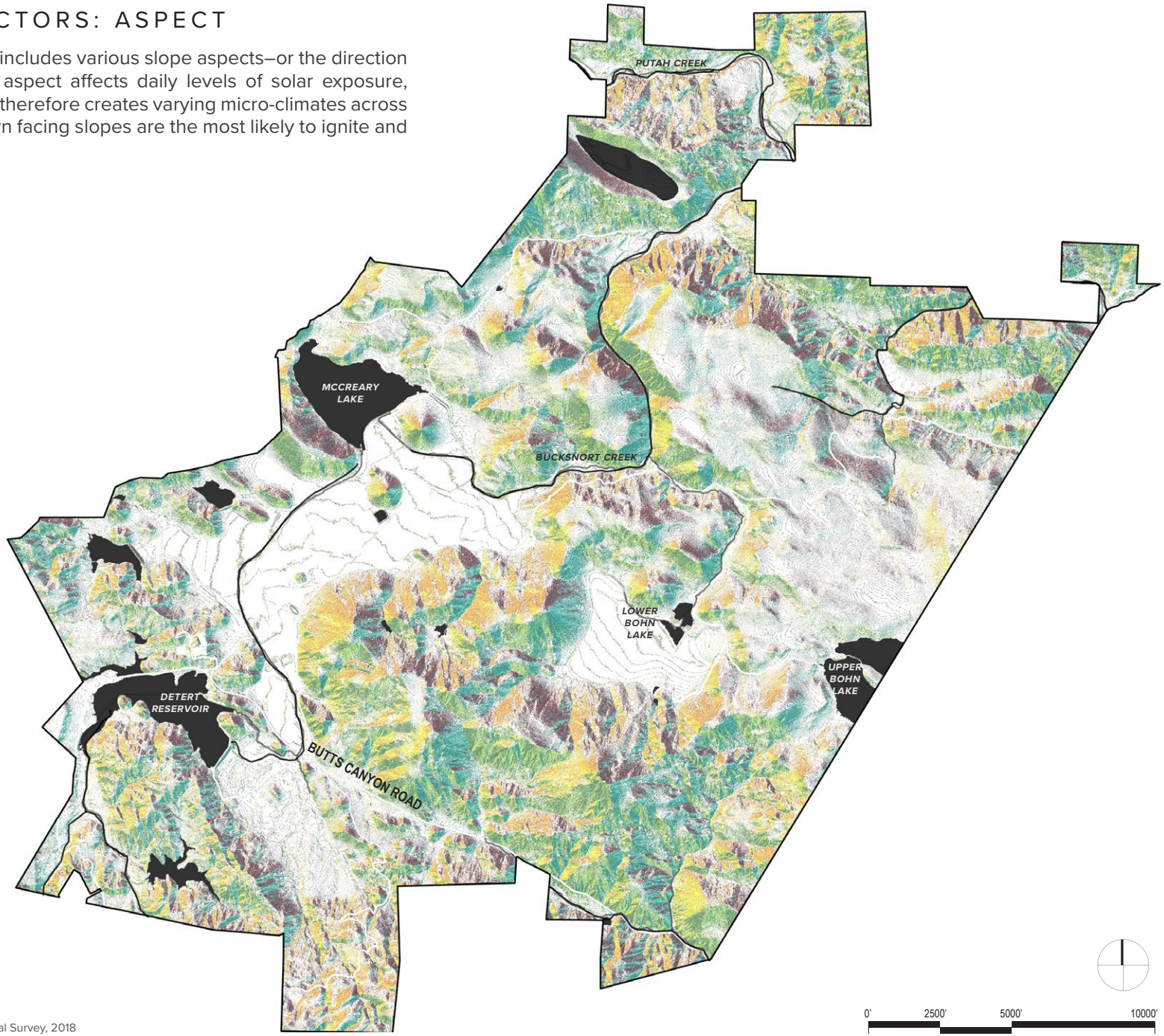
SITE CONTEXT

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 ~~SEVERITY~~

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.

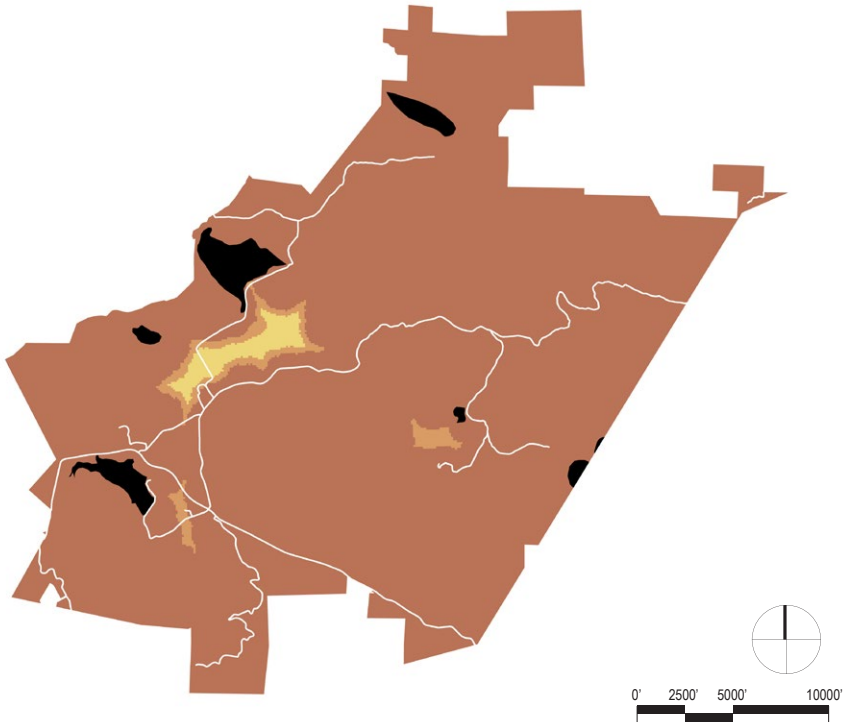
Various ~~risk~~ factors—including those described in the preceding pages—are considered in developing CAL FIRE's Fire Hazard Severity Zones (FHSZ) rating system and map. This rating system situates the resort site in a moderate to very high severity zone. In general, the highest ~~risk~~ hazardous areas 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 ~~risk~~ and slopes, the site's lower risk locations tend to be the flatter valley areas ~~to southwest and northeast~~. ~~This risk~~ Hazard is further reduced where the land is more actively cultivated with vineyards and others farming practices. ~~The areas around the site's many water bodies also generally have a lower risk severity.~~

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.

REVISED MAP



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

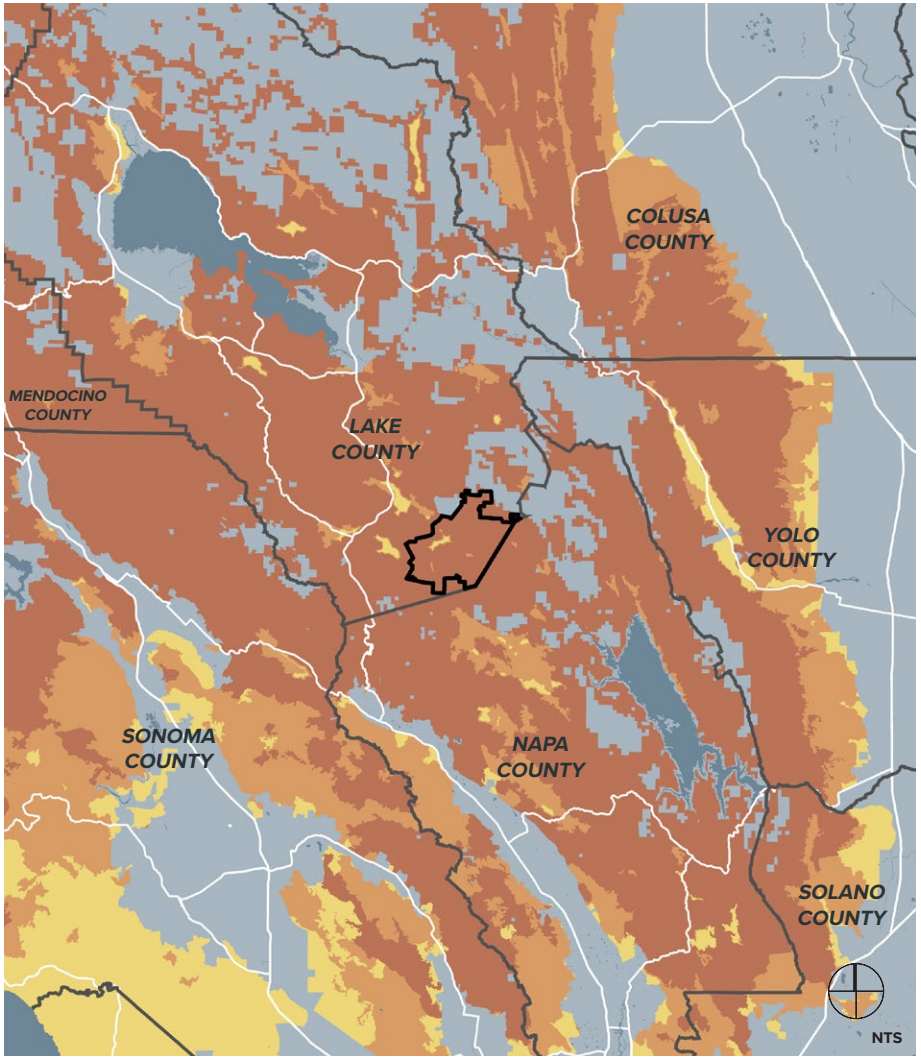
SITE CONTEXT
WILDFIRE REGIONAL RISK

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.

REVISED MAP



FIRE HAZARD SEVERITY ZONES

SOURCE: Fire Hazard Severity Zones (effective April 1, 2024), California Department of Forestry and Fire Protection (CAL FIRE), 2024

- *MAHA GUENOC VALLEY*
- 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 ~~as well as~~ 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 ~~or fire-prone~~ 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-

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 ~~flammable and~~ dead, dying, or invasive vegetation through felling and cutting; material is then distributed across the ground.

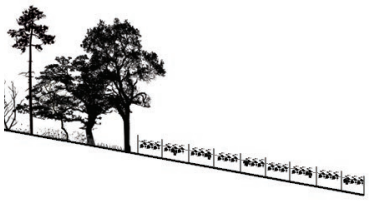
MASTICATE

~~Flammable and~~ 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

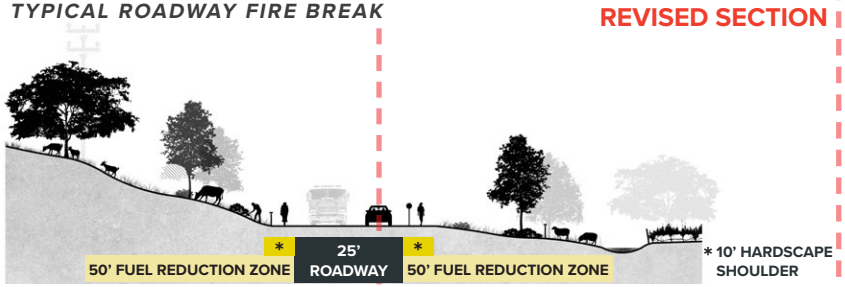
Where feasible, contiguous green belts with irrigated farmlands, landscapes, and recreational fields will be developed.

GENERAL WILDFIRE PREVENTION
FIRE BREAK NETWORK

REVISED PLAN

TYPICAL ROADWAY FIRE BREAK

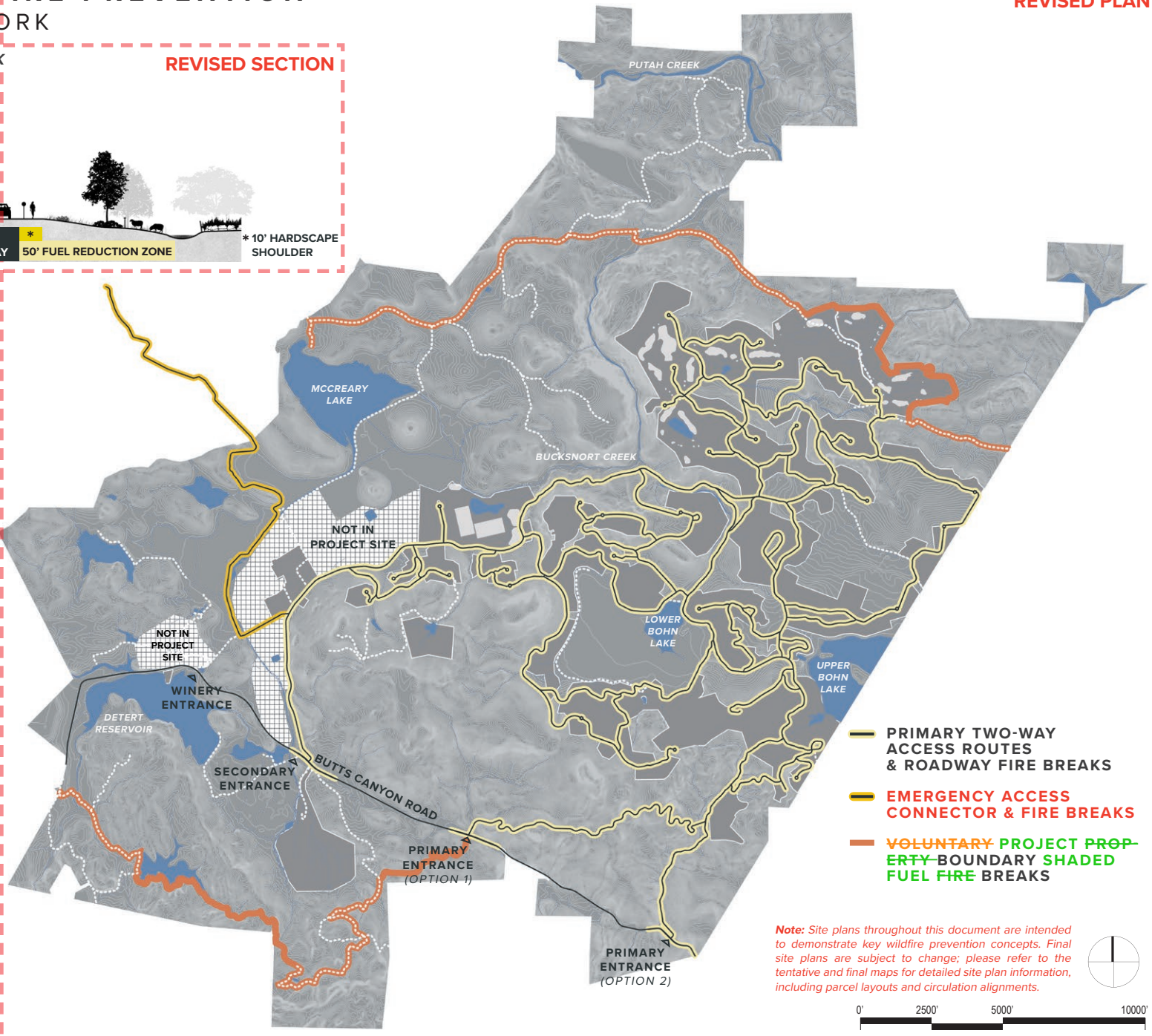
REVISED SECTION



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 ~~fire~~ breaks ~~could~~ will also be established and maintained at select vulnerable areas of the project ~~property~~ boundary.

At final occupancy of each structure the applicable fire break shall be installed. Further, ~~at the time of the recording of the last final map for each of the subdivision groups~~ 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 ~~shall be completed within~~ 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

REVISED PLAN

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, ~~flammable~~ 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.

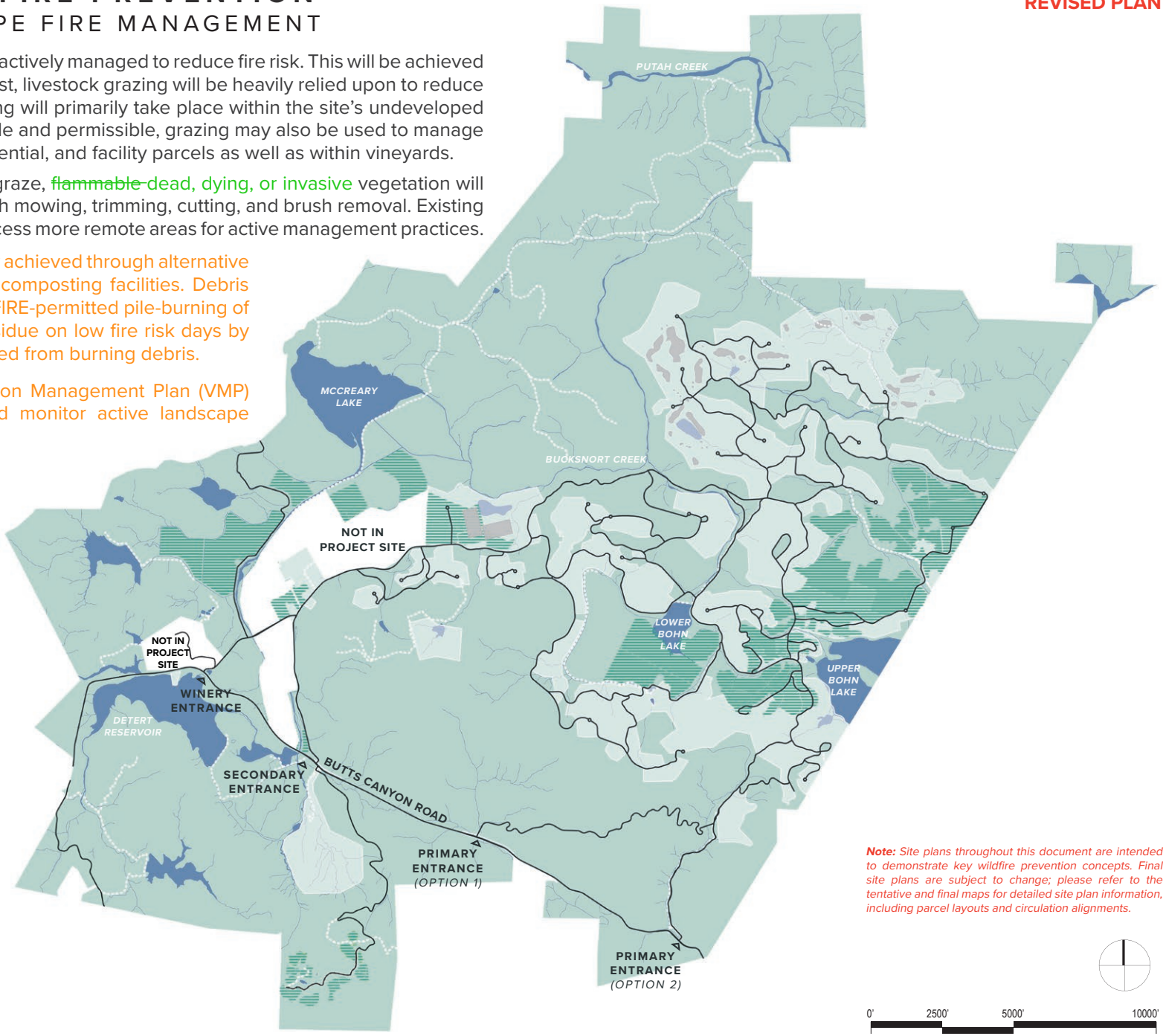
An annually updated Vegetation Management Plan (VMP) will be used to organize and monitor active landscape management strategies.

ACTIVE LANDSCAPE MANAGEMENT AREAS
CONTINUED GRAZING AND SELECTIVE VEGETATION REMOVAL

RESIDENTIAL/RESORT FACILITY GRAZING AREAS
GRAZING ALLOWED IN SELECT AREAS WITH AGREEMENT FROM PROPERTY OWNERS OR MANAGERS

VINEYARD GRAZING AREAS (CURRENTLY PLANTED)
MINIMALLY IMPACTFUL GRAZING (I.E. SHEEP GRAZING) ALLOWED IN SELECT VINEYARDS WITH AGREEMENT FROM PROPERTY OWNERS OF MANAGERS

EXISTING RANCH ROADS



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 ~~flammable~~ 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.

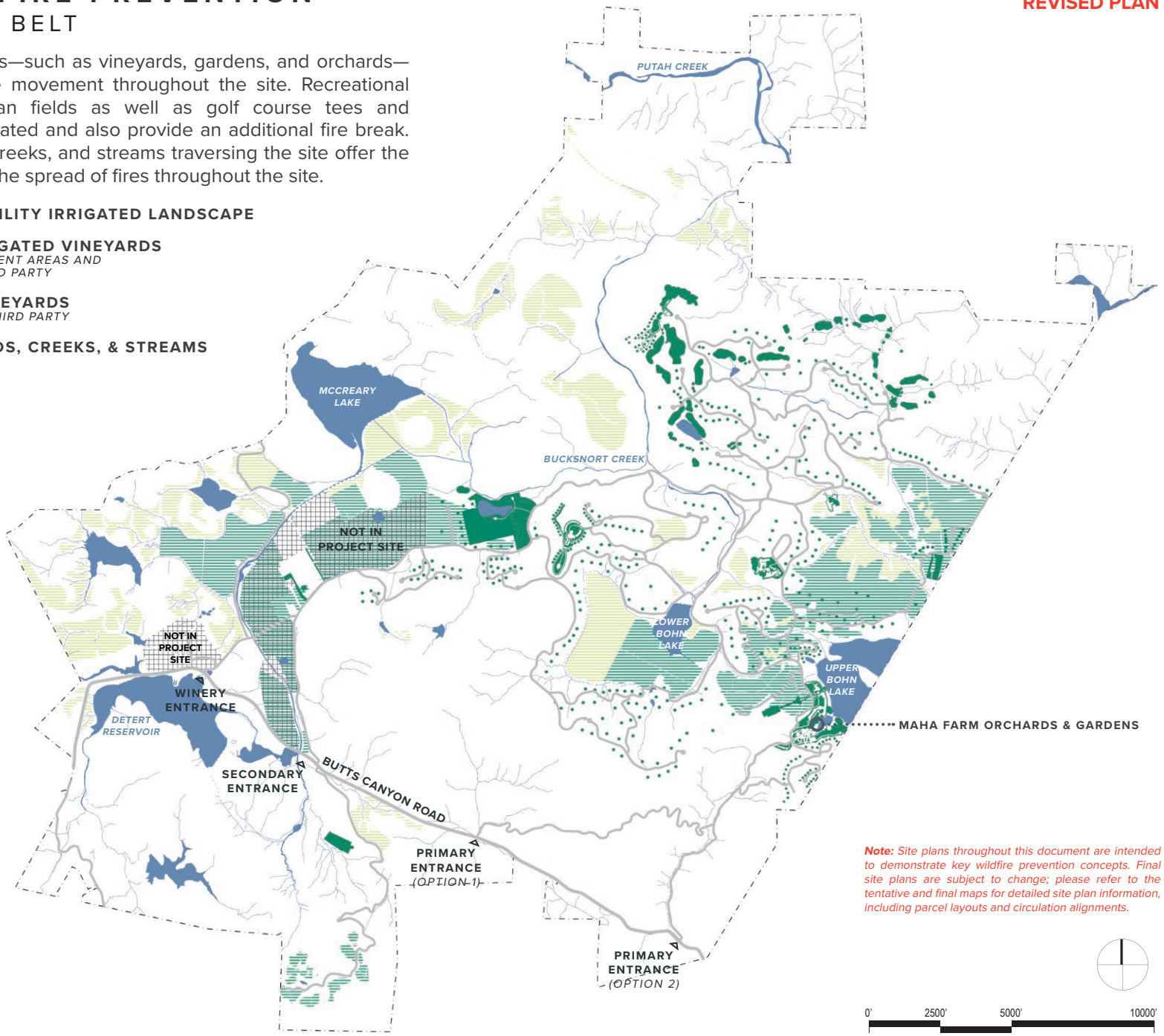
*** The "Maximum Density" is the maximum collective herd weight supported per graze-able acre

GENERAL WILDFIRE PREVENTION
IRRIGATED GREEN BELT

REVISED PLAN

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:

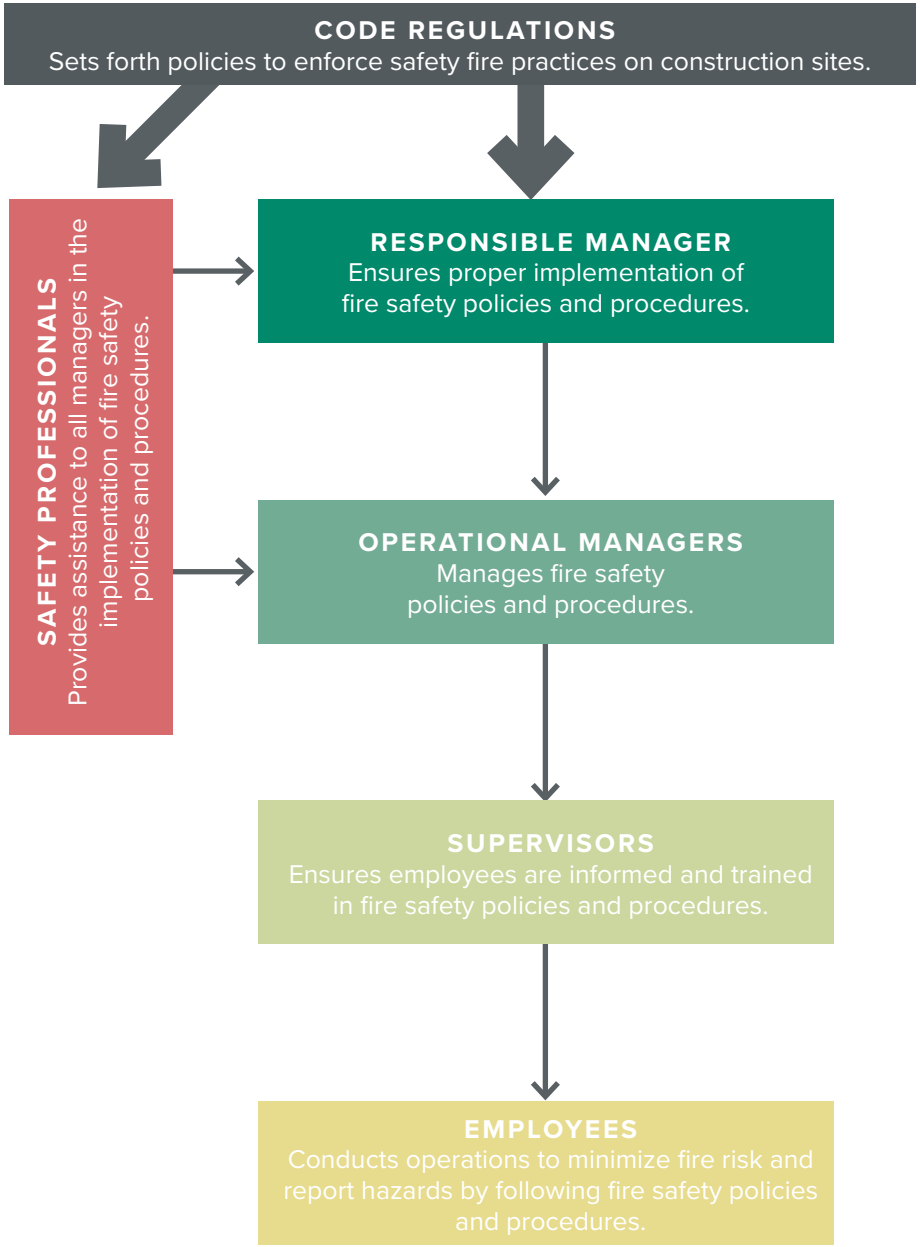
- Safety Professionals will advise and assist the Responsible and Operational Managers in charge of the project on fire safety;
- Supervisors–as advised by the Safety Professionals–will play a pivotal role in ensuring employees are informed and trained in fire safety. They will often conduct workforce 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:

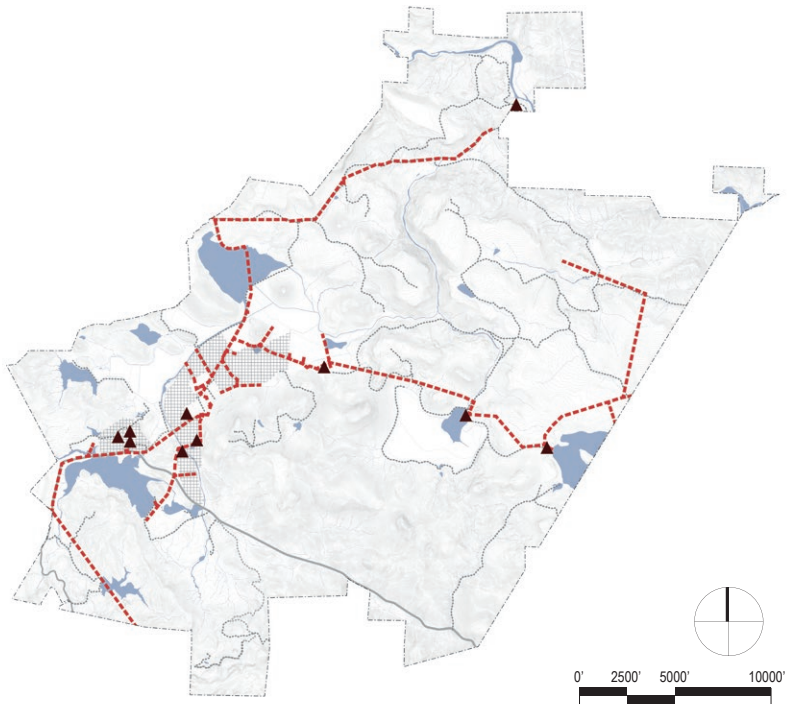
- One round-tip shovel and one water fire extinguisher should be available within 10 feet of all work areas;
- Portable fire extinguishers should be kept in every construction vehicle and piece of equipment;
- Vegetation within the work area should generally be mowed by noon during wildfire season or 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



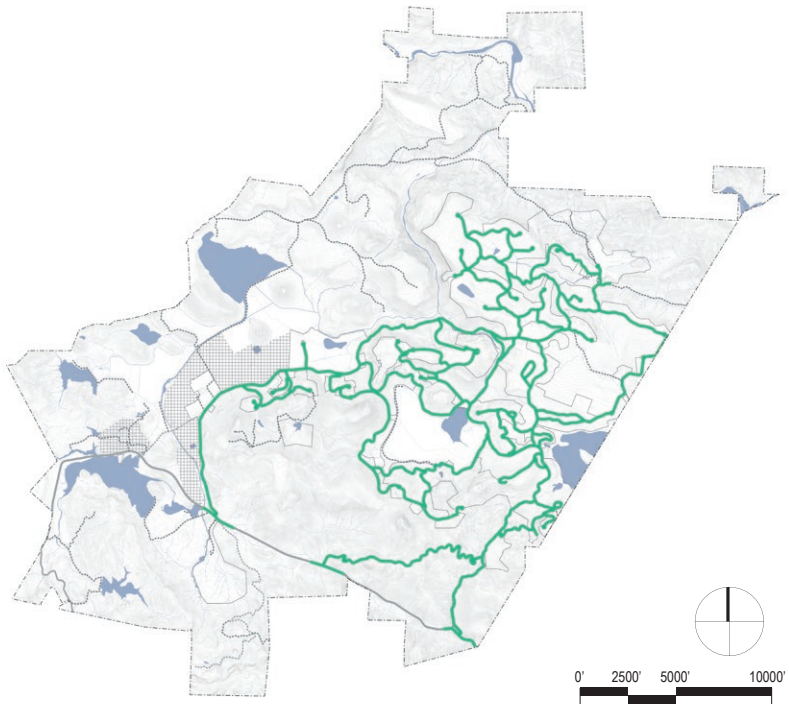
EXISTING OVERHEAD NETWORK

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

REVISED PLAN



PROPOSED UNDERGROUND NETWORK

~~To the maximum extent feasible,~~ The proposed power line ~~electric~~ network will be undergrounded in a joint trench system. This will ensure a safer distribution of power and ~~reduce or~~ eliminate the risk of overhead power lines causing wildfires during windy conditions.

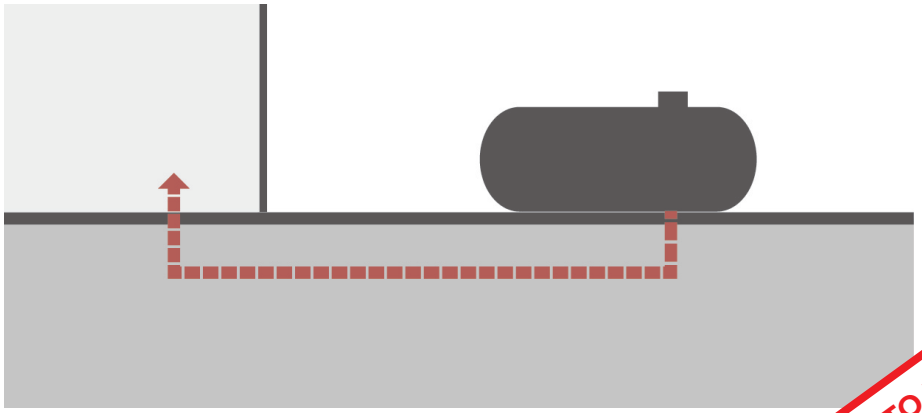
UNDERGROUND POWER AND DATA LINES

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.*

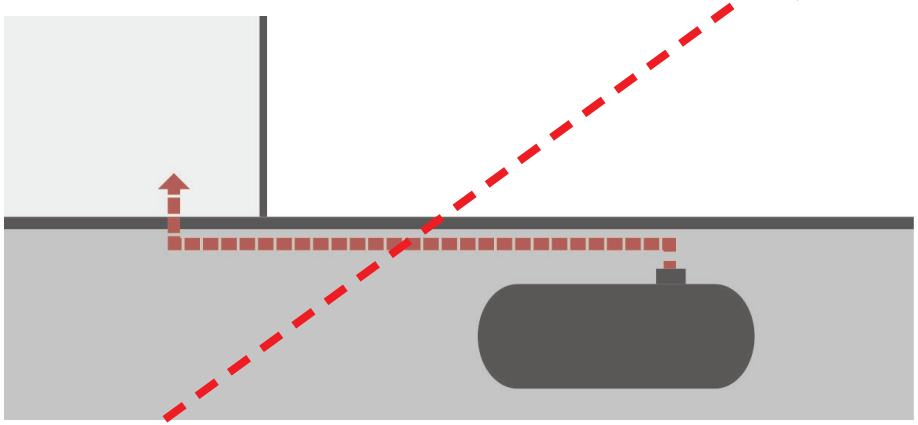
UTILITY WILDFIRE PREVENTION
PROPANE GAS SYSTEM

Similar to the strategy of undergrounding power lines, gas propane tanks will be undergrounded throughout the resort. This approach reduces the risk of gas related wildfires while also controlling for temperature fluctuations.

Each residential estate will be serviced by an individual underground gas tanks. Resort communities—which includes both resort and resort residential structures—will utilize a shared propane gas tank system with a localized underground distribution system.



TYPICAL ABOVE GROUND PROPANE TANKS
Above ground tanks are the standard and more affordable option, but present a greater risk of gas leaks and the potential to fuel wildfires.



PROPOSED UNDERGROUND PROPANE TANK
Propane tanks will be undergrounded to improve wildfire safety and benefit from the stabilized temperature control.

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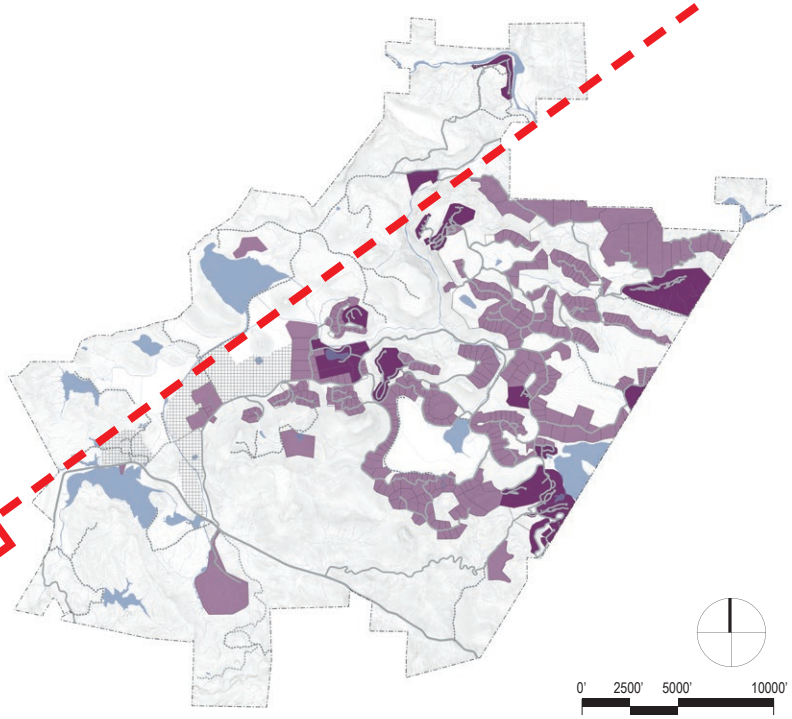


PROPOSED PROPANE GAS NETWORK
To the maximum extent feasible, propane gas tanks will be undergrounded throughout the resort, with residential estates serviced by individual tanks and resort communities serviced by shared tanks and distribution systems.

- **RESIDENTIAL ESTATES AND SUPPORTING FACILITIES SERVICED BY INDIVIDUAL UNDERGROUND TANKS**
- **RESORT COMMUNITIES SERVICED BY SHARED UNDERGROUND TANKS**

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

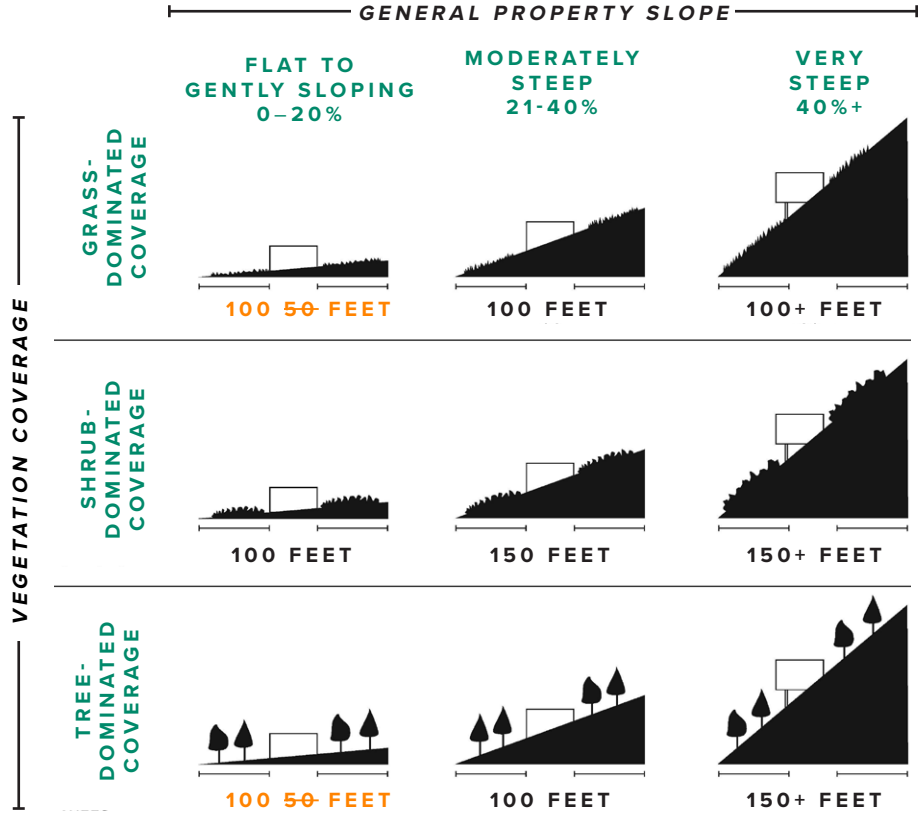
Homeowners and commercial/facility managers will be advised to establish and maintain defensible space for the purposes of reducing fire risk in the immediate vicinity of structures. The total defensible space will depend on the unique vegetated coverage and topographic conditions of each property (see right):

- **Grass-Dominated Coverage**
  Depending on slopes, 100 ~~50~~ 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 ~~50~~ 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: ~~Establish an~~ 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.

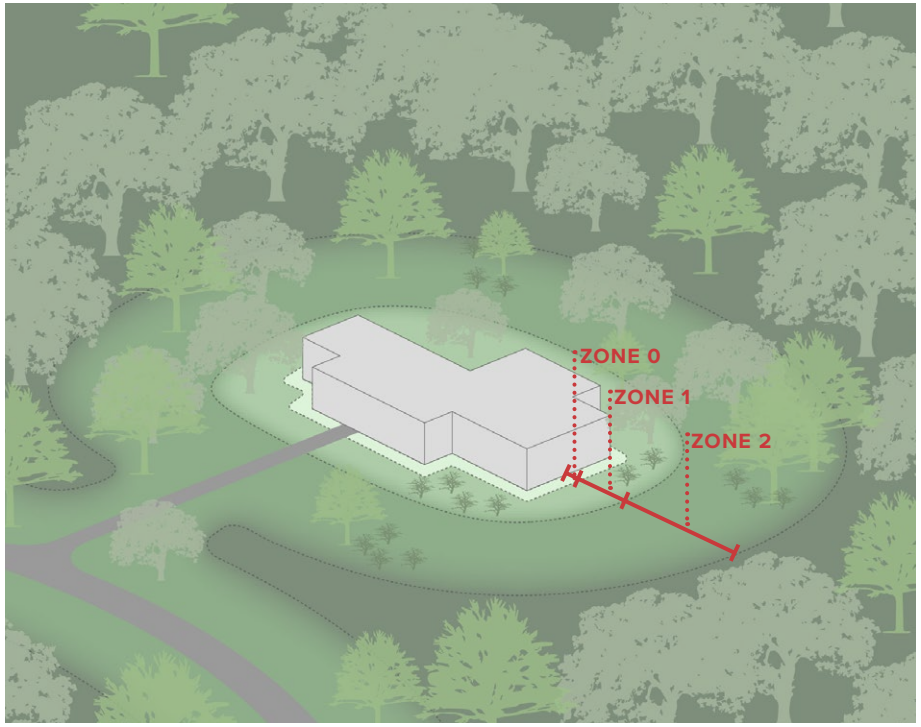
- **Zone 1: ~~Remove Flammable Vegetation~~ Lean, Clean, and Green Zone**
  ~~Regardless of the total defensible space,~~ It is recommended that the second defense zone should be maintained from five feet ~~zero~~ to 30 feet from the edge of structures.

  Within this zone, ~~flammable~~ 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. ~~Flammable~~ Fire prone shrub species should be thoroughly pruned.

- **Zone 2: Reduced Fuel Zone ~~Flammable Vegetation~~**
  The third defense zone should be maintained from 30 feet from the building edge to the edge of the total defensible space (e.g. ~~50 feet~~, 100 feet, 150 feet–see previous page); this includes a defensible space of zero to 15 feet from the driveway edge.

  Within this zone, ~~flammable~~ 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.

REVISED DIAGRAM



STANDARD DEFENSIBLE ZONES

Three defensible zones should be established and maintained within the total defensible space.

ZONE 0 ~~ESTABLISH AN~~ EMBER-RESISTANT ZONE

ZONE 1 ~~REMOVE FLAMMABLE VEGETATION~~ LEAN, CLEAN, AND GREEN ZONE

ZONE 2 REDUCED FUEL ZONE ~~FLAMMABLE VEGETATION~~

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.

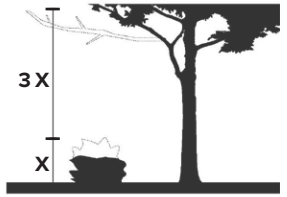
Tree and Shrub Horizontal Spacing
Individual or small clusters of trees and shrubs should generally be separated based on the horizontal spacing standards (see right) in order to reduce potential fire movement. For example, if a property is "moderately steep," shrubs that are three feet in height should 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".

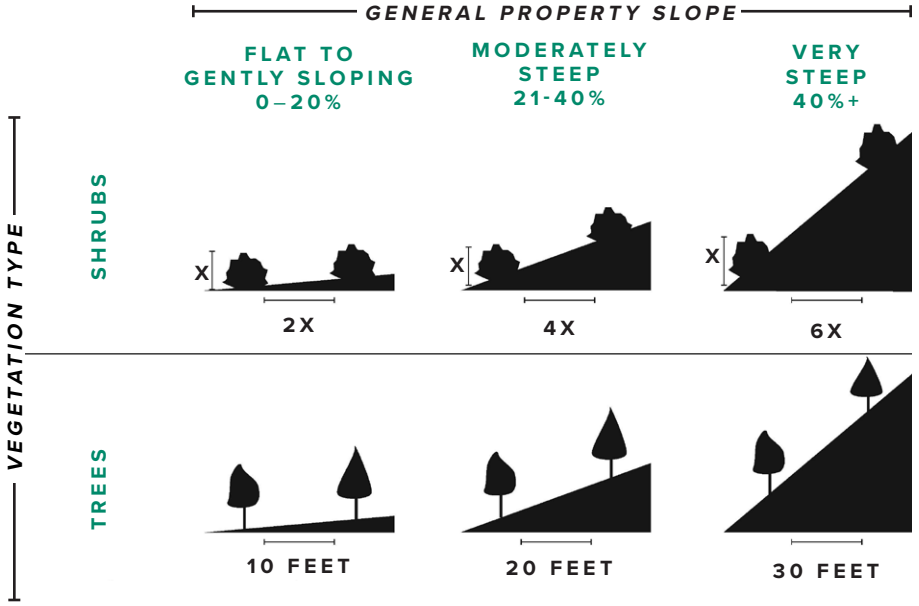
The potential for ladder fuels can be avoided by separating vegetation vertically and horizontally.

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 ~~has been cleared of flammable vegetation~~ 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 ~~or power lines~~; 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

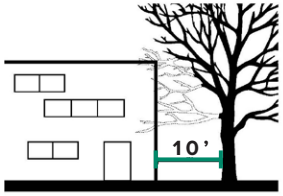
Various landscape management practices can address wildfire hazards within residential, commercial, and facility landscapes over time.

This includes the following recommendations for homeowners or commercial/ facility managers:

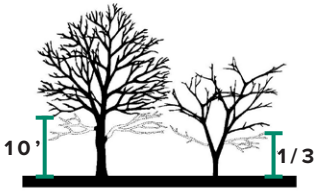
- Periodically inspect the property to maintain defensible space—which includes ongoing removal and reduction of dead, dying, invasive, poorly-maintained, or fire-prone ~~flammable~~ vegetation and reestablishment of vegetation clearance and spacing standards;
- Prune tree limbs which are within 10 feet of buildings or chimneys ~~or are otherwise encroaching on power lines~~;
- 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 will ~~periodically~~ inspect 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



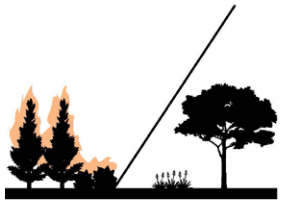
PRUNE: Prune tree limbs which are within 10 feet of building or chimneys ~~or are otherwise encroaching on power lines.~~



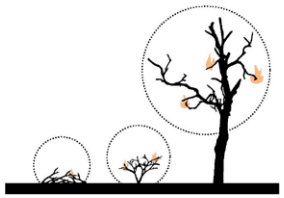
TRIM: Within the defensible space, trim tree limbs below 10 feet in height; for smaller trees, prune the lower 1/3 of the branches

MOW: Mow and grass to a maximum of 4 inches in height.

LEAN, CLEAN, AND GREEN



LEAN: Minimize or eliminate the use of ~~flammable~~ 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.

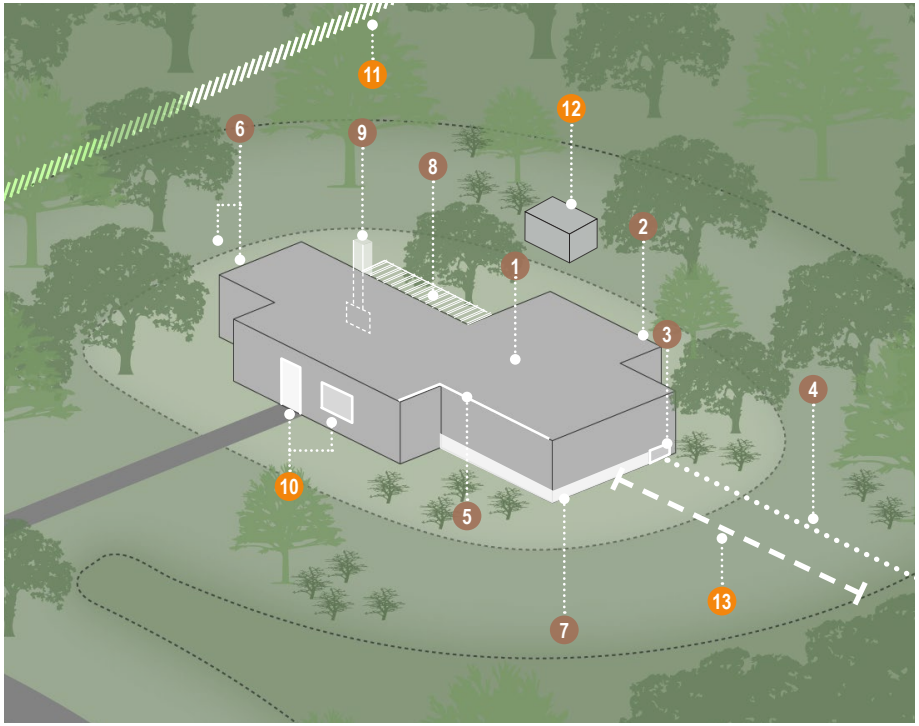
9 | Exterior fireplaces and wood stoves
Anything with an exposed flame, such as a outside fireplace or wood stove, should have a screen built into the design to protect against stray embers.

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 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.

13 | Safe distance between structures on adjacent parcels
Residential structures should sited at minimum 30 feet from structures on adjacent parcels.



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. SAFE DISTANCE BETWEEN STRUCTURES WITHIN PARCELS
13. SAFE DISTANCE 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.

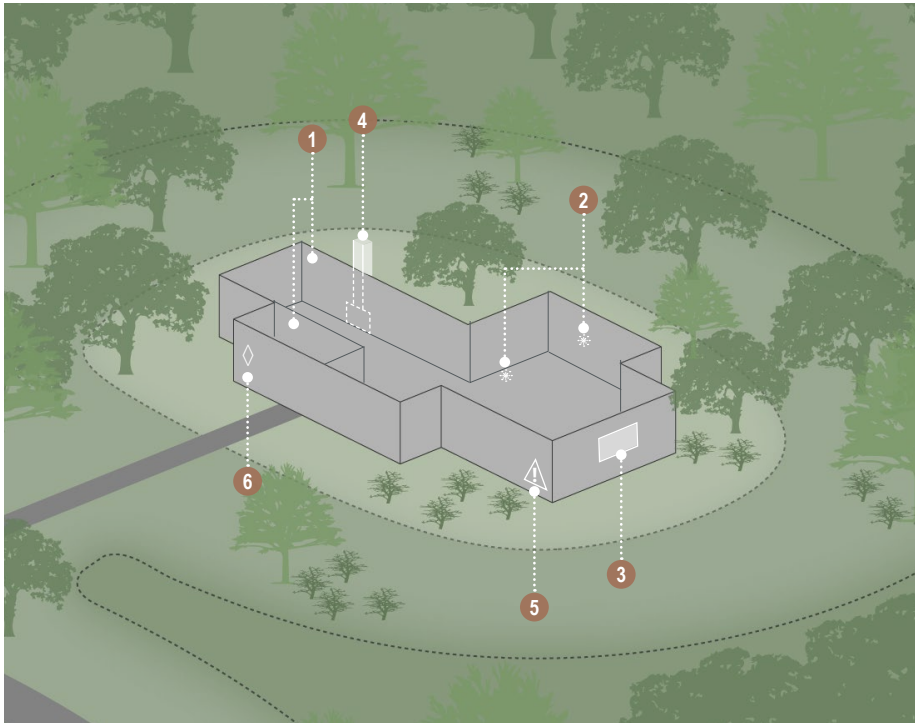
2 | Interior fire sprinklers
Interior fire sprinklers will be required pursuant to the current California building code. They come in a variety of styles in order to blend with interior aesthetics. They are automatically activated by high heat and can include a warning system.

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 ~~have~~ easy access to wildfire emergency tools for firefighters, such as ~~a shovel, hoe, rake, and~~ 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.

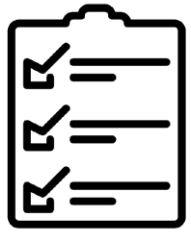
1. SMOKE DETECTORS THROUGHOUT THE STRUCTURE
2. INTERIOR FIRE SPRINKLERS
3. WINDOW SECURITY QUICK-RELEASE
4. CHIMNEY MAINTENANCE
5. COMBUSTIBLE MATERIAL PROTECTION
6. WILDFIRE FIGHTING TOOLS

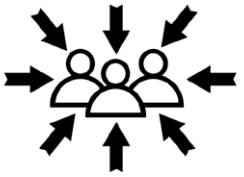
SOURCES: FEMA, Home Builder's Guide to Construction in Wildfire Zones, 2008; CalFire, Homeowners Checklist, 2009

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;
- ~~Disable electronic garage openers so this area can be manually opened;~~
- 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 ~~face~~ 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 ~~meeting & staging~~ area;
- If unable to reach either home or a designated temporary refuge ~~meeting & staging~~ 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.

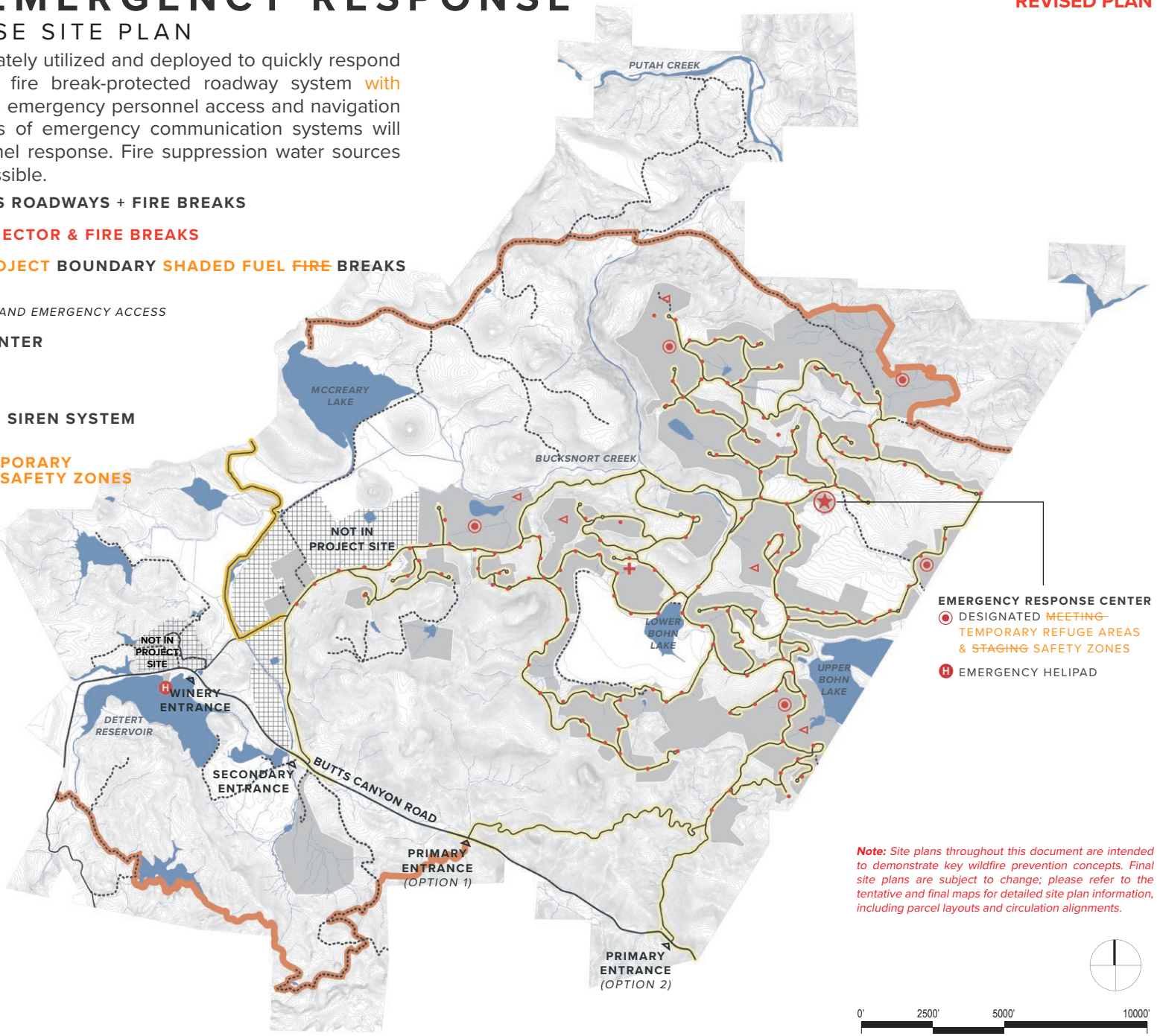
WILDFIRE EMERGENCY RESPONSE

REVISED PLAN

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**
- **~~VOLUNTARY PROPERTY~~ PROJECT BOUNDARY SHADED FUEL ~~FIRE~~ 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 ~~MEETING~~ TEMPORARY REFUGE AREAS & ~~STAGING~~ SAFETY 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

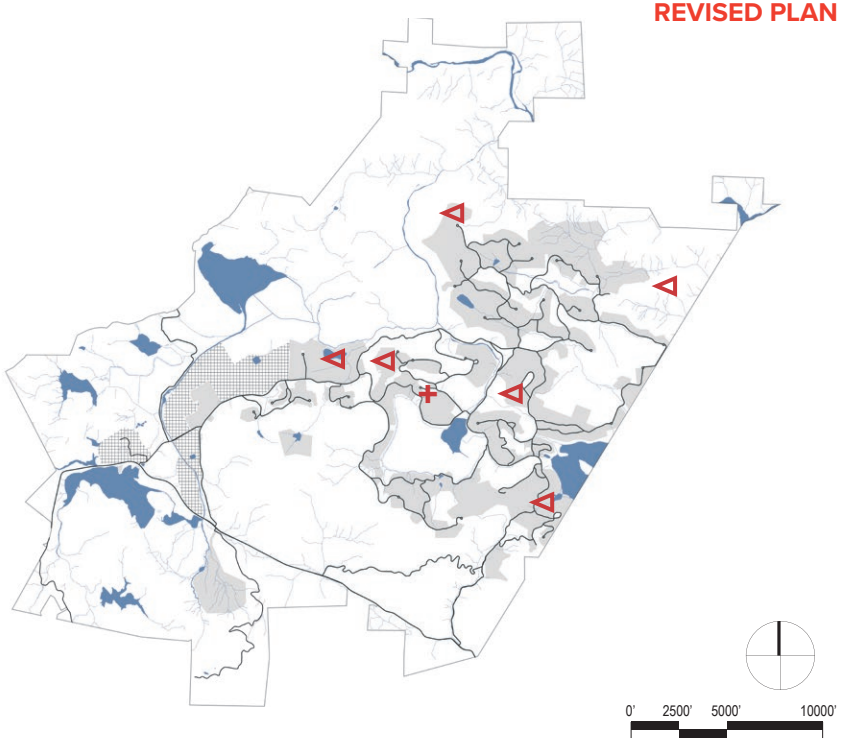
Efficient emergency communication is critical for providing immediate information to residents, visitors, and employees. In the event of a wildfire emergency, the following detection and communication systems will quickly be deployed:

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.

REVISED PLAN



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

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WILDFIRE EMERGENCY RESPONSE

WILDFIRE EMERGENCY RESPONSE CENTER, TEMPORARY REFUGE AREAS, AND SAFETY ZONES

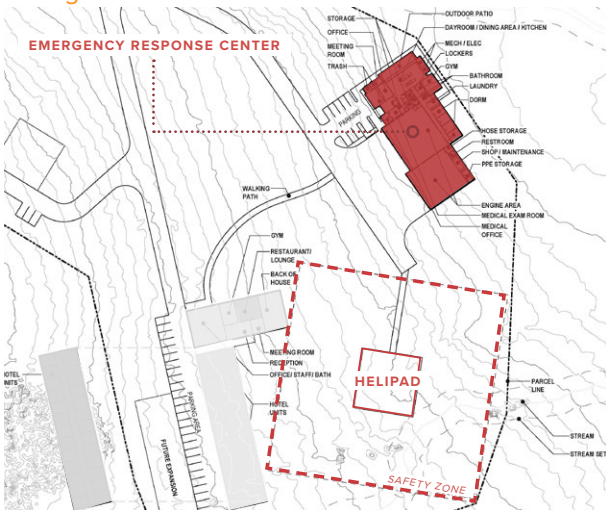
Various areas of the site will play a pivotal role in servicing evacuees and emergency personnel in the case of wildfire emergency.

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.

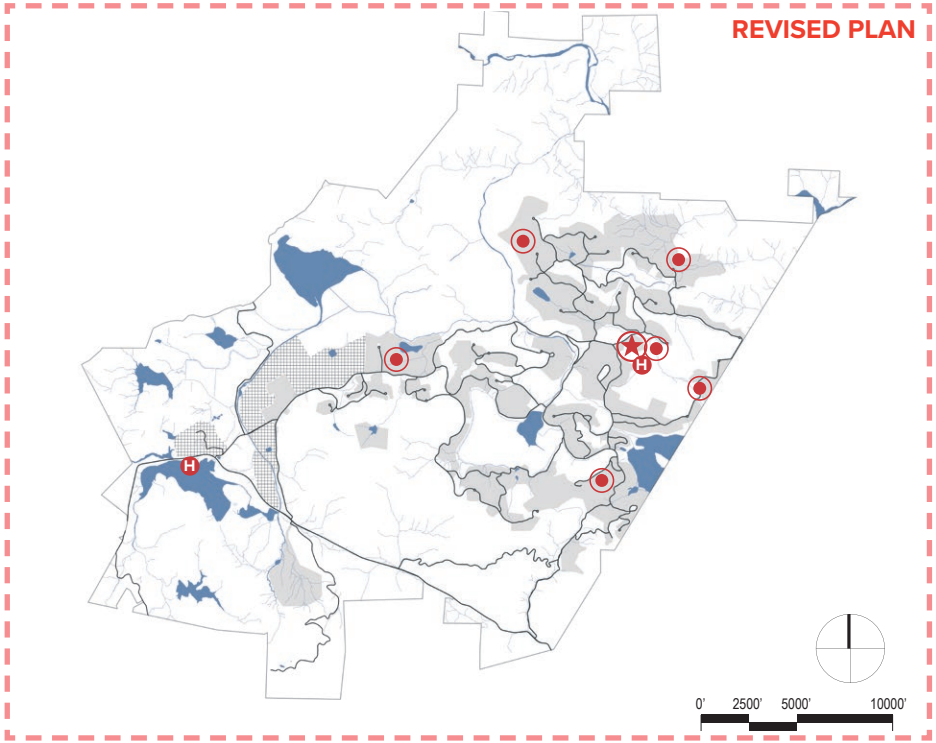
Designated ~~Meeting~~ Temporary Refuge Areas & ~~Staging Areas~~ Safety Zones

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 ~~meeting & staging~~ 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

REVISED 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 ~~MEETING~~ TEMPORARY REFUGE AREAS & ~~STAGING~~ SAFETY ZONES

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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.

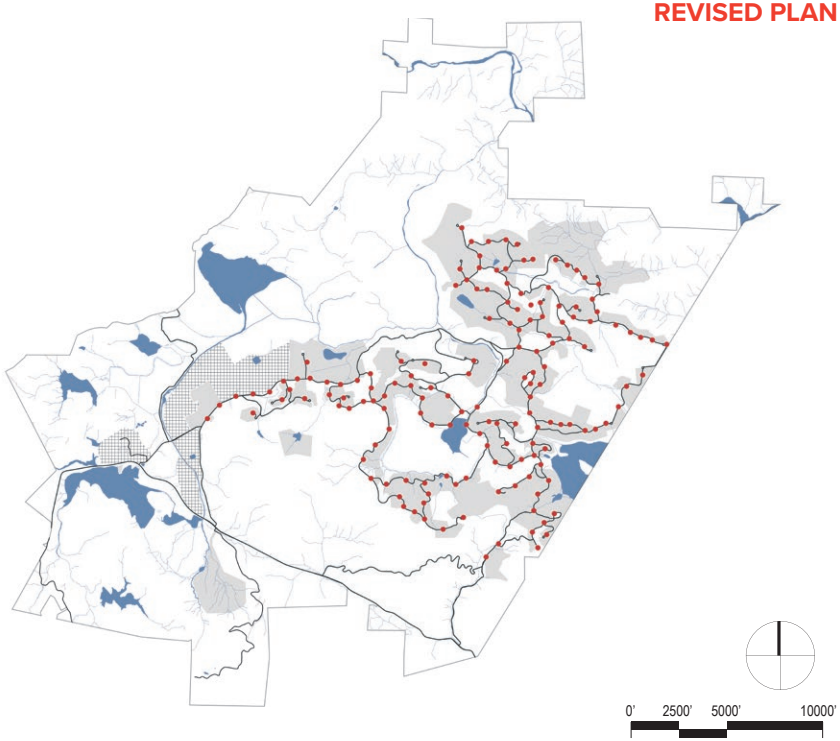
Fire Hydrants

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.

REVISED PLAN



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

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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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TIGER/Line Shapefiles, U.S. Census Bureau, 2018

U.S. Forest Service, Classification and Assessment with LANDSAT of Visible Ecological Groupings (CALVEG), EVeg Mid Region 5 North Coast Mid, January 18, 2018;

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.

2023 UPDATED PLAN REVISIONS

- **Cover Page:** Revision dates added
- **Table of Contents:** Propane Gas System page in Table of Contents removed
- **Pg 1:** Description of primary local fire department revised to “South Lake County Fire Protection District”; Last paragraph revised to describe the initial or first revision of the plan in June 2020
- **Pg 2:** Plan revised to incorporate updated parcel extents, roadway layouts, emergency access connector roadway, and voluntary property boundary fire break layout; note added to refer to tentative and final maps for detailed site plan information
- **Pg 3:** Implementation and Management section revised to incorporate three settlement agreement commitments:
  - 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 Emergency Response Center for fire services, including wildfire response.
  - 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 in the Wildfire Prevention Plan.
  - Project’s Emergency Response Center 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).
- **Pg 5:** Plan revised to incorporate update parcel extents and roadway layouts; note referencing the “Resort at Trout Flat” removed; note added to refer to tentative and final maps for detailed site plan information
- **Pg 16:** Plan revised to incorporate updated parcel extents, roadway layouts, emergency access connector roadway, and voluntary property boundary fire break layout; section revised to demonstrate 10 foot wide hardscape shoulder on each side of the roadway, within the overall 50 foot wide fuel reduction zone; last paragraph revised to describe that each subdivision group’s full roadway fire break network shall be completed at the time of recording the last final map for that subdivision group; note added to refer to tentative and final maps for detailed site plan information
- **Pg 17:** Plan revised to incorporate updated parcel extents and roadway layouts; note added to refer to tentative and final maps for detailed site plan information
- **Pg 19:** Plan revised to incorporate updated parcel extents and roadway layouts; note added to refer to tentative and final maps for detailed site plan information
- **Pg 20:** Spelling error for “pivotal” corrected; description of “hot work” added
- **Pg 21:** Plan revised to incorporate updated parcel extents and roadway layouts; spelling error for “power lines” corrected; note added to refer to tentative and final maps for detailed site plan information
- **Pg 22:** Page to be removed
- **Pg 26:** Spelling error for “power lines” corrected
- **Pg 27:** Spelling error for “power lines” corrected
- **Pg 28:** Spelling error for “fireplaces” corrected
- **Pg 31:** Plan revised to incorporate updated parcel extents, roadway layouts, and emergency access connector roadway; note added to refer to tentative and final maps for detailed site plan information
- **Pg 32:** Plan revised to incorporate updated parcel extents and roadway layouts; note added to refer to tentative and final maps for detailed site plan information
- **Pg 33:**
  - Plan revised to incorporate updated parcel extents and roadway layouts; note added to refer to tentative and final maps for detailed site plan information
  - Emergency Response Center description revised to incorporate two settlement agreement commitments:
    - Project’s Emergency Response Center 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 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 Emergency Response Center for fire services, including wildfire response.
- **Pg 34:** Plan revised to incorporate updated parcel extents and roadway layouts; note added to refer to tentative and final maps for detailed site plan information

2024 UPDATED PLAN REVISIONS, #1

- **PG 3:** Description of the project's general code compliance expanded to include compliance with Public Resources Codes 4290 and 4291.
- **PG 20:** Description of the project's general construction code compliance expanded to include compliance with the Wildland Urban Interface (WUI) Ignition Resistant Construction standards.
- **PG 26:** Description of the project's fire-resistant planting design and selection expanded to include compliance with Model Water Efficient Landscape Ordinance (MWELO).
- **PG 28:** Description of Class A rated roof systems (1) expanded to provide general strategies to reduce wildfire risk for green roofs.

2024 UPDATED PLAN REVISIONS, #2

- **PG 1:** Description of the WPP as an evolving, living document that will be reviewed and updated over time to become a more robust plan included
- **PG 6:**
  - Description of the wildfire history expanded to include information on the LNU Lightning Complex/Hennessey Fire (2020)
  - Map of Burn Severity of Most Recent Wildfires updated to include the LNU Lightning Complex/Hennessey Fire (2020) and omit the Butts Fire (2014); note that the LNU Lightning Complex/Hennessey Fire burn severity partially masks the 2015 Valley Fire burn severity in order to show the most recent conditions
  - Map of Site Wildfire History updated to include the most recent wildfires, including the Oat Fire (2020) and the LNU Lightning Complex/Hennessey Fire (2020); note that, compared to the previous version of this map, this updated version omits prescribed fires (RX Fire (1980) and RX Guenoc VMP Fire (2006)) and adds the Geo. Snyder Fire (1951) from the most recent CAL FIRE historic fire perimeters shapefile
- **Pg 9:** Spelling error for “watches” corrected
- **PG 13:**
  - Description the site’s fire hazard revised to reflect current mapping; description of the CAL FIRE description of hazard versus risk incorporated
  - Map of the site’s Fire Hazard Severity Zones (FHSZ) updated to display the zones effective April 1, 2024
- **PG 14:** Map of the region’s Fire Hazard Severity Zones (FHSZ) updated to display the zones effective April 1, 2024
- **PG 15:**
  - Description of fire breaks expanded to include voluntary shaded fuel breaks
  - Description of vegetation addressed in active landscape management areas revised to “dead, dying, or invasive vegetation”
- **PG 16:** Name of the “Voluntary Property Boundary Fire Break” revised to “Voluntary Project Boundary Shaded Fuel Break”
- **PG 17:** Description of vegetation addressed in active landscape management areas revised to “dead, dying, or invasive vegetation”
- **PG 18:** Description of types of vegetation that can be addressed by grazing expanded to dead, dying, invasive, poorly-maintained, and fire-prone vegetation
- **PG 21:** Description of the proposed underground network revised to clarify that the entire power line network will be undergrounded to eliminate the risk of overhead power lines causing wildfires in windy conditions
- **PG 24:**
  - Name of the three zones of defense revised
  - Description of the Zone 0 total area expanded to include decks made of fire-resistant materials
  - Description of vegetation addressed within Zone 1 and Zone 2 revised to “dead, dying, invasive, poorly-maintained, and fire-prone vegetation”
- **PG 26:**
  - Description of vegetation revised to “dead, dying, invasive, poorly-maintained, and fire-prone vegetation”
  - Description of fire prone and fire resistant planting expanded
  - Additional recommendation of planting low-maintenance native plants added
  - Reference to avoiding tree limbs touching power lines removed, as all power lines will be undergrounded
- **PG 27:**
  - Description of vegetation revised to “dead, dying, invasive, poorly-maintained, and fire-prone vegetation”
  - Description of shrub maintenance included
  - Description of HOA wildfire expert’s responsibility for periodic property inspections included
  - Reference to pruning tree limbs encroaching on power lines removed, as all power lines will be undergrounded
- **PG 28:** Description of green roof system standards and guidelines expanded to include irrigation
- **PG 29:** Description of Wildfire fighting tools (6) revised to direct use to firefighters and to clarify tools.
- **PG 30:**
  - Description of HOA wildfire expert’s responsibility to create and implement a wildfire preparedness education program included
  - Various wildfire prevention recommendations expanded or clarified
- **PG 35:**
  - Additional contributors included
  - Revision to update sources for the Burn Severity of Most Recent Wildfires, Site Wildfire History, and Fire Hazard Severity Zones maps

2025 UPDATED PLAN REVISIONS

- **PG 2:**
  - 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)
- **PG 15:** Description of project boundary shaded fuel breaks revised to remove “voluntary” and demonstrate commitment to this action
- **PG 16:**
  - Description of project boundary shaded fuel breaks revised to remove “voluntary” and demonstrate commitment to this action
  - Description of the timing for implementation of the full roadway fire break network revised from the “recording of the final map of each subdivision group” to “prior to the issuance of the first certificate of occupancy for a structure within each subdivision under each final map”
- **PG 17:** Description of Active Landscape Fire Management plan expanded to describe debris removal guidelines and recognize that a Vegetation Management Plan will be used to organize and monitor strategies
- **PG 20:** Description of Fire Safety Procedures expanded to include a commitment to a certified firefighter being available on-site during construction to quickly contain any construction-caused fires
- **PG 23:** Minimum total defensible space expanded from 50 feet to 100 feet
- **PG 24:** Minimum total defensible space expanded from 50 feet to 100 feet
- **PG 28:** Various strategies related to eaves, windows, doors, fencing, and structure distances were added to expand strategies to prevent fires on building exteriors
- **PG 30:** 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)
- **PG 31:**
  - Description of project boundary shaded fuel breaks revised to remove “voluntary” 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)
- **PG 33:** 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)
- **PG 34:** Description and commitment to water additives for potential electric vehicle battery fires added
- **PG 27:** Description of HOA wildfire expert’s responsibility to inspect properties changed from periodically to annually

Appendix G

Water Supply

Appendix G-1

Water Supply Assessment Addendum Memorandum

SHERWOOD
DESIGN ENGINEERS

2548 MISSION STREET, SAN FRANCISCO, CA 94110
(415) 677-7300 | WWW.SHERWOODENGINEERS.COM

Technical Memorandum

June 21, 2024

To: MAHA
Re: Water Supply Wells

Prepared by: Fred Yukic, PE
Reviewed by: Amelia Luna, PE

RE: Guenoc Valley Project Water Supply Wells

A Water Supply Assessment (WSA) was prepared in 2020 by Luhdorff and Scalmanini (L&S) for the MAHA Resort at Guenoc Valley Project (Project) and was included in the Final EIR (FEIR) prepared by Lake County in July 2020. Since the publication of the FEIR, additional groundwater extraction wells have been constructed and tested on the Guenoc Valley site in accordance with the recommendations of the WSA and FEIR. Sherwood reviewed the well construction details and capacity test data provided by MAHA for wells at the site. This memorandum is intended to provide an overview of the groundwater well construction and testing that has been completed to date. Please find attached five packages, one for each well intended for potable water use, for submission to the County. Each package contains the DWR Well Completion Report, well capacity test, and water quality summary.

Potable Water Demand and Supplies

Five potable wells at the site meet the criteria of the State of California for public water systems with a DWR Well log, a well seal equal to or greater than 50 feet, and a well capacity test. The well capacity tests were conducted in accordance with the State of California Code of Regulations Section 64554 by appropriately registered professionals. Some of the wells require additional water quality testing, but the water can be treated to remove any undesirable constituents, if necessary. Note that the FEIR, WSA, and other supporting technical documents prepared at the time of the initial Project review used the term ‘domestic’ and ‘potable’ water well interchangeably.

The five potable wells that currently exist on the Guenoc Valley site are identified by the following names:

Bohn Ridge 3
Camping Area (CA PW-1), now renamed Wilderness Area
Farmstead 1 (FS PW-1)
Red Hills 1 (RH PW-1)
Tephra 4

At the time of the 2020 EIR, only the Camping Area (now named Wilderness Area) well had been constructed and tested. Table 2-3 of the WSA listed the proposed and existing wells as they were understood in 2020, including those existing wells and springs that were not anticipated to provide Project-related water at the time. Since the WSA was prepared, the Farmstead 1 and Red Hills 1 wells that were listed in the WSA were drilled, constructed, and tested. One additional well, the Bohn Ridge 3 well, was drilled in the Bohn Ridge area of the property in Lake County. The Tephra 4 well was an existing well in the Tephra area of the property that was not listed in the WSA that was evaluated for potable use and found to meet the State criteria. The Bohn Ridge 3 and Tephra 4 wells are now proposed as part of the potable supply wells that would serve the Project because they were constructed to potable well standards and the water from these wells can be used for non-potable supply as needed. Because the water from Bohn Ridge 3 and Tephra 4 wells can be used for either potable or non-potable water supply, there is no significant impact on the project ability to meet non-potable supply. The WSA included a proposed well in the McCreary area of the property, which was very low yield when drilled, so it is not included in the list of potable wells.

The total potable water supply capacity for the five wells tested is 645.5 gallons per minute (gpm) which is equal to 1,042 acre feet per year (afy) (see Table 1). This total well capacity was determined in accordance with California Code of Regulations, Title 22, Section 64554, “New and Existing Source Capacity”, with the capacity of each well equal to 50% of the flow maintained during a 10-day pump test. The combined potable well capacity is sufficient to meet the potable water demand shown in the DEIR attachment "Revised Water Demand Analysis for Maha Resort at Guenoc" dated October 22, 2019, for both Phase 1 (249 afy) and the Total Estimated Water Demand which is the combined Phase 1 and Future Phase (685 afy). The potable well capacity currently available on the Guenoc Valley site is in excess of the Total Estimated Water Demand by 357 afy (Table 2).

Because the wells can pump at a higher rate than the DDW Flow Capacity, as shown in the column labeled Flow (gom) in Table 1, the wells can be operated for shorter periods of time and still produce the volume of water needed to meet the demand. This allows for periods when the wells are not operated (i.e., “rested”). For example, the Bohn Ridge Well can be pumped at 550 gpm for 4 hours and produce the same volume of water as the Bohn Ridge Well pumped at 275 gpm for 8 hours, so the higher flow rate allows for periods of “rest”.

Table 1. MAHA Resort at Guenoc Well Capacities

WELL	DWR Well Log	Well Seal Depth (feet)	Well Test Date	Well Tester	Flow (gpm)	Test duration (days)	DDW Flow Capacity (gpm) [50% of 10-day test]	DDW Capacity (afy)	Water Quality Testing
Potable Wells									
Bohn Ridge -3	yes	100	1/19/2021	North State Drilling	550	10	275		Need lab for SOCs, perchlorate, radiological
CA PW-1	yes	100	10/3/2019	L&S	346	10	173		Good
FS-1	yes	50	11/18/2019	L&S	305	9	152.5		Good
RH-1	yes	100	1/19/2021	North State Drilling	43	10	21.5		Manganese high. Need lab for SOCs, perchlorate, radiological, boron
Tephra-4	yes	50	1/19/2021	North State Drilling	47	10	23.5		Need lab for SOCs, perchlorate, radiological
TOTAL							645.5	1,042	
Non-potable Wells									
Crossroads					264	6.6 days	264		good, need boron lab test
TOTAL							264	426	

Table 2. MAHA Resort at Guenoc Water Budgets for Areas Not Using Surface Water

	Demand (afy)		Supply (afy)		Supply - Demand (afy)
	Phase 1	Future	Groundwater	Recycled Water	Balance
Potable Water	249	436	1,042		357
Non-Potable Water (irrigation)	482	760	426	326	-490
Overall Total					-133

Non-Potable Water Demand and Supplies

Non-potable water will be supplied by a combination of groundwater, recycled water generated onsite, and surface water for areas within the Place of Use (POU) for the existing water rights. Areas outside the POUs will not use surface water for water supply, so will be supplied by a combination of groundwater and recycled water. The Project still intends to use existing groundwater wells, recycled water, and additional wells to be constructed to meet Future Non-Potable Water Demand (Table 2).

For non-potable water supply, the Crossroads well was constructed and tested in 2002 according to L&S in their Water Supply Assessment (2021). The Crossroads Well was test pumped for 6.6 days, pumping at 264 gpm which is equal to 426 afy (see Table 1). The Crossroads well water was tested by an analytical laboratory and found to produce good quality water (see attached lab report).

Phase 1 will also generate 163 afy of recycled water (Table 4-7 of the WSA). Therefore, there are 589 afy of non-potable water available to supply Phase 1 which exceeds the Phase 1 non-potable demand of 482 afy.

The non-potable Total Estimated Water Demand for areas outside of the POUs, which is the combined Phase 1 and Future Phase (1,242 afy), will be met by recycled water (which increases to 326 afy at full build-out of the Project) and groundwater. Because potable water can be used to supply non-potable uses, the excess 357 afy of potable water that can currently be produced on the site can be used to meet this demand. Therefore, the deficit of non-potable water at full build-out is 133 afy. To supply the 133 afy of non-potable water for full buildout of the Project, additional non-potable wells will be drilled, constructed, developed and tested which are capable of supplying 133 afy. This volume is equivalent to one additional well with a capacity of 82 gpm. These one to two new non-potable wells would not be required until commencement of development of Future Phases of the Project, so they have not been constructed at this time.

Existing wells on the site shown in Tables 1, 2, and 3, and test drilling at the site shown in Table 3, indicate that drilling and construction of well(s) that produce 82 gpm is technically feasible. There are three existing supply wells on the site that are not part of the project, two for non-potable irrigation (Tephra 1 and 2) and one for potable water supply (Lodge Well) that have an estimated combined pumping rate of 120 gpm which demonstrate the technical feasibility of drilling and constructing additional wells.

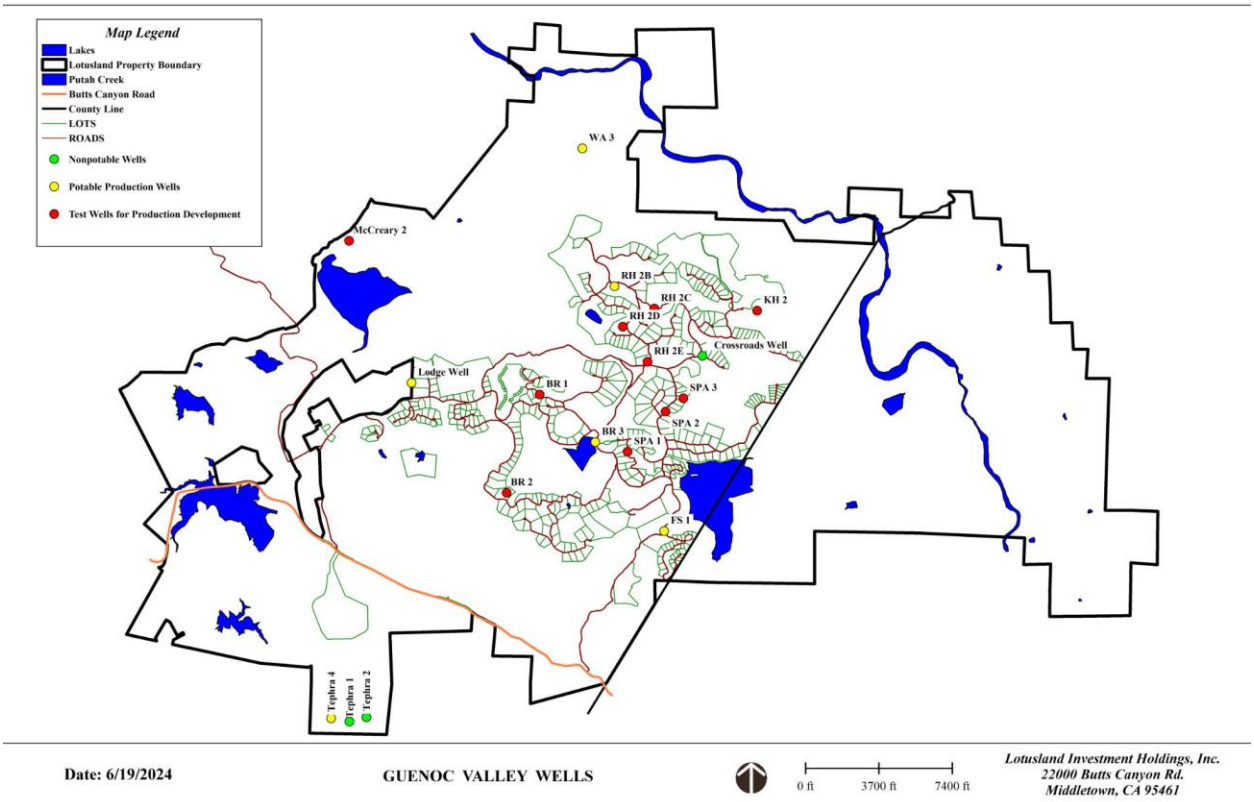
In addition, the exploratory drilling program advanced eleven additional borings at various locations across the site as shown in Figure 1. At three of these locations a PVC casing was installed in the boring, a submersible pump was installed, and the boring was test pumped with results showing a total of 131 gpm from these three borings. At the other eight borings a PVC casing could not easily be installed due to drilling conditions, so these borings were pumped using the air lift method which does not provide as accurate a measurement of flow, with the combined output of an estimated 505 gpm.

The other existing wells and exploratory drilling program demonstrate the presence of groundwater at numerous locations beneath the site with pump tests indicating rates greater than the additional non-potable demand required for future phases.

Table 3. MAHA Resort at Guenoc Other Existing Wells and Exploratory Test Drilling

Well	Use	Air Lift Pumping Rate (gpm)	Constant Rate Pumping Test (gpm)	Remarks
Other Existing Wells				
Tephra 1	Non-potable Production		75	Existing in use for Tephra Vineyards
Tephra 2	Non-potable Production		25	Existing in use for Tephra Vineyards
Lodge Well	Potable Production		20	Existing in use for Lodge and Nursery
Total			**120**	
Exploratory Test Drilling				
BR 1	Test	50		
BR 2	Test	80		
KH 2	Test		31	PVC casing placed in well, pump placed, water pumped, no well constructed
McCreary 2	Test		44	PVC casing placed in well, pump placed, water pumped, no well constructed
RH 2	Test	50		
RH 2C	Test	70		
RH 2D	Test	50		
RH 2E	Test	80		
SPA 1	Test	50		
SPA 2	Test		28	PVC casing placed in well, pump placed, water pumped, no well constructed
SPA 3	Test	75		
Total		**505**	**131**	

Figure 1. MAHA Resort at Guenoc Existing Wells and Exploratory Test Drilling



Dry and Very-Dry Year Groundwater Availability

Section 4.1.5 of the WSA prepared by L&S dated February 2020 presents an analysis of current and projected future groundwater availability using the Basin Characterization Model (BCM) of California developed by the U.S. Geological Survey (USGS). The BCM simulates watershed hydrologic processes for monthly time steps based on observed precipitation, potential evapotranspiration, soil survey data, and geologic conditions.

Recognizing that climate change presents the potential to alter water availability in the future, the analysis performed for the WSA further incorporated a range of possible groundwater availabilities to account for the potential for 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.

The WSA projected short-term (years 2020 – 2029) groundwater availability in a dry year to be 6,570 afy and in a very dry year to be 4,800 afy on the Guenoc Valley site. Future years (2030 – 2040) groundwater availability was projected to be 4,950 afy in a dry year and 3,740 afy in a very dry year (accounting for climate change). These groundwater availability projections reflect what is available below the property and do not differentiate between potable or non-potable, which is a factor of well construction and not overall availability. The total demand of 1,926 afy is less than the available groundwater supplies of 3,740 afy in a very dry year, indicating that there is sufficient water available in the subsurface beneath the project site even in a very dry year.

In addition, all of the project wells identified are located outside the mapped boundaries of the Colloyami and Coyote Groundwater Basins identified by the California DWR, both of which are very low priority basins for sustainable groundwater management due to low groundwater use and no documented impacts on groundwater level, storage, quality or subsidence. In addition, both groundwater basins are estimated by the DWR to contain 7,000 af of useable storage capacity, and current groundwater usages of 1,414 afy and 3,250 afy, respectively. Based on these boundaries, usable storage capacity and current groundwater use, the groundwater withdrawal from the project wells will not have an impact on wells on neighboring properties.

Well Testing Report 1:

Bohn Ridge 3

Wagner&Bonsignore
Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
Robert C. Wagner, P.E.
Paula J. Whealen

Martin Berber, P.E.
Patrick W. Ervin, P.E.
David P. Lounsbury, P.E.
Vincent Maples, P.E.
Leah Orloff, Ph.D, P.E.
David H. Peterson, C.E.G., C.H.G.
Ryan E. Stolfus

MEMORANDUM

To: Sherwood Design Engineers, Inc.
Attn: Mr. Peter Haase, MS, PE

From: David H. Peterson, CEG 1186, CHG 86

Date: January 7, 2021

Re: **Proposed Well Test Procedures,**
Bohn Ridge Production Well 3 (BR PW-3)
Guenoc Ranch, 22000 Grange Road
Middletown, Lake County, California

This memorandum outlines the proposed test procedures to determine the capacity of a recently drilled water well completed in bedrock, identified as the Bohn Ridge Production Well 3, in a pumping test. As shown on the *Bohn Ridge Production Well 3 (BR PW 3) Site Plan*, Attachment 1, The well is located on the Guenoc Ranch property, about 8.1 miles east of the town of Middletown, in Lake County, California.

The well was completed in December 2020 and a well completion report has not yet been prepared. As shown on the *Vicinity Geologic Map*, Attachment 2 (Fox and others, 1973), the well was drilled in an area underlain by meta-graywacke sandstone, greenstone, and metachert of the Jurassic-Cretaceous age Franciscan Complex (map symbol *KJfm* on Attachment 2).

The specific procedures for performing a pump test for a well completed in bedrock (i.e., primary production is from secondary permeability features such as fractures and cracks) are described in Section 64554(g), Title 22 of CCR. Additionally, Section 64554(e) of Title 22 outlines the information about the proposed well test required by the State Water Resources Control Board. The information required by Section 64554(e) is listed below in italics, followed by the provided information.

(1) The name and qualifications of the person who will be conducting the test;

The testing will be conducted by Well Industries Inc. of Chico, California, a California-licensed C-57 Contractor (#812678). During the test, a California-certified Hydrogeologist will be available to provide geologic consultation, as needed.

(2) The proposed test's pumping discharge rate, based on the design rate determined during well development and/or a step-drawdown test.

From discussions with Well Industries/North State Drilling, the well reportedly produced about 500 gallons per minute during development and initial testing. We understand the test pumping rate will also be in this range.

(3) A copy of a United States Geological Survey 7½ minute topographic map of the site at a scale of 1:24,000 or larger (1 inch equals 2,000 feet or 1 inch equals less than 2,000 feet) or, if necessary, a site sketch at a scale providing more detail, that clearly indicates;

(A) The well discharge location(s) during the test, and

(B) The location of surface waters, water staff gauges, and other production wells within a radius of 1000 feet;

See the attached *Well Location Map*, Attachment 3, reproduced at a scale of 1:24,000, for possible well discharge locations, surface waters, and production wells.

(4) A well construction drawing, geologic log, and electric log, if available;

The well was drilled and constructed in December 2020 by Well Industries/North State Drilling of Chico, California. A Well Completion Report has not yet been prepared. In discussions with representatives of North State Drilling, we understand the well was drilled and completed to a depth of 640 feet.

(5) Dates of well completion and development, if known;

The well was reportedly completed and developed during December 2020.

(6) Specifications for the pump that will be used for the test and the depth at which it will draw water from the well;

As previously discussed, the well was never put into production. The well was reportedly constructed to a depth of 640 feet with 10-inch diameter casing. The static water level was measured at 15 feet below ground surface (BGS) at completion of well development in December 2020. Presumably, the pump will be set near the bottom of the well, to allow for drawdown during pumping. However, pump selection and depth will be made by the pump contractor.

(7) A description of the methods and equipment that will be used to measure and maintain a constant pumping rate;

Measurement of the pumping rate will be performed using a flow meter and totalizer installed in the pump discharge line. Pump equipment and discharge rate will be monitored throughout the test to maintain a constant pumping rate.

(8) A description of the water level measurement method and measurement schedule;

Water level changes measurements will be obtained using a tape-style electronic water level meter. The water levels measurements will be collected at a minimum, as required in Section 64554 (f) or (g), depending on the geologic classification of the formation. However, data may be collected at more frequent intervals to provide additional data and to assess the progress of the test.

(9) For wells located in or having an influence on the aquifer from which the new well will draw water, a description of the wells' operating schedules and the estimated amount of groundwater to be extracted, while the new well is tested and during normal operations prior to and after the new well is in operation;

As shown on the *Well Location Map*, Attachment 3, production wells in the vicinity of the Bohn Ridge well are the Farmstead PW-1 well, about 1.1 miles southeast, and the Red Hill PW-1 well, about 1.5 miles north. The Farmstead PW-1 is located in an area mapped by the USGS (Fox and others, 1973, see Attachment 2) as underlain by serpentinite bedrock. The Bohn Ridge PW-3 well is mapped within the Franciscan Complex, and the hydraulic connectivity between these bedrock units is not known. However, given the distance between the wells, the potential for pumping interference is low. The Red Hill PW-1 well is completed in basaltic lava flows of the Clear Lake Volcanics, which overlie the Franciscan Complex and serpentinite units. Groundwater in the Red Hill PW-1 well was reportedly encountered within the Clear Lake Volcanics. Given the distance between the Red Hill and Bohn Ridge wells and differing bedrock aquifer conditions, it is unlikely that there is direct hydraulic connection between these wells.

The Red Hill PW-1, Farmstead PW-1 and Bohn Ridge PW-3 well were drilled to provide water supply for planned development of the Guenoc Ranch. The wells have not been put into production and specific operating schedules and feasible amounts of groundwater to be pumped have not yet been determined.

(10) A description of the surface waters, water staff gauges, and production wells shown in (3)(B);

The nearest staff gauge, operated by the USGS, is located along Putah Creek, about 3.8 miles to the northwest. As shown on the *Well Location Map*, Attachment 3, the nearest surface waters are Lower Bohn Lake, immediately west of the well, which is fed by an

intermittent drainage to the northeast. Nearby production wells include the Red Hill PW-1 well and Farmstead PW-1 well, described in (9) above.

(11) A description of how the well discharge will be managed to ensure the discharge doesn't interfere with the test;

We understand that the water from the well test will be discharged into Upper Bohn Lake, which is located about 120 feet west.

(12) A description of how the initial volume of water in the well's casing, or bore hole if there is no casing at the time, will be addressed to ensure it has no impact on the test results; and

Typically, drawdown and dewatering of the well casing both occur fairly rapidly at the beginning of the test. During this period, the slope of the drawdown plot is (as indicated by a semi-log plot) is generally flatter and non-linear. Water levels will be collected at more frequent intervals during the early portion of the test and plotted (semi-log plot) to identify when the data fall on a straight-line plot. This typically indicates that initial water in the casing has been removed and that the discharge is occurring at a constant rate.

(13) A written description of the aquifer's annual recharge.

The Bohn Ridge well is located in hilly, upland areas outside of an identified groundwater basin as defined in California Department of Water Resources Bulletin 118. Published geologic maps of the vicinity indicate that the bedrock units underlying the area consist of metamorphosed sedimentary and igneous bedrock units of the Franciscan Complex and serpentinite.

Review of published precipitation maps (Cal Fire, Fire and Resource Assessment Program, 2020) indicate that average rainfall in the vicinity of the well is in the range of about 32 to 35 inches per year. Published data for Mediterranean-type climates (receiving almost no precipitation for half the year) indicates that ground-water recharge is typically on the order of 10 to 20 percent of long-term precipitation (Bouwer, ASCE, 2003). Using the average rainfall data for the site vicinity, this would be equivalent to about 3.5 to 7.0 inches of the annual recharge, or about 0.3 to 0.6 acre-feet of groundwater recharge per acre. However, given that the well is located in sloping, upland areas underlain by consolidated, fractured bedrock units, the actual recharge is likely at the lower end of this range.

cc: Lotusland Investment Holdings, Inc.
Attn. Mr. Randy Sternberg

Attachments

Bohn Ridge Production Well 3 Site Plan – Attachment 1
Vicinity Geologic Map - Attachment 2
Well Location Map - Attachment 3

References

Bouwer, H., 2003, Integrated Water Management for the 21st Century, Problems and Solutions in Perspectives in Civil Engineering, Commemorating the 150th Anniversary of the American Society of Civil Engineers: J.S. Russell, Ed., ASCE 150th Anniversary Paper, p. 79-88.

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Fox, K.F. Jr., Sims, J.D., Bartow, J.A. and Helley, E.J., 1973, Preliminary Geologic Map of Eastern Sonoma County and Western Napa County, California: U.S. Geological Survey Miscellaneous Field Studies Map 483, 4 sheets, Scale 1:62,500.

Graymer, R.W., Brabb, E.E., Jones, D.L., Barnes, J., Nicholson, R.S., and Stamski, R.E., 2007, Geologic Map and Map Database of Eastern Sonoma and Western Napa Counties, California: U.S. Geological Survey Scientific Investigations Map 2956, Scale 1:100,000.

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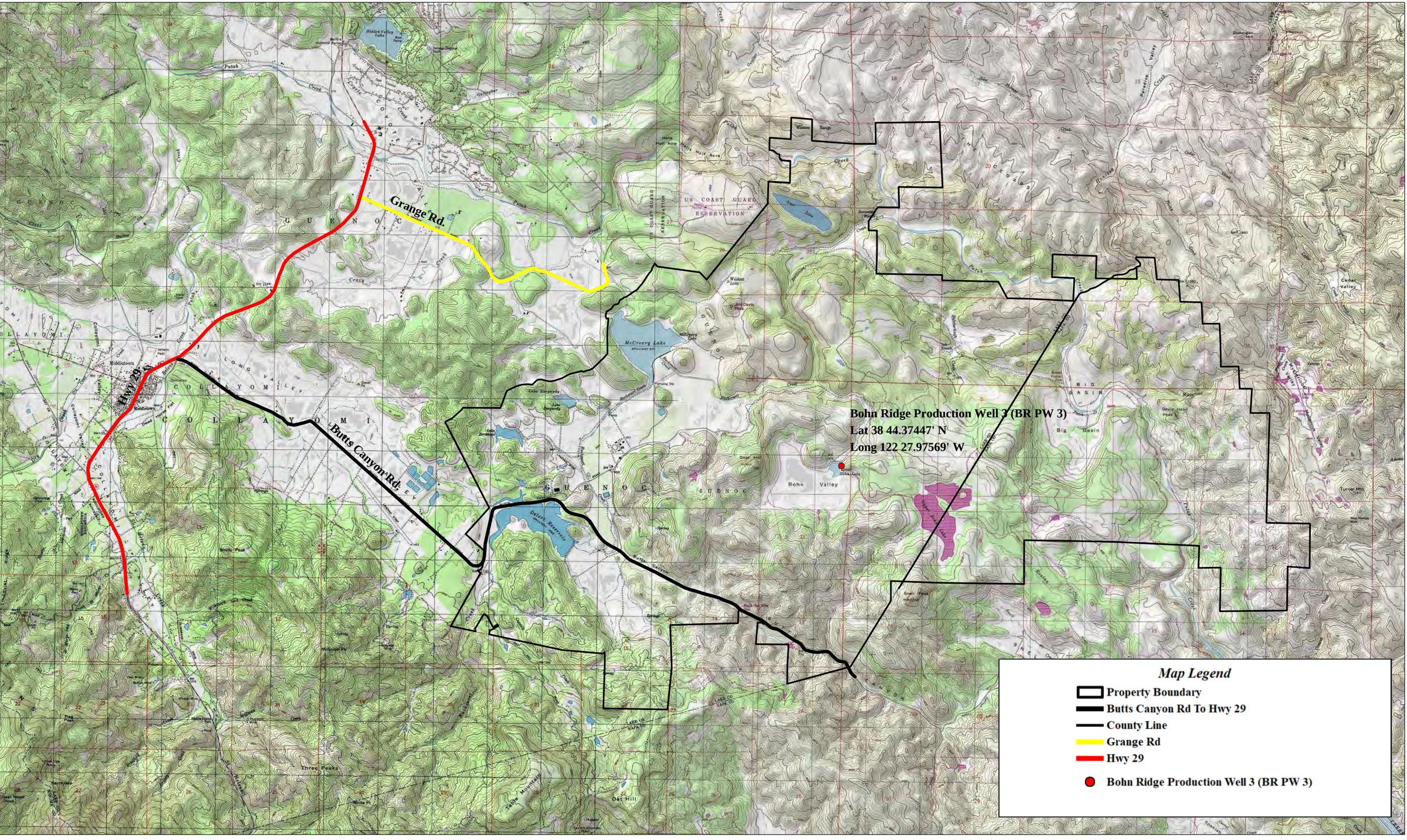
Upson, J.E. and Kunkel, F., 1955, Ground Water of the Lower Lake-Middletown Area, Lake County, California: U.S. Geological Survey Water-Supply Paper 1297, 87p.

Wagner, D.L. and Bortugno, E.J., 1982, Geologic Map of the Santa Rosa Quadrangle, California, 1:250,000: California Division of Mines and Geology Regional Geologic Map Series, Santa Rosa Quadrangle, Map No. 2A (Geology).



Date: 12/18/2020

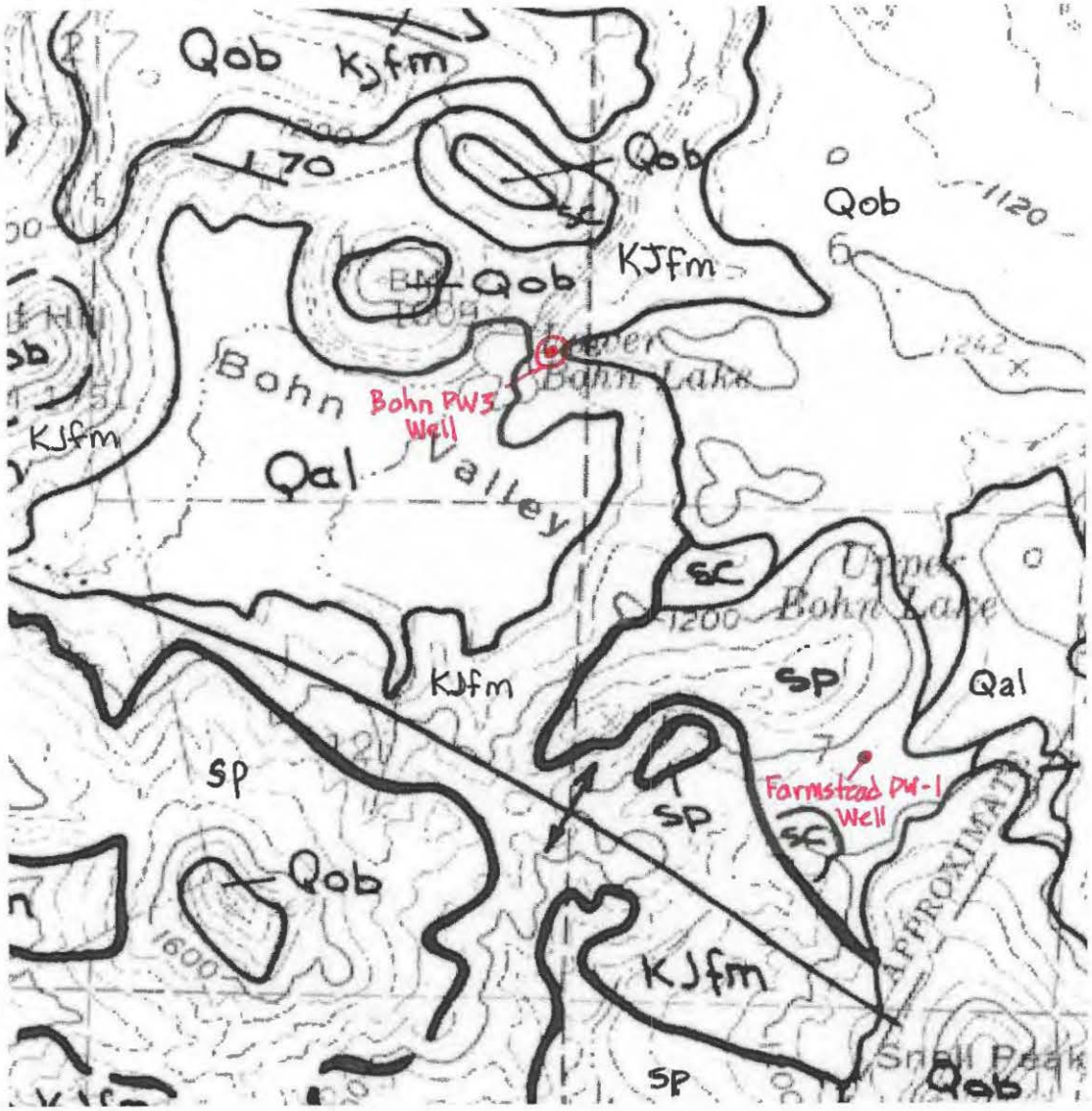
BOHN RIDGE PRODUCTION WELL 3 (BR PW 3) SITE PLAN

0 ft 5000 ft 10000 ft

Lotusland Investment Holdings, Inc.
22000 Butts Canyon Rd.
Middletown, CA 95461

Attachment 1

Reference: Fox and others, USGS, 1973



Explanation

Qal - Alluvium

Qob - Clear Lake Volcanics

KJfm - Franciscan Complex

Sp - Serpentinite

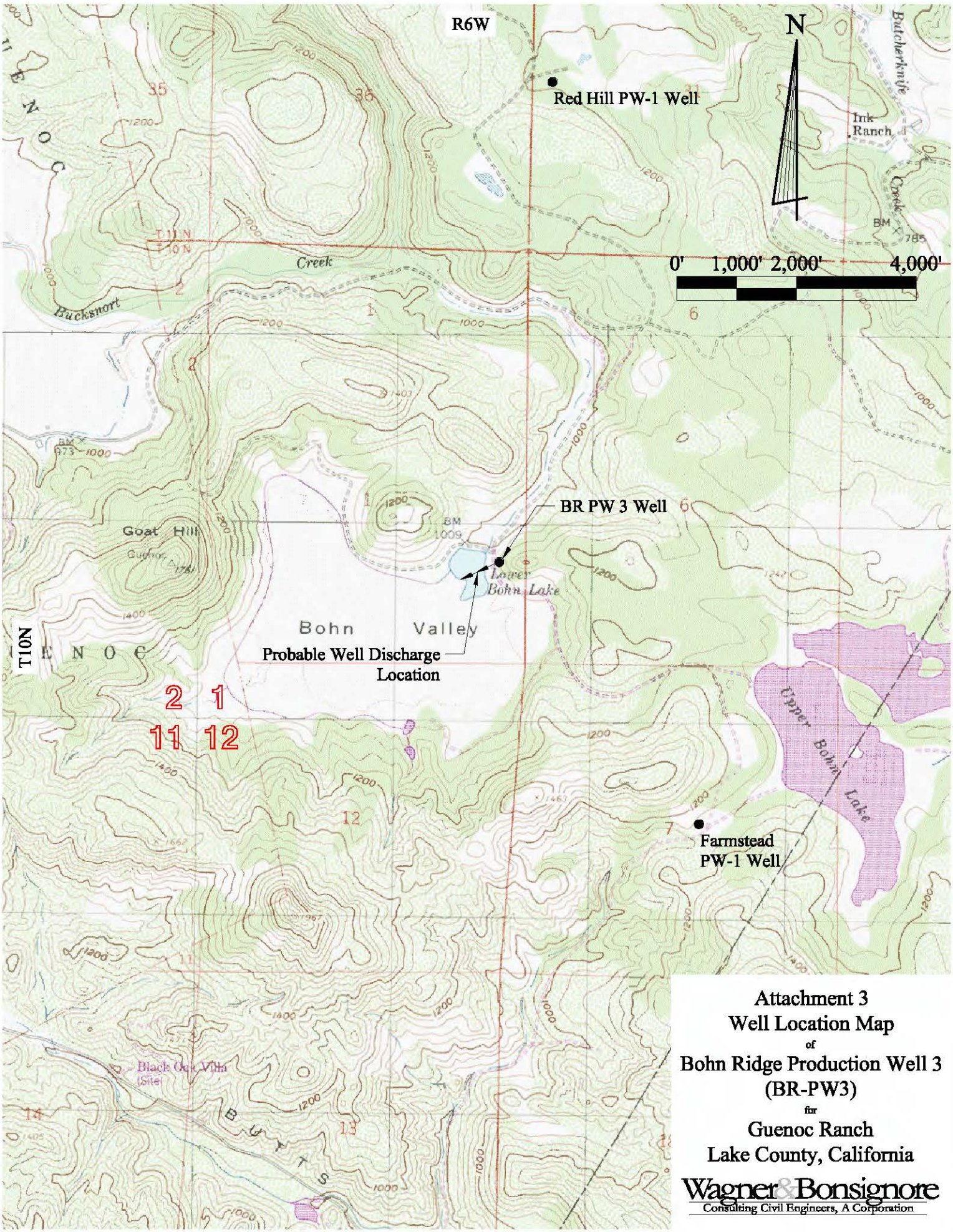
SC - silica-carbonate rock

Attachment 2

Vicinity Geologic Map

Bohn Ridge Production Well 3

Guenoc Ranch



Attachment 3
Well Location Map
of
Bohn Ridge Production Well 3
(BR-PW3)
for
Guenoc Ranch
Lake County, California

Wagner & Bonsignore
Consulting Civil Engineers, A Corporation

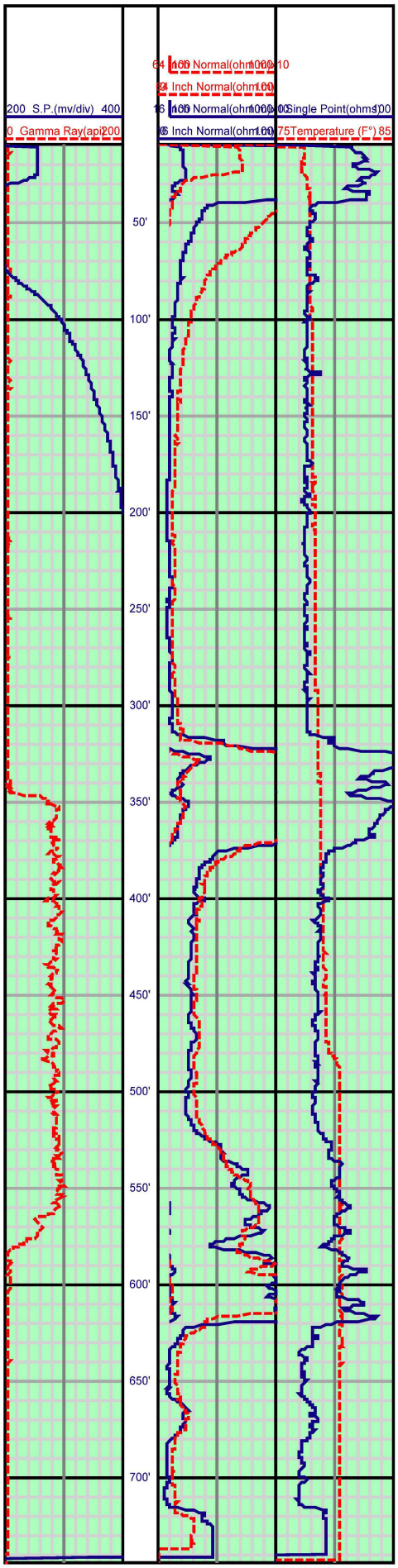
Base map per USGS 7.5 Minute Quad map for Aetna Springs.

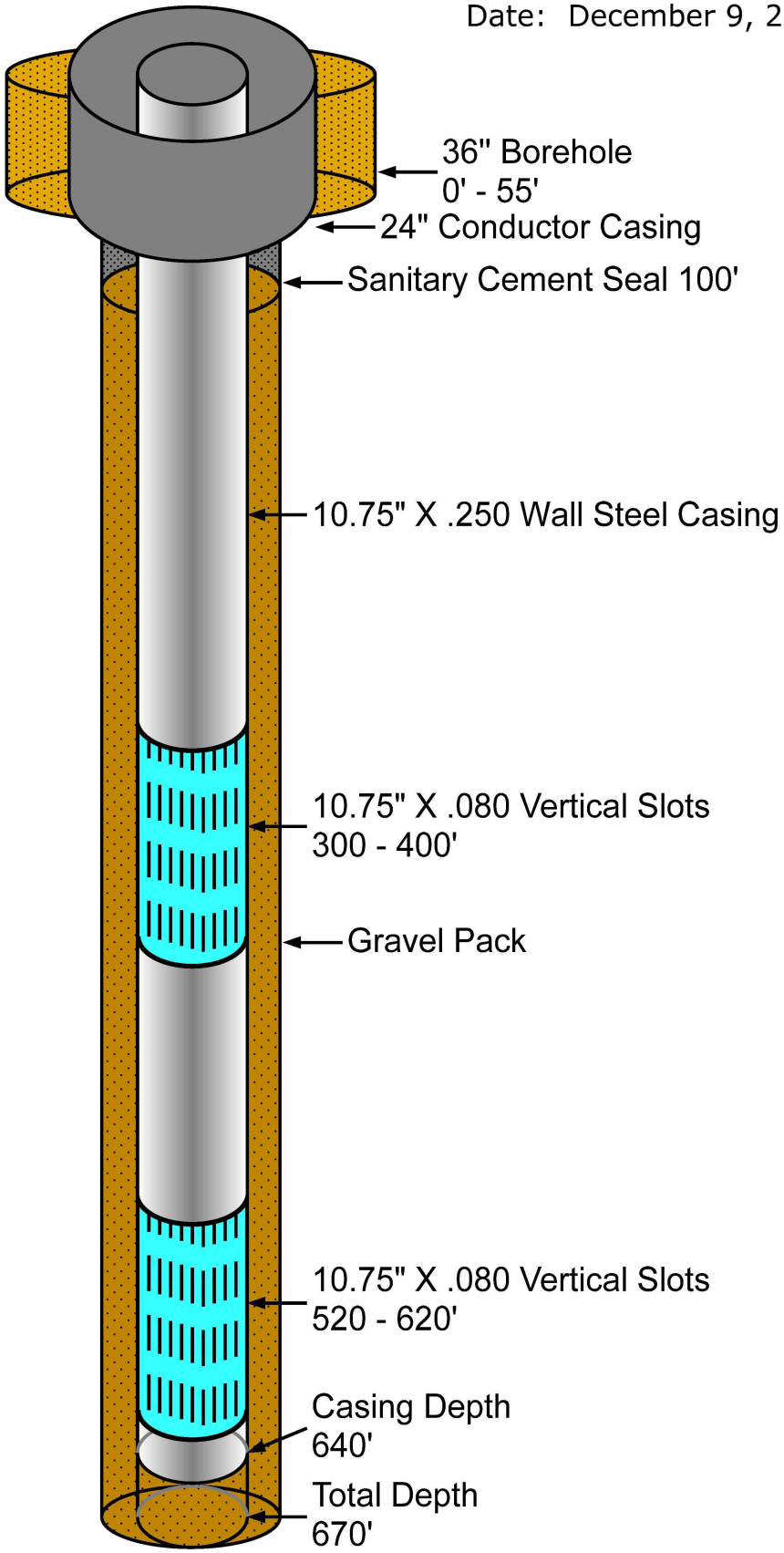
Q:\Drawings\Lotus Land Investment Holdings, Inc\Well Location Map Bohn Ridge.dwg

January 2021

BOREHOLE SCHEMATIC
BOHN 3 PW
BOHN VALLEY, INC.

Well Industries, Inc.
3282 STATE HWY 32
CHICO, CA 95973
Phone: 530-891-5545
Date: December 9, 2020





State of California

Well Completion Report

Form DWR 188 Submitted 1/20/2021

WCR2021-000719

Owner's Well Number: BOHN 3 PW | Date Work Began: 12/01/2020 | Date Work Ended: 12/09/2020

Local Permit Agency: Lake County Health Services Department - Environmental Health Division

Secondary Permit Agency: | Permit Number: WE 65470 P | Permit Date: 11/09/2020

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: BOHN VALLEY, INC.,

Mailing Address: 22000 BUTTS CANYON RD

City: MIDDLETOWN | State: CA | Zip: 95461

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Public

Well Location

Address: 23790 BOHN VALLEY RD

City: MIDDLETOWN | Zip: 95461 | County: Lake

Latitude: 38 Deg. 44 Min. 23.3159 Sec. N | Longitude: -122 Deg. 27 Min. 58.2839 Sec. W

Dec. Lat.: 38.73981 | Dec. Long.: -122.46619

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: 013-023-071

Township: 10 N

Range: 06 W

Section: 01

Baseline Meridian: Mount Diablo

Ground Surface Elevation: 1026

Elevation Accuracy: Unknown

Elevation Determination Method: GPS

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 670 Feet

Total Depth of Completed Well: 640 Feet

Water Level and Yield of Completed Well

Depth to first water: 15 (Feet below surface)

Depth to Static Water Level: (Feet) | Date Measured: 01/09/2021

Estimated Yield*: 550 (GPM) | Test Type: Pump

Test Length: 240 (Hours) | Total Drawdown: 430 (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	55	SURFACE CASING
55	60	CLAY
60	80	CLAY / SHALE
80	140	SHALE
140	150	SHALE / CLAY
150	170	HARD ROCK
170	200	HARD ROCK / CLAY
200	230	CLAY
230	240	BLUE CLAY
240	260	CLAY
260	290	CLAY / HARD ROCK
290	300	CLAY
300	320	CLAY / HARD ROCK
320	350	HARD ROCK
350	390	SHALE

390	400	SHALE / CLAY
400	510	CLAY
510	520	CLAY / GRAVEL
520	530	CLAY
530	550	CLAY / GRAVEL
550	670	CLAY

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	55	Conductor or Fill Pipe	Low Carbon Steel	Grade: ASTM A53	0.375	24			SURFACE CASING
2	0	300	Blank	Low Carbon Steel	Grade: ASTM A53	0.25	10.75			
2	300	400	Screen	Low Carbon Steel	Grade: ASTM A53	0.25	10.75	Milled Slots	0.08	VERTICAL SLOTS
2	400	520	Blank	Low Carbon Steel	Grade: ASTM A53	0.25	10.75			
2	520	620	Screen	Low Carbon Steel	Grade: ASTM A53	0.25	10.75	Milled Slots	0.08	VERTICAL SLOTS
2	620	640	Blank	Low Carbon Steel	Grade: ASTM A53	0.25	10.75			W/ BULLNOSE

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	100	Cement	10.3 Sack Mix		ANNULAR CEMENT SEAL
100	670	Filter Pack	Other Gravel Pack	WELL PACK	GRAVEL ENVELOPE

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	55	36
55	670	17.5

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: WELL INDUSTRIES INC
Person, Firm or Corporation

3282 HIGHWAY 32 (Address) | CHICO (City) | CA (State) | 95973 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 01/20/2021 (Date Signed) | 812678 (C-57 License Number)

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

10 Day Well Test Report

Job Name: BOHN-3 Date: 1/19/2021

Static Water Level: 15 ft Pump Setting Depth: 580 ft

Date	GPM / Totalizer	PWL	Sands / Discharge
January 9, 2021	550 GPM / 73,453 Gallons	454'	0.00 / Clear
January 10, 2021	550 GPM / 90,169 Gallons	455'	0.00 / Clear
January 11, 2021	550 GPM / 100,236 Gallons	450'	0.00 / Clear
January 12, 2021	550 GPM / 107,789 Gallons	450'	0.00 / Clear
January 13, 2021	550 GPM / 116,206 Gallons	446'	0.00 / Clear
January 14, 2021	552 GPM / 124,440 Gallons	444'	0.00 / Clear
January 15, 2021	552 GPM / 132,970 Gallons	444'	0.00 / Clear
January 16, 2021	550 GPM / 140,974 Gallons	446'	0.00 / Clear
January 17, 2021	550 GPM / 150,331 Gallons	444'	0.00 / Clear
January 18, 2021	550 GPM / 156,576 Gallons	442'	0.00 / Clear

Recorded By: Ryan P.

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

26 January 2021

Wagner & Bonsignore Engineers
Attn: David Peterson
2151 River Plaza Drive, Suite 100
Sacramento, CA 95833-4133
RE: Water Quality
Work Order: 21A1490

Enclosed are the results of analyses for samples received by the laboratory on 01/12/21 13:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Chelsea L. Sandelin For Stephen F. McWeeney
Lab Manager

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	01/26/21 16:47

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Bohn Ridge PW-3	21A1490-01	Water	01/12/21 11:45	01/12/21 13:40

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	01/26/21 16:47

	Result	Reporting Limit	Dilution	Batch	Prepared	Analyzed	ELAP#	Method	Note
Bohn Ridge PW-3 (21A1490-01)		**Sample Type: Water**			**Sampled: 01/12/21 11:45**				
Metals (Drinking Water) by EPA 200 Series Methods									
Calcium	**13 mg/L**	**1.0**	1	AA13965	01/14/21 13:00	01/20/21 18:37	1551	EPA 200.7	
Iron	**160 ug/L**	**100**	1	AA13965	01/14/21 13:00	01/20/21 18:37	1551	EPA 200.7	
Magnesium	**56 mg/L**	**1.0**	1	AA13965	01/14/21 13:00	01/20/21 18:37	1551	EPA 200.7	
Mercury	ND ug/L	1.0	1	AA14154	01/18/21 06:29	01/18/21 12:36	1551	EPA 245.1	
Potassium	**1.1 mg/L**	**1.0**	1	AA13965	01/14/21 13:00	01/20/21 18:37	1551	EPA 200.7	
Sodium	**15 mg/L**	**1.0**	1	AA13965	01/14/21 13:00	01/20/21 18:37	1551	EPA 200.7	
Metals by EPA 200 Series Methods									
Chromium, hexavalent	ND ug/L	1.0	1	AA14417	01/21/21 08:00	01/21/21 13:55	2303	EPA 218.6	
Metals by EPA Method 200.8 ICP/MS									
Aluminum	ND ug/L	50	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Antimony	ND ug/L	6.0	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Arsenic	ND ug/L	2.0	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Barium	**100 ug/L**	**100**	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Beryllium	ND ug/L	1.0	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Cadmium	ND ug/L	1.0	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Chromium	ND ug/L	10	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Copper	**58 ug/L**	**50**	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Lead	ND ug/L	5.0	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Manganese	**26 ug/L**	**20**	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Nickel	ND ug/L	10	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Selenium	ND ug/L	5.0	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Silver	ND ug/L	10	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Thallium	ND ug/L	1.0	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	
Zinc	ND ug/L	50	4	AA13816	01/14/21 11:50	01/15/21 13:06	1551	EPA 200.8	

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Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	01/26/21 16:47

	Result		Reporting Limit	Dilution	Batch	Prepared	Analyzed	ELAP#	Method	Note
Bohn Ridge PW-3 (21A1490-01)			**Sample Type: Water**			**Sampled: 01/12/21 11:45**				
Conventional Chemistry Parameters by APHA/EPA Methods										
Aggressive Index	**11.68**	**NU**	**2.00**	1	AA13965	01/14/21 13:00	01/25/21 14:21	1551	AWWA	
Bicarbonate	**330**	**mg/L**	**5.0**	1	AA14211	01/19/21 08:00	01/19/21 16:28	1551	SM2320B	
Carbonate	ND	mg/L	5.0	1	AA14211	01/19/21 08:00	01/19/21 16:28	1551	SM2320B	
Color	ND	CU	5.0	1	AA13308	01/12/21 16:00	01/12/21 16:21	2303	SM2120B	
Hydroxide	ND	mg/L	5.0	1	AA14211	01/19/21 08:00	01/19/21 16:28	1551	SM2320B	
MBAS, calculated as LAS, mw 340	ND	mg/L	0.050	1	AA13951	01/14/21 08:15	01/14/21 15:00	1551	SM5540C	
Odor	ND	T.O.N.	1.0	1	AA13308	01/12/21 16:00	01/12/21 16:21	2303	SM2120B	
pH	**7.74**	**pH Units**	**1.68**	1	AA14067	01/13/21 16:00	01/13/21 17:00	1551	SM4500-H+ B	T-14
Specific Conductance (EC)	**490**	**umhos/cm**	**20**	1	AA14067	01/13/21 16:00	01/13/21 17:00	1551	SM2510B	
Total Dissolved Solids	**320**	**mg/L**	**10**	1	AA14156	01/19/21 08:00	01/22/21 09:06	1551	SM2540C	
Turbidity	**0.39**	**NTU**	**0.25**	1	AA13308	01/12/21 16:00	01/12/21 16:21	2303	SM2130B	
Total Alkalinity as CaCO3	**270**	**mg/L**	**5.0**	1	AA14211	01/19/21 08:00	01/19/21 16:28	1551	SM2320B	
Nitrate + Nitrite as N	ND	mg/L	0.40	1	AA14587	01/25/21 14:27	01/25/21 14:29	1551	Calculation	
Hardness, Total	**264**	**mg/L**	**5**	1	AA13965	01/14/21 13:00	01/20/21 18:37	1551	SM2340B	
Miscellaneous Physical/Conventional Chemistry Parameters										
Cyanide (total)	ND	mg/L	0.10	1	AA14318	01/20/21 08:07	01/20/21 13:50	1551	10-204-00-1X	
Anions by EPA Method 300.0										
Chloride	**9.2**	**mg/L**	**0.50**	1	AA13894	01/13/21 12:54	01/13/21 12:54	1551	EPA 300.0	
Fluoride	ND	mg/L	0.10	1	AA13894	01/13/21 12:54	01/13/21 12:54	1551	EPA 300.0	
Nitrate as N	ND	mg/L	0.40	1	AA13894	01/13/21 12:54	01/13/21 12:54	1551	EPA 300.0	
Nitrite as N	ND	mg/L	0.40	1	AA13894	01/13/21 12:54	01/13/21 12:54	1551	EPA 300.0	
Sulfate as SO4	**0.92**	**mg/L**	**0.50**	1	AA13894	01/13/21 12:54	01/13/21 12:54	1551	EPA 300.0	

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Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	01/26/21 16:47

	Result		Reporting Limit	Dilution	Batch	Prepared	Analyzed	ELAP#	Method	Note
Bohn Ridge PW-3 (21A1490-01)		**Sample Type: Water**				**Sampled: 01/12/21 11:45**				
Microbiological Parameters by APHA Standard Methods										
Total Coliforms	**1.0**	**MPN/100mL**	**1.0**	1	AA13797	01/12/21 16:05	01/13/21 16:30	2303	SM9223B	
E. Coli	ND	MPN/100mL	1.0	1	AA13797	01/12/21 16:05	01/13/21 16:30	2303	SM9223B	
Volatile Organic Compounds by EPA Method 524.2										
Benzene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Carbon tetrachloride	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Chlorobenzene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
1,2-Dichlorobenzene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
1,4-Dichlorobenzene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
1,1-Dichloroethane	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
1,2-Dichloroethane	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
1,1-Dichloroethene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
1,2-Dichloropropane	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
1,3-Dichloropropene (total)	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Ethylbenzene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Methyl tert-butyl ether	ND	ug/L	3.0	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Methylene chloride	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Styrene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Tetrachloroethene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Toluene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
1,1,1-Trichloroethane	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
1,1,2-Trichloroethane	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Trichloroethene	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Trichlorofluoromethane	ND	ug/L	5.0	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Trichlorotrifluoroethane	ND	ug/L	10	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Vinyl chloride	ND	ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Xylenes (total)	ND	ug/L	1.5	1	AA13266	01/12/21 16:00	01/12/21 16:56	2303	EPA 524.2	
Surrogate: Bromofluorobenzene	*85.0 %*		*70-130*		*AA13266*	*01/12/21 16:00*	*01/12/21 16:56*	2303	*EPA 524.2*	
Surrogate: 1,2-Dichlorobenzene-d4	*82.5 %*		*70-130*		*AA13266*	*01/12/21 16:00*	*01/12/21 16:56*	2303	*EPA 524.2*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	01/26/21 16:47

Notes and Definitions

QM-01	The spike recovery for this QC sample is outside of established control limits possibly due to a sample matrix interference.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
T-14	Residual chlorine, dissolved oxygen, sulfite, and pH must be analyzed in the field to meet the EPA specified 15 minute hold time.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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SGS FORENSIC LABORATORIES

Final

ANALYSIS REPORT
ASBESTOS IN DRINKING WATER
Transmission Electron Microscopy*

Client:	Alpha Analytical Lab		
Contact:	Stephen F. McWeeney	Client Number:	2096
Street:	208 Mason St.	Report Number:	T033403
City/state/zip:	Ukiah, CA 95482	Date/time Received:	1/13/21

Site:		Date filtered:	1/13/21
Job ID/PO:	21A1490	Analyst(s):	MF
Date Collected:	1/12/21	Date Analyzed:	1/25/21
Hold time, hrs:	<48	Date Reported:	1/25/21
Filter type:	25mm MCE	Date Printed:	1/25/21
Pore size:	0.22 µm		

ANALYTICAL RESULTS

Sample Number	Bohn Ridge PW-3			
Description				
Lab Sample Number	20131999			
Volume Filtered, mL	30			
Filter Area, mm2	190			
Grid Opening Area, mm^2	0.0086			
Number of GO's Analyzed	4			
Area Analyzed, mm^2	0.0344			
# Asbestos Fibers ≥10 µm	1			
Analytical Sensitivity, MFL	0.2			
Asbestos Concentration, >10um in length, MFL	**0.2**			
Asbestos Type(s) Detected**	**CH**			
95% Upper Conf. Limit, MFL	1.1			
95% Lower Conf. Limit, MFL	0.0			

0

Mark S. Floyd, Analytical Microscopy Supervisor

* Method 100.2 (EPA/600/R-94/134). Results are reported in Millions of Fibers per Liter (MFL) over 10 µm in length.

** Asbestos types: CH=chrysotile; AM=amosite; CR=crocidolite; TR=tremolite; AC=actinolite; AN=anthophyllite; ND=none detected; NA-Not Analyzed; n/a=not applicable (i.e., divide by 0); OV=overloaded; BL=blank sample; PF=prepped not analyzed.

Analytical results and reports are generated by SGS Forensic Laboratories (SGSFL) at the request of and for the exclusive use of the person or entity (Client) named on such report. Results, reports or copies of same will not be released by SGSFL to any third party without prior written request from client. This report applies only to the sample(s) tested. Supporting laboratory documentation is available upon request. This report must not be reproduced except in full with approval from SGSFL. The client is solely responsible for the use and interpretation of test results and reports requested from SGSFL. This report must not be used by the client to claim product endorsement by NVLAP or any U.S. government agency. SGSFL is unable to assess the degree of hazard resulting from materials analyzed. SGS Forensic Laboratories reserves the right to dispose of all samples after a period of 30 days, according to all state and federal guidelines, unless otherwise specified.

SUBCONTRACT ORDER

Alpha Analytical Laboratories, Inc.

21A1490

SENDING LABORATORY:

Alpha Analytical Laboratories, Inc.
208 Mason St.
Ukiah, CA 95482
Phone: (707)468-0401
Fax: (707)468-5267
Project Manager: Stephen F. McWeeney

RECEIVING LABORATORY:

Forensic Analytical Laboratories
3777 Depot Rd., Ste. 409
Hayward, CA 94545
Phone :(510) 887-8828
Fax: (510) 887-4218
Terms: Net 30

Analysis	Due	Expires	Comments
21A1490-01 Bohn Ridge PW-3 [Water] Sampled 01/12/21 11:45			
Asbestos-DW SUB	01/26/21 12:00	01/14/21 11:45	

Containers Supplied:
1L Poly - Unpres (M)

☐ *Report to State*

System Name: N/A **Employed by:**

User ID: **Sampler:**

System Number:

Email: Speaks78@gmail.com

RECEIVED
JAN 13 REC'D
cym

Released By	Date	Received By	Date
	1/13/21		

alpha
Alpha Analytical Laboratories Inc.
www.alpha-labs.com
WATERS, SEDIMENTS, SOLIDS

Corporate Laboratory (1551)
208 Mason Street, Ukiah CA 95482
707.468.0401 (phone)
707.468.5267 (fax)
clientservices@alpha-labs.com

North Bay Laboratory (2303)
110 Liberty Street, Petaluma CA 94952

Bay Area Laboratory (2728)
262 Rickenbacker Circle, Livermore CA 94551

Central Valley Laboratory (2922)
9090 Union Park Way #113, Elk Grove CA 95624

San Diego Service Center
2722 Loker Ave West, Ste A, Carlsbad CA 92010

Chain of Custody - Work Order

Reports and Invoices delivered by email in PDF format

Lab No 21A1490 Pg ____ of ____

Report to	Invoice to (if different)	Project Information
Company: Wagner & Bonsignore	Contact: Taryn Smith	Project ID: Guenoc Ranch
Attn: David Peterson	Email address: tsmith@wbecorp.com	Project No: 700.3 ~~Guenoc Ranch~~
Address: 2151 River Plaza Dr., Suite 100 Sacramento, CA 95833	Address:	PO Number: ~~700.3~~
Phone/Fax: 707-484-1798 (Mobile)	Phone/Fax: 916-441-6850	
Email Address: dpeterson@wbecorp.com		

Signature below authorizes work under terms stated on reverse side.

Field Sampler - Printed Name & Signature: David Peterson

TAT: Standard 10 days ☑ | RUSH: 5 days ○ | 48 hours ○ | Other: ____days ○ | Preapproval required

TEMP °C: Ukiah | Livermore | Elk Grove | Petaluma 4.2 | Carlsbad

Sample Identification	Sampling Date	Sampling Time	Container: 40ml VOA Vial	Container: Plastic	Container: Glass	Container: Sleeve	Container: Other	Preservative: HCL	Preservative: HNO3	Preservative: H2SO4	Preservative: Other	Preservative: None	Matrix: Drinking Water	Matrix: Wastewater	Matrix: Soil	Matrix: Other	Total Number of Containers per Sample ID	Tittle 22 - General Mineral	Tittle 22 - Inorganics	NB-Tittle 22 - General Physical	NB - Tittle 22 - Voc's - 524 DDW	Asbestos	Hexavalent Chromium	Bacteriological Analysis	Notes / DDW Source Codes
Bonn Ridge PW-3	1-12-21	11:45	✓	✓	✓													✓	✓	✓	✓	✓	✓	✓	

Relinquished by	Received by	Date	Time
David Peterson	[illegible]	1-12-21	1:40p

DDW Write On EDT Transmission? ○ Yes ☑ No

State System Number: ____

If "Y" please enter the Source Number(s) in the column above

CA Geotracker EDF Report? ○ Yes ☑ No

Global ID: Sampling Company Log Code:

EDF to (Email Address):

Travel and Site Time: | Mileage: | Misc. Supplies:

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

28 May 2021

Wagner & Bonsignore Engineers
Attn: David Peterson
2151 River Plaza Drive, Suite 100
Sacramento, CA 95833-4133
RE: Water Quality
Work Order: 21E2699

Enclosed are the results of analyses for samples received by the laboratory on 05/24/21 14:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeanette Poplin

Jeanette L. Poplin For Stephen F. McWeeney
Lab Manager

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch - 700.3	05/28/21 07:28

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Bohn Ridge 3	21E2699-01	Water	05/24/21 11:33	05/24/21 14:00

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch - 700.3	05/28/21 07:28

	Result		Reporting Limit	Dilution	Batch	Prepared	Analyzed	ELAP#	Method	Note
Bohn Ridge 3 (21E2699-01)			**Sample Type: Water**				**Sampled: 05/24/21 11:33**			
Microbiological Parameters by APHA Standard Methods										
Total Coliforms	ND	MPN/100mL	1.0	1	AE14335	05/24/21 14:55	05/25/21 15:30	2303	SM9223B	
E. Coli	ND	MPN/100mL	1.0	1	AE14335	05/24/21 14:55	05/25/21 15:30	2303	SM9223B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch - 700.3	05/28/21 07:28

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Alpha Analytical Laboratories Inc.
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Corporate Laboratory (1551)
208 Mason Street, Ukiah CA 95482
707.468.0401 (phone)
707.468.5267 (fax)
clientservices@alpha-labs.com

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San Diego Service Center
2722 Loker Ave West, Ste A, Carlsbad CA 92010

Chain of Custody - Work Order

Reports and Invoices delivered by email in PDF format

Lab No 21E2699 Pg ____ of ____

Report to	Invoice to (if different)	Project Information
Company: Wagner & Bonsignore	Contact: Tarya Smith	Project ID: Guenoc Ranch
Attn: David Peterson	Email address: tsmith@ewbecorp.com	Project No: 700.3
Address: same →	Address: 2151 River Plaza Dr, St 100 Sacramento CA 95833	PO Number: —
Phone/Fax: 707-484-1798	Phone/Fax:	
Email Address: dpeterson@ewbecorp.com		

Signature below authorizes work under terms stated on reverse side.

Field Sampler - Printed Name & Signature:

Sample Identification	Sampling Date	Sampling Time	Container: 40ml VOA Vial	Container: Plastic	Container: Glass	Container: Sleeve	Container: Other	Preservative: HCL	Preservative: HNO3	Preservative: H2SO4	Preservative: Other	Preservative: None	Matrix: Drinking Water	Matrix: Wastewater	Matrix: Soil	Matrix: Other	Total Number of Containers per Sample ID	Analysis Request: Bacteriological (coli/colilert)
Bohn Ridge 3	5/24/21	11:33a		X									X				1	X

TAT
- Standard 10 days: ✓
- RUSH: 5 days ○
- 48 hours ○
- Other: ___days ○
- Preapproval required

TEMP °C
- Ukiah
- Livermore
- Elk Grove
- Petaluma 15-5
- Carlsbad

Notes / DDW Source Codes

Relinquished by	Received by	Date	Time
David Peterson/Dpeterson	Alhong	5/24/21	1400

DDW Write On EDT Transmission? ○ Yes ✓ No

State System Number: ____

If "Y" please enter the Source Number(s) in the column above

CA Geotracker EDF Report? ○ Yes ✓ No

Global ID: Sampling Company Log Code:

EDF to (Email Address):

Travel and Site Time: | Mileage: | Misc. Supplies:

Well Testing Report 2:

Wilderness Area
[FKA Camping Area (CA PW-1)]

Luhdorff & Scalmanini
Consulting Engineers

WELL CONSTRUCTION SUMMARY

Guenoc Ranch
Wilderness Area Production Well No. 1
March 2020

INTRODUCTION

Luhdorff and Scalmanini, Consulting Engineers (LSCE) has prepared this summary report documenting the construction and testing of the Guenoc Ranch Wilderness Area Production Well No. 1 (PW). This report consists of a well drilling and construction summary, an as-built well construction drawing, a geophysical survey, pumping test hydrographs, and a water quality summary sheet.

Well Drilling and Construction

The TW was drilled and constructed by North State Drilling and Pump of Chico, California (North State). Well construction commenced on September 12, 2019 and final well testing was completed on October 13, 2019.

The borehole for the conductor casing was drilled from ground surface to a depth of 50 feet below ground surface (bgs) at a diameter of 36-inches using the bucket auger drilling method. A 24-inch O.D. x 3/8-inch wall conductor casing was installed to 50 feet bgs and cemented in place. The 17.5" diameter production borehole drilling was completed using the reverse mud rotary drilling method to a depth of 290 feet below ground surface (bgs). A geophysical survey was conducted in the production borehole after drilling. Analysis of the geophysical survey and formation samples were used to finalize the well design.

The well casing assembly consists of 130 feet of 8.625-inch O.D. x 1/4-inch wall ASTM A-53 Grade B steel blank casing, and 140 feet of 8.625-inch O.D. ASTM A-53 Grade B milled slot well screen with a 0.080-inch slot size. The screen intake sections are located from 110 to 170, 180 to 420, and 250 to 270 feet bgs. An As-Built Well Profile showing lithology, electric log, and well construction details are provided in Appendix A.

A gravel envelope of pea gravel was used to fill the annular space between the casing and the borehole from 290 to 100 feet bgs. A sanitary seal consisting of a 10.3-sack sand/cement grout was placed from 100 feet bgs to ground surface.

Initially the PW was developed by open-ended airlifting from the bottom of the casing assembly followed by swab/airlifting development. Final development was completed by pumping with a submersible pump at rates up to approximately 390 gallons per minute (gpm), the maximum rate achievable by the pump.

Pumping Tests

Two different pumping tests were performed on October 2 and October 3 through 13, 2019 to determine well and aquifer characteristics. The first pumping test consisted of a 2-hour step drawdown test while the second pumping test consisted of a 10-day constant rate test. Plots of pumping test data are provided in Appendix B.

Step-Drawdown Test

A two-hour step-drawdown test was performed on October 2, 2019. The static water level measured prior to testing was 115.58 feet bgs. The discharge rate, pumping duration, 24-hour projected drawdown, and 24-hour projected specific capacity of each step are as follows:

Discharge Rate (gpm)	Duration (min)	Drawdown (ft)	Projected 24-Hr Specific Capacity (gpm/ft)
160	120	5.94	27.0
240	120	11.94	20.1
377	120	19.95	18.9

Long Term Constant Rate Test

A 10-day constant rate pumping test was performed on October 3 through 13, 2019. The static water level prior to pumping was 115.74 feet bgs. The average discharge rate during the constant rate test was 346 gpm. After 10-days, the drawdown was 27.25 feet and the specific capacity was 12.7 gpm/ft.

Water Quality

LSCE staff collected and submitted water quality samples from the PW on October 8, 2019 for laboratory analysis at California Laboratory Services (CLS). A summary of water quality analysis results is included in Appendix B. For the constituents analyzed, all concentrations were below the maximum contaminant level (MCL).

Appendix A
Well Construction

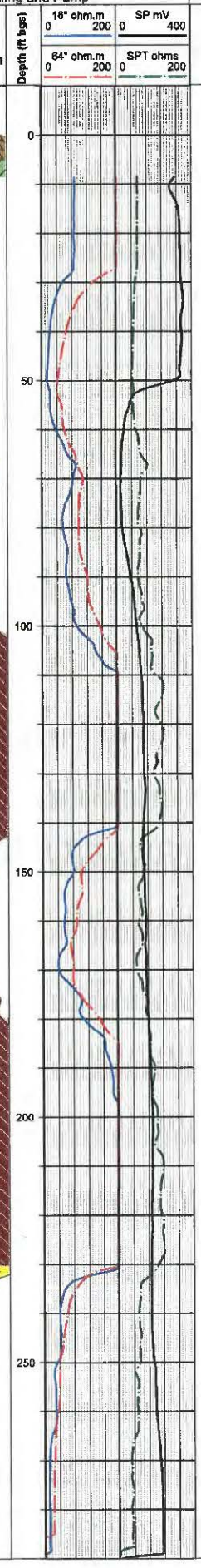
As-Built Profile
Well Completion Report
Geophysical Survey

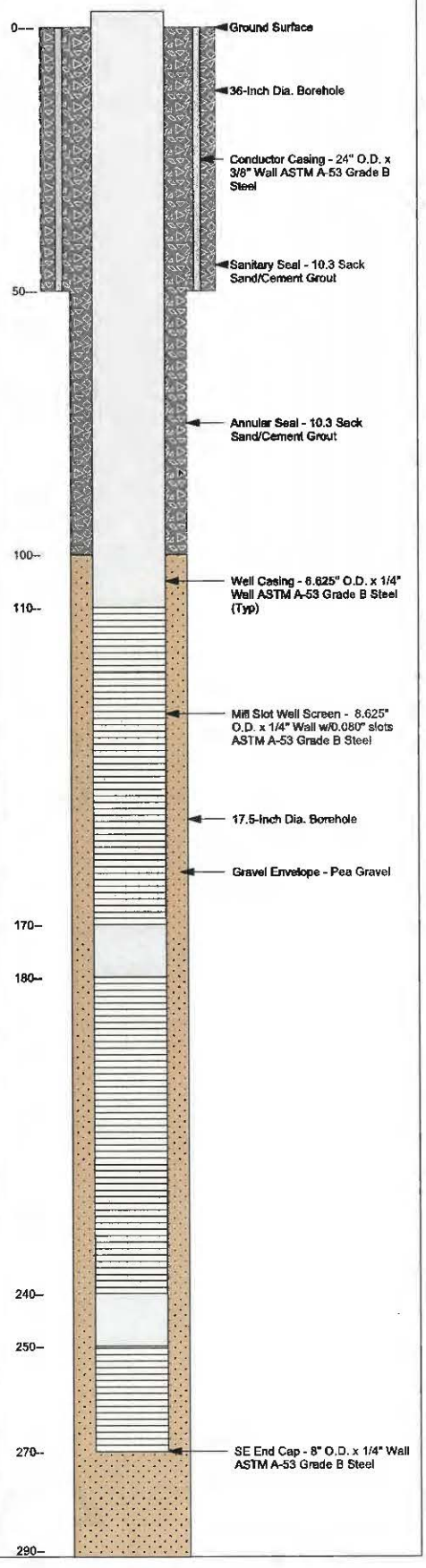
Luhdorff & Scalmanini
Consulting Engineers

Client: Guenoc	**Lat/Long:** 38.780000/-122.468611
Well Name: Wilderness Area PW-1	**GSE (ft-msl)** 1.032 +/-
LSCE #: 17-2-116	**Drill Date:** 9/12/2019 - 9/25/2019
Location: Guenoc Ranch, CA	**Drilling Method:** Reverse Mud Rotary
Geologist:	**Driller:** North State Drilling and Pump

Luhdorff & Scalmanini
Consulting Engineers

Depth (ft bgs)	Lithologic Description	Strat-Column
0	Topsoil	
	Clay	
50	Clay - with some black rock chips	
100	Rock - black, hard, possibly volcanic	
150	Rock - small chips, likely fractured	
	Rock - black, possibly volcanic	
200	Sand - fine, black	
	Sand with Gravel	
250	Clay - blue	





State of California

Well Completion Report

Form DWR 188 Submitted 11/8/2019

WCR2019-015974

Owner's Well Number: WA PW-1 | Date Work Began: 09/12/2019 | Date Work Ended: 09/25/2019

Local Permit Agency: Lake County Health Services Department - Environmental Health Division

Secondary Permit Agency: | Permit Number: WE-5236 | Permit Date: 08/29/2019

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: BOHN VALLEY, INC.,

Mailing Address: ONE EMBARCADERO CTR.
STE 730

City: SAN FRANCISCO | State: CA | Zip: 94111

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Public

Well Location

Address: 23573 GRANGE RD

City: MIDDLETOWN | Zip: 95461 | County: Lake

Latitude: 38 Deg. 46 Min. 48 Sec. N | Longitude: -122 Deg. 28 Min. 6.9995 Sec. W

Dec. Lat.: 38.78 | Dec. Long.: -122.468611

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: 013-016-041-000

Township: 11 N

Range: 06 W

Section: 25

Baseline Meridian: Mount Diablo

Ground Surface Elevation: 1032

Elevation Accuracy: Unknown

Elevation Determination Method: Digital Aerial Photo

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 290 Feet

Total Depth of Completed Well: 270 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: 116 (Feet) | Date Measured: 10/03/2019

Estimated Yield*: 370 (GPM) | Test Type: Pump

Test Length: 240 (Hours) | Total Drawdown: 18 (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	5	TOP SOIL
5	60	CLAY
60	90	CLAY / BLACK ROCK
90	153	HARD BLACK VOLCANIC ROCK
153	155	SMALL FRACTURED ROCK
155	230	BLACK VOLCANIC ROCK
230	240	FINE BLACK SAND
240	260	SAND W/ GRAVEL
260	270	BLUE CLAY
270	290	BLUE CLAY

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	50	Conductor or Fill Pipe	Low Carbon Steel	Grade: ASTM A53	0.375	24			
2	0	110	Blank	Low Carbon Steel	Grade: ASTM A53	0.25	8.625			
2	110	170	Screen	Low Carbon Steel	Grade: ASTM A53	0.25	8.625	Milled Slots	0.08	24-ROW
2	170	180	Blank	Low Carbon Steel	Grade: ASTM A53	0.25	8.625			
2	180	240	Screen	Low Carbon Steel	Grade: ASTM A53	0.25	8.625	Milled Slots	0.08	24-ROW
2	240	250	Blank	Low Carbon Steel	Grade: ASTM A53	0.25	8.625			
2	250	270	Screen	Low Carbon Steel	Grade: ASTM A53	0.25	8.625	Milled Slots	0.08	24-ROW
2	270	290	No Casing Installed	Other	N/A					NO CASING

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	100	Cement	10.3 Sack Mix		SANITARY CEMENT SEAL
100	290	Filter Pack	Other Gravel Pack	1/4	PEA GRAVEL

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	50	36
50	290	17.5

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: WELL INDUSTRIES INC (Person, Firm or Corporation)

3282 HIGHWAY 32 (Address) | CHICO (City) | CA (State) | 95973 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 11/08/2019 (Date Signed) | 812678 (C-57 License Number)

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

STEWART
WELL LOGGING SERVICE

ELECTRIC - GAMMA RAY-TEMPERATURE LOG

Stewart Well Logging Service
Email: stewartwelllogging@gmail.com

Filing No.
D#1966

COMPANY Well Industries Inc.
WELL Guenoc Valley Wilderness Area Production Well #1
FIELD Middletown
STATE California COUNTY Lake

LOCATION: Guenoc

OTHER SERVICES: None

Job No.
0180

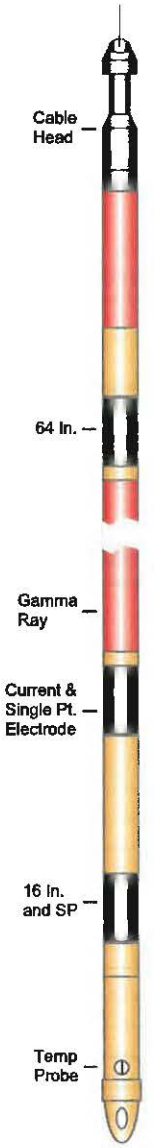
SEC: 25 TWP: 11N RGE: 6W LAT.: 38.7803156 LONG.: -122.4688194

Permanent Datum: Ground Level Elev.: 1025' Ft. Elevs.: K.B. 1031' Ft.
Log Measured From: Ground Level 0 Ft. Above Perm. Datum D.F. 1030' Ft.
Drilling Measured From: Ground Level G.L. 1025' Ft.

Run	One			
Date	Sep 24, 2019			
Depth-Driller	290' Ft	Ft	Ft	Ft
Depth-Logger	290' Ft	Ft	Ft	Ft
Top Logged Interval	9' Ft	Ft	Ft	Ft
Btm Logged Interval	290' Ft	Ft	Ft	Ft
Casing-Driller	24" In @ 0-50' Ft	In @ Ft	In @ Ft	In @ Ft
Casing - Logger In@Ft	24" In @ 0-50' Ft	In @ Ft	In @ Ft	In @ Ft
Bit Size	17.5 In @ 50'-290 Ft	In @ Ft	In @ Ft	In @ Ft
Time On Bottom	1330			
Type Fluid in Hole	Bentonite			
Density / Viscosity				
pH / Fluid Loss	ml	ml	ml	ml
Source of Sample	Bore Hole	Water Source		
Rm @ Mea. Temp	26.3 @ 75 °F	24.9 @ 75 °F	@ °F	@ °F
Rmf @ Mea. Temp	28 @ 75 °F	26.4 @ 75 °F	@ °F	@ °F
Rmc @ Mea. Temp	16.4 @ °F	15.6 @ °F	@ °F	@ °F
Source Rmf / Rmc				
Rm @ BHT	75 @ °F	@ °F	@ °F	@ °F
Time Since Circ.	3 Hr	Hr	Hr	Hr
Max. Rec. Temp.	77 °F	°F	°F	°F
Van No. / Location	SWLS-1 WOODLAND			
Recorded By	Stewart			
Witnessed By	Derik			

This Eagle Plot Heading Conforms To API RP 31A

ELECTRIC - GAMMA RAY-TEMPERATURE LOG TOOL



SPONTANEOUS POTENTIAL LOGS:
SP Logs record potentials or voltages developed between the borehole fluid and the surrounding formation and are representations of lithology and water quality. Recording of SP logs are limited to water-filled or mud-filled open holes.

NORMAL RESISTIVITY LOGS:
Normal Resistivity Logs record the electrical resistivity of the borehole environment with lower resistivities indicative of clays and higher resistivities being sands and gravels. Normal resistivity logs are affected by bed thickness, Borehole diameter and borehole fluid.

SINGLE POINT RESISTIVITY LOGS:
Single Point Resistivity Logs record the electrical resistance from points within the borehole to an electrical ground at land surface. Single-point resistance logs are useful in the determination of lithology, water quality, and location of fracture zones.

GAMMA RAY LOGS:
Gamma Ray Logs record the amount of natural gamma radiation emitted by the rocks surrounding the borehole. The most significant naturally occurring sources of gamma radiation are potassium 40 and daughter products of the uranium and thorium decay series. Clay and shale bearing rocks commonly emit relatively high gamma radiation because they include weathering products of potassium feldspar and mica and tend to concentrate uranium and thorium by ion absorption and exchange.

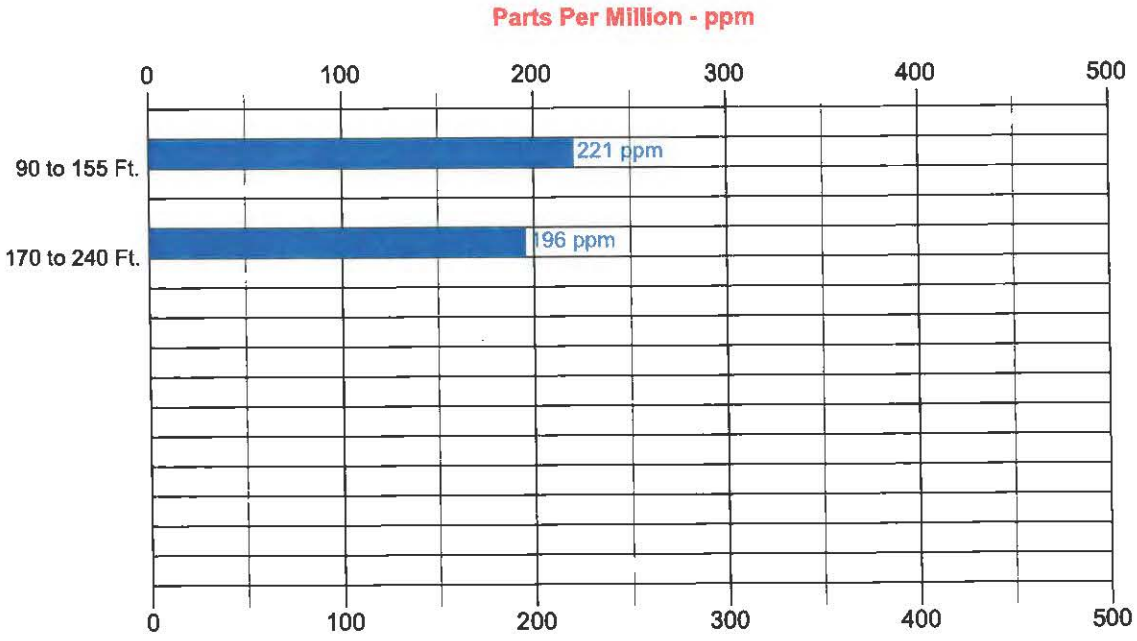
TEMPERATURE LOGS:
Temperature Logs record the water temparature in the borehole. Temperature logs are useful for delineating water-bearing zones and identifying vertical flow in the borehole between zones of differing hydraulic head penetrated by wells. Borehole flow between zones is indicated by temperature gradients that are less than the regional geothermal gradient.

ELECTRIC LOG SPECIFICATIONS:

Diameter	1.73 Inches
Length	8.37 Feet
Weight	21.7 Lbs.
Max. Temp	158° F
Resist. Range	0 - 10,000 ohm-m
Gamma Ray	1.97 inches long x .98 inches diameter Scintillation crystal

TOTAL DISSOLVED SOLIDS

* NaCl



TDS Classes

Class 1: Excellent to Good – Less than 700 ppm
Class 2: Good to Injurious – 700 to 2000 ppm
Class 3: Injurious to Poor – More than 2000 ppm

NaCl = Sodium Chloride

NOTICE

All interpretations are opinions based on inferences from electrical and other measurements and we do not guarantee the accuracy or correctness of any verbal or written interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by one of our officers, agents or employees. These interpretations are also subject to our General Terms and Conditions as set out in our current Price Schedule.

REMARKS

Well Industries Inc.
Guenoc Valley Wilderness Area Production Well #1
Sep 24, 2019

ELECTRIC - GAMMA RAY-TEMPERATURE LOG

Mult. Pages
5"/100'

DEPTHS
(Feet)

< - S.P. (20 mV/div) S.P. + >

0 Gamma Ray(api) 200

200 64 Inch Normal (ohmm²/m) x10 2000

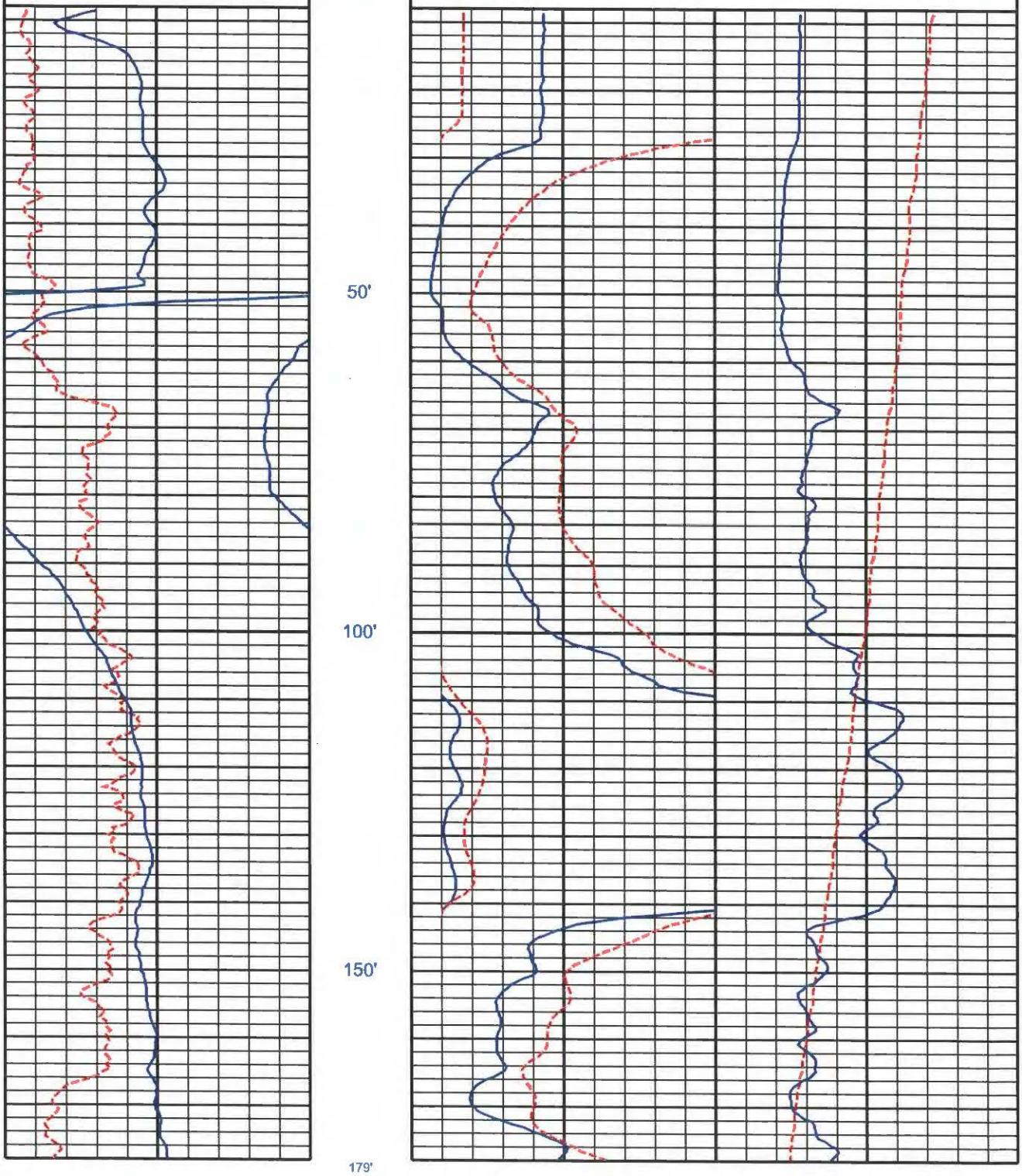
0 64 Inch Normal (ohmm²/m) 200

200 16 Inch Normal (ohmm²/m) x10 2000

0 16 Inch Normal (ohmm²/m) 200

0 Single Point(ohms) 200

70 Temperature (°F) 80



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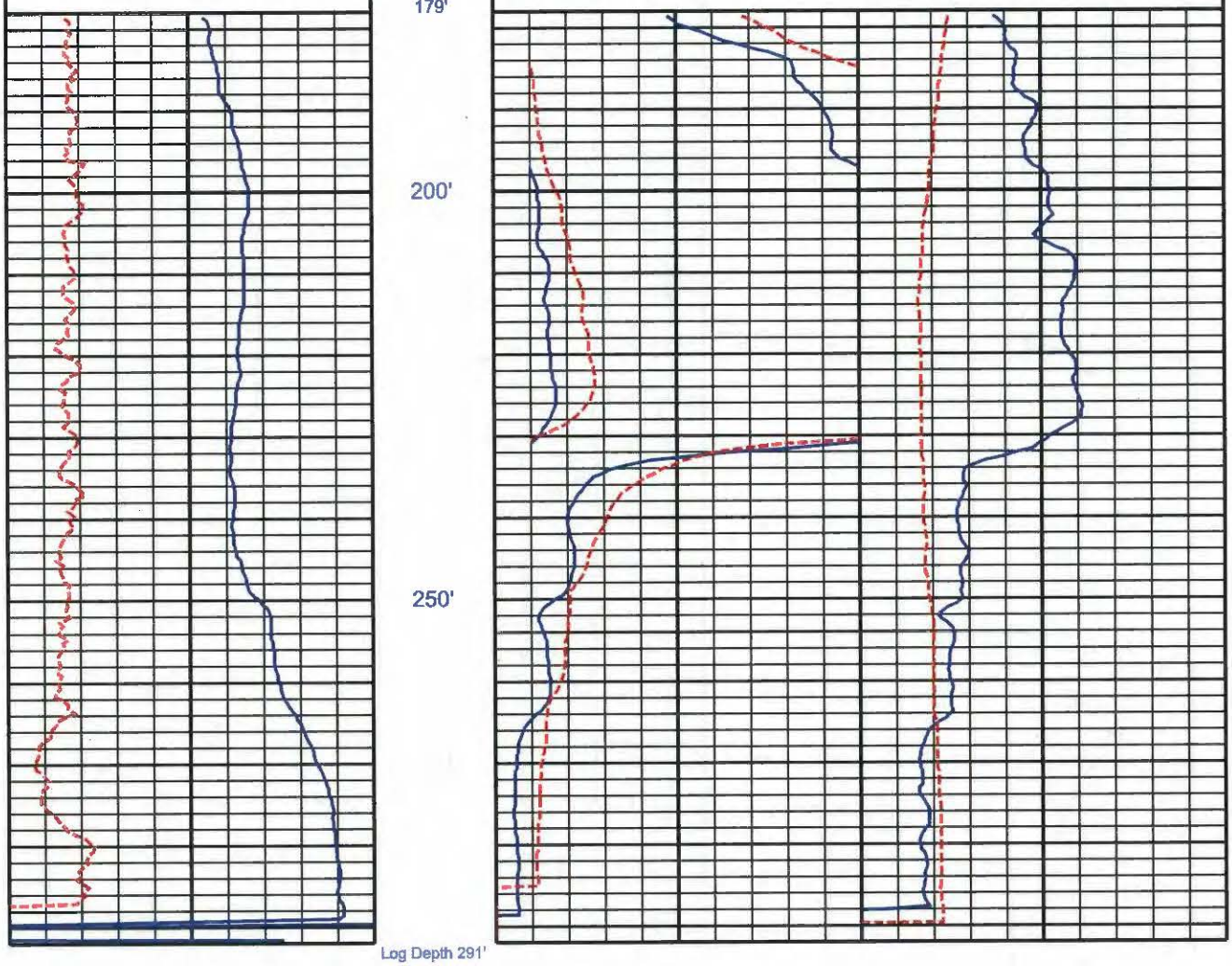
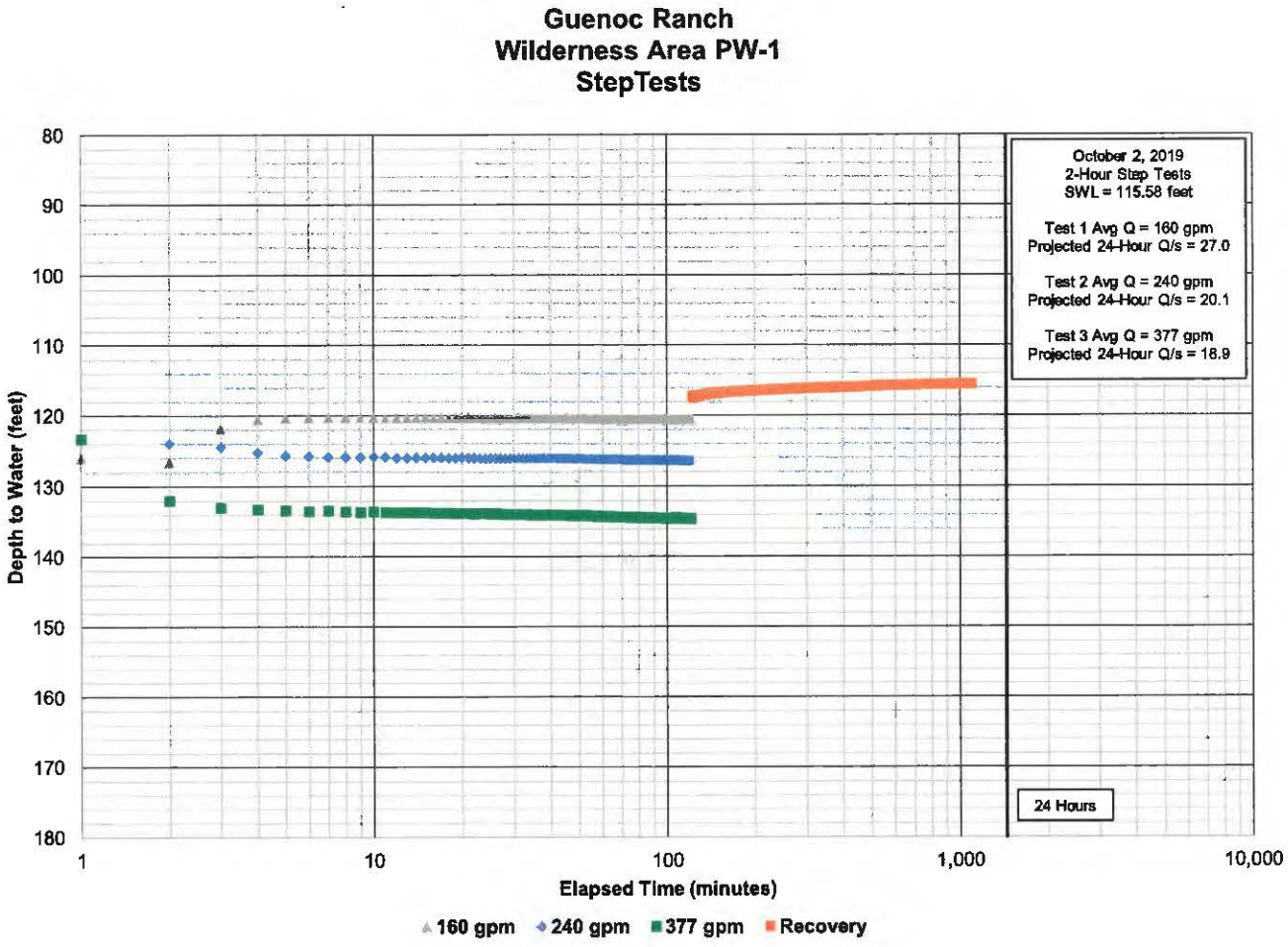


Log Depth 291'

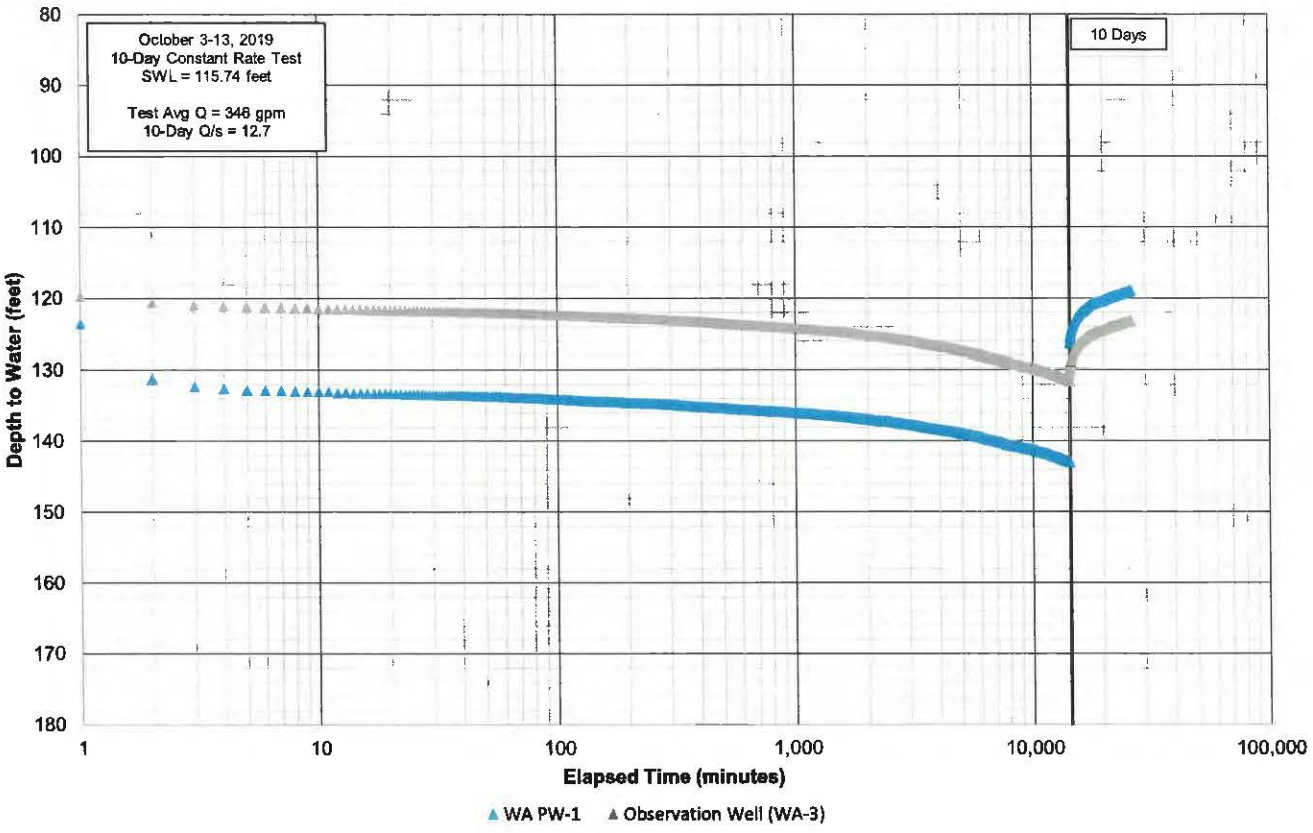
Appendix B
Well Testing

Pump Test Graphs
Water Quality Summary

Luhdorff & Scalmanini
Consulting Engineers


Guenoc Ranch
Wilderness Area PW-1
StepTests
October 2, 2019
2-Hour Step Tests
SWL = 115.58 feet
Test 1 Avg Q = 160 gpm
Projected 24-Hour Q/s = 27.0
Test 2 Avg Q = 240 gpm
Projected 24-Hour Q/s = 20.1
Test 3 Avg Q = 377 gpm
Projected 24-Hour Q/s = 18.9
24 Hours
Depth to Water (feet)
80
90
100
110
120
130
140
150
160
170
180
1
10
100
1,000
10,000
Elapsed Time (minutes)
160 gpm
240 gpm
377 gpm
Recovery

Guenoc Ranch
Wilderness Area PW-1
Constant Rate Test



Guenoc
Wilderness Area PW-1
Water Quality Summary

ANALYTE	UNITS	REPORTING LIMIT	METHOD	MCL	10/8/2019
CATIONS					
Calcium	mg/L	1.0	200.7		17
Magnesium	mg/L	1.0	200.7		25
Potassium	mg/L	1.0	200.7		2.3
Sodium	mg/L	1.0	200.7		18
Total Hardness	mg/L	1.0	200.7		150
ANIONS					
Bicarbonate Alkalinity	mg/L	5.0	SM 2320B		150
Carbonate Alkalinity	mg/L	5.0	SM 2320B		ND
Chloride (Cl)	mg/L	0.50	300.0	250/500[2]	26
Cyanide	mg/L	0.1	SM20-4500-CN	0.15	ND
Fluoride	mg/L	0.10	300.0	2	0.11
Hydroxide Alkalinity	mg/L	5.0	SM 2320B		ND
Nitrate (as N)	mg/L	0.40	300.0	10	ND
Nitrate/Nitrite (as N)	mg/L	0.40	300.0	10	ND
Nitrite (as N)	mg/L	0.40	300.0	0.4	ND
Sulfate (as SO4)	mg/L	0.50	300.0	250/500[2]	3.1
Sulfide	mg/L	1.0	SM4500-S F		ND
Total Alkalinity	mg/L	5.0	SM 2320B		150
Perchlorate	mg/L	0.0040	314.0	0.006	ND
PHYSICAL PARAMETERS					
Color (A.P.H.A)	Color Units	1	SM 2120B	15[2]	ND
pH	pH units	0.01	SM 4500-H B	6.5/8.5[4]	8.01
Methylene Blue Active Substance	mg/L	0.10	SM 5540C	0.5[2]	ND
Specific Conductivity	µmhos/cm	1.0	120.1	900/1,600[2]	360
Total Dissolved Solids (TDS)	mg/L	10	SM 2540C	500/1,000[2]	240
Odor	TON	1	140.1		ND
Turbidity	NTU	0.10	180.1	5[2]	0.22
INORGANICS					
Aluminum	mg/L	0.05	200.7	1[1]/0.2[3]	ND
Antimony	mg/L	0.0040	200.8	0.006	ND
Arsenic	mg/L	0.0020	200.8	0.010	0.0034
Barium	mg/L	0.1	200.7	1	ND
Beryllium	mg/L	0.001	200.7	0.004	ND
Boron	mg/L	0.1	200.7	1[3]	ND
Cadmium	mg/L	0.0010	200.8	0.005	ND
Chromium (Total)	mg/L	0.01	200.7	0.05	ND
Hexavalent Chromium	mg/L	0.001	218.6		ND
Copper	mg/L	0.050	200.7	1.3[2]	ND
Iron	mg/L	0.10	200.7	0.3[2]	ND
Lead	mg/L	0.0050	200.8	0.015[3]	ND
Manganese	mg/L	0.02	200.7	0.05[2]	0.037
Mercury	mg/L	0.0010	245.1	0.002	ND
Nickel	mg/L	0.01	200.8	0.1	ND
Selenium	mg/L	0.0050	200.8	0.05	ND
Silver	mg/L	0.01	200.7	0.1[2]	ND
Thallium	mg/L	0.001	200.8	0.002	ND
Vanadium	mg/L	0.003	200.8	0.05[3]	ND
Zinc	mg/L	0.05	200.7	5[2]	ND
RADIO CHEMISTRY					
Gross Alpha	pCi/L	0.971	900	15/5[3]	7.77 ± 1.26
Gross Beta	pCi/L	0.702	900	50	9.16 ± 1.43
Total Alpha Radium (226)	pCi/L	0.304	903	3	0.084 ± 0.116
Ra 228	pCi/L	0.400	Ra-05	2	0.405 ± 0.826
Uranium	pCi/L	0.342	908	20	0.00 ± 0.400
OTHER ANALYSES					
Purgeable Organic Compounds (VOCs)	µg/L	*	524.2		ND
Benzo(a)pyrene	µg/L	0.10	550		ND
Nitrogen/Phosphorus Pesticides	µg/L	*	507		ND
Semi-Volatile Organic Compounds (SVOCs)	mg/L	*	525.2		ND
Trihalomethanes	µg/L	0.50	524.2		ND
EDB and DBCP	µg/L	*	504.1		ND
Haloacetic Acids	µg/L	*	552.2		ND
Chlorinated Herbicides	µg/L	*	515.3		ND
Chlorinated Pesticides and PCB's	µg/L	*	508		ND
Asbestos	MFL	0.21	600/R-94/134	7	ND
Endothall	µg/L	20	548.1		ND
2,3,7,8-TCDD Dioxin	pg/L	10.8	1613B		ND
1,2,3-Trichloropropane	µg/L	0.0050	SRL524M-TCP		ND
Glyphosate	µg/L	5.0	547		ND
Carbamates	µg/L	2.0	531.2		ND
Diquat	µg/L	4.0	549.2		ND

[1] - Primary MCL
[2] - Secondary MCL (recommended/upper range)
[3] - Notification Level
[4] - Suggested lower/upper acceptable range
* - Various Reporting Limits
ND = Non-Detect

Luhdorff & Scalmanini
Consulting Engineers

Well Testing Report 3:

Farmstead 1 (FS PW-1)

Luhdorff & Scalmanini
Consulting Engineers

WELL CONSTRUCTION SUMMARY

Guenoc Ranch
Farmstead Production Well No.1
March 2020

INTRODUCTION

Luhdorff and Scalmanini, Consulting Engineers (LSCE) has prepared this summary report documenting the construction and testing of the Guenoc Ranch Farmstead Production Well No. 1 (PW). This report consists of a well drilling and construction summary, an as-built well construction drawing, a geophysical survey, pumping test hydrographs, and a water quality summary sheet.

Well Drilling and Construction

The TW was drilled and constructed by North State Drilling and Pump of Chico, California (North State). Well construction commenced on October 14, 2019 and final well testing was completed on November 27, 2019.

The borehole for the conductor casing was drilled from ground surface to a depth of 50 feet below ground surface (bgs) at a diameter of 36-inches using the bucket auger drilling method. A 24-inch O.D. x 3/8-inch wall conductor casing was installed to 50 feet bgs and cemented in place. The 17.5" diameter production borehole drilling was completed using the direct mud rotary drilling method to a depth of 440 feet below ground surface (bgs). A geophysical survey was conducted in the production borehole after drilling. Analysis of the geophysical survey and formation samples were used to finalize the well design.

The well casing assembly consists of 230 feet of 8.625-inch O.D. x 1/4-inch wall ASTM A-53 Grade B steel blank casing, and 200 feet of 8.625-inch O.D. ASTM A-53 Grade B milled slot well screen with a 0.080-inch slot size. The screen intake sections are located from 230 to 430 feet bgs. An As-Built Well Profile showing lithology, electric log, and well construction detail is provided in Appendix A.

A gravel envelope of pea gravel was used to fill the annular space between the casing and the borehole from 440 to 100 feet bgs. A sanitary seal consisting of a 10.3-sack sand/cement grout was placed from 100 feet bgs to ground surface.

Initially the PW was developed by open-ended airlifting from the bottom of the casing assembly followed by swab/airlifting development. Final development was completed by pumping with a submersible pump at rates up to approximately 390 gallons per minute (gpm), the maximum rate achievable by the pump.

Pumping Tests

Two different pumping tests were performed on November 18 and November 19 through 27, 2019 to determine well and aquifer characteristics. The first pumping test consisted of a 2-hour step drawdown test while the second pumping test consisted of a 9-day constant rate test. Plots of pumping test data are provided in Appendix B.

5000 First Street (5[illegible]661 0109
Wo[illegible]land, CA 9577 [illegible]sce[illegible]m

Step-Drawdown Test

A two-hour step-drawdown test was performed on November 18, 2019. The static water level measured prior to testing was 45.90 feet bgs. The discharge rate, pumping duration, 24-hour projected drawdown, and 24-hour projected specific capacity of each step are as follows:

Discharge Rate (gpm)	Duration (min)	Drawdown (ft)	Projected 24-Hr Specific Capacity (gpm/ft)
160	120	59.26	2.7
244	120	90.37	2.7
380	120	135.71	2.8

Long Term Constant Rate Test

A 9-day constant rate pumping test was performed on November 18 through 27, 2019. The static water level prior to pumping was 45.70 feet bgs. The average discharge rate during the constant rate test was 305 gpm. After 9-days, the drawdown was 152.50 feet and the specific capacity was 2.0 gpm/ft.

Water Quality

LSCE staff collected and submitted water quality samples from the PW on November 25, 2019 for laboratory analysis at California Laboratory Services (CLS). A summary of water quality analysis results is included in Appendix B. For the constituents analyzed, all concentrations were below the maximum contaminant level (MCL).

Appendix A
Well Construction

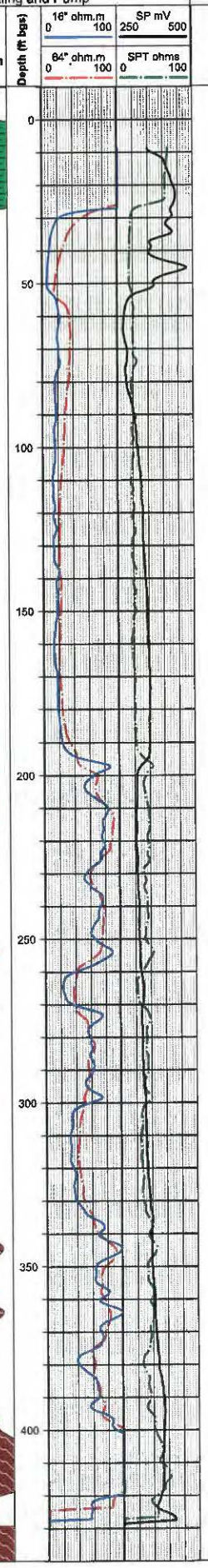
As-Built Profile
Well Completion Report
Geophysical Survey

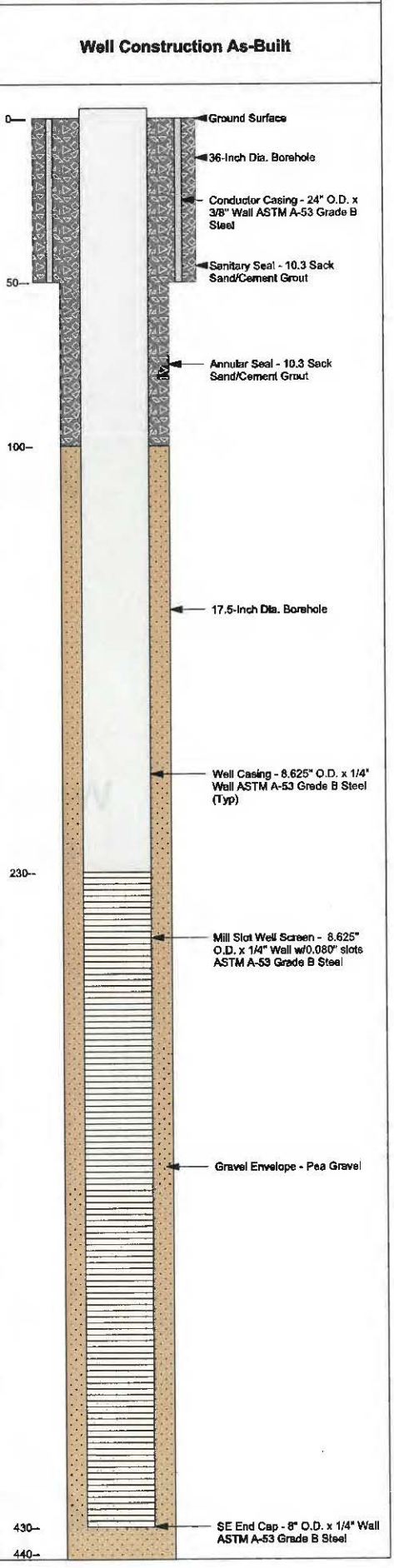
Luhdorff & Scalmanini
Consulting Engineers

Client: Guenoc	**Lat/Long:** 38.7272036/-122.4538855
Well Name: Farmstead PW-1	**GSE (ft-msl)** 1,136 +/-
LSCE #: 17-2-116	**Drill Date:** 10/14/2019 - 10/21/2019
Location: Guenoc Ranch, CA	**Drilling Method:** Direct Mud Rotary
Geologist:	**Driller:** North State Drilling and Pump

Luhdorff & Scalmanini
Consulting Engineers

Depth (ft bgs)	Lithologic Description	Strat-Column
0	Samples not logged	
50	Rock - blue, possibly shale	
100		
150		
200	Rock - blue, green, and white chips	
250		
300	Rock - blue, possibly shale	
350	Rock - blue, green, and white chips, chips are approximately 1/4"	
400	Rock - chips are 3/8"	
	Rock - black, chips are approximately 3/8"	





State of California

Well Completion Report

Form DWR 188 Submitted 1/8/2020

WCR2020-000321

Owner's Well Number: FS PW-1 | Date Work Began: 10/14/2019 | Date Work Ended: 10/21/2019

Local Permit Agency: Lake County Health Services Department - Environmental Health Division

Secondary Permit Agency: | Permit Number: WE-5238 | Permit Date: 08/29/2019

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: BOHN VALLEY, INC.,

Mailing Address: ONE EMBARCADARO CTR

SUITE 730

City: SAN FRANCISCO | State: CA | Zip: 94111

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Public

Well Location

Address: 24733 BOHN VALLEY RD

City: MIDDLETOWN | Zip: 95461 | County: Lake

	Deg.	Min.	Sec.		
Latitude	38	43	37.9329	N	
Longitude	-122	27	13.9877	W	

Dec. Lat.: 38.7272036 | Dec. Long.: -122.4538855

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: 013-022-140

Township: 10 N

Range: 05 W

Section: 07

Baseline Meridian: Mount Diablo

Ground Surface Elevation: 1136

Elevation Accuracy: Unknown

Elevation Determination Method: GPS

Borehole Information

Orientation: Vertical | Specity:

Drilling Method: Direct Rotary | Drilling Fluid: Bentonite

Total Depth of Boring: 440 Feet

Total Depth of Completed Well: 430 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: 52 (Feet) | Date Measured: 11/16/2019

Estimated Yield*: 300 (GPM) | Test Type: Pump

Test Length: (Hours) | Total Drawdown: (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	50	SURFACE CASING - CONDUCTOR
50	200	BLUE SHALE
200	295	CHIPPED ROCK - BLUE, GREEN, WHITE
295	330	BLUE SHALE
330	380	1/4" CHIPPED ROCK - BLUE, GREEN, WHITE
380	395	3/8" CHIPPED ROCK
395	440	CHIPPED BLACK ROCK - 3/8"

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	50	Conductor or Fill Pipe	Low Carbon Steel	Grade: ASTM A53	0.375	24			SURFACE CASING
2	0	230	Blank	Low Carbon Steel	Grade: ASTM A53	0.25	8.625			
2	230	430	Screen	Low Carbon Steel	Grade: ASTM A53	0.25	8.625	Milled Slots	0.08	24-ROW

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	50	Cement	10.3 Sack Mix		SANITARY CEMENT SEAL
50	440	Filter Pack	Other Gravel Pack	PEA GRAVEL	GRAVEL PACK

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	50	36
50	440	17.5

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: WELL INDUSTRIES INC
Person, Firm or Corporation

3282 HIGHWAY 32 (Address) | CHICO (City) | CA (State) | 95973 (Zip)

Signed: *electronic signature received* (C-57 Licensed Water Well Contractor) | 01/08/2020 (Date Signed) | 812678 (C-57 License Number)

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

STEWART
WELL LOGGING SERVICE

ELECTRIC - GAMMA RAY-TEMPERATURE LOG

Stewart Well Logging Service

879 PURDUE DRIVE, WOODLAND CA 95695 · Email: stewartwelllogging@gmail.com · Contractor's License

Filing No.
#D-1967

Job No.
0190

COMPANY **Well Industries Inc.**

WELL **FS PW-1**

FIELD **Middletown**

STATE **California** COUNTY **Lake**

LOCATION:
Guenoc Valley

OTHER SERVICES:
Sonic

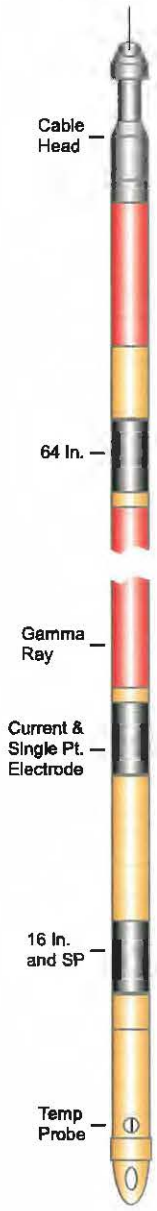
SEC: **7** TWP: **10N** RGE: **5W** LAT.: **38.7272036** LONG.: **-122.4538855**

Permanent Datum: **Ground Level** Elev.: **1136** Ft. Elevs.: K.B. **1141** Ft.
Log Measured From: **Ground Level** **0** Ft. Above Perm. Datum D.F. **1139** Ft.
Drilling Measured From: **Ground Level** G.L. **1136** Ft.

Run	One				
Date	Oct 16, 2019				
Depth-Driller	426 Ft	Ft	Ft	Ft	Ft
Depth-Logger	426 Ft	Ft	Ft	Ft	Ft
Top Logged Interval	9 Ft	Ft	Ft	Ft	Ft
Btm Logged Interval	426 Ft	Ft	Ft	Ft	Ft
Casing-Driller	24" In @ 50' Ft	In @ Ft	In @ Ft	In @ Ft	
Casing - Logger In@Ft	24" In @ 50' Ft	In @ Ft	In @ Ft	In @ Ft	
Bit Size	9-7/8" In @ Ft	In @ Ft	In @ Ft	In @ Ft	
Time On Bottom	2200				
Type Fluid in Hole	Bentonite				
Density / Viscosity					
pH / Fluid Loss	ml	ml	ml	ml	
Source of Sample	Bore Hole	Water Source			
Rm @ Mea. Temp	8.4 @ 75 °F	12.9 @ 75 °F	@ °F	@ °F	
Rmf @ Mea. Temp	8.3 @ 75 °F	13.1 @ 75 °F	@ °F	@ °F	
Rmc @ Mea. Temp	5.9 @ °F	8.7 @ °F	@ °F	@ °F	
Source Rmf / Rmc	Meas.	Meas.			
Rm @ BHT	75 @ °F	@ °F	@ °F	@ °F	
Time Since Circ.	2 Hr	Hr	Hr	Hr	
Max. Rec. Temp.	76 °F	°F	°F	°F	
Van No. / Location	SWLS-1 WDLD				
Recorded By	Stewart				
Witnessed By	Kyland				

This Eagle Plot Heading Conforms To API RP 31A

ELECTRIC - GAMMA RAY-TEMPERATURE LOG TOOL



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Single Point Resistivity Logs record the electrical resistance from points within the borehole to an electrical ground at land surface. Single-point resistance logs are useful in the determination of lithology, water quality, and location of fracture zones.

GAMMA RAY LOGS:

Gamma Ray Logs record the amount of natural gamma radiation emitted by the rocks surrounding the borehole. The most significant naturally occurring sources of gamma radiation are potassium 40 and daughter products of the uranium and thorium decay series. Clay and shale bearing rocks commonly emit relatively high gamma radiation because they include weathering products of potassium feldspar and mica and tend to concentrate uranium and thorium by ion absorption and exchange.

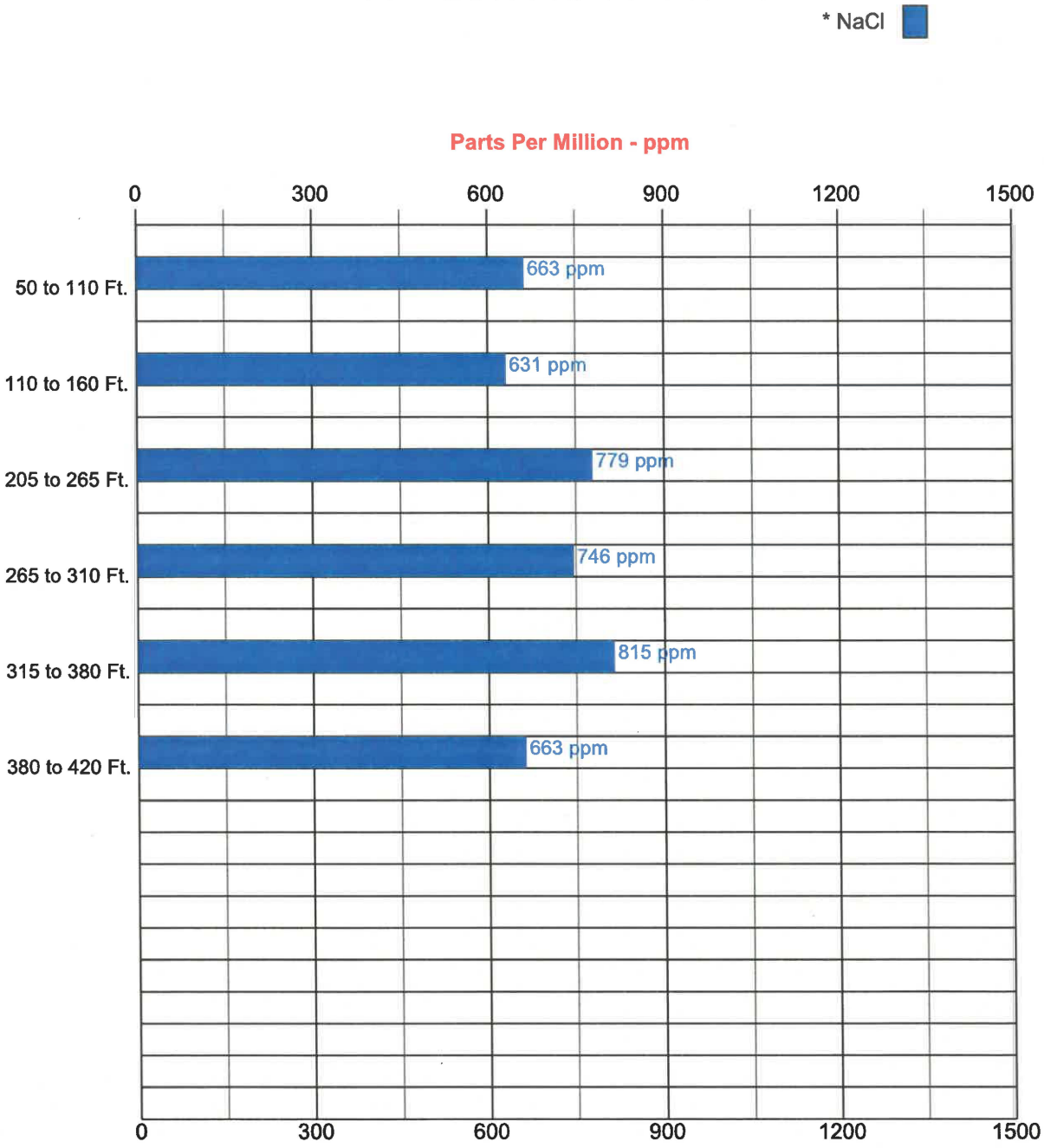
TEMPERATURE LOGS:

Temperature Logs record the water temperature in the borehole. Temperature logs are useful for delineating water-bearing zones and identifying vertical flow in the borehole between zones of differing hydraulic head penetrated by wells. Borehole flow between zones is indicated by temperature gradients that are less than the regional geothermal gradient.

ELECTRIC LOG SPECIFICATIONS:

Diameter	1.73 Inches
Length	8.37 Feet
Weight	21.7 Lbs.
Max. Temp	158° F
Resist. Range	0 - 10,000 ohm-m
Gamma Ray	1.97 inches long x .98 inches diameter Scintillation crystal

TOTAL DISSOLVED SOLIDS



TDS Classes

Class 1: Excellent to Good – Less than 700 ppm
Class 2: Good to Injurious – 700 to 2000 ppm
Class 3: Injurious to Poor – More than 2000 ppm

NaCl = Sodium Chloride

NOTICE

All interpretations are opinions based on inferences from electrical and other measurements and we do not guarantee the accuracy or correctness of any verbal or written interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by one of our officers, agents or employees. These interpretations are also subject to our General Terms and Conditions as set out in our current Price Schedule.

REMARKS

Well Industries Inc
FS PW-1
Oct 16, 2019

ELECTRIC - GAMMA RAY-TEMPERATURE LOG

Mult. Pages
5"/100'

DEPTHS
(Feet)

< - S.P. (20 mV/div) S.P. + >

0 Gamma Ray(api) 200

100 64 Inch Normal (ohmm²/m) x10 1000

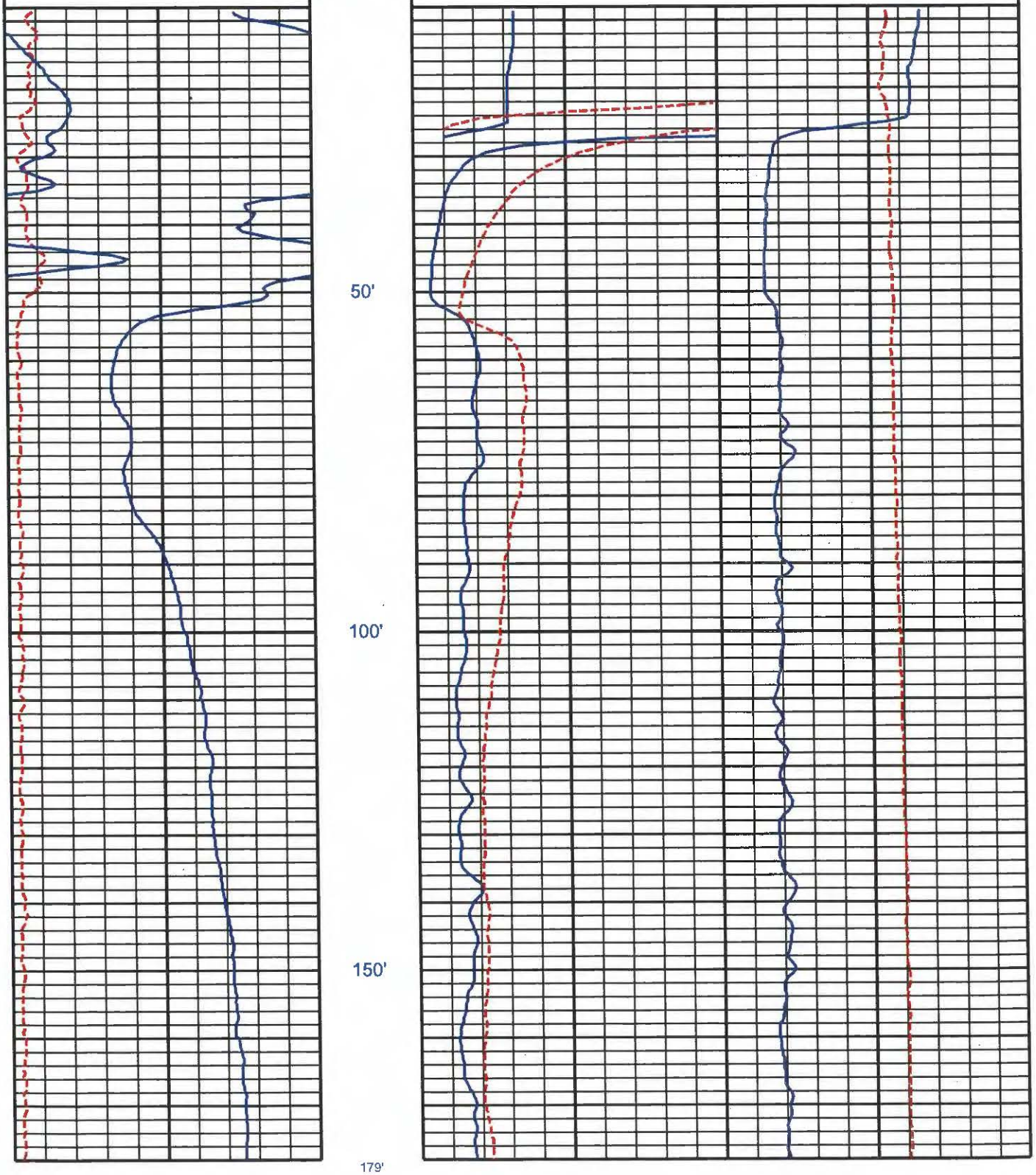
0 64 Inch Normal (ohmm²/m) 100

100 16 Inch Normal (ohmm²/m) x10 1000

0 16 Inch Normal (ohmm²/m) 100

0 Single Point(ohms) 100

70 Temperature (°F) 80



Well Industries Inc.
FS PW-1
Oct 16, 2019

ELECTRIC - GAMMA RAY-TEMPERATURE LOG

Mult. Pages
5"/100'

DEPTHS
(Feet)

< - S.P. (20 mV/div) S.P. + >

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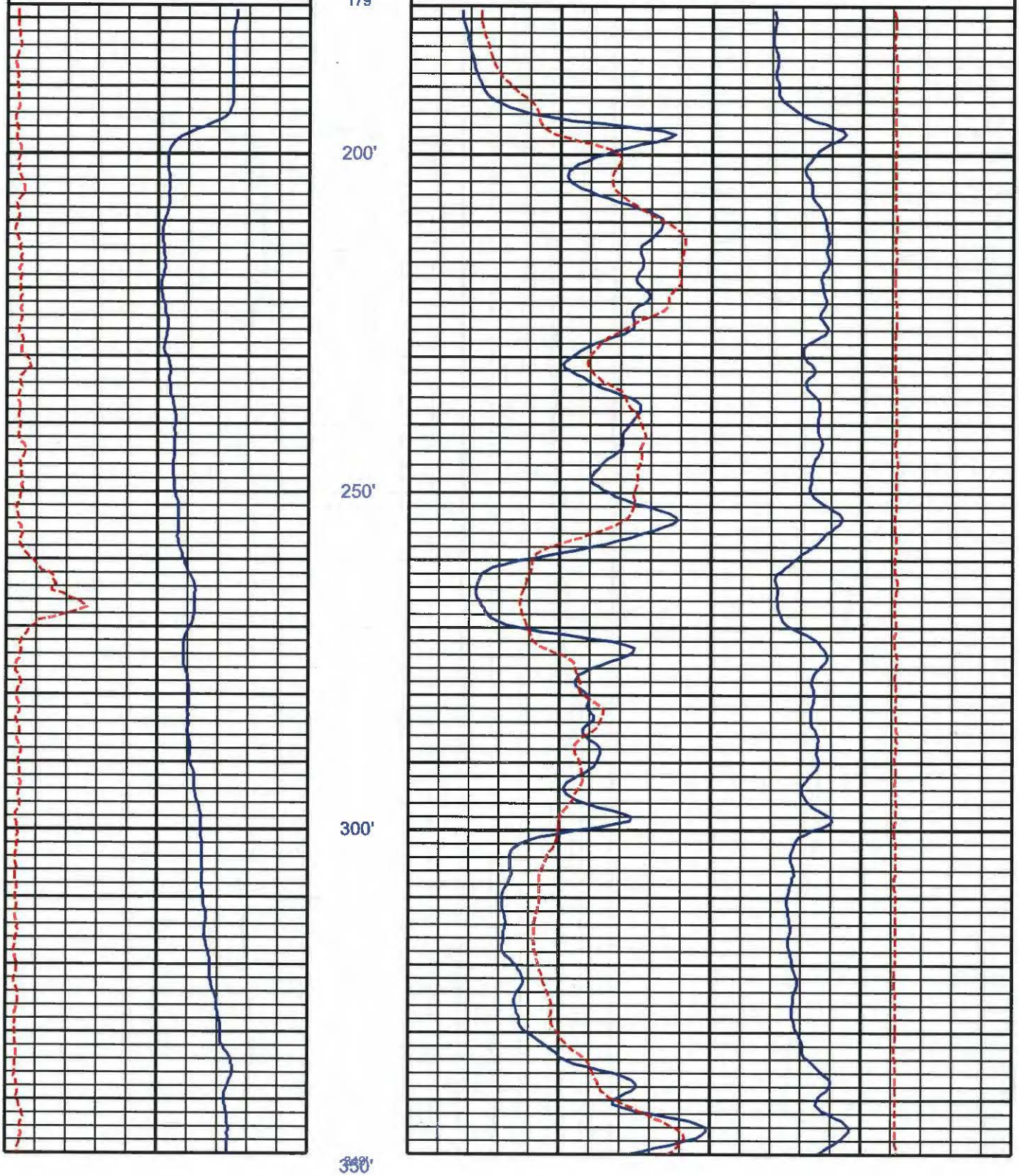
70 Temperature (°F) 80



Well Industries Inc
FS PW-1
Oct 16, 2019

ELECTRIC - GAMMA RAY-TEMPERATURE LOG

Mult. Pages
5"/100'

DEPTHS
(Feet)

< - S.P. (20 mV/div) S.P. + >

0 Gamma Ray(api) 200

100 64 Inch Normal (ohmm²/m) x10 1000

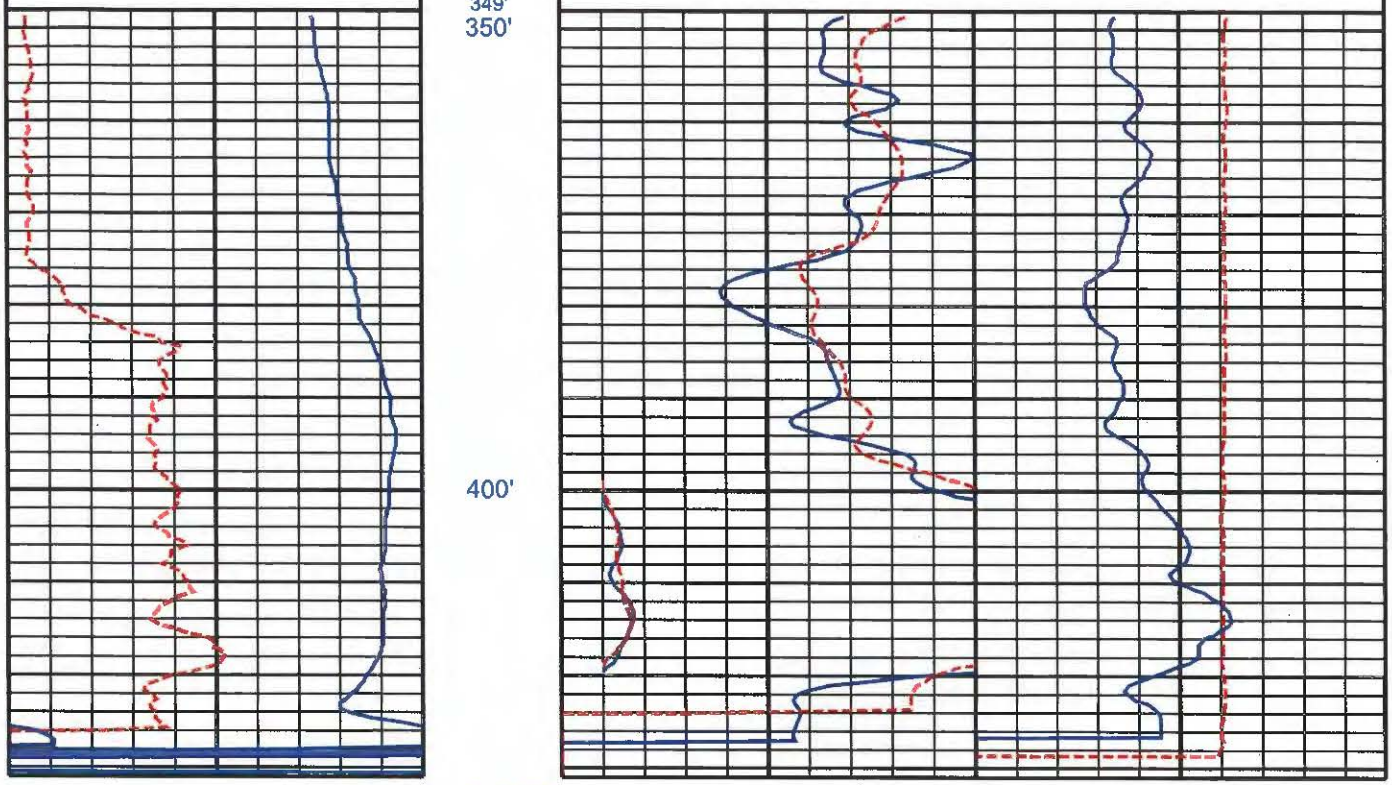
0 64 Inch Normal (ohmm²/m) 100

100 16 Inch Normal (ohmm²/m) x10 1000

0 16 Inch Normal (ohmm²/m) 100

0 Single Point(ohms) 100

70 Temperature (°F) 80

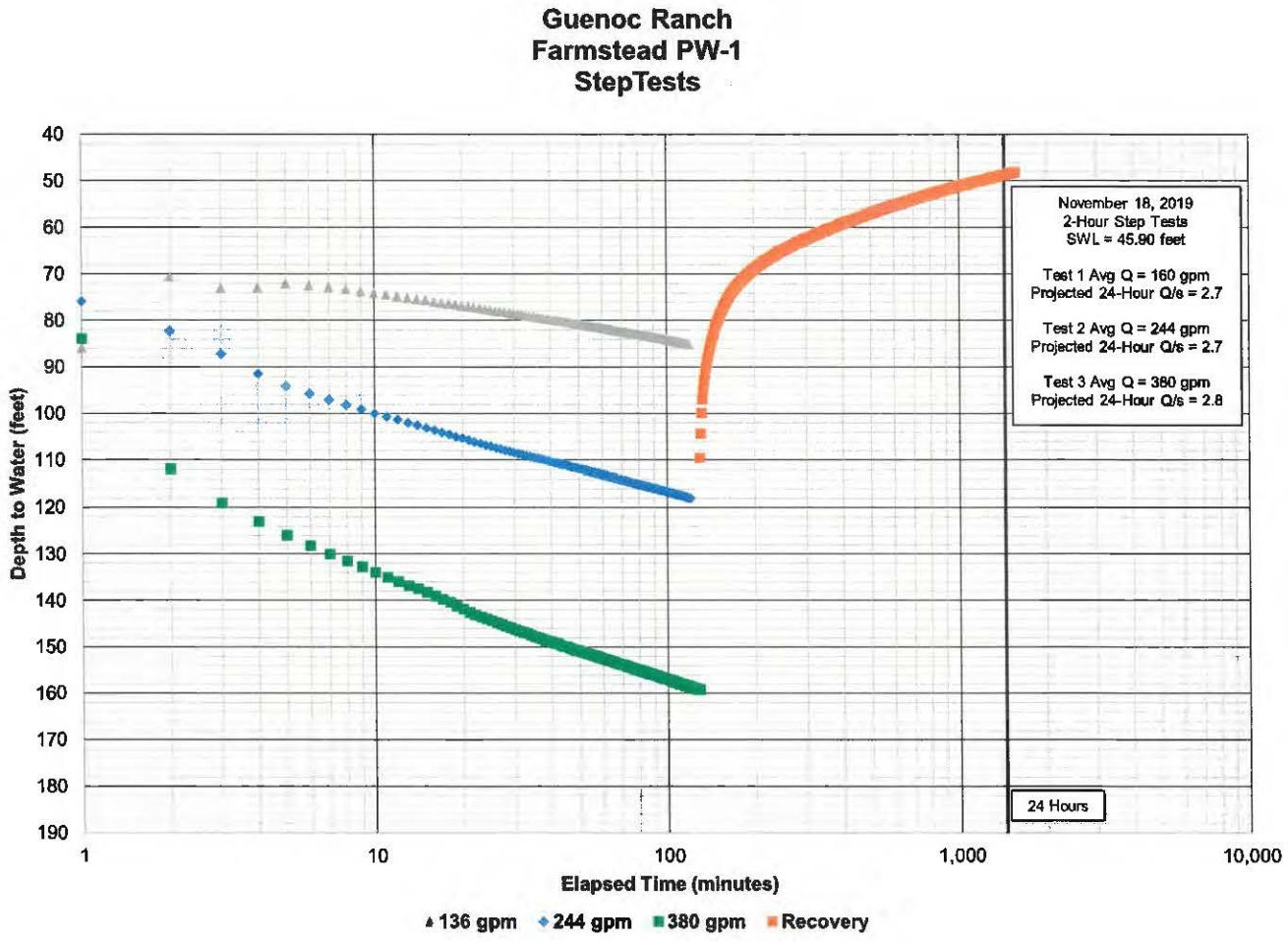


Log Depth 430'

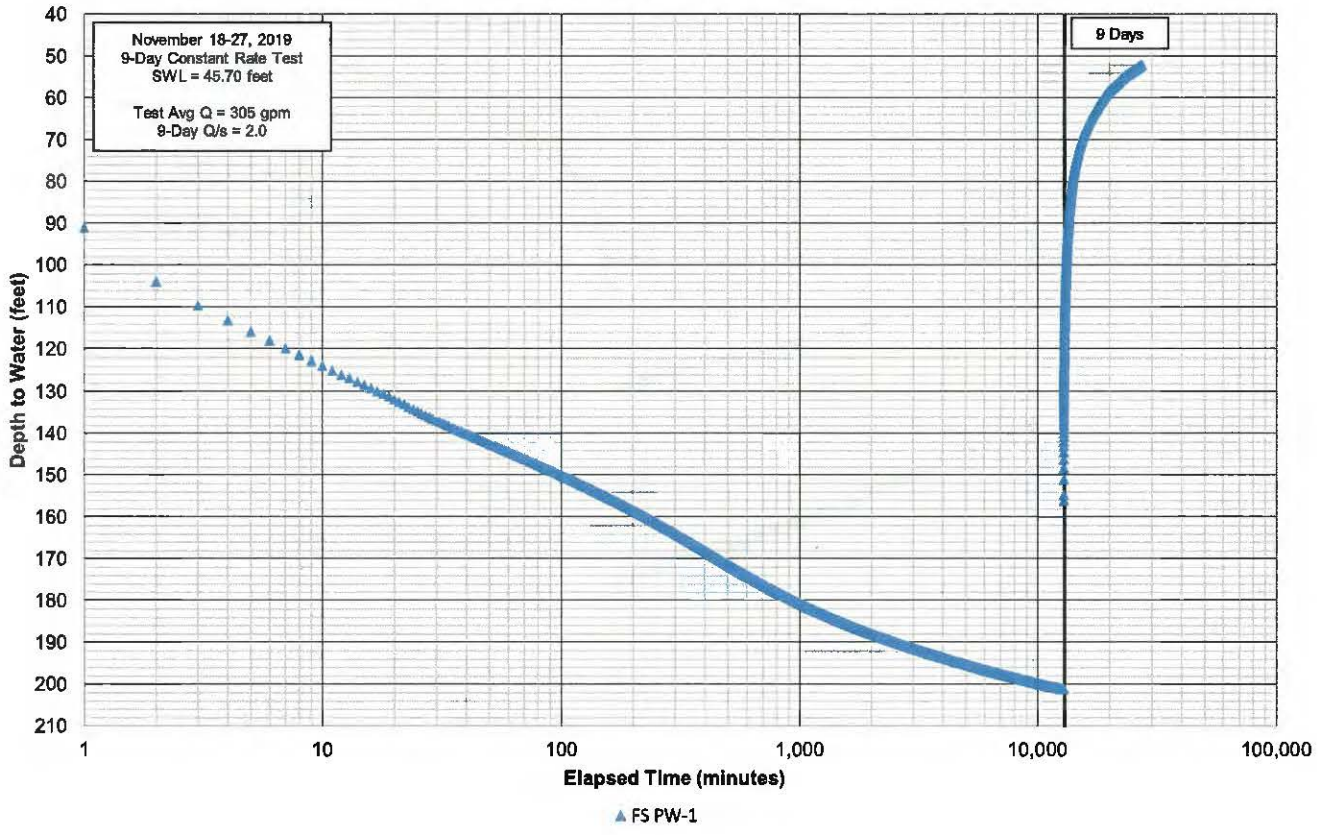
Appendix B
Well Testing

Pump Test Graphs
Water Quality Summary

Luhdorff & Scalmanini
Consulting Engineers


Guenoc Ranch
Farmstead PW-1
StepTests
Depth to Water (feet)
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
1
10
100
1,000
10,000
Elapsed Time (minutes)
November 18, 2019
2-Hour Step Tests
SWL = 45.90 feet
Test 1 Avg Q = 160 gpm
Projected 24-Hour Q/s = 2.7
Test 2 Avg Q = 244 gpm
Projected 24-Hour Q/s = 2.7
Test 3 Avg Q = 380 gpm
Projected 24-Hour Q/s = 2.8
24 Hours
136 gpm
244 gpm
380 gpm
Recovery

Guenoc Ranch
Farmstead PW-1
Constant Rate Test



Guenoc
Farmstead PW-1
Water Quality Summary

ANALYTE	UNITS	REPORTING LIMIT	METHOD	MCL	11/25/2019
CATIONS					
Calcium	mg/L	1.0	200.7		6.3
Magnesium	mg/L	1.0	200.7		90
Potassium	mg/L	1.0	200.7		ND
Sodium	mg/L	1.0	200.7		5.5
Total Hardness	mg/L	1.0	200.7		390
ANIONS					
Bicarbonate Alkalinity	mg/L	5.0	SM 2320B		460
Carbonate Alkalinity	mg/L	5.0	SM 2320B		ND
Chloride (Cl)	mg/L	0.50	300.0	250/500[2]	5.1
Cyanide	mg/L	0.1	SM20-4500-CN	0.15	ND
Fluoride	mg/L	0.10	300.0	2	ND
Hydroxide Alkalinity	mg/L	5.0	SM 2320B		ND
Nitrate (as N)	mg/L	0.40	300.0	10	ND
Nitrate/Nitrite (as N)	mg/L	0.40	300.0	10	ND
Nitrite (as N)	mg/L	0.40	300.0	0.4	ND
Sulfate (as SO4)	mg/L	0.50	300.0	250/500[2]	4.7
Sulfide	mg/L	1.0	SM4500-S F		ND
Total Alkalinity	mg/L	5.0	SM 2320B		460
Perchlorate	mg/L	0.0040	314.0	0.006	ND
PHYSICAL PARAMETERS					
Color (A.P.H.A)	Color Units	1	SM 2120B	15[2]	ND
pH	pH units	0.01	SM 4500-H B	6.5/8.5[4]	7.74
Methylene Blue Active Substance	mg/L	0.10	SM 5540C	0.5[2]	ND
Specific Conductivity	µmhos/cm	1.0	120.1	900/1,600[2]	740
Total Dissolved Solids (TDS)	mg/L	10	SM 2540C	500/1,000[2]	480
Odor	TON	1	140.1		1
Turbidity	NTU	0.10	180.1	5[2]	0.18
INORGANICS					
Aluminum	mg/L	0.05	200.7	1[1]/0.2[3]	ND
Antimony	mg/L	0.0040	200.8	0.006	ND
Arsenic	mg/L	0.0020	200.8	0.010	0.0021
Barium	mg/L	0.1	200.7	1	ND
Beryllium	mg/L	0.001	200.7	0.004	ND
Boron	mg/L	0.1	200.7	1[3]	ND
Cadmium	mg/L	0.0010	200.8	0.005	ND
Chromium (Total)	mg/L	0.01	200.7	0.05	ND
Hexavalent Chromium	mg/L	0.001	218.6		ND
Copper	mg/L	0.050	200.7	1.3[2]	ND
Iron	mg/L	0.10	200.7	0.3[2]	0.110
Lead	mg/L	0.0050	200.8	0.015[3]	ND
Manganese	mg/L	0.02	200.7	0.05[2]	ND
Mercury	mg/L	0.0010	245.1	0.002	ND
Nickel	mg/L	0.01	200.8	0.1	ND
Selenium	mg/L	0.0050	200.8	0.05	ND
Silver	mg/L	0.01	200.7	0.1[2]	ND
Thallium	mg/L	0.001	200.8	0.002	ND
Vanadium	mg/L	0.003	200.8	0.05[3]	ND
Zinc	mg/L	0.05	200.7	5[2]	ND
RADIO CHEMISTRY					
Gross Alpha	pCi/L	0.971	900	15/5[3]	1.42 ± 1.58
Gross Beta	pCi/L	0.702	900	50	12.8 ± 2.24
Total Alpha Radium (226)	pCi/L	0.304	903	3	0.038 ± 0.130
Ra 228	pCi/L	0.400	Ra-05	2	1.69 ± 1.19
Uranium	pCi/L	0.342	908	20	0.101 ± 0.521
OTHER ANALYSES					
Purgeable Organic Compounds (VOCs)	µg/L	*	524.2		ND
Benzo(a)pyrene	µg/L	0.10	550		ND
Nitrogen/Phosphorus Pesticides	µg/L	*	507		ND
Semi-Volatile Organic Compounds (SVOCs)	mg/L	*	525.2		ND
Trihalomethanes	µg/L	0.50	524.2		ND
EDB and DBCP	µg/L	*	504.1		ND
Haloacetic Acids	µg/L	*	552.2		ND
Chlorinated Herbicides	µg/L	*	515.3		ND
Chlorinated Pesticides and PCB's	µg/L	*	508		ND
Asbestos	MFL	0.40	600/R-94/134	7	ND
Endothall	µg/L	20	548.1		ND
2,3,7,8-TCDD Dioxin	pg/L	10	1613B		ND
1,2,3-Trichloropropane	µg/L	0.0050	SRL524M-TCP		ND
Glyphosate	µg/L	5.0	547		ND
Carbamates	µg/L	2.0	531.2		ND
Diquat	µg/L	4.0	549.2		ND

[1] - Primary MCL
[2] - Secondary MCL (recommended/upper range)
[3] - Notification Level
[4] - Suggested lower/upper acceptable range
* - Various Reporting Limits
ND = Non-Detect

Luhdorff & Scalmanini
Consulting Engineers

Well Testing Report 4:

Red Hills 1 (RH PW-1)

Wagner&Bonsignore
Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
Robert C. Wagner, P.E.
Paula J. Whealen

David H. Peterson, C.E.G., C.H.G.
Leah Orloff, Ph.D, P.E.
David P. Lounsbury, P.E.
Vincent Maples, P.E.
Patrick W. Ervin, P.E.
Martin Berber, P.E.
Ryan E. Stolfus

James C. Hanson, P.E.
Henry S. Matsunaga

MEMORANDUM

To: Sherwood Design Engineers, Inc.
Attn: Mr. Peter Haase, MS, PE

From: David H. Peterson, CEG 1186, CHG 86

Date: November 13, 2020

Re: **Proposed Well Test Procedures, Red Hill PW-1 Well**
Guenoc Ranch, 22671 Grange Road
Middletown, Lake County, California

This memorandum outlines the proposed test procedures to determine the capacity of a recently completed water well, identified as the Red Hill PW-1 well, in a 10-day duration pumping test. The well is located on the Guenoc Ranch property in eastern Lake County, California. As shown on the *Red Hill PW-1 Well Site Plan*, Attachment 1, the well is located about 8 miles east of the town of Middletown.

Review of published geologic mapping for the vicinity (Fox and others, 1973; Graymer and others, 2007) indicates that the well was drilled in an area underlain at the surface by basalt lava flows of the Quaternary-age Clear Lake Volcanics. The specific procedures for performing a pump test for a well completed in bedrock (i.e., primary production is from secondary permeability features such as fractures and cracks) are described in Section 64554(g), Title 22 of CCR. In addition, Section 64554(e) outlines the information about the well test required by the State Water Resources Control Board prior to performing the test. The information required by Section 64554(e) is listed below in italics, followed by the provided information.

(1) The name and qualifications of the person who will be conducting the test;

The testing will be conducted by Well Industries Inc. of Chico, California, a California-licensed C-57 Contractor (#812678). This is also the same company that drilled and developed the well. During the test, a California-certified Hydrogeologist will be onsite periodically to review the field data collected and to provide geologic consultation, as needed.

(2) The proposed test's pumping discharge rate, based on the design rate determined during well development and/or a step-drawdown test.

Based on information obtained from test holes previously drilled in this area of the ranch, preliminary pumping yields reportedly ranged from about 50 to 100 gallons per minute. Most likely, the test pumping rate will be in this range or higher, if feasible. However, step-drawdown tests will likely initially be performed to further assess an appropriate discharge rate for a long-term test.

(3) A copy of a United States Geological Survey 7½ minute topographic map of the site at a scale of 1:24,000 or larger (1 inch equals 2,000 feet or 1 inch equals less than 2,000 feet) or, if necessary, a site sketch at a scale providing more detail, that clearly indicates;

(A) The well discharge location(s) during the test, and

(B) The location of surface waters, water staff gauges, and other production wells within a radius of 1000 feet;

See the attached *Well Location Map*, Attachment 2, reproduced at a scale of 1:24,000, for possible well discharge locations, surface waters, and production wells. The nearest staff gauge is located along Putah Creek, about 3.2 miles to the northwest, and is not shown on Attachment 2. The well test discharge location will be selected by the pump contractor, to discharge water during the test in an area that will not pond and reinfiltrate near the test well.

(4) A well construction drawing, geologic log, and electric log, if available;

The well was recently drilled and completed by Well Industries Inc. of Chico, California, and a Well Completion Report has not yet been submitted. An electric-gamma ray-temperature log was also reportedly performed. When these logs are available, they will be submitted as an addendum.

(5) Dates of well completion and development, if known;

The well was drilled and completed during October, 2020 by Well Industries Inc. of Chico, CA. Well development was reportedly performed just after well construction in late October-early November 2020. Details of well construction and development will be provided when a Well Completion Report is available.

(6) Specifications for the pump that will be used for the test and the depth at which it will draw water from the well;

A submersible test pump capable of pumping at the planned discharge rate will be selected and installed by Well Industries Inc. The static water level measured in 2017 from a test

hole at this location was 290 feet below ground surface; the pump will be set at a depth (presumably near the bottom of the casing) to allow for sufficient drawdown during the duration of the test.

(7) A description of the methods and equipment that will be used to measure and maintain a constant pumping rate;

The well contractor has indicated that measurement of the pumping rate will be performed using a flow meter and totalizer installed in the pump discharge line It is anticipated that somewhat more frequent measurements (i.e., 5- to 10-minute intervals) may need to be taken early in the test, while drawdown is occurring more rapidly, to measure and adjust the discharge to maintain a constant pumping rate. Pump equipment and discharge rate will be monitored throughout the test to maintain a constant pumping rate.

(8) A description of the water level measurement method and measurement schedule;

Water level changes measurements will be obtained using a tape-style electronic water level meter. The water levels measurements will be collected at a minimum, as required in Section 64554(g). However, data may be collected at more frequent intervals to provide additional data and to assess the progress of the test.

(9) For wells located in or having an influence on the aquifer from which the new well will draw water, a description of the wells' operating schedules and the estimated amount of groundwater to be extracted, while the new well is tested and during normal operations prior to and after the new well is in operation;

The Red Hill PW-1 well was drilled in a relatively undeveloped rural ranch area mapped by the U.S. Geological Survey as underlain by bedrock units of the Clear Lake Volcanics. A test hole was previously drilled at this location in 2017. Review of the owner's records indicates the test hole encountered the Clear Lake Volcanics to a depth of 440 feet, underlain by units of the Franciscan Complex. Water was encountered within the volcanics at depths of about 320 and 360 feet.

The nearest identified production well (McCreary PW-1 well) is located about 1.7 miles northwest of the Red Hill well. The McCreary PW-1 well is completed in bedrock units of the Franciscan Complex and draws groundwater from those units. Given the distance between wells and different formation/aquifer conditions, it is unlikely that the Red Hill PW-1 well would have hydraulic influence on the McCreary PW-1 well. No other production wells were identified that are known to have influence on the bedrock aquifer in the vicinity of the Red Hill PW-1 well.

(10) A description of the surface waters, water staff gauges, and production wells shown in (3)(B);

As shown on the *Well Location Map* (Attachment 2), the nearest identified surface water bodies are two seasonal, unnamed pond features located about 700 feet northeast and 1,700 feet southwest of the well. In addition, the USGS mapping shows a seasonal, intermittent watercourse lying about 1,700 feet east of the well. There are no staff gauges or other production wells within 1,000 feet of the Red Hill PW-1 well. The nearest staff gauge, operated by the USGS on Putah Creek (Site No. 11453500) is about 3.2 miles northwest of the well. The nearest production well (not yet in service) is the McCreary PW-1, also on the ranch property, located 1.7 miles northwest.

(11) A description of how the well discharge will be managed to ensure the discharge doesn't interfere with the test;

Water from the well test will be discharged as far as practicable from the pumping well and away from areas where ponding could occur. The static water level measured in 2017 during drilling of a test hole at this location was 290 feet below ground surface. At this depth, the potential for water discharged at the surface to infiltrate back into the pumping zone and to act as a source of recharge during the duration of the test seems unlikely. However, water level drawdown data will be reviewed during the course of the test, to note if recharge is occurring.

(12) A description of how the initial volume of water in the well's casing, or bore hole if there is no casing at the time, will be addressed to ensure it has no impact on the test results; and

A 10-day duration test is proposed. Typically, drawdown and dewatering of the well casing both occur fairly rapidly at the beginning of the test. During this period, the slope of the drawdown plot is (as indicated by a semi-log plot) is generally flatter and non-linear. Water levels will be collected at more frequent intervals during the early portion of the test and plotted (semi-log plot) to identify when the data fall on a straight-line plot. This typically indicates that initial water in the casing has been removed and that the discharge is occurring at a constant rate. Given the duration of the test, initial casing dewatering is not anticipated to have an impact on the test results.

(13) A written description of the aquifer's annual recharge.

The Red Hill PW-1 well is located in hilly, upland areas outside of an identified groundwater basin as defined in California Department of Water Resources Bulletin 118. Published geologic maps of the vicinity indicate that the bedrock units underlying the area consist of basaltic lava flows and minor interbedded tuff of the Clear Lake Volcanics. The volcanics are generally underlain by older, metamorphosed and deformed sedimentary and volcanic units of the Franciscan Complex and sedimentary strata of the Great Valley

Sequence. Locally, prior studies by USGS (Upson and Kunkel, 1955) note that areas underlain by Clear Lake Volcanics "may absorb appreciable quantities of water from rain and melting snow and store it in joints and fractures."

The Lake County Groundwater Management Plan (2006), DWR Water Data Library and SGMA Data Viewer, as well as the USGS National Water Information Service online databases do not identify monitoring wells on the Guenoc Ranch property. Therefore, an estimate of recharge based on annual fluctuations of the water table and associated changes in groundwater storage could not be made.

Review of published precipitation maps (Cal Fire, Fire and Resource Assessment Program, 2020) indicate that average rainfall in the vicinity of the well is in the range of about 32 to 35 inches per year. Published data for Mediterranean-type climates (receiving almost no precipitation for half the year) indicates that ground-water recharge is typically on the order of 10 to 20 percent of long-term precipitation (Bouwer, ASCE, 2003). Using the average rainfall data for the site vicinity, this would be equivalent to about 3.5 to 7.0 inches of the annual recharge, or about 0.3 to 0.6 acre-feet of groundwater recharge per acre in the vicinity of the well. The published geologic mapping (Fox and others, 1973) indicates that the outcrop area of the Clearlake Volcanics in the vicinity of the well is over 2,000 acres, indicating that annual local recharge could be in the range of 600 to 1,200 acre-feet per year. However, given that the well is located in hilly, upland areas underlain by bedrock, the actual recharge may be at the lower end of this range.

cc: Lotusland Investment Holdings, Inc.
Attn. Mr. Randy Sternberg

Attachments

Red Hill Well 1Well Site Plan – Figure 1
Well Location Map, Attachment 2

References

Bouwer, H., 2003, Integrated Water Management for the 21st Century, Problems and Solutions in Perspectives in Civil Engineering, Commemorating the 150th Anniversary of the American Society of Civil Engineers: J.S. Russell, Ed., ASCE 150th Anniversary Paper, p. 79-88.

California Department of Water Resources, 2020, Water Data Library: (http://www.water.ca.gov/waterdatalibrary/).

California Department of Water Resources, 2020, SGMA Data Viewer, Interactive Map Application (Basin boundary, well, and SGMA information): https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels

CDM, 2006, Lake County Groundwater Management Plan: Consultant's report to the Lakc County Watershed Protection District, Final Report dated March 31, 2006, 138p.

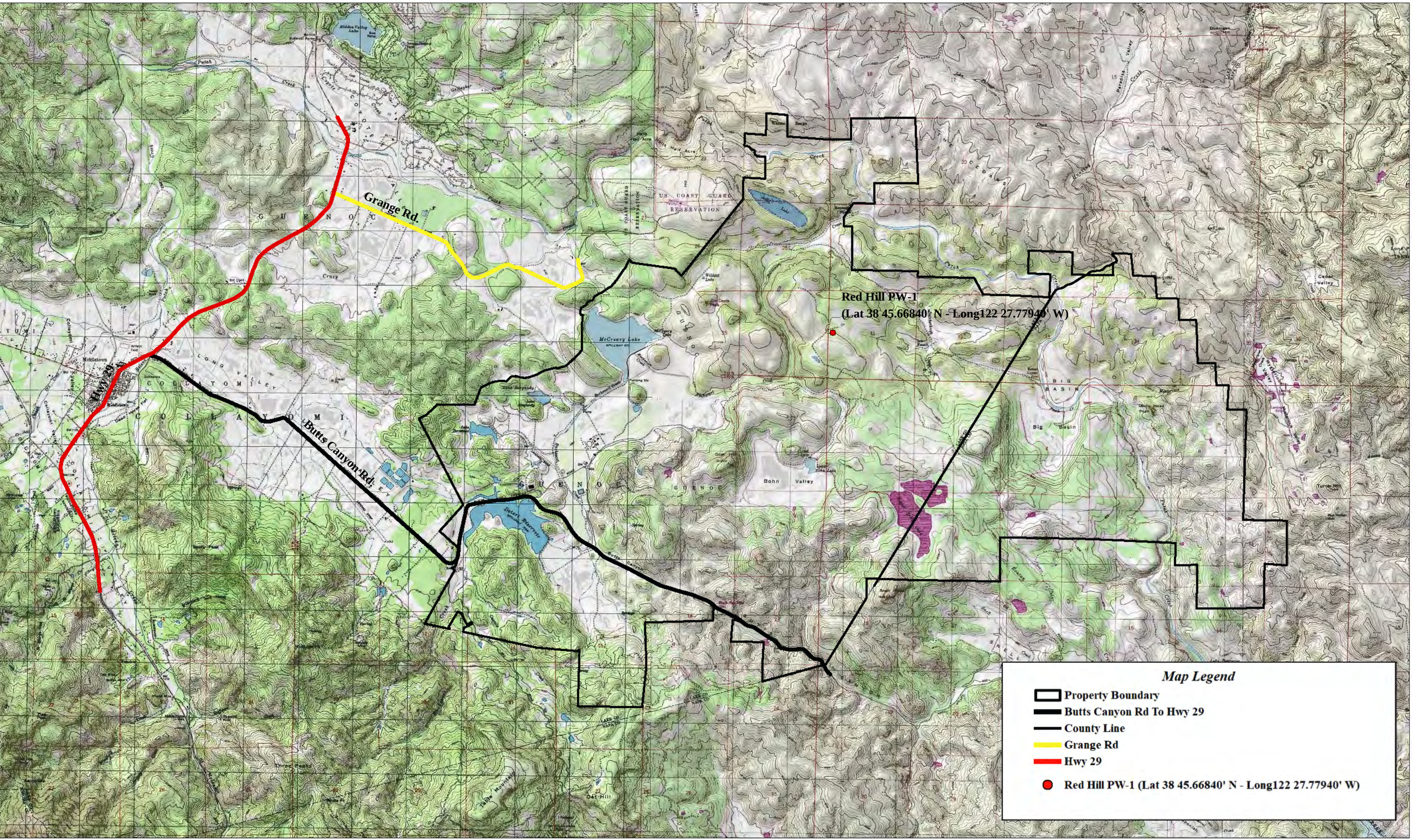
Fox, K.F. Jr., Sims, J.D., Bartow, J.A. and Helley, E.J., 1973, Preliminary Geologic Map of Eastern Sonoma County and Western Napa County, California: U.S. Geological Survey Miscellaneous Field Studies Map 483, 4 sheets, Scale 1:62,500.

Graymer, R.W., Brabb, E.E., Jones, D.L., Barnes, J., Nicholson, R.S., and Stamski, R.E., 2007, Geologic Map and Map Database of Eastern Sonoma and Western Napa Counties, California: U.S. Geological Survey Scientific Investigations Map 2956, Scale 1:100,000.

U.S. Geological Survey, 2020, National Water Information Service, data for USGS Station No. 11453500, Putah C NR Guenoc CA: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=11453500

Upson, J.E. and Kunkel, F., 1955, Ground Water of the Lower Lake-Middletown Area, Lake County, California: U.S. Geological Survey Water-Supply Paper 1297, 87p.

Wagner, D.L. and Bortugno, E.J., 1982, Geologic Map of the Santa Rosa Quadrangle, California, 1:250,000: California Division of Mines and Geology Regional Geologic Map Series, Santa Rosa Quadrangle, Map No. 2A (Geology).

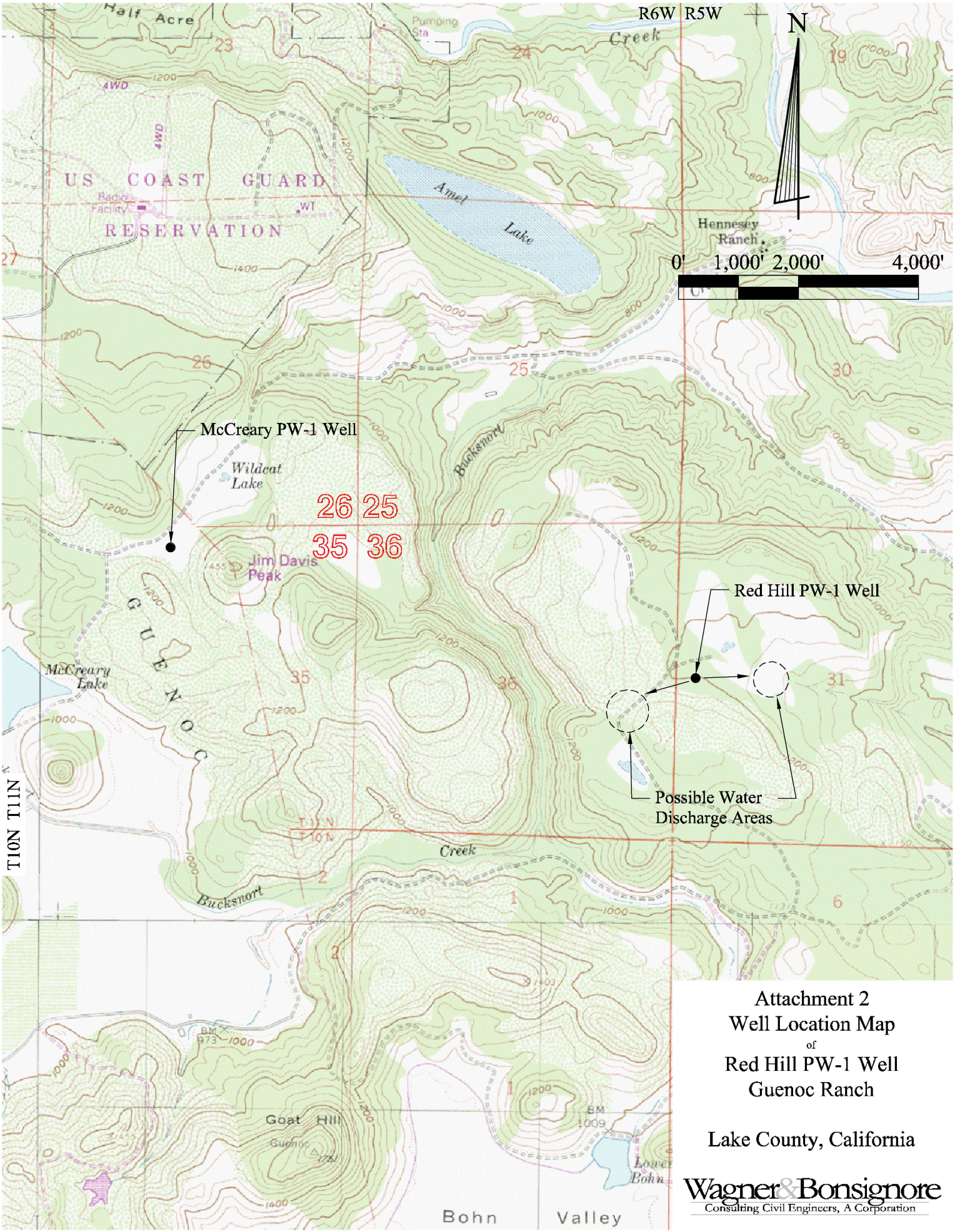


Date: 10/30/2020

RED HILL PW-1 WELL SITE PLAN

0 ft 5000 ft 10000 ft

Lotusland Investment Holdings, Inc.
22000 Butts Canyon Rd.
Middletown, CA 95461



Attachment 2
Well Location Map
of
Red Hill PW-1 Well
Guenoc Ranch

Lake County, California

Wagner&Bonsignore
Consulting Civil Engineers, A Corporation

Base map per USGS 7.5 Minute Quad maps for Middletown, Jericho Valley, Detert Reservoir, and Aetna Springs

November 2020

Q:\Drawings\Lotus Land Investment Holdings, Inc\Well Location Map Red Hill PW-1 Well.dwg

State of California

Well Completion Report

Form DWR 188 Complete 12/29/2020

WCR2020-015688

Owner's Well Number: RED HILL PW-1 | Date Work Began: 11/06/2019 | Date Work Ended: 10/21/2020

Local Permit Agency: Lake County Health Services Department - Environmental Health Division

Secondary Permit Agency: | Permit Number: WE-5237 | Permit Date: 08/29/2019

Well Owner (must remain confidential pursuant to Water Code 13752)

Name: BOHN VALLEY, INC.,

Mailing Address: 22000 BUTTS CANYON RD

City: MIDDLETOWN | State: CA | Zip: 95461

Planned Use and Activity

Activity: New Well

Planned Use: Water Supply Public

Well Location

Address: 24783 GRANGE RD

City: MIDDLETOWN | Zip: 95461 | County: Lake

Latitude: 38 Deg. 45 Min. 41.6735 Sec. N | Longitude: -122 Deg. 27 Min. 46.62 Sec. W

Dec. Lat.: 38.761576 | Dec. Long.: -122.46295

Vertical Datum: | Horizontal Datum: WGS84

Location Accuracy: | Location Determination Method:

APN: 013-021-091-000

Township: 11 N

Range: 05 W

Section: 31

Baseline Meridian: Mount Diablo

Ground Surface Elevation: 1199

Elevation Accuracy: Unknown

Elevation Determination Method: Digital Aerial Photo

Borehole Information

Orientation: Vertical | Specify:

Drilling Method: Downhole Rotary Hammer | Drilling Fluid: Bentonite

Total Depth of Boring: 630 Feet

Total Depth of Completed Well: 630 Feet

Water Level and Yield of Completed Well

Depth to first water: (Feet below surface)

Depth to Static Water Level: 309 (Feet) | Date Measured: 11/04/2020

Estimated Yield*: 100 (GPM) | Test Type: Pump

Test Length: 8 (Hours) | Total Drawdown: 49 (feet)

*May not be representative of a well's long term yield.

Geologic Log - Free Form

Depth from Surface Feet to Feet		Description
0	50	SURFACE CASING
50	320	HARD ROCK
320	380	GRAVEL & CLAY
380	500	HARD ROCK
500	550	BLUE CLAY
550	630	CLAY

Casings

Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	50	Conductor or Fill Pipe	Low Carbon Steel	Grade: ASTM A53	0.375	24			SURFACE CASING
2	0	360	Blank	Low Carbon Steel	Grade: ASTM A53	0.25	10.75			
2	360	440	Screen	Low Carbon Steel	Grade: ASTM A53	0.25	10.75	Milled Slots	0.08	
2	440	540	Blank	Low Carbon Steel	Grade: ASTM A53	0.25	10.75			
2	540	620	Screen	Low Carbon Steel	Grade: ASTM A53	0.25	10.75	Milled Slots	0.08	
2	620	630	Blank	Low Carbon Steel	Grade: ASTM A53	0.25	10.75			W/ BULLNOSE

Annular Material

Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
0	100	Cement	10.3 Sack Mix		ANNULAR CEMENT SEAL
100	630	Filter Pack	Other Gravel Pack	1/4 PEA GRAVEL	GRAVEL PACK

Other Observations:

Borehole Specifications

Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	50	30
50	630	17.5

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name: WELL INDUSTRIES INC
Person, Firm or Corporation

3282 HIGHWAY 32 | CHICO | CA | 95973
Address | City | State | Zip

Signed: *electronic signature received* | 11/06/2020 | 812678
C-57 Licensed Water Well Contractor | Date Signed | C-57 License Number

DWR Use Only

CSG #	State Well Number	Site Code	Local Well Number

N — Latitude Deg/Min/Sec

W — Longitude Deg/Min/Sec

TRS:

APN:

10 Day Well Test Report

Job Name: RH PW-1 Date: 1/19/2021

Static Water Level: 299 ft Pump Setting Depth: 580 ft

Date	Gallon Per Minute	PWL	Sands / Discharge
December 13, 2020	45 GPM	537'	0.00 / Clear
December 14, 2020	44 GPM	537'	0.00 / Clear
December 15, 2020	44 GPM	537'	0.00 / Clear
December 16, 2020	43 GPM	536'	0.00 / Clear
December 17, 2020	43 GPM	537'	0.00 / Clear
December 18, 2020	43 GPM	536'	0.00 / Clear
December 19, 2020	43 GPM	536'	0.00 / Clear
December 20, 2020	43 GPM	536'	0.00 / Clear
December 21, 2020	43 GPM	536'	0.00 / Clear
December 22, 2020	43 GPM	536'	0.00 / Clear

Recorded By: Ryan P.

3282 HIGHWAY 32 ; CHICO, CA 95973 | 530-891-5545 | FAX 530-891-0793
WELLINDUSTRIESINC.COM

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

29 December 2020

Wagner & Bonsignore Engineers
Attn: David Peterson
2151 River Plaza Drive, Suite 100
Sacramento, CA 95833-4133
RE: Water Quality
Work Order: 20L1428

Enclosed are the results of analyses for samples received by the laboratory on 12/09/20 12:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeanette Poplin

Jeanette L. Poplin For Stephen F. McWeeney
Lab Manager

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	12/29/20 14:16

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Red Hill PW-1	20L1428-01	Water	12/09/20 11:00	12/09/20 12:45

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Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	12/29/20 14:16

	Result	Reporting Limit	Dilution	Batch	Prepared	Analyzed	ELAP#	Method	Note
Red Hill PW-1 (20L1428-01)		**Sample Type: Water**			**Sampled: 12/09/20 11:00**				
Metals (Drinking Water) by EPA 200 Series Methods									
Calcium	**29 mg/L**	**1.0**	1	AL03710	12/14/20 10:00	12/21/20 13:04	1551	EPA 200.7	
Iron	**110 ug/L**	**100**	1	AL03710	12/14/20 10:00	12/21/20 13:04	1551	EPA 200.7	
Magnesium	**46 mg/L**	**1.0**	1	AL03710	12/14/20 10:00	12/21/20 13:04	1551	EPA 200.7	
Mercury	ND ug/L	1.0	1	AL04192	12/22/20 06:18	12/22/20 13:27	1551	EPA 245.1	
Potassium	**3.5 mg/L**	**1.0**	1	AL03710	12/14/20 10:00	12/21/20 13:04	1551	EPA 200.7	
Sodium	**14 mg/L**	**1.0**	1	AL03710	12/14/20 10:00	12/21/20 13:04	1551	EPA 200.7	
Metals by EPA 200 Series Methods									
Chromium, hexavalent	ND ug/L	1.0	1	AL04064	12/18/20 08:00	12/18/20 10:08	2303	EPA 218.6	
Metals by EPA Method 200.8 ICP/MS									
Aluminum	ND ug/L	50	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Antimony	ND ug/L	6.0	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Arsenic	**3.1 ug/L**	**2.0**	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Barium	ND ug/L	100	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Beryllium	ND ug/L	1.0	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Cadmium	ND ug/L	1.0	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Chromium	ND ug/L	10	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Copper	ND ug/L	50	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Lead	ND ug/L	5.0	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Manganese	**56 ug/L**	**20**	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Nickel	ND ug/L	10	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Selenium	ND ug/L	5.0	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Silver	ND ug/L	10	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Thallium	ND ug/L	1.0	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	
Zinc	ND ug/L	50	4	AL03577	12/11/20 08:30	12/14/20 18:30	1551	EPA 200.8	

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Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	12/29/20 14:16

	Result		Reporting Limit	Dilution	Batch	Prepared	Analyzed	ELAP#	Method	Note
Red Hill PW-1 (20L1428-01)			**Sample Type: Water**			**Sampled: 12/09/20 11:00**				
Conventional Chemistry Parameters by APHA/EPA Methods										
Aggressive Index	**11.62**	**NU**	**2.00**	1	AL03710	12/14/20 10:00	12/23/20 09:15	1551	AWWA	
Bicarbonate	**360**	**mg/L**	**5.0**	1	AL03738	12/15/20 08:00	12/15/20 16:17	1551	SM2320B	
Carbonate	ND	mg/L	5.0	1	AL03738	12/15/20 08:00	12/15/20 16:17	1551	SM2320B	
Color	ND	CU	5.0	1	AL03103	12/09/20 15:00	12/09/20 16:07	2303	SM2120B	
Hydroxide	ND	mg/L	5.0	1	AL03738	12/15/20 08:00	12/15/20 16:17	1551	SM2320B	
MBAS, calculated as LAS, mw 340	ND	mg/L	0.050	1	AL03604	12/11/20 09:00	12/11/20 15:15	1551	SM5540C	
Odor	ND	T.O.N.	1.0	1	AL03103	12/09/20 15:00	12/09/20 16:07	2303	SM2120B	
pH	**7.28**	**pH Units**	**1.68**	1	AL03631	12/10/20 16:00	12/10/20 17:00	1551	SM4500-H+ B	T-14
Specific Conductance (EC)	**530**	**umhos/cm**	**20**	1	AL03631	12/10/20 16:00	12/10/20 17:00	1551	SM2510B	
Total Dissolved Solids	**360**	**mg/L**	**10**	1	AL03843	12/16/20 05:45	12/21/20 09:35	1551	SM2540C	
Turbidity	ND	NTU	0.25	1	AL03103	12/09/20 15:00	12/09/20 16:07	2303	SM2130B	
Total Alkalinity as CaCO3	**300**	**mg/L**	**5.0**	1	AL03738	12/15/20 08:00	12/15/20 16:17	1551	SM2320B	
Nitrate + Nitrite as N	ND	mg/L	0.40	1	AL04324	12/23/20 11:33	12/23/20 13:24	1551	Calculation	
Hardness, Total	**260**	**mg/L**	**5**	1	AL03710	12/14/20 10:00	12/21/20 13:04	1551	SM2340B	
Miscellaneous Physical/Conventional Chemistry Parameters										
Cyanide (total)	ND	mg/L	0.10	1	AL03717	12/14/20 08:30	12/14/20 14:54	1551	10-204-00-1X	
Anions by EPA Method 300.0										
Chloride	**4.9**	**mg/L**	**0.50**	1	AL03675	12/12/20 03:56	12/12/20 03:56	1551	EPA 300.0	
Fluoride	ND	mg/L	0.10	1	AL03675	12/12/20 03:56	12/12/20 03:56	1551	EPA 300.0	
Nitrate as N	ND	mg/L	0.40	1	AL03520	12/09/20 15:30	12/09/20 20:04	2303	EPA 300.0	
Nitrite as N	ND	mg/L	0.20	1	AL03520	12/09/20 15:30	12/09/20 20:04	2303	EPA 300.0	
Sulfate as SO4	**2.4**	**mg/L**	**0.50**	1	AL03675	12/12/20 03:56	12/12/20 03:56	1551	EPA 300.0	

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Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	12/29/20 14:16

	Result	Reporting Limit	Dilution	Batch	Prepared	Analyzed	ELAP#	Method	Note
Red Hill PW-1 (20L1428-01)	**Sample Type: Water**				**Sampled: 12/09/20 11:00**				
Microbiological Parameters by APHA Standard Methods									
Total Coliforms	ND MPN/100mL	1.0	1	AL03507	12/09/20 17:00	12/10/20 17:00	2303	SM9223B	
E. Coli	ND MPN/100mL	1.0	1	AL03507	12/09/20 17:00	12/10/20 17:00	2303	SM9223B	
Volatile Organic Compounds by EPA Method 524.2									
Benzene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Carbon tetrachloride	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Chlorobenzene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
1,2-Dichlorobenzene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
1,4-Dichlorobenzene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
1,1-Dichloroethane	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
1,2-Dichloroethane	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
1,1-Dichloroethene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
cis-1,2-Dichloroethene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
trans-1,2-Dichloroethene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
1,2-Dichloropropane	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
1,3-Dichloropropene (total)	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Ethylbenzene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Methyl tert-butyl ether	ND ug/L	3.0	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Methylene chloride	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Styrene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
1,1,2,2-Tetrachloroethane	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Tetrachloroethene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Toluene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
1,2,4-Trichlorobenzene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
1,1,1-Trichloroethane	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
1,1,2-Trichloroethane	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Trichloroethene	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Trichlorofluoromethane	ND ug/L	5.0	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Trichlorotrifluoroethane	ND ug/L	10	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Vinyl chloride	ND ug/L	0.50	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Xylenes (total)	ND ug/L	1.5	1	AL03168	12/09/20 15:00	12/09/20 15:54	2303	EPA 524.2	
Surrogate: Bromofluorobenzene	*84.0 %*	*70-130*		*AL03168*	*12/09/20 15:00*	*12/09/20 15:54*	2303	*EPA 524.2*	
Surrogate: 1,2-Dichlorobenzene-d4	*83.4 %*	*70-130*		*AL03168*	*12/09/20 15:00*	*12/09/20 15:54*	2303	*EPA 524.2*	

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Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	12/29/20 14:16

Notes and Definitions

QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
T-14	Residual chlorine, dissolved oxygen, sulfite, and pH must be analyzed in the field to meet the EPA specified 15 minute hold time.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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SGS FORENSIC LABORATORIES

Final

ANALYSIS REPORT
ASBESTOS IN DRINKING WATER
Transmission Electron Microscopy*

Client:	Alpha Analytical Lab		
Contact:	Stephen F McWeeney	Client Number:	2096
Street:	208 Mason St.	Report Number:	T033312
City/state/zip:	Ukiah, CA 95482	Date/time Received:	12/10/20

Site:		Date filtered:	12/10/20
Job ID/PO:	20L1428	Analyst(s):	MAB
Date Collected:	12/9/20	Date Analyzed:	12/22/20
Hold time, hrs:	<48	Date Reported:	12/23/20
Filter type:	25mm MCE	Date Printed:	12/23/20
Pore size:	0.22 µm		

ANALYTICAL RESULTS

Sample Number	Red Hill PW-1			
Description				
Lab Sample Number	20131683			
Volume Filtered, mL	30			
Filter Area, mm2	190			
Grid Opening Area, mm^2	0.0086			
Number of GO's Analyzed	4			
Area Analyzed, mm^2	0.0344			
# Asbestos Fibers ≥10 µm	0			
Analytical Sensitivity, MFL	0.2			
Asbestos Concentration, ≥10um in length, MFL	**<0.2**			
Asbestos Type(s) Detected**	**ND**			
95% Upper Conf. Limit, MFL	0.7			
95% Lower Conf. Limit, MFL	0.0			

0

Mark S. Floyd, Analytical Microscopy Supervisor

* Method 100.2 (EPA/600/R-94/134). Results are reported in Millions of Fibers per Liter (MFL) over 10 µm in length.

** Asbestos types: CH=chrysotile; AM=amosite; CR=crocidolite; TR=tremolite; AC=actinolite; AN=anthophyllite; ND=none detected; NA-Not Analyzed; n/a=not applicable (i.e., divide by 0); OV=overloaded; BL=blank sample; PF=prepped not analyzed.

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Alpha Analytical Laboratories Inc.
www.alpha-labs.com
WATERS, SEDIMENTS, SOLIDS

Corporate Laboratory (1551)
208 Mason Street, Ukiah CA 95482
707.468.0401 (phone)
707.468.5267 (fax)
clientservices@alpha-labs.com

North Bay Laboratory (2303)
110 Liberty Street, Petaluma CA 94952

Bay Area Laboratory (2728)
262 Rickenbacker Circle, Livermore CA 94551

Central Valley Laboratory (2922)
9090 Union Park Way #113, Elk Grove CA 95624

San Diego Laboratory (3055)
2722 Loker Ave West, Ste A, Carlsbad CA 92010

Chain of Custody - Work Order

Reports and Invoices delivered by email in PDF format

Lab No 20L1428 Pg ____ of ____

Signature below authorizes work under terms stated on reverse side.

Report to	Invoice to (if different)	Project Information
Company: Wagner & Bonsignore	Contact: Taryn Smith	Project ID: Guenoc Ranch
Attn: David Peterson	Email address: tsmith@wbecorp.com	Project No: 700.3
Address: 2151 River Plaza Dr., Ste 100 Sacramento, CA 95833	Address: same	PO Number: —
Phone/Fax: (707)484-1798 (mobile)	Phone/Fax: (916) 441-6850	
Email Address: dpetersone wbecorp.com		

Field Sampler - Printed Name & Signature: David Peterson

TAT: Standard 10 days ✓ | RUSH: 5 days ○ | 48 hours ○ | Other: ____days ○ | Preapproval required

TEMP °C: Ukiah | Livermore | Elk Grove | Petaluma 5.8 | Carlsbad

Sample Identification	Sampling Date	Sampling Time	Container: 40ml VOA Vial	Plastic	Glass	Sleeve	Other	Preservative: HCl	HNO3	H2SO4	Other	None	Matrix: Drinking Water	Wastewater	Soil	Other	Total Number of Containers per Sample ID	Analysis Request: Title 22 - General Mineral	Title 22 - Inorganics	Title 22 - General Physical	Title 22 - VOCs – 524 DDW	Asbestos	Hexavalent Chromium	Bacteriological Analysis	Notes / DDW Source Codes
Red Hill PW-1	12/9/20	11:00a	✓	✓	✓								X					X	X	X	X	X	X	X	General Physical Scan logged in for Color, Odor & Turbidity in North Bay. SH 12/9/20

Relinquished by	Received by	Date	Time
David H. Peterson		12/9/20	12:45p

DDW Write On EDT Transmission? ○ Yes ✓ No

State System Number: _____

If "Y" please enter the Source Number(s) in the column above

CA Geotracker EDF Report? ○ Yes ✓ No

Global ID: Sampling Company Log Code:

EDF to (Email Address):

Travel and Site Time: | Mileage: | Misc. Supplies:

Well Testing Report 5:

Tephra 4

Wagner&Bonsignore
Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
Robert C. Wagner, P.E.
Paula J. Whealen

Martin Berber, P.E.
Patrick W. Ervin, P.E.
David P. Lounsbury, P.E.
Vincent Maples, P.E.
Leah Orloff, Ph.D, P.E.
David H. Peterson, C.E.G., C.H.G.
Ryan E. Stolfus

MEMORANDUM

To: Sherwood Design Engineers, Inc.
Attn: Mr. Peter Haase, MS, PE

From: David H. Peterson, CEG 1186, CHG 86

Date: January 7, 2021

Re: **Proposed Well Test Procedures**
Tephra 4 Production Well
Guenoc Ranch, 21665 Grange Road
Middletown, Lake County, California

This memorandum outlines the proposed test procedures to determine the capacity of an existing water well, identified as the Tephra 4 Production Well, in a pumping test. As shown on the *Tephra 4 Production Well Site Plan*, Attachment 1, the well is located in the southern portion the Guenoc Ranch property, about 6.5 miles southeast of the town of Middletown, in Lake County, California.

The geology in the vicinity of the well is shown on Attachment 2. Review of published geologic mapping for the vicinity (Fox and others, 1973; Graymer and others, 2007) indicates that the well was drilled in an area underlain at the surface by pumice-bearing ash-flow tuff and interlayered andesite and basalt lava flows of the Tertiary-age Sonoma Volcanics. Review of the Well Completion Report for the well (WCR No. 1074876; see Attachment 3) indicates the well primarily encountered soft and porous volcanic rock (tuff) to a depth of 230 feet. From a depth of 170 to 200 feet, "hard, black volcanic rock" was encountered, that may be a locally welded zone in the tuff or an interbedded lava flow. The tuff unit is underlain at 230 feet by green shale that is probably part of the underlying Jurassic- to Cretaceous-age Knoxville formation (Great Valley Sequence) bedrock. Typically, ash-flow tuff is moderately to highly porous and groundwater occurrence, recharge and movement in the relatively porous ash-flow tuffs of the Sonoma Volcanics is through primary porosity, similar to alluvial deposits.

The specific procedures for performing a pump test for a well completed in alluvium are detailed in Section 64554(f) and testing for wells in bedrock (i.e., primary production is from secondary permeability features such as fractures and cracks) are described in Section 64554(g), Title 22 of CCR. Review of the well completion report and area geologic mapping indicate that the geologic unit penetrated by the well is porous and not significantly fractured. For the purposes

of classifying the geologic formation for Title 22 pump test procedures, the tuff unit would more appropriately be classified as similar to an alluvial deposit.

Section 64554(e) of Title 22 outlines the information about the well test required by the State Water Resources Control Board prior to performing the test. The information required by Section 64554(e) is listed below in italics, followed by the provided information.

(1) The name and qualifications of the person who will be conducting the test;

The testing will be conducted by Well Industries Inc. of Chico, California, a California-licensed C-57 Contractor (#812678). During the test, a California-certified Hydrogeologist will be available to provide geologic consultation, as needed.

(2) The proposed test's pumping discharge rate, based on the design rate determined during well development and/or a step-drawdown test.

The pumping discharge rate was estimated by the driller during well development at 55 gallons per minute (gpm). In addition, an existing vineyard irrigation well referred to as the Tephra 1 well, located about 100 feet away (see Attachment 1 for location) reportedly produces about 75 gpm. The test pumping rate will be in this range or somewhat higher, if feasible.

(3) A copy of a United States Geological Survey 7½ minute topographic map of the site at a scale of 1:24,000 or larger (1 inch equals 2,000 feet or 1 inch equals less than 2,000 feet) or, if necessary, a site sketch at a scale providing more detail, that clearly indicates;

(A) The well discharge location(s) during the test, and

(B) The location of surface waters, water staff gauges, and other production wells within a radius of 1000 feet;

See the attached *Well Location Map*, Attachment 4, reproduced at a scale of 1:24,000, for possible well discharge locations, surface waters, and production wells.

(4) A well construction drawing, geologic log, and electric log, if available;

The Well Completion Report (WCR No. 1074876) is attached. The well was drilled and constructed in October, 2008 by Larry Herman Drilling, of Lower Lake, California. The well was drilled and completed to a depth of 257 feet. An electric-gamma ray-temperature log is not available for the well.

The geologic log on the WCR indicates that soft and porous tuff of the Sonoma Volcanics was encountered, with a possible harder layer, most likely a lava flow or welded zone, at a depth of 170 to 200 feet. Fracturing is not described within the tuff unit. Green shale,

probably part of the underlying Knoxville formation (Great Valley Sequence) bedrock unit, was encountered at 230 feet.

(5) Dates of well completion and development, if known;

The well was drilled and completed during October 2008. The WCR indicates the well was developed on October 27, 2008 by air lift methods.

(6) Specifications for the pump that will be used for the test and the depth at which it will draw water from the well;

As previously discussed, the well was never put into production. The WCR indicates that the well casing has an inside diameter of 4.5 inches. Most likely, a 3-inch submersible pump will be used for the test. The static water level was measured at 123 feet below ground surface (BGS) at completion of well development in 2008. Presumably, the pump will be set near the bottom of the well, to allow for drawdown during pumping. However, pump selection and depth will be made by the pump contractor.

(7) A description of the methods and equipment that will be used to measure and maintain a constant pumping rate;

Measurement of the pumping rate will be performed using a flow meter and totalizer installed in the pump discharge line. Pump equipment and discharge rate will be monitored throughout the test to maintain a constant pumping rate.

(8) A description of the water level measurement method and measurement schedule;

Water level changes measurements will be obtained using a tape-style electronic water level meter. The water levels measurements will be collected at a minimum, as required in Section 64554 (f) or (g), depending on the geologic classification of the formation. However, data may be collected at more frequent intervals to provide additional data and to assess the progress of the test.

(9) For wells located in or having an influence on the aquifer from which the new well will draw water, a description of the wells' operating schedules and the estimated amount of groundwater to be extracted, while the new well is tested and during normal operations prior to and after the new well is in operation;

The Tephra well was drilled in a relatively undeveloped rural ranch area mapped by the U.S. Geological Survey as underlain by tuff units of the Sonoma Volcanics. As shown on Attachments 1 and 4, an existing vineyard irrigation well is located about 100 feet to the east and reportedly produces about 75 gpm. This well is generally operated from about April or early May through September. This well will be shut off prior to any planned pump testing of the Tephra well.

Other nearby, identified production wells on the Guenoc Ranch property are the Farmstead PW-1 well and Bohn Ridge 3 well, both located about 3.7 miles to the northeast. Both of these wells were completed in older bedrock units of the Franciscan Complex and serpentinite. Given the distance from the Tephra well and different bedrock aquifer conditions, it is unlikely that there is direct hydraulic connection between these wells.

(10) A description of the surface waters, water staff gauges, and production wells shown in (3)(B);

The nearest staff gauge, operated by the USGS, is located along Putah Creek, about 5.3 miles to the north. As shown on the *Well Location Map*, Attachment 4, the nearest surface waters are two unnamed, intermittent watercourses located about 600 feet east and north of the well, and an unnamed pond along the course of Cassidy Creek, about 2,200 feet southwest. No production wells were identified within 1,000 feet of the Tephra Well, although as previously discussed, an existing vineyard irrigation well is located about 100 feet to the east.

(11) A description of how the well discharge will be managed to ensure the discharge doesn't interfere with the test;

Water from the well test will be discharged as far as practicable from the pumping well and away from areas where ponding could occur. During drilling/development of the Tephra well in 2008, the static water level was measured at 123 feet below ground surface. At this depth, the potential for water discharged at the surface to infiltrate back into the pumping zone and to act as a source of recharge during the duration of the test is unlikely. However, water level drawdown data will be reviewed from the test, to evaluate if recharge is occurring.

(12) A description of how the initial volume of water in the well's casing, or bore hole if there is no casing at the time, will be addressed to ensure it has no impact on the test results; and

Typically, drawdown and dewatering of the well casing both occur fairly rapidly at the beginning of the test. During this period, the slope of the drawdown plot is (as indicated by a semi-log plot) is generally flatter and non-linear. Water levels will be collected at more frequent intervals during the early portion of the test and plotted (semi-log plot) to identify when the data fall on a straight-line plot. This typically indicates that initial water in the casing has been removed and that the discharge is occurring at a constant rate.

(13) A written description of the aquifer's annual recharge.

The Tephra well is located in hilly, upland areas outside of an identified groundwater basin, as defined in California Department of Water Resources Bulletin 118. Published geologic

maps of the vicinity indicate that the bedrock units underlying the area consist of pumice-bearing ash-flow tuff and minor interbedded andesitic and basaltic lava flows of the Sonoma Volcanics. Based on the geologic mapping by Fox and others (1973; see Attachment 2), the outcrop area of the tuff unit was estimated at 1,100 acres. The volcanics are generally underlain by older, metamorphosed and deformed sedimentary and volcanic units of the Jurassic- to Cretaceous-age Great Valley Sequence and serpentinite.

While previous studies by USGS in the Napa Valley area (Kunkel and Upson, 1960) note that the tuffaceous units of the Sonoma Volcanics yield moderate to large quantities of water to wells, no estimate of recharge to these units was made. Review of published precipitation maps (Cal Fire, Fire and Resource Assessment Program, 2020) indicate that average rainfall in the vicinity of the well is in the range of about 32 to 35 inches per year. Published data for Mediterranean-type climates (receiving almost no precipitation for half the year) indicates that ground-water recharge is typically on the order of 10 to 20 percent of long-term precipitation (Bouwer, ASCE, 2003). Using the average rainfall data for the site vicinity, this would be equivalent to about 3.5 to 7.0 inches of the annual recharge, or about 0.3 to 0.6 acre-feet of groundwater recharge per acre. Based on a mapped outcrop area of 1,100 acres for the tuff unit, this would equate to annual local recharge in the range of 330 to 660 acre-feet per year. However, given that the well is located in sloping, upland areas, the actual recharge may be at the lower end of this range.

cc: Lotusland Investment Holdings, Inc.
Attn. Mr. Randy Sternberg

Attachments

Tephra 4 Production Well Well Site Plan, Attachment 1
Vicinity Geologic Map, Attachment 2
Well Completion Report, Attachment 3
Well Location Map, Attachment 4

References

Bouwer, H., 2003, Integrated Water Management for the 21st Century, Problems and Solutions in Perspectives in Civil Engineering, Commemorating the 150th Anniversary of the American Society of Civil Engineers: J.S. Russell, Ed., ASCE 150th Anniversary Paper, p. 79-88.

California Department of Water Resources, 2020, Water Data Library: (http://www.water.ca.gov/waterdatalibrary/).

California Department of Water Resources, 2020, SGMA Data Viewer, Interactive Map Application (Basin boundary, well, and SGMA information): https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels

CDM, 2006, Lake County Groundwater Management Plan: Consultant's report to the Lakc County Watershed Protection District, Final Report dated March 31, 2006, 138p.

Fox, K.F. Jr., Sims, J.D., Bartow, J.A. and Helley, E.J., 1973, Preliminary Geologic Map of Eastern Sonoma County and Western Napa County, California: U.S. Geological Survey Miscellaneous Field Studies Map 483, 4 sheets, Scale 1:62,500.

Graymer, R.W., Brabb, E.E., Jones, D.L., Barnes, J., Nicholson, R.S., and Stamski, R.E., 2007, Geologic Map and Map Database of Eastern Sonoma and Western Napa Counties, California: U.S. Geological Survey Scientific Investigations Map 2956, Scale 1:100,000.

Kunkel, F. and Upson, J.E., 1960, Geology and Ground Water in Napa and Sonoma Valleys, Napa and Sonoma Counties, California: U.S. Geological Survey Water-Supply Paper 1495, 260p.

U.S. Geological Survey, 2020, National Water Information Service, data for USGS Station No. 11453500, Putah C NR Guenoc CA: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=11453500

Upson, J.E. and Kunkel, F., 1955, Ground Water of the Lower Lake-Middletown Area, Lake County, California: U.S. Geological Survey Water-Supply Paper 1297, 87p.

Wagner, D.L. and Bortugno, E.J., 1982, Geologic Map of the Santa Rosa Quadrangle, California, 1:250,000: California Division of Mines and Geology Regional Geologic Map Series, Santa Rosa Quadrangle, Map No. 2A (Geology).

Grange Rd.

Hwy 29

Butts Canyon Rd.

Tephra 4 - Production Well
Lat 38 42.06614' N
Long 122 30.76324' W

Tephra 1 - Irrigation Well
Lat 38 42.06149' N
Long 122 30.74393' W

Map Legend

- Property Boundary
- Butts Canyon Rd To Hwy 29
- County Line
- Grange Rd
- Hwy 29
- Tephra 1 - Irrigation Well
- Tephra 4 Production Well

Attachment 1

Date: 12/31/2020

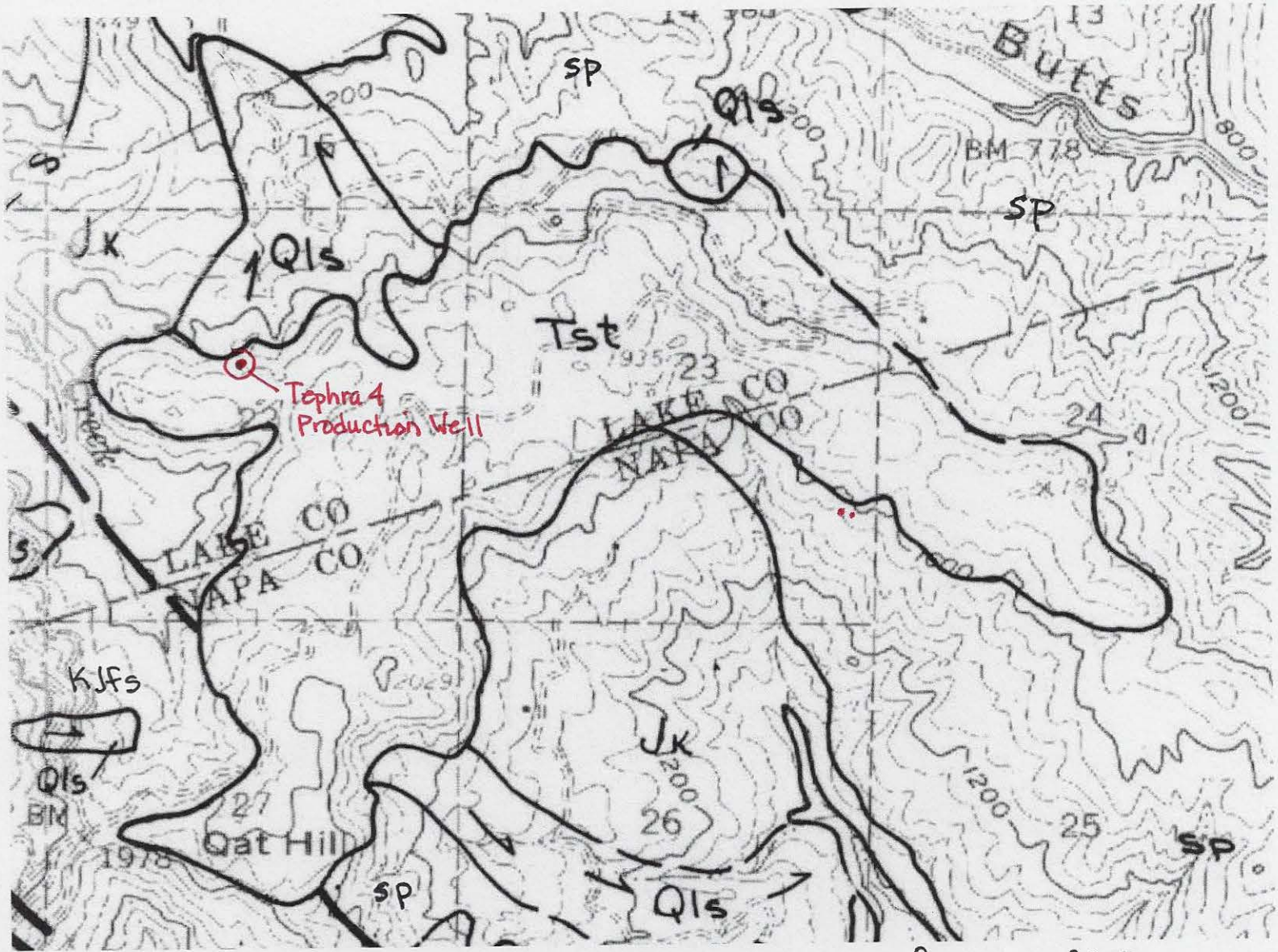
TEPHRA 4 PRODUCTION WELL SITE PLAN

0 ft 5000 ft 10000 ft

Lotusland Investment Holdings, Inc.
22000 Butts Canyon Rd.
Middletown, CA 95461

Reference: Fox and others, 1973
USGS

N



Explanation

Qls - landslides

Tst - Sonoma Volcanics; ash-flow tuffs

JK - Great Valley Sequence; Knoxville fm.

KJfs - Franciscan Complex - sheared shale and sandstone

SP - serpentinite

Attachment 2

Vicinity Geologic Map
Tephra 4 Production Well
Guenoc Ranch

TRIPLICATE
Owner's Copy

Page ___ of ___

Owner's Well No. ___

Date Work Began 10-24-08, Ended 10-28-08

Local Permit Agency Health Dept.

Permit No. WE-2639 Permit Date 10-27-08

STATE OF CALIFORNIA

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. 1074876

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DRILLING METHOD Air Rotary FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	10	Volcanic Rock
10	40	Soft (No Return)
40	170	Soft Blue Volcanic Rock
170	200	Hard Black Volcanic Rock
200	230	Brown Tan Soft Broken Vol Rock
230	257	Green Shale

TOTAL DEPTH OF BORING 257 (Feet)

TOTAL DEPTH OF COMPLETED WELL 257 (Feet)

WELL OWNER

Name Langtry Estates & Vineyards

Mailing Address 900 Fort St. Mall #1500

Honolulu HI 96813

CITY STATE ZIP

WELL LOCATION

Address 21665 Butts Canyon Rd.

City Middletown Ca. 95461

County Lake

APN Book 013 Page 024 Parcel 12

Township 10N Range 6W Section 15

Lat ___ DEG. ___ MIN. ___ SEC. N

Long ___ DEG. ___ MIN. ___ SEC. W

LOCATION SKETCH

NORTH

WEST EAST

*See Attached MAP

SOUTH

*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

✓ NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ✓ Public
___ Irrigation ___ Industrial

___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 150 (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 123 (Ft.) & DATE MEASURED 10-27-08

ESTIMATED YIELD * 55 (GPM) & TEST TYPE Air Lift

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)

** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	60	9"	X				PVC	4½"	160	
60	137	7"	X				PVC	4½"	160	
137	177	7"		X			PVC	4½"	200	.020
177	197	7"	X				PVC	4½"	160	
197	237	7"		X			PVC	4½"	200	.020
237	257	7"	X				PVC	4½"	160	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	50	8 Sacks			Sand mix
50	257		5/16	Chips	Gravel

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS PO Box 1152 CITY Lower Lake STATE Ca ZIP 95457

Signed [signature] C-57 LICENSED WATER WELL CONTRACTOR

DATE SIGNED 10-27-08

C-57 LICENSE NUMBER 466071

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

Attachment 3

TRIPLICATE
Owner's Copy

Page ___ of ___
Owner's Well No. ___
Date Work Began 10-24-08, Ended 10-28-08
Local Permit Agency Health Dept.
Permit No. WE-2629 Permit Date 10-27-08

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet
No. 1074876

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Air Rotary FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	10	Volcanic Rock
10	40	Soft (No Returns)
40	170	Soft Blue Volcanic Rock
170	200	Hard Black Volcanic Rock
200	230	Brown Tan Soft Broken Vol Rock
230	257	Green Shale

TOTAL DEPTH OF BORING 257 (Feet)
TOTAL DEPTH OF COMPLETED WELL 257 (Feet)

WELL OWNER

Name Langley Estates Vineyards
Mailing Address 900 Fort St. Mall #1200
City Honolulu HI State 96813 ZIP

WELL LOCATION

Address 21665 Butts Canyon Rd.
City Middletown Ca. 95461
County Lake
APN Book 013 Page 024 Parcel 12
Township 10N Range 6W Section 15
Lat ___ DEG. ___ MIN. ___ SEC. N
Long ___ DEG. ___ MIN. ___ SEC. W

LOCATION SKETCH

NORTH
WEST
EAST
SOUTH

*See Attached MAP

*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

✓ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ✓ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 150 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 123 (Ft.) & DATE MEASURED 10-27-08
ESTIMATED YIELD * 55 (GPM) & TEST TYPE Bailer
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	60	9"	X				PVC	4½"	160	
60	137	7"	X				PVC	4½"	160	
137	177	7"		X			PVC	4½"	200	.020
177	197	7"	X				PVC	4½"	160	
197	237	7"		X			PVC	4½"	200	.020
237	257	7"	X				PVC	4½"	160	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	50	8 Sack Grout			
50	257	5/16			Lonestar #1

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

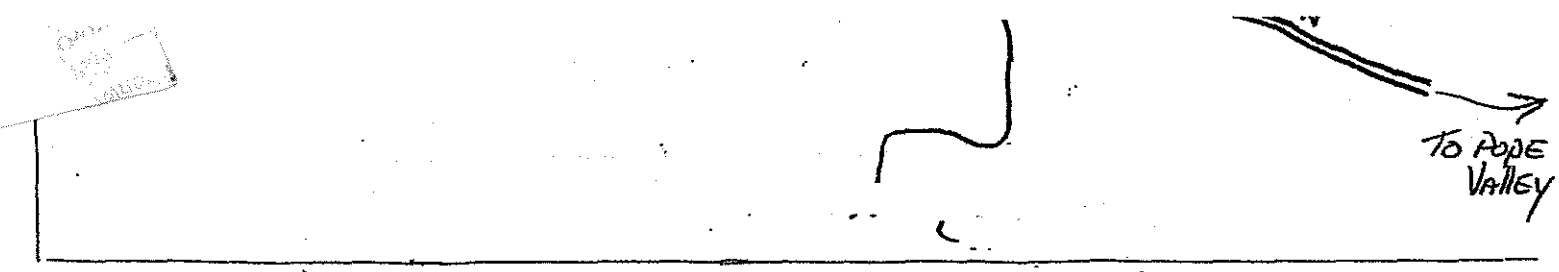
CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Larry Herman Drilling
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS PO Box 1152 CITY Lower Lake STATE Ca ZIP 95457
Signed ___ 10-27-08
C-57 LICENSED WATER WELL CONTRACTOR DATE SIGNED
C-57 LICENSE NUMBER 466071

DWR 188 REV. 05-03

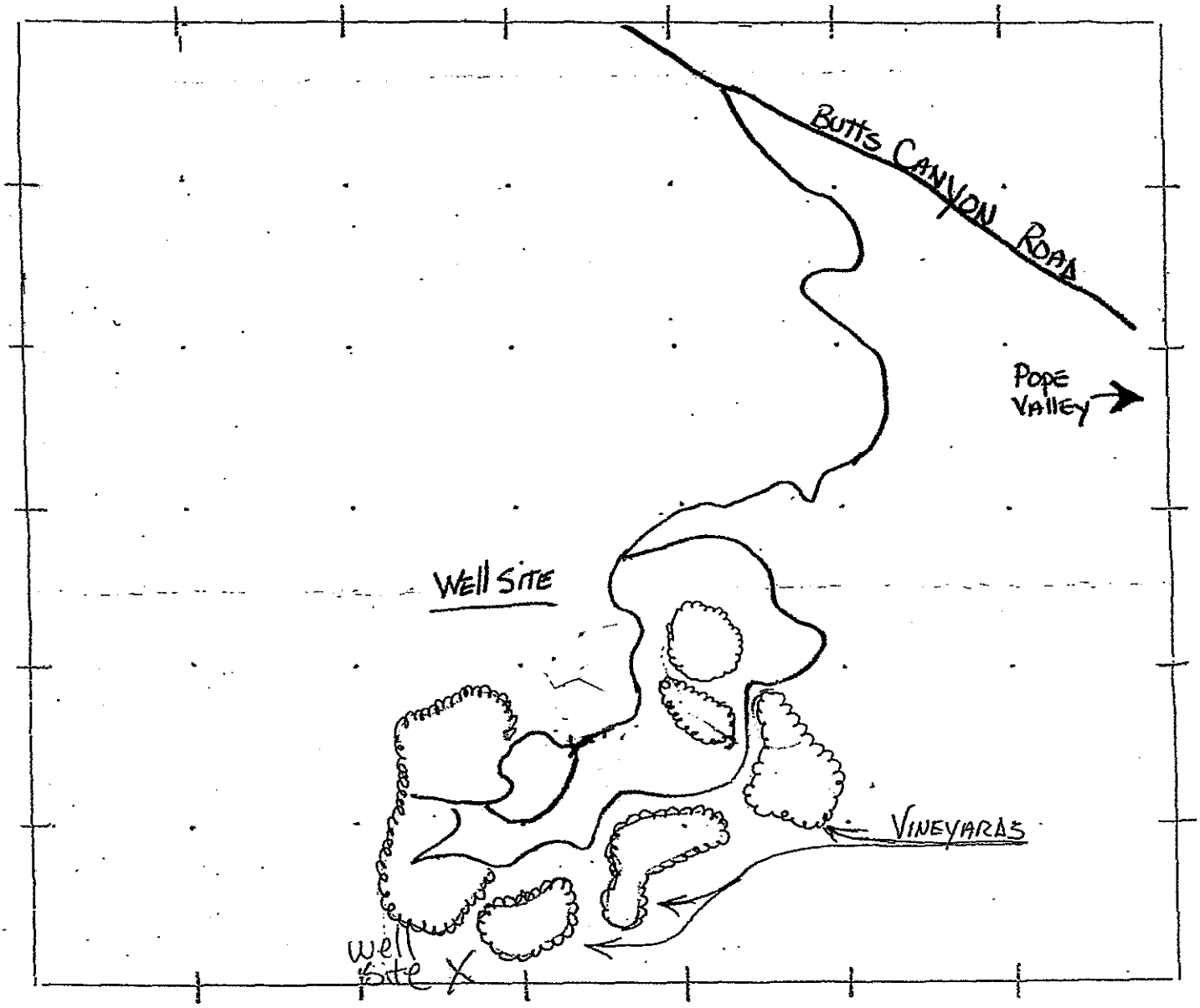
IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM



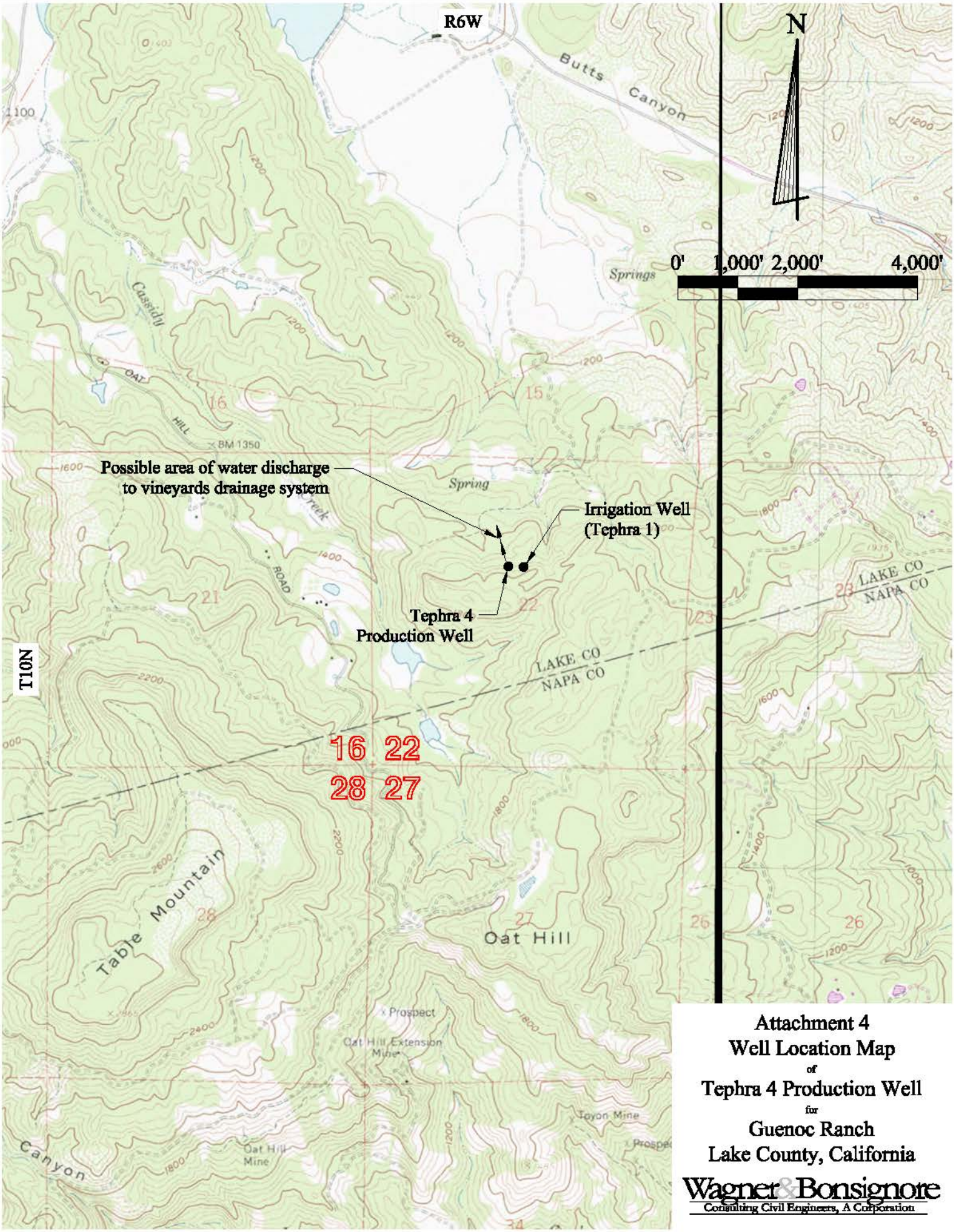
DRAW TO SCALE ANY OF THE FOLLOWING WITHIN 200 FEET OF THE WELL

1. Well/wells existing and proposed
2. Property lines, if over 200 feet
3. Easements or roads
4. All existing and proposed sewage disposal systems within 100 feet, adjacent parcels included
5. Any facilities or piping designed to carry or hold sewage
6. Any storage or mixing area which involves Hazardous Materials
7. Any structures

____. __None of the items above are within 200 feet of the well ✓



DRAWN TO THE SCALE OF 1" = 1000'



Attachment 4
Well Location Map
of
Tephra 4 Production Well
for
Guenoc Ranch
Lake County, California

Wagner & Bonsignore
Consulting Civil Engineers, A Corporation

Base map per USGS 7.5 Minute Quad map for Detert Reservoir.

Q:\Drawings\Lotus Land Investment Holdings, Inc\Well Location Map Bobs Ridge.dwg

January 2021

TRIPLICATE
Owner's Copy

Page ___ of ___

Owner's Well No. ___

Date Work Began 10-24-08, Ended 10-28-08

Local Permit Agency Health Dept.

Permit No. WE-2639 Permit Date 10-27-08

STATE OF CALIFORNIA

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. 1074876

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DRILLING METHOD Air Rotary FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
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10	40	Soft (No Returns)
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200	230	Brown Tan Soft Broken Volcanic Rock
230	257	Green Shale

TOTAL DEPTH OF BORING 257 (Feet)

TOTAL DEPTH OF COMPLETED WELL 257 (Feet)

WELL OWNER

Name Langtry Estates & Vineyards

Mailing Address 900 Fort St. Mall #1200

Honolulu HI 96813

CITY STATE ZIP

WELL LOCATION

Address 21665 Butte Common Rd.

City Middletown Ca. 95461

County Lake

APN Book 013 Page 024 Parcel 12

Township 10N Range 6W Section 15

Lat ___ DEG. ___ MIN. ___ SEC. N

Long ___ DEG. ___ MIN. ___ SEC. W

LOCATION SKETCH

NORTH

*See Attached MAP

WEST EAST

SOUTH

*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

✓ NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ✓ Public
___ Irrigation ___ Industrial

___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

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DEPTH OF STATIC WATER LEVEL 123 (Ft.) & DATE MEASURED 10-27-08

ESTIMATED YIELD * 55 (GPM) & TEST TYPE Bailer

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)

** May not be representative of a well's long-term yield.*

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60	137	7"	X				PVC	4½"	160	
137	177	7"		X			PVC	4½"	200	.030
177	197	7"	X				PVC	4½"	160	
197	237	7"		X			PVC	4½"	200	.030
237	257	7"	X				PVC	4½"	160	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	50	8 Sacks			Sand mix
50	257	5 Yds			Gravel

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Larry Herman Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS PO Box 1152 CITY Lower Lake STATE Ca ZIP 95457

Signed ___ (C-57 LICENSED WATER WELL CONTRACTOR) DATE SIGNED 10-27-08 C-57 LICENSE NUMBER 466071

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

TRIPLICATE
Owner's Copy

Page ___ of ___
Owner's Well No. ___
Date Work Began 10-24-08, Ended 10-28-08
Local Permit Agency Health Dept.
Permit No. WE-2629 Permit Date 10-27-08

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet
No. 1074876

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Air Rotary FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	10	Volcanic Rock
10	40	Soft (No Returns)
40	170	Soft Blue Volcanic Rock
170	200	Hard Black Volcanic Rock
200	230	Brown Tan Soft Broken Vol Rock
230	257	Green Shale

TOTAL DEPTH OF BORING 257 (Feet)
TOTAL DEPTH OF COMPLETED WELL 257 (Feet)

WELL OWNER

Name Langley Estates Vineyards
Mailing Address 900 Fort St. Mall #1200
City Honolulu HI State 96813 ZIP

WELL LOCATION

Address 21665 Butts Canyon Rd.
City Middletown Ca. 95461
County Lake
APN Book 013 Page 024 Parcel 12
Township 10N Range 6W Section 15
Lat ___ DEG. ___ MIN. ___ SEC. N
Long ___ DEG. ___ MIN. ___ SEC. W

LOCATION SKETCH

NORTH
WEST
EAST
SOUTH

*See Attached MAP

*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

✓ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ✓ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 150 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 123 (Ft.) & DATE MEASURED 10-27-08
ESTIMATED YIELD * 55 (GPM) & TEST TYPE Bailer
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	60	9"	X				PVC	4½"	160	
60	137	7"	X				PVC	4½"	160	
137	177	7"		X			PVC	4½"	200	.020
177	197	7"	X				PVC	4½"	160	
197	237	7"		X			PVC	4½"	200	.020
237	257	7"	X				PVC	4½"	160	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	50	8 Sack Grout			
50	257	5/16			Lonestar #1

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

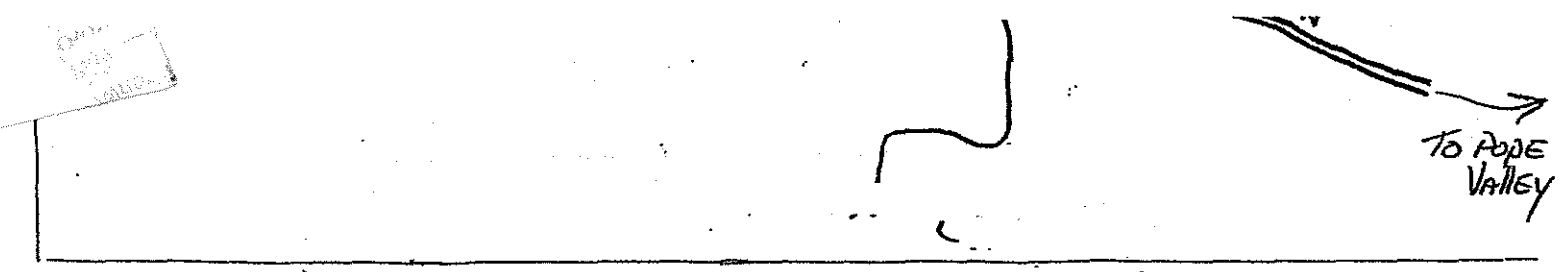
CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Larry Herman Drilling
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS PO Box 1152 CITY Lower Lake STATE Ca ZIP 95457
Signed ___ 10-27-08
C-57 LICENSED WATER WELL CONTRACTOR DATE SIGNED
C-57 LICENSE NUMBER 466071

DWR 188 REV. 05-03

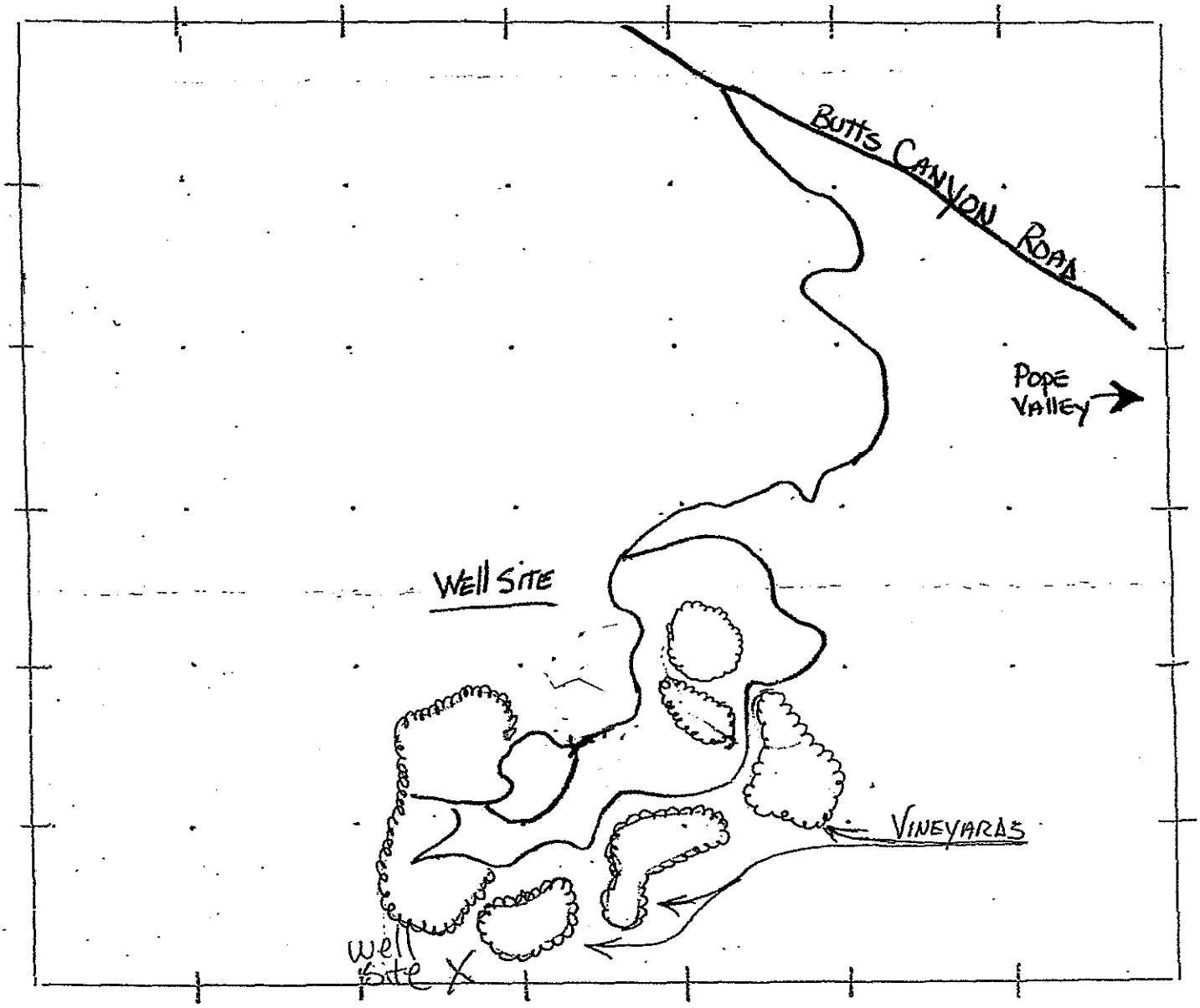
IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM



DRAW TO SCALE ANY OF THE FOLLOWING WITHIN 200 FEET OF THE WELL

1. Well/wells existing and proposed
2. Property lines, if over 200 feet
3. Easements or roads
4. All existing and proposed sewage disposal systems within 100 feet, adjacent parcels included
5. Any facilities or piping designed to carry or hold sewage
6. Any storage or mixing area which involves Hazardous Materials
7. Any structures

____. __None of the items above are within 200 feet of the well ✓



DRAWN TO THE SCALE OF 1" = 1000'

10 Day Well Test Report

Job Name: TEPHRA-4 Date: 1/19/2021

Static Water Level: 120 ft Pump Setting Depth: 240 ft

Date	GPM / Totalizer	PWL	Sands / Discharge
January 6, 2021	50 GPM / 125,525 Gallons	200'	-- / Clear
January 7, 2021	50 GPM / 132,327 Gallons	200'	-- / Clear
January 8, 2021	50 GPM / 139,129 Gallons	200'	-- / Clear
January 9, 2021	50 GPM / 144,639 Gallons	200'	-- / Clear
January 10, 2021	50 GPM / 150,382 Gallons	201'	-- / Clear
January 11, 2021	50 GPM / 157,286 Gallons	200'	-- / Clear
January 12, 2021	49 GPM / 163,582 Gallons	205'	-- / Clear
January 13, 2021	48 GPM / 175,382 Gallons	207'	-- / Clear
January 14, 2021	47 GPM / 181,826 Gallons	210'	-- / Clear
January 15, 2021	47 GPM / 187,133 Gallons	220'	-- / Clear

Recorded By: Ryan P.

3282 HIGHWAY 32 ; CHICO, CA 95973 | 530-891-5545 | FAX 530-891-0793
WELLINDUSTRIESINC.COM

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

26 January 2021

Wagner & Bonsignore Engineers
Attn: David Peterson
2151 River Plaza Drive, Suite 100
Sacramento, CA 95833-4133
RE: Water Quality
Work Order: 21A1498

Enclosed are the results of analyses for samples received by the laboratory on 01/12/21 13:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Chelsea L. Sandelin For Stephen F. McWeeney
Lab Manager

Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	01/26/21 16:46

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510 | ELAP# 3055

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Tephra 4	21A1498-01	Water	01/12/21 11:00	01/12/21 13:40

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Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	01/26/21 16:46

	Result	Reporting Limit	Dilution	Batch	Prepared	Analyzed	ELAP#	Method	Note
Tephra 4 (21A1498-01)		**Sample Type: Water**			**Sampled: 01/12/21 11:00**				
Metals (Drinking Water) by EPA 200 Series Methods									
Calcium	**4.7 mg/L**	**1.0**	1	AA13965	01/14/21 13:00	01/20/21 18:41	1551	EPA 200.7	
Iron	**240 ug/L**	**100**	1	AA13965	01/14/21 13:00	01/20/21 18:41	1551	EPA 200.7	
Magnesium	**2.8 mg/L**	**1.0**	1	AA13965	01/14/21 13:00	01/20/21 18:41	1551	EPA 200.7	
Mercury	ND ug/L	1.0	1	AA14154	01/18/21 06:29	01/18/21 12:25	1551	EPA 245.1	
Potassium	**5.9 mg/L**	**1.0**	1	AA13965	01/14/21 13:00	01/20/21 18:41	1551	EPA 200.7	
Sodium	**13 mg/L**	**1.0**	1	AA13965	01/14/21 13:00	01/20/21 18:41	1551	EPA 200.7	
Metals by EPA 200 Series Methods									
Chromium, hexavalent	ND ug/L	1.0	1	AA14417	01/21/21 08:00	01/21/21 15:05	2303	EPA 218.6	
Metals by EPA Method 200.8 ICP/MS									
Aluminum	**190 ug/L**	**50**	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Antimony	ND ug/L	6.0	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Arsenic	**2.0 ug/L**	**2.0**	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Barium	ND ug/L	100	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Beryllium	ND ug/L	1.0	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Cadmium	ND ug/L	1.0	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Chromium	ND ug/L	10	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Copper	ND ug/L	50	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Lead	ND ug/L	5.0	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Manganese	ND ug/L	20	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Nickel	ND ug/L	10	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Selenium	ND ug/L	5.0	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Silver	ND ug/L	10	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Thallium	ND ug/L	1.0	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	
Zinc	ND ug/L	50	4	AA13816	01/14/21 11:50	01/15/21 13:15	1551	EPA 200.8	

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Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	01/26/21 16:46

	Result		Reporting Limit	Dilution	Batch	Prepared	Analyzed	ELAP#	Method	Note
Tephra 4 (21A1498-01)			**Sample Type: Water**			**Sampled: 01/12/21 11:00**				
Conventional Chemistry Parameters by APHA/EPA Methods										
Aggressive Index	**9.35**	**NU**	**2.00**	1	AA13965	01/14/21 13:00	01/25/21 14:20	1551	AWWA	
Bicarbonate	**62**	**mg/L**	**5.0**	1	AA14211	01/19/21 08:00	01/19/21 16:28	1551	SM2320B	
Carbonate	ND	mg/L	5.0	1	AA14211	01/19/21 08:00	01/19/21 16:28	1551	SM2320B	
Color	ND	CU	5.0	1	AA13308	01/12/21 16:00	01/12/21 16:21	2303	SM2120B	
Hydroxide	ND	mg/L	5.0	1	AA14211	01/19/21 08:00	01/19/21 16:28	1551	SM2320B	
MBAS, calculated as LAS, mw 340	ND	mg/L	0.050	1	AA13951	01/14/21 08:15	01/14/21 15:00	1551	SM5540C	
Odor	ND	T.O.N.	1.0	1	AA13308	01/12/21 16:00	01/12/21 16:21	2303	SM2120B	
pH	**6.57**	**pH Units**	**1.68**	1	AA14067	01/13/21 16:00	01/13/21 17:00	1551	SM4500-H+ B	T-14
Specific Conductance (EC)	**110**	**umhos/cm**	**20**	1	AA14067	01/13/21 16:00	01/13/21 17:00	1551	SM2510B	
Total Dissolved Solids	**160**	**mg/L**	**10**	1	AA14156	01/19/21 08:00	01/22/21 09:06	1551	SM2540C	
Turbidity	**2.4**	**NTU**	**0.25**	1	AA13308	01/12/21 16:00	01/12/21 16:21	2303	SM2130B	
Total Alkalinity as CaCO3	**51**	**mg/L**	**5.0**	1	AA14211	01/19/21 08:00	01/19/21 16:28	1551	SM2320B	
Nitrate + Nitrite as N	ND	mg/L	0.40	1	AA14587	01/25/21 14:27	01/25/21 14:29	1551	Calculation	
Hardness, Total	**23**	**mg/L**	**5**	1	AA13965	01/14/21 13:00	01/20/21 18:41	1551	SM2340B	
Miscellaneous Physical/Conventional Chemistry Parameters										
Cyanide (total)	ND	mg/L	0.10	1	AA14318	01/20/21 08:07	01/20/21 13:56	1551	10-204-00-1X	
Anions by EPA Method 300.0										
Chloride	**3.2**	**mg/L**	**0.50**	1	AA13894	01/13/21 14:49	01/13/21 14:49	1551	EPA 300.0	
Fluoride	ND	mg/L	0.10	1	AA13894	01/13/21 14:49	01/13/21 14:49	1551	EPA 300.0	
Nitrate as N	ND	mg/L	0.40	1	AA13894	01/13/21 14:49	01/13/21 14:49	1551	EPA 300.0	
Nitrite as N	ND	mg/L	0.40	1	AA13894	01/13/21 14:49	01/13/21 14:49	1551	EPA 300.0	
Sulfate as SO4	**1.2**	**mg/L**	**0.50**	1	AA13894	01/13/21 14:49	01/13/21 14:49	1551	EPA 300.0	

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Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	01/26/21 16:46

	Result	Reporting Limit	Dilution	Batch	Prepared	Analyzed	ELAP#	Method	Note
Tephra 4 (21A1498-01)		**Sample Type: Water**			**Sampled: 01/12/21 11:00**				
Microbiological Parameters by APHA Standard Methods									
Total Coliforms	ND MPN/100mL	1.0	1	AA13797	01/12/21 16:05	01/13/21 16:30	2303	SM9223B	
E. Coli	ND MPN/100mL	1.0	1	AA13797	01/12/21 16:05	01/13/21 16:30	2303	SM9223B	
Volatile Organic Compounds by EPA Method 524.2									
Benzene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Carbon tetrachloride	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Chlorobenzene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
1,2-Dichlorobenzene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
1,4-Dichlorobenzene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
1,1-Dichloroethane	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
1,2-Dichloroethane	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
1,1-Dichloroethene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
cis-1,2-Dichloroethene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
trans-1,2-Dichloroethene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
1,2-Dichloropropane	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
1,3-Dichloropropene (total)	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Ethylbenzene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Methyl tert-butyl ether	ND ug/L	3.0	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Methylene chloride	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Styrene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
1,1,2,2-Tetrachloroethane	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Tetrachloroethene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Toluene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
1,2,4-Trichlorobenzene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
1,1,1-Trichloroethane	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
1,1,2-Trichloroethane	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Trichloroethene	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Trichlorofluoromethane	ND ug/L	5.0	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Trichlorotrifluoroethane	ND ug/L	10	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Vinyl chloride	ND ug/L	0.50	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Xylenes (total)	ND ug/L	1.5	1	AA13266	01/12/21 16:00	01/12/21 17:19	2303	EPA 524.2	
Surrogate: Bromofluorobenzene	*90.8 %*	*70-130*		*AA13266*	*01/12/21 16:00*	*01/12/21 17:19*	2303	*EPA 524.2*	
Surrogate: 1,2-Dichlorobenzene-d4	*85.4 %*	*70-130*		*AA13266*	*01/12/21 16:00*	*01/12/21 17:19*	2303	*EPA 524.2*	

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Wagner & Bonsignore Engineers	Project Manager: David Peterson	
2151 River Plaza Drive, Suite 100	Project: Water Quality	Reported:
Sacramento, CA 95833-4133	Project Number: Guenoc Ranch / 700.3	01/26/21 16:46

Notes and Definitions

QM-01	The spike recovery for this QC sample is outside of established control limits possibly due to a sample matrix interference.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
T-14	Residual chlorine, dissolved oxygen, sulfite, and pH must be analyzed in the field to meet the EPA specified 15 minute hold time.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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SGS FORENSIC LABORATORIES

Final

ANALYSIS REPORT
ASBESTOS IN DRINKING WATER
Transmission Electron Microscopy*

Client:	Alpha Analytical Lab		
Contact:	Stephen F. McWeeney	Client Number:	2096
Street:	208 Mason St.	Report Number:	T033402
City/state/zip:	Ukiah, CA 95482	Date/time Received:	1/13/21

Site:		Date filtered:	1/13/21
Job ID/PO:	21A1498	Analyst(s):	MF
Date Collected:	1/12/21	Date Analyzed:	1/25/21
Hold time, hrs:	<48	Date Reported:	1/25/21
Filter type:	25mm MCE	Date Printed:	1/25/21
Pore size:	0.22 µm		

ANALYTICAL RESULTS

Sample Number	TEPHRA 4			
Description				
Lab Sample Number	20131998			
Volume Filtered, mL	30			
Filter Area, mm2	190			
Grid Opening Area, mm^2	0.0086			
Number of GO's Analyzed	4			
Area Analyzed, mm^2	0.0344			
# Asbestos Fibers ≥10 µm	0			
Analytical Sensitivity, MFL	0.2			
Asbestos Concentration, ≥10um in length, MFL	**<0.2**			
Asbestos Type(s) Detected**	**ND**			
95% Upper Conf. Limit, MFL	0.7			
95% Lower Conf. Limit, MFL	0.0			

0

Mark S. Floyd, Analytical Microscopy Supervisor

* Method 100.2 (EPA/600/R-94/134). Results are reported in Millions of Fibers per Liter (MFL) over 10 µm in length.

** Asbestos types: CH=chrysotile; AM=amosite; CR=crocidolite; TR=tremolite; AC=actinolite; AN=anthophyllite; ND=none detected; NA-Not Analyzed; n/a=not applicable (i.e., divide by 0); OV=overloaded; BL=blank sample; PF=prepped not analyzed.

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SUBCONTRACT ORDER

Alpha Analytical Laboratories, Inc.

21A1498

SENDING LABORATORY:

Alpha Analytical Laboratories, Inc.
208 Mason St.
Ukiah, CA 95482
Phone: (707)468-0401
Fax: (707)468-5267
Project Manager: Stephen F. McWeeney

RECEIVING LABORATORY:

Forensic Analytical Laboratories
3777 Depot Rd., Ste. 409
Hayward, CA 94545
Phone :(510) 887-8828
Fax: (510) 887-4218
Terms: Net 30

Analysis	Due	Expires	Comments
21A1498-01 Tephra 4 [Water] Sampled 01/12/21 11:00			
Asbestos-DW SUB	01/26/21 12:00	01/14/21 11:00	

Containers Supplied:
1L Poly - Unpres (M)

☐ *Report to State*

System Name: _____ **Employed by:** _____

User ID: _____ **Sampler:** _____

System Number: _____

Email: Speaks78@gmail.com

RECEIVED
JAN 13 REC'D
afm
FY

Released By	Date	Received By	Date
[signature]	1/12/21		

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www.alpha-labs.com
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Corporate Laboratory (1551)
208 Mason Street, Ukiah CA 95482
707.468.0401 (phone)
707.468.5267 (fax)
clientservices@alpha-labs.com

North Bay Laboratory (2303)
110 Liberty Street, Petaluma CA 94952

Bay Area Laboratory (2728)
262 Rickenbacker Circle, Livermore CA 94551

Central Valley Laboratory (2922)
9090 Union Park Way #113, Elk Grove CA 95624

San Diego Service Center
2722 Loker Ave West, Ste A, Carlsbad CA 92010

Chain of Custody - Work Order

Reports and Invoices delivered by email in PDF format

Lab No 21A1498 Pg ____ of ____

Report to	Invoice to (if different)	Project Information
Company: Wagner & Bonsignore	Contact: Taryn Smith	Project ID: Guenoc Ranch
Attn: David Peterson	Email address: tsmith@wbecorp.com	Project No: 700.3
Address: 2151 River Plaza Dr., Suite 100 Sacramento, CA 95833	Address:	PO Number:
Phone/Fax: 707-484-1798 (Mobile)	Phone/Fax: 916-441-6850	
Email Address: dpeterson@wbecorp.com		

Signature below authorizes work under terms stated on reverse side.

Field Sampler - Printed Name & Signature: David Peterson

Sample Identification	Sampling Date	Sampling Time	Container: 40ml VOA Vial	Container: Plastic	Container: Glass	Container: Sleeve	Container: Other	Preservative: HCL	Preservative: HNO3	Preservative: H2SO4	Preservative: Other	Preservative: None	Matrix: Drinking Water	Matrix: Wastewater	Matrix: Soil	Matrix: Other	Total Number of Containers per Sample ID	Analysis Request: Tittle 22 - General Mineral	Tittle 22 - Inorganics	NB-Tittle 22 - General Physical	NB - Tittle 22 - Voc's - 524 DDW	Asbestos	Hexavalent Chromium	Bacteriological Analysis	Notes / DDW Source Codes
Tephra 4	1-12-21	11:00a	✓	✓	✓													✓	✓	✓	✓	✓	✓	✓	

TAT: Standard 10 days ✓ | RUSH: 5 days ○ 48 hours ○ Other: ____days ○ Preapproval required

TEMP °C: Ukiah | Livermore | Elk Grove | Petaluma 4.7 | Carlsbad

Relinquished by	Received by	Date	Time
David Peterson		1-12-21	1:40p

DDW Write On EDT Transmission? ○ Yes ✓ No

State System Number: _____

If "Y" please enter the Source Number(s) in the column above

CA Geotracker EDF Report? ○ Yes ✓ No

Global ID: Sampling Company Log Code:

EDF to (Email Address):

Travel and Site Time: | Mileage: | Misc. Supplies:

Alpha Analytical Laboratories Inc.
www.alpha-labs.com
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Corporate Laboratory (1551)
208 Mason Street, Ukiah CA 95482
707.468.0401 (phone)
707.468.5267 (fax)
clientservices@alpha-labs.com

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110 Liberty Street, Petaluma CA 94952

Bay Area Laboratory (2728)
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Chain of Custody - Work Order

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Lab No 21A1498 Pg ____ of ____

Report to	Invoice to (if different)	Project Information
Company: Wagner & Bonsignore	Contact: Taryn Smith	Project ID: Guenoc Ranch
Attn: David Peterson	Email address: tsmith@wbecorp.com	Project No: 700.3
Address: 2151 River Plaza Dr., Suite 100 Sacramento, CA 95833	Address:	PO Number:
Phone/Fax: 707-484-1798 (Mobile)	Phone/Fax: 916-441-6850	
Email Address: dpeterson@wbecorp.com		

Signature below authorizes work under terms stated on reverse side.

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Sample Identification	Sampling Date	Sampling Time	Container: 40ml VOA Vial	Container: Plastic	Container: Glass	Container: Sleeve	Container: Other	Preservative: HCL	Preservative: HNO3	Preservative: H2SO4	Preservative: Other	Preservative: None	Matrix: Drinking Water	Matrix: Wastewater	Matrix: Soil	Matrix: Other	Total Number of Containers per Sample ID	Analysis Request: Tittle 22 - General Mineral	Tittle 22 - Inorganics	NB-Tittle 22 - General Physical	NB - Tittle 22 - Voc's - 524 DDW	Asbestos	Hexavalent Chromium	Bacteriological Analysis	Notes / DDW Source Codes
Tephra 4	1-12-21	11:00a	✓	✓	✓													✓	✓	✓	✓	✓	✓	✓	

TAT: Standard 10 days ✓ | RUSH: 5 days ○ 48 hours ○ Other: ____days ○ Preapproval required

TEMP °C: Ukiah | Livermore | Elk Grove | Petaluma 4.7 | Carlsbad

Relinquished by	Received by	Date	Time
David Peterson		1-12-21	1:40p

DDW Write On EDT Transmission? ○ Yes ✓ No

State System Number: _____

If "Y" please enter the Source Number(s) in the column above

CA Geotracker EDF Report? ○ Yes ✓ No

Global ID: Sampling Company Log Code:

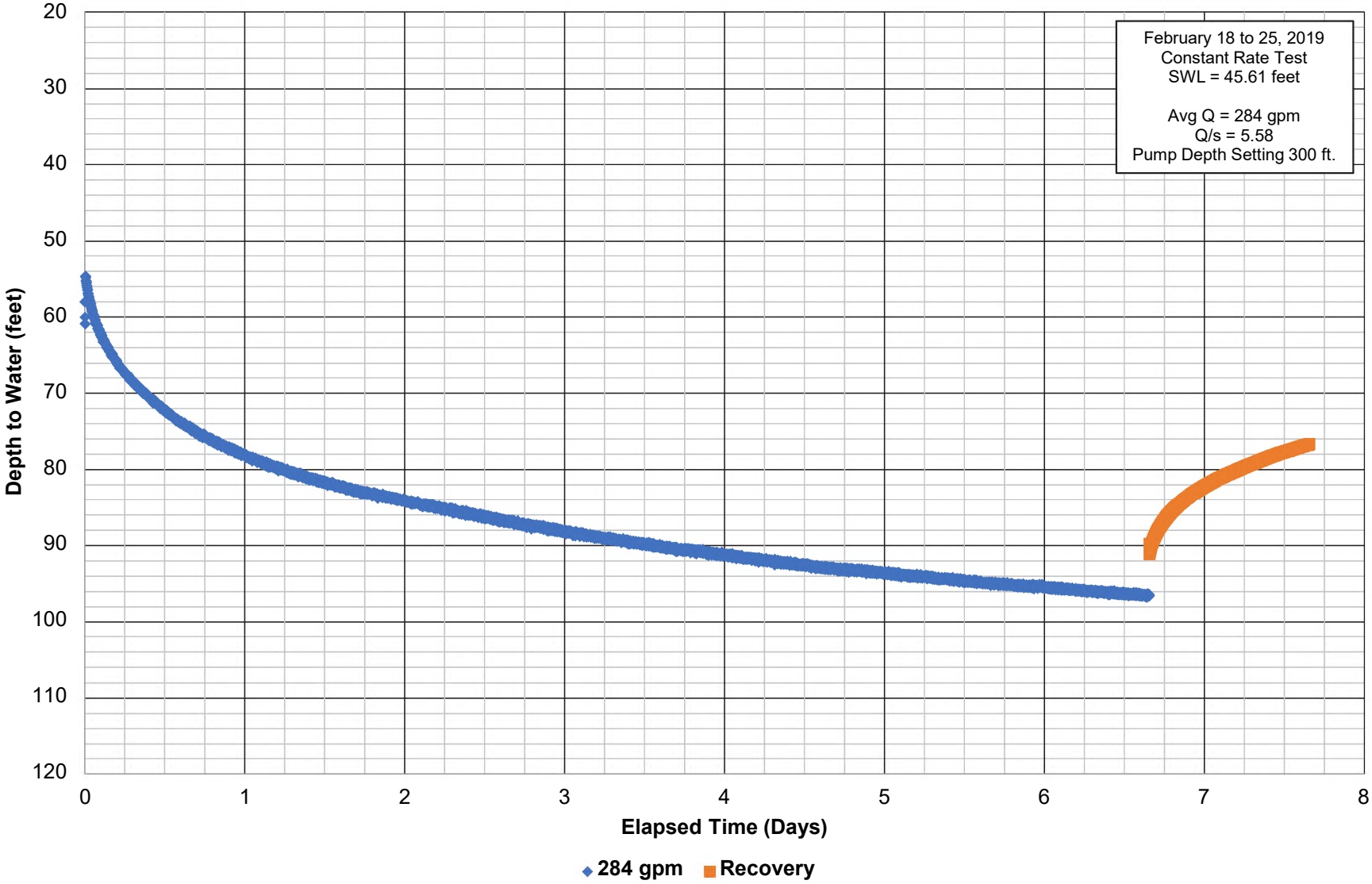
EDF to (Email Address):

Travel and Site Time: | Mileage: | Misc. Supplies:

Well Testing Report 6:

Crossroads

Guenoc Ranch
Crossroads Well
Constant Rate Test



Luhdorff & Scalmanini
Consulting Engineers

Guenoc Ranch - Crossroads Well
Water Quality Summary

ANALYTE	UNITS	REPORTING LIMIT	METHOD	MCL	Crossroads Well 2/25/2019
CATIONS					
Calcium	mg/L	1.0	200.7/2340B		17
Magnesium	mg/L	1.0	200.7/2340B		19
Potassium	mg/L	1.0	200.7/2340B		ND
Sodium	mg/L	1.0	200.7/2340B		10
Total Hardness	mg/L	1.0	200.7/2340B		120
ANIONS					
Bicarbonate Alkalinity	mg/L	5.0	SM 2320B		140
Carbonate Alkalinity	mg/L	5.0	SM 2320B		ND
Chloride (Cl)	mg/L	5.0	300.0	250/500[2]	5.2
Fluoride	mg/L	0.10	300	2	ND
Hydroxide Alkalinity	mg/L	5.0	SM 2320B		ND
Nitrate (as N)	mg/L	0.40	300.0		ND
Sulfate (as SO4)	mg/L	0.50	300.0	250/500[2]	0.88
Total Alkalinity	mg/L	5.0	SM 2320B		140
PHYSICAL PARAMETERS					
Color (A.P.H.A)	Color Units	1	SM 2120B	15[2]	ND
pH	pH units	0.01	SM 4500-H B	6.5/8.5[4]	7.44
Methylene Blue Active Substance	mg/L	0.10	SM 5540C	0.5[2]	ND
Specific Conductivity	µmhos/cm	1.0	120.1	900/1,600[2]	250
Odor	T.O.N.	1.0	140.1		ND
Total Dissolved Solids (TDS)	mg/L	10	SM 2540C	500/1,000[2]	190
Turbidity	NTU	0.50	180.1	5[2]	ND
INORGANICS					
Aluminum	µg/L	50	200.7	1,000[1]/200[3]	ND
Barium	µg/L	100	200.7	1,000	ND
Beryllium	µg/L	1.0	200.7	4	ND
Boron	µg/L	100	200.7	1,000[3]	ND
Chromium (Total)	µg/L	10	200.7	50	ND
Copper	µg/L	50	200.7	1,000[2]	ND
Iron	µg/L	100	200.7	300[2]	ND
Iron (Dissolved)	µg/L	100	200.7	300[2]	ND
Manganese	µg/L	20	200.7	50[2]	ND
Manganese (Dissolved)	µg/L	10	200.7	50[2]	ND
Mercury	ng/l	1.0	245.1	2	ND
Nickel	µg/L	10	200.7	100	ND
Silver	µg/L	10	200.7	100[2]	ND
Zinc	µg/L	50	200.7	5,000[2]	ND

[1] - Primary MCL

[2] - Secondary MCL (recommended/upper range)

[3] - Action Level

[4] - Suggested lower/upper acceptable range

ND = Non-Detect

Appendix G-2

Drought Management Plan

MAHA Water System

DRAFT Drought Management Plan

Guenoc Valley, Lake County, California

Sherwood Design Engineers
June 21, 2024

2548 MISSION STREET, SAN FRANCISCO, CA 94110
(415) 677-7300 | WWW.SHERWOODENGINEERS.COM

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1.0 INTRODUCTION

A water system is planned for formation for the MAHA project located at 22000 Butts Canyon Road, Middletown, Lake and Napa Counties, California. The Lake County Board of Supervisors Ordinance 3106 requires preparation of a Drought Management Plan (DMP) for the MAHA water system to plan for droughts so that the water system can act promptly and carefully, to better protect the water supply for its customers.

MAHA water system has developed this DMP, drought related rules, and other planning tools for the water system. This formal plan includes diligent monitoring, community awareness and strict conservation measures and incentives, so that customer water remains available throughout the upcoming years.

This DMP has three drought management sub-plans, one for each of the three different user types: potable water, golf course water, and equestrian center water. The three DMP sub-plans will utilize the same staffing, operation, and maintenance; development of average water demand; and development of goals and triggers.

1.1 Staffing, Operation and Maintenance

The MAHA Water System will be operated and maintained by state certified water treatment and distribution operators as required by State of California regulations. Staff will monitor information on the water system including seasonal production data, seasonal characteristics (depths to water in wells, lake levels, etc.), and seasonal water quality data. Historical data (from the previous five years) will be examined. These data points will show how much water storage has been historically available over the previous five years and will be used in developing the goals and trigger points for the Drought Management Plan.

1.2 Monitoring Plan

Monitoring of well water volumes pumped will be done continuously with flow meters at each well that record the total volume pumped. This data will be collected and tabulated monthly for use in determining the water demand.

Water level measurements will be collected in wells at the site quarterly. All wells will have sounding ports for insertion of devices for measuring water levels. Water levels will be monitored in supply wells when not operating to capture static water levels. These periods of static water may include seasonal reduction in demand, during times of the day when demand is low so the pumps are off, or by planned pump shut-downs to facilitate depth to water measurements.

1.3 Average Water Demand

Water use by the water system will be examined by looking at the customer type and the average water use. This classification will initially be broken down into three categories: “potable”, which includes residential and commercial customers; “golf course” which applies to the golf course demand; and “equestrian center”. For each category, the “Basic Use” and “Peak Use” will be determined by averaging the water use for January and February (Basic Use) and August and September (Peak Use). Basic Use typically represents the essential water use, and Peak Use represents the Basic Use plus all other uses. These data points will also be used in developing the goals and trigger points for the Drought Management Plan.

1.4 Goals and Triggers

The goals and triggers are the basis for when to implement various stages of the Drought Management Plan. The information obtained from the condition assessments and water use is used to set the conservation goals. This information, combined with the practical experience of the water treatment plant operators, is used to set the triggers (or stages) of this Plan. The triggers are developed based on use, storage, supply condition (i.e., well level or surface water level), and public safety.

2.0 POTABLE WATER DROUGHT MANAGEMENT PLAN

When there is a potential threat to the supply of any system, the MAHA water system will implement Stage 1 of the Drought Management Plan. This stage is to alert the community to the potential threat and ask all customers to comply with voluntary conservation. During Stage 1, all customers will be required to comply with any and all State regulations and requirements concerning conservation. This will include prohibited uses, limited landscape watering and mandatory reductions in usage.

During Stage 1, the system's capacity and consumption will be monitored closely and, in the event, the potential threat is not alleviated or worsens, the MAHA water system will declare a Stage 2 condition for the system. At such time as Stage 2 is declared, a plan will be provided to monitor and report on the system's characteristics. Water system staff will use the data collected to establish Stage 3 and 4 triggers, representing the levels of action needed to meet worsening conditions. These stages are typically seasonal, however, if Lake County experiences additional dry periods, or a water system experiences ongoing capacity issues, these stages could remain in effect for a longer period of time.

2.1 Drought Stages

Drought stages are set at 5%, 10%, 25%, and 50% shortage levels as proposed by the California Department of Water Resources Water Use Efficiency Branch (Appendix 2 Proposed Water Shortage Contingency Plan Components for Small Water Systems Serving 1,000 to 2,999 Service Connections, March 2021):

Stage 1 – Voluntary Conservation and compliance with State conservation regulations and requirements. Emphasis on community awareness and outreach.

Stage 2 – Initiate mandatory conservation measures (implement surcharge for violations through a "Water Waste" Urgency Ordinance)

Stage 3 – Through additional Urgency Ordinances, implement additional mandatory conservation measures and revised water rates (Base, Tier 1, Tier 2 rate structure adjustments) to financially discourage non-essential water use. Include surcharges for usage over the maximum allowed.

Stage 4 – Implement Urgency Ordinance with stringent consumption limits and penalties.

2.2 Stage Description

Stage 1 – Implemented when a potential threat to capacity is seen. MAHA water system will mail out conservation notices to all customers. Water use will be examined to see how much customer water conservation is taking place. Targeted voluntary reduction for this effort will be consistent with State and County guidelines and requirements, historically that has been a 25% reduction from pre-drought consumption levels. All State conservation regulations or requirements in effect must be adhered to during this stage.

Voluntary conservation measures include the following:

a. Irrigation of landscaping only every 2 days.

b. Irrigation of landscaping only between the hours of 7:00 pm to 10:00 am.

c. No washing of cars at residences.

d. No washing down of driveways.

Stage 2 – Implement “phased” mandatory conservation measures to prohibit non-essential water use. At the Stage 2 trigger point, the voluntary water conservation efforts have not provided enough reduction in water use and/or storage and supply have deteriorated to a point where additional measures are needed to reduce overall water use. Mandatory conservation measures include an Urgency Ordinance prohibiting nonessential water use. Nonessential water use for Stage 2 is defined, as follows:

a. The use of water through a handheld hose unless it is equipped with a functional positive shut-off nozzle.

b. Use of water through a hand-held hose for washing buildings, structures, mobile homes, sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard- surfaced areas.

c. Use of water that results in flooding or results in runoff in gutter or streets.

d. Use of water through any meter where the person billed for the service has been given 10 days written notice to repair broken or defective plumbing, sprinkler, watering, or irrigation systems and failed to affect such repairs.

e. Use of water for filling or refilling after draining of any existing or new swimming pool, spa, hot tub.

f. Use of water to clean, fill or maintain levels in decorative fountains.

g. Use of water for construction purposes (dust control, consolidation of backfill, etc.)

h. Use of water through a sprinkler system between the hours of 10:00 am and 7:00 pm.

The Urgency Ordinances can include a surcharge of $500 for each day a violation occurs. The goal of this stage is to achieve a reduction in water use and ensure compliance with all State regulations not achieved through Stage 1 voluntary compliance.

Stage 3 – Implement by Urgency Ordinance additional mandatory conservation measures AND revised rate structures, to financially discourage non-essential water use. It would include surcharges for consumption above a prescribed base usage. Stage 3 would also allow MAHA water system to install flow restrictors on connections that violate the urgency ordinance more than twice.

Additional mandatory conservation measures for Stage 3 are the following:

a. All landscape watering is prohibited.

b. Moratorium on new connections.

Electronic flow meters allow for monitoring to determine leaks and usage.

At the time the Stage 3 trigger has been reached, an Urgency Ordinance is recommended to be enacted resetting the maximum amount of water allowed to protect the system capacity. Rates are established to financially discourage non-essential water use. The goal of this stage is to achieve a reduction in overall water use based on the conditions of the system and projections of capacity limitations. Stage 3 conditions will be implemented when 25% shortage levels occur.

All water customers (residential, commercial and industrial) are to reduce water use by 25% of their normal water demand. However, residential users whose total water use is already below the State provisional standard of 55 gallons per person per day will not be required to further reduce their water use.

The prescribed base usage will be based on historical use of the customer service connection, modified by the drought conservation goal of a reduction by 25% for Stage 3. For customers who do not implement the

mandatory conservation measures a flow restriction device can be installed to limit water delivery to the service connection.

Stage 4 – Implement minimum usage and a Connection Moratorium. Depending on the condition of the water system and the degree of conservation observed within the water system during Stages 1, 2 and 3, Stage 4 may be necessary. Stage 4 will be implemented when a system is potentially unable to meet the demands of the customers. Stage 4 will set the maximum gallons per person per day as low as needed to ensure essential health and safety can be met and the water system capacity protected. Stage 4 would prohibit new connections. Stage 4 would include a surcharge for water consumption above a prescribed base usage. Stage 4 conditions will be implemented when 50% shortage level occurs.

2.3 Public Information / Media Program

Getting customers involved is a key element in a successful program. During any stage of this plan, MAHA water system will utilize a variety of Public Service Announcements, mail-outs to customers, website and social media updates, and advertisements.

MAHA water system will also work to provide conservation and water system information to local decision makers, County Departments, Fire Districts, and other water-dependent operations to provide technical guidance and educational assistance.

MAHA water system will provide detailed information to residential accounts, commercial accounts, restaurants, and other groups asked to comply with specific use restrictions. MAHA water system will provide local news groups with frequent updates on water and conservation efforts.

If system conditions require Stage 3 (re-structuring of rates or surcharges), information will be available to all customers in advance of their first billing to further educate them on reading their water meter and monitoring use throughout the billing period. Customers will be provided the tools (i.e., post card instructions) to better understand and calculate their ongoing costs and water use during the billing period.

2.4 Supply and Demand Balance

MAHA water system staff will examine the current conditions and supply. Along with this information we will develop and use 12-month growth tables showing actual growth (customer accounts) and forecast potential growth for the next five years.

The growth report will identify infrastructure needs (storage, supply, and distribution) to meet those growth projections, and how those growth projections affect the water system in normal rainfall/system recharge year as well in a continued drought condition.

2.5 Improvements in Supply

Historically, during drought or other water emergency conditions, system operators were able to supplement their supply with purchased water from another source. Unfortunately, during a prolonged drought, most other sources may not have an excess supply and cannot be relied upon to supply emergency water.

MAHA water system will also examine and evaluate existing well sources for rehabilitation or re- working to recover or increase production capabilities. MAHA water system will also work toward increasing the efficiency of water delivery. This will include more staff involvement with inspections and looking for water waste, increasing the frequency of system leak checks and reducing system pressures where possible.

3.0 GOLF COURSE WATER DROUGHT MANAGEMENT PLAN

MAHA water system intends to utilize recycled water for a portion of golf course irrigation needs. In addition, the golf course will be designed and managed with consideration of the following drought management strategies:

- Metering use
- A calibration schedule for meters
- Lining ponds
- Irrigation system maintenance and inspection schedule
- Installation of central, weather-based control system
- Aeration schedule
- Use of non-irrigated areas as part of the course
- Raising turf height
- Drought tolerant turf species (e.g., *Zoysia* spp.)
- Employee training

When there is a potential threat to the supply of any system, the MAHA water system will implement Stage 1 of the Golf Course DMP. This stage is to alert the operator and community to the potential threat and notify the community that the golf course will comply with voluntary conservation. During Stage 1, the golf course will be required to comply with any and all State regulations and requirements concerning conservation. This will include prohibited uses, limited landscape watering and mandatory reductions in usage.

Stage 1 - Requires that golf courses submit a drought management plan specific to in-play areas of the golf course – landscape must follow a one-day-a-week restriction for landscape irrigation.

Stage 2 - Requires, in addition to Stage 1 requirement, no watering between 10 a.m. and 8 p.m.

Stage 3 - Watering only allowed per county and/or state ordinance/regulation.

Stage 4 - Requires removal of grass in places where it won't affect the game, planting drought-resistant vegetation, letting the turf turn brown in spots and installing smart watering systems.

The various stages are automatically triggered by the level of water in the aquifer as measured at the production wells, ponds, and/or lakes which are the main sources water supply. Trigger water levels will be developed during the first five years of operation.

4.0 EQUESTRIAN CENTER DROUGHT MANAGEMENT PLAN

Drinking water for horses cannot be curtailed.

Stage 1 - Washing of horses limited to one day a week for each horse. Development of a pasture management program that includes soil fertility testing, regular mowing, weed control, and rotational grazing. Include a grazing system that removes horses from pastures before plants are overgrazed, and gives them a chance to recover and regrow, will result in deeper roots that can access deep soil moisture.

Stage 2 - Requires, in addition to Stage 1 requirement, no watering between 10 a.m. and 8 p.m. and light irrigation every few weeks will keep the grass plants alive, delivering just enough to keep the roots alive (about ½ inch)

Stage 3 - Provide supplemental/substitute feed, so that not relying on pasture. Pasture watering only allowed per county and/or state ordinance/regulation.

Stage 4 – No pasture watering. Ship horses to non-drought areas.

Appendix H

Community Wildfire Evacuation Analysis

Appendix H-1

Wildfire Risk and Evacuation Assessment Report

Guenoc Valley Mixed Use Planned Development Project: Wildfire Risk and Evacuation Assessment

Prepared for:
Lake County

January 2024

SF23-1343

FEHR PEERS

CWPC
Community Wildfire Planning Center

Acknowledgements

Lake County Agency Staff

Brian Martin, Sheriff (retired)

Scott DeLeon, Public Works

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Byron Turner, Community Development

CAL FIRE

Mike Wink, CAL FIRE Battalion Chief

EIR Project Team

Ryan Sawyer, Acorn Environmental

Annalee Sanborn, Acorn Environmental

Guenoc Valley Project Team

Chris Meredith, Lotusland Investment Holdings

Wildfire Risk and Evacuation Study Team

Bob Grandy, Fehr & Peers

Charlie Coles, Fehr & Peers

Molly Mowery, Community Wildfire Planning Center (CWPC)

Kelly Johnston, Community Wildfire Planning Center (CWPC)

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Key Terms: Wildfire Risk and Risk Reduction Analysis

(Source: CWPC)

The following table compiles key terms relevant to the Wildfire Risk and Risk Reduction Analysis**.** The table defines each key term using recognized national or state sources and shares applicable characteristics and considerations for evacuation planning and/or wildfire response safety. The table also shows how each defined term relates to the local project context and relevant resource materials (e.g., plans, websites, EIR).

Term	Standard Definition	Characteristics and Considerations	Local Applicability
Escape Routes	A preplanned and understood route firefighters take to move to a safety zone or other low-risk area. Source: NWCG Glossary of Wildland Fire, PMS 205	• Escape routes are planned by firefighters based on the current and expected fire behavior. • Escape routes must always lead to a Safety Zone. • There must always be more than one escape route available to firefighters. • The most common escape routes (or part of an escape route) include the fireline • When escape routes deviate from a defined physical path, they should be clearly marked (flagged) • Escape routes should be reassessed throughout an operational period	• **Lake County Emergency Operations Plan Wildland Urban Interface** (WUI Annex), Office of Emergency Services 2021, discusses escape routes in the context of firefighter roles, safety, and response.
Emergency Operations Center (or Emergency Response Center)	Physical or virtual location from which leaders of a jurisdiction or organization can coordinate information and resources to support incident management activities. Source: National Incident Management System Operations Center How-To Quick Reference Guide (FEMA, 2021)	• Primary functions include collecting, analyzing, and sharing information, supporting resources needs and requests.	• **EIR Appendix FIRE - Guenoc Valley Wildfire Prevention Plan** identifies an on-site Emergency Response Center as a primary location for first responders to gather and coordinate efforts. • The proposed center will function as a headquarters for emergency operations and include firefighting equipment and minor medical supplies. • The proposed center is located in a centralized area to service the entire site.

Term	Standard Definition	Characteristics and Considerations	Local Applicability
Evacuation Assembly Point	A temporary location exclusively for evacuation embarkation and transportation coordination in a field setting. Source: Planning Considerations: Evacuation and Shelter-in-Place (FEMA, 2019)	• Basic life-sustaining services are not generally available at these locations (no logistics, bathrooms, etc.). • Locations may be distributed throughout the community to provide assembly areas that are a relatively short distance from homes. • Assembly areas may also serve as potential Safety Zones for fire fighters and the public, dependent upon the current and expected fire behavior of an event, and Incident Commander approval.	• **South Lake County Wildland Fire Preparation and Emergency Plan** (2016) identifies temporary assembly zones (or areas) that will usually be those established locations on the emergency plan evacuation map. Assembly zones nearest to the resort are Middletown High School (20932 Big Canyon Road) and Coyote Valley Elementary School (18950 Coyote Valley Road). • **EIR Appendix FIRE** also identifies temporary meeting points as being dispersed throughout the site for residents, visitors, and employees.
Evacuation Center / Shelter (mass care)	A facility where government agencies and/or pre-established voluntary organizations process, evaluate, and provide disaster services to evacuees without an endpoint destination. Source: Planning Considerations: Evacuation and Shelter-in-Place (FEMA, 2019)	• These facilities must be resilient to wildfire and smoke exposure with features such as non-combustible construction, and air filtration systems that will result in a safe interior environment for evacuees. • Meals and water should be available, as well as basic first aid, pet sheltering (if applicable), sleeping quarters, hygienic support, and basic disaster services (e.g., counseling, financial assistance, and referral). • Durable medical equipment, communication aids and other necessary support assistance will be available at these locations as well.	• The Lake County Department of Social Services (LCDSS) is responsible for coordinating all care and shelter support for the county before, during, and after disasters. LCDSS leads a Mass Care and Shelter team that directs other agencies. • **South Lake County Wildland Fire Preparation and Emergency Plan** (2016) notes that Red Cross will attempt to have a representative at the Command Post to support people for long-term care. Twin Pine Casino Event Center is a Red Cross Shelter.

Term	Standard Definition	Characteristics and Considerations	Local Applicability
Evacuation Order	A jurisdictionally initiated action for an organized, phased, and supervised withdrawal, dispersal, or removal of people from dangerous or potentially dangerous areas and their reception and care in safe areas. Source: Planning Considerations: Evacuation and Shelter-in-Place (FEMA, 2019)	• Law enforcement agencies are typically responsible for enforcing an evacuation order.	• **EIR Appendix FIRE** states there will be an emergency notification fire siren system located throughout the resort and an opt-out mobile application will provide wildfire safety, evacuation information, and emergency alerts for guests and employees of the project site.
Evacuation Routes	Routes designated by county civil defense authorities or the regional evacuation plan for the movement of persons to safety in an emergency event. Source: Law Insider dictionary (n.a. 2022)	• Routes are specific to the hazard event and may vary according to the location of the event. • Law enforcement coordinates with first responders to identify, issue, and update roads that are safe to use as evacuation routes.	• **Lake County CWPP** (2022) has evacuation routes, fuel treatments, and other mitigations noted in Appendix A of the Lake County CWPP. • Local evacuation maps and additional emergency preparedness information is available for residents at the Lake County Fire Safe Council website, including primary and secondary evacuation routes and alert sign ups. • **EIR Appendix FIRE** states that the Emergency Response Center will provide directions and assist guests and employees during an evacuation. • **EIR Appendix FIRE** provides a map of potential access routes and roadway fire breaks, including vegetation management strategies.

Term	Standard Definition	Characteristics and Considerations	Local Applicability
Evacuation Zone	A defined area to which residents may be directed to evacuate, depending upon the impacts of the hazard. Source: Planning Considerations: Evacuation and Shelter-in-Place (FEMA, 2019)	• Officials determine the areas to be evacuated and escape routes to use depending upon the fire's location, behavior, winds, terrain, and other factors	• **Lake County CWPP** (2022) discusses evacuation planning, including emergency notifications, communications, and Zonehaven. • The Lake County Sheriff's Office, Lake County Office of Emergency Services "Know Your Zone" campaign and worked with Zonehaven to develop an evacuation map divided into specific zones for the entire county. • California Highway Patrol and the Lake County Sheriff's Department enforce traffic flow and maintain access for emergency equipment.
Safety Zone	A preplanned area of sufficient size and suitable location that is expected to protect fire personnel from known hazards without using fire shelters Source: Field Operations Guide ICS 420-1 (FIRESCOPE 2017)	• For radiant heat only, the distance separation between the firefighter and flames must be at least four times the maximum flame height. Convective heat from wind and/or terrain influences will increase this distance requirement. • The best locations are usually in the black, have a minimum of, or are devoid of, ground/aerial vegetation, or are large bodies of water. Other areas that can function as Safety Zones may include wet meadows, cleared open space, large parking lots, school/athletic fields, parks with open, grassy areas, previously burned areas with no flammable overstory. • Safety zones and viable escape routes may not be immediately available should fire behavior increase unexpectedly.	• **Lake County Emergency Operations Plan Wildland Urban Interface** (WUI Annex), Office of Emergency Services 2021, discusses safety zones in the context of firefighter roles, safety, and response. • **EIR Appendix FIRE** identifies a helipad site near the Emergency Response Center as a safety zone, and an additional helipad site at Detert Reservoir (near Winery) can also be used during emergencies, as well as equestrian and polo areas, golf course, irrigated vineyards.

Term	Standard Definition	Characteristics and Considerations	Local Applicability
Shelter in Place	The use of a structure to temporarily separate individuals from a hazard or threat. Source: Planning Considerations: Evacuation and Shelter-in-Place (FEMA, 2019)	• Sheltering in place is the primary protective action in many cases. Often it is safer for individuals to shelter-in-place than to try to evacuate. • Sheltering in place is appropriate when conditions necessitate that individuals seek protection in their home, place of employment, or other location when disaster strikes. • California standard statewide evacuation terminology issued by CalOES: Go indoors. Shut and lock doors and windows. Prepare to self-sustain until further notice and/or contacted by emergency personnel for additional direction. • CAL FIRE offers guidance if trapped near a wildfire.	• **Lake County LHMP** notes that all evacuation and sheltering in place for medium and high-level catastrophic incidents will be coordinated through Lake County EOC. Low level incidents will be handled at a more local level, such as through local fire departments (Appendix C-69). • **EIR Appendix Fire** includes resident recommendations on evacuations and shelter in place actions.
Temporary Refuge Area (TRA)	A preplanned area where firefighters can immediately take refuge for temporary shelter and short-term relief without using a fire shelter in the event that emergency egress to an established Safety Zone is compromised. Source: Field Operations Guide ICS 420-1 (FIRESCOPE 2017)	• Can be anything that offers protection from radiant or convective heat. Examples include the lee side of structure, inside of structure, cab of apparatus, large lawn, meadow, pasture, parking area, large turnouts, cul-de-sacs,. • Allows responders to develop an alternate plan to safely survive the increase in fire behavior. • Often more accessible in a Wildland Urban Interface (WUI) environment than a safety zone or escape route but is not a replacement for an identified safety zone because of changing fire conditions. • Always requires another planned tactical action.	• **Lake County Emergency Operations Plan Wildland Urban Interface** (WUI Annex), Office of Emergency Services 2021, defines TRA, safety zones, and other terms • **EIR Appendix FIRE** identifies a helipad site near the Emergency Response Center and an additional helipad site at Detert Reservoir (near Winery) can also be used during emergencies, as well as equestrian and polo areas, golf course, irrigated vineyards.

1. Introduction

This report presents the results of the wildfire risk analysis and evacuation time analysis conducted for the Guenoc Valley Mixed Use Planned Development Project (hereafter referred to as "Guenoc Valley Project" or "Project") to comply with the requirements of the California Environmental Quality Act (CEQA) as established in the CEQA Statute and CEQA Guidelines and applicable/published court decisions.

The potential wildfire risk and evacuation time impact effects of full build-out of the Project under the proposed General Plan amendment and rezoning of the Guenoc Valley Site are analyzed on a programmatic level. In addition to the program-level analysis, a project-level analysis of the impacts of the first phase (Phase 1) of the proposed Project is provided.

This section describes the purpose of this document, Project description, court ruling, consultation with local agency staff, and report organization.

Purpose

The purpose of this wildfire evacuation assessment is to address the Superior Court Ruling on the Guenoc Valley Mixed Use Planned Development Project (Project) Environmental Impact Report (EIR), subsequent CEQA guidance released by the Attorney General, and compliance with CAL FIRE regulations related to wildfire evacuation and emergency access.

Project Description

The Guenoc Valley Project consists of the development of a master planned mixed-use resort and residential community within a portion of the 16,000-acre Guenoc Valley Ranch property (Guenoc Valley Site) in southeast Lake County, off-site workforce housing located in central Middletown (Middletown Housing Site), and off-site water supply well (Off-Site Well Site) and pipeline located adjacent to and within Butts Canyon Road.

At a program-level, General Plan & Zoning Ordinance Amendment (AM 18-04) would introduce a new zoning district and rezone the Guenoc Valley Site to Guenoc Valley District ("GVD"), which would permit the development 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. The zoning ordinance amendment would also include an Agricultural Preserve Combining District and an Open Space Combining District.

The following changes to the Project evaluated in the Final EIR certified in July 2020, that are relevant to this Wildfire Risk and Evacuation Assessment, are part of a revised project description assessed herein.

- Construction of improvements for a third evacuation route to and from the Guenoc Valley Site (evacuation egress and emergency access only) with an all-weather surface that will access SR 29 via Grange Road.
- Removal of 64 hilltop residential lots from being closer to the WUI and relocation of these lots to a designated area within the project core.
- Reservation of the Recreational and Camping Area in the northern portion of the Guenoc Valley Site for recreational and camping purposes only, and strict prohibition of open fires within that area.
- Revised roadway plan with new connector roadways and with no dead-end, non-looped road segments that exceed one mile in length.
- Revised Roadside Hardscape Design with an area of approximately 10 feet on each side of the roadways improved with hardscape, to the extent that topography feasibly permits.
- Project's Emergency Response Center 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 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 in the Wildfire Prevention Plan.
- 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 Emergency Response Center for fire services, including wildfire response.

The first phase of development (Phase 1) would include development of seven separate subdivisions throughout the Guenoc Valley Site. The total number of residential and hotel units, employees, and visitors with Phase 1 includes the following:

- 401 residential estate units
- 141 resort residential units
- 127 hotel rooms
- Middletown off-site employee housing for 221 employees
- 610 employees
- 100 visitors

The total number of residential and hotel units, employees, and visitors at full build-out includes the following:

- 1,400 residential estate units
- 450 resort residential units

- 400 hotel rooms
- Middletown off-site employee housing for 221 employees
- 1,220 employees
- 200 visitors

Access to the site would be provided via two entrance roadways extending from Butts Canyon Road. The primary access to the Guenoc Valley Site for residents and guests would occur via a new roadway and intersection. The Primary Access Road would be located at McCain Canyon, approximately 2.6 miles south of the existing Langtry Winery Entrance. Secondary access would be provided through improvements to the existing intersection and roadway located approximately halfway between the Langtry Winery entrance and the primary entrance options. Both the new primary and existing secondary access intersections would include turning lanes and deceleration/acceleration lanes as needed and would include stop and yield signs. A third route to and from the Guenoc Valley Site, for evacuation egress and emergency access only, will connect to SR 29 via Grange Road. The Applicant will provide a weekday shuttle service for employees from the Middletown Housing Site to the Guenoc Valley Site. Additionally, the Applicant will offer ride-matching assistance and preferential parking for carpools.

The Guenoc Valley Emergency Action and Fire Management Plan identifies fire safety measures to be implemented by the Project. Proposed fire management facilities include extensive fuel breaks along roadways and drainages, five designated temporary refuge areas (emergency gathering and protection sites), vegetation management areas, and the construction of an on-site Emergency Response Center and helipad for emergency access/transportation. 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 subdivision groups (Bohn Ridge Subdivision, Equestrian Subdivision, Maha Farms Subdivision, Golf Estates Subdivision, and Trout Flat Subdivision), the full roadway fire break network shall be completed within that subdivision.

The Emergency Response Center will include a structure to house firefighting equipment, as well as a headquarters space and will also house minor medical supplies. Approximately 500 square feet of the Emergency Response Center would be dedicated to the Lake County Sheriff's Office for law enforcement services. 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 Response Center. CAL FIRE would provide fire protection and suppression services in the event of a wildland fire since the Guenoc Valley Site is within CAL FIRE's state responsibility area. Multiple on-site water sources are available for fire suppression and will be supplemented with fire hydrants for first responders. A communication system such as Nixel and early fire detection system high-definition cameras and an emergency notification siren system would be installed throughout the site.

Fire wise landscaping techniques such as reducing fire prone vegetation within fifty feet from both edges of each proposed roadway will be managed by the HOA. This will include cutting down dead trees and removing all flammable shrubs. The understory below trees will be maintained by mowing, grazing, and manual vegetation removal; in addition, shrubs will be removed below trees. Within this zone, individual trees or tree clusters will be adequately spaced to prevent fires from quickly spreading. In addition, landscape within 300 feet of proposed commercial buildings and within 50 feet of residential buildings will be primarily native and low fuel vegetation to reduce vegetated fire risk, and exterior fire suppression systems will be required for all primary structures. Sprinkler systems will be installed on residential buildings on dead-end drives over 0.25 miles. These systems will be remote or heat activated.

FIGURE 1-1
PROJECT LOCATION

Figure 1-1. Project Location

Guenoc Valley Project Court Ruling

The Superior Court Ruling (County of Lake) issued on January 4, 2022, ruled in favor of the County and the project applicant on every issue raised in the litigation – and concluded that substantial evidence supported the County's findings regarding the Project's impacts related to wildfire risks – with one exception involving the County's findings regarding community emergency evacuation routes. Due to that exception, the Court ordered Lake County to set aside its certification of the Final EIR, set aside and vacate its findings related to impacts to an adopted emergency evacuation plan, and set aside and vacate its approval of the Guenoc Valley Project. The EIR prepared for the Project concluded the impacts to adopted emergency response or emergency evacuation plans would be less than significant based on opinions from traffic engineers and fire and law enforcement personnel. The Court held that this was not substantial evidence for two reasons: (1) the evidence did not focus on whether evacuation of the residents in the nearby area would be affected by the evacuation of the Project's residents during a wildfire; and (2) the expert opinions were not based on any identifiable facts. The Court concluded that "*because the County's findings regarding community emergency evacuation routes are not supported by substantial evidence, the EIR does not comply with CEQA.*"

Attorney General Guidance

On October 10, 2022, the Attorney General's office published *Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act* (AG Guidance). The AG Guidance is designed to help lead agencies comply with CEQA when considering whether to approve projects in wildfire-prone areas. The guidance provides "*suggestions for how best to comply with CEQA when analyzing and mitigating a proposed project's impacts on wildfire ignition risk, emergency access, and evacuation*."

The AG Guidance describes CEQA's requirements in the following two analysis categories.

- Analyzing Impact on Wildfire Risk
- Analyzing Impact on Evacuation & Emergency Access

Section IV.B of the AG guidance outlines variables that should be considered in the analysis of impact on wildfire risk related to the following project characteristics.

- Project Density
- Project Location in the Landscape
- Water Supply and Infrastructure

Section IV.C of the AG Guidance contains the following recommendations regarding evacuation and emergency access.

> *Evacuation modeling and analysis should include the following:*

- *Evaluation of the capacity of roadways to accommodate project and community evacuation and simultaneous emergency access.*
- *Assessment of the timing for evacuation.*
- *Identification of alternative plans for evacuation depending upon the location and dynamics of the emergency.*
- *Evaluation of the project's impacts on existing evacuation plans.*
- *Consideration of the adequacy of emergency access, including the project's proximity to existing fire services and the capacity of existing services.*
- *Traffic modeling to quantify evacuation time estimates under various likely scenarios.*

The analysis contained in this report addresses the above recommendations in the AG Guidance.

CAL FIRE Regulation Compliance

The Guenoc Valley Project is located on lands designated as a State Responsibility Area (SRA), where CAL FIRE is the primary emergency response agency responsible for fire suppression and prevention. As a result, the Project must comply with state requirements for wildfire protection and safety, as reviewed and approved by CAL FIRE. These state requirements include State Minimum Fire Safe Regulations, California Building and Residential Codes (Materials and Construction Methods for Exterior Wildfire Exposure), and California Fire Code Chapter 49 (Requirements for Wildland-Urban Interface Areas). Regulation compliance is further discussed in **Chapter 3**.

Consultation with Local Agency Staff

The following text provides a summary of consultation with staff from Lake County (Sheriff, Counsel, Planning, Public Works, and Social Services), CAL FIRE, Caltrans District 1, the Lake Area Planning Council (Lake APC), and the Guenoc Valley Project Team.

A series of meetings were arranged to gather information and inform the evacuation assessment approach presented in this report:

- Kick-off Meeting: CEQA Evacuation Methodology Context, Work Plan, Next Steps (County Counsel, Community Development, Public Works, and Battalion Chief Wink)
- Work Session #1: Hazard/Wildfire and Evacuation History (Battalion Chief Mike Wink)
- Work Session #2: Legal Framework, Regulatory Context, and Setting (County Counsel, Community Development, and Public Works)
- Work Session #3: Project Evacuation and Emergency Response Plan (Project Team)
- Work Session #4: Model Consultation - Wine Country Travel Model and Lake Area Microsimulation Model (Lake APC and Caltrans District 1 staff)

- July 27 Meeting: CEQA Evacuation Analysis Methodology (County Counsel, Community Development, Public Works, and Battalion Chief Wink)
- October 14 Meeting: Evacuation Analysis Update/October 2022 Attorney General Guidance (County Counsel, Community Development, Public Works, and Battalion Chief Wink)

CAL FIRE Battalion Chief Mike Wink

The Project Team consulted with Battalion Chief Wink and reviewed information on historic Lake County wildfires and evacuations including the 2020 Lake Napa Unit (LNU) Lightning Complex Fire (LNU Complex Fire) that prompted evacuations of Middletown, Hidden Valley Lake, and surrounding areas[1]. The team also discussed with Battalion Chief Wink the 2015 Valley Fire that prompted evacuations, the 2015 Jerusalem Fire located northeast of the Project site, and other historical fires that have occurred on or near the Project site.

The 2015 Valley Fire was a significant wind-driven weather event with a low-pressure system on top of normal winds. The fire traveled downhill – from northwest to southeast - from Cobb Mountain into the valleys and communities of Middletown and Hidden Valley. The priority for firefighters were the populated areas in the interior of the South Lake County evacuation area. The Project site is currently a rural property that is lightly populated and mostly consists of vineyards, grazing, and agricultural lands. As such, it wasn't a priority for several days. The current site also has a limited road system to access the area, so firefighting is focused along the main ranch road where housing and wine storage is located.

The 2020 LNU Lightning Complex Fire had several lightning fires that started not far from the Project site and spread onto the property. As noted above, firefighting activities focused on the populated area with critical infrastructure along the main ranch road. Lack of resources and roads to access the more remote, rural areas of the Project site to the south limited the ability to contain the spread of fire at these locations.

The 2015 Jerusalem Fire located northeast of the Project site started by Hidden Valley Lake and several hundred residents of the rural area were evacuated. The fire moved away from the populated area and had limited effect on the Project site.

The Guenoc Valley Project as designed, with a staffed on-site Emergency Response Center (three first responders and an additional ambulance); a more extensive road system that forms a fire break network; vineyard, golf course, and polo field firebreaks; and improved access to on-site surface water, would present significantly different conditions than exist today for firefighting. The Project will also provide underground power and underground propane tanks.

[1] Personal communication with Battalion Chief Mike Wink, CAL FIRE, June 3, 2022 [Personal interview by phone].

The provision of Grange Road as a third emergency evacuation route will provide increased access for firefighters and an alternative egress route for evacuees. The evacuation study area includes Middletown, Hidden Valley Lake, and the Cobb area communities as well as the Project site.

Lake County Sheriff Brian Martin

Sheriff Martin indicated that the LNU Lightning Complex Fire in 2020 and the Valley Fire in 2015 were the fires that involved the most comprehensive evacuations since 2015. He indicated that the two fires were different from an evacuation perspective. Greater levels of congestion occurred for the Valley Fire, as it was faster-moving, and the combination of smoke and darkness caused more problems. The LNU Lightning Complex Fire was slower-moving, and the evacuations were more precautionary and called because of limited county resources. Five deaths occurred in Lake County during the Valley Fire and none during the LNU Lightning Complex Fire.

Sheriff Martin indicated the following about fatalities that occurred during the Valley Fire. "The five persons who died in the Valley Fire all either received an evacuation notification or were contacted directly by someone and informed of the need to evacuate. None of the five decided to evacuate at the time of notification. None died in a vehicle attempting to evacuate."[2]

During a wildfire event, the first priority for Lake County Deputies is to provide notification to residents and the second is to evacuate residents who are unable to evacuate without assistance. For a large wildfire event that requires a large-scale evacuation like the Valley Fire, the sheriff would not have resources to provide traffic control at intersections The sheriff would request support from the California Highway Patrol (CHP), other police departments, Caltrans, and the Department of Public Works to augment and support traffic control at congested intersections.

Additional details provided by Sheriff Martin on the evacuations are included in Section 2 in a subsection titled South Lake County Wildfire Evacuation History.

Lake County Department of Social Services

Michele Dibble and Crystal Markytan, with the Lake County Department of Social Services, provided information on shelter facilities and use in past evacuations[3]. Their experience with recent fires including the Mendocino Complex fire is that most residents go to hotels or homes of friends, and don't use the provided shelters. Reasons for that include Covid and advanced screening requirements, shelter rules, and reduced shelter capacity. Shelters are primarily used by seniors, disabled, and lower income residents who don't have a car and tend to live in Clearlake and in the SR 20 corridor. The communities in South Lake County tend to have higher income residents and it was the consensus that they expected shelter use from evacuating residents from the area would be

[2] Personal communication with Sheriff Brian Martin, Lake County Sheriff, October 6, 2022 [Email correspondence].
[3] Personal communication with Michele Dibble and Crystal Markytan, Lake County Department of Social Services, October 7, 2022 [Personal interview by phone].

relatively low. This is consistent with the results of evacuee surveys conducted by UC Berkeley for California wildfires from 2017 to 2019 that found low use of public shelters (2% to 5%).

Report Organization

The following chapters are included in this report to meet County requirements for evaluating evacuation impacts of the proposed Project:

Chapter 1 – Introduction includes the purpose of this document, Project description, court ruling, consultation with local agency staff, and report organization.

Chapter 2 – Wildfire and Evacuation History describes the history of Lake County wildfires and wildfire evacuations as well as recent wildfire research studies.

Chapter 3 – Wildfire Risk Analysis provides an analysis of the wildfire hazard and risk on the Guenoc Valley Project Site and associated compliance with state minimum requirements and additional measures that will be undertaken to reduce the Project's wildfire risk.

Chapter 4 – Evacuation Time Analysis describes the evacuation time methodology and results for various evacuation scenarios.

Chapter 5 – CEQA Impacts and Mitigation Measures describes CEQA impacts and mitigation measures.

2. Wildfire and Evacuation History

This section provides a description of wildfire and evacuation history in South Lake County, both in the vicinity of the Project site and in the surrounding communities of Middletown, Hidden Valley Lake, and Cobb.

Project Site/Ranch Wildfire History and Conditions

The Project site is characterized by rolling terrain resulting in valley drainages and subtle ridgelines. The natural vegetation cover is dominated by Oak Savanah fuel types consisting of oak trees and, grass and dispersed shrubs. The terrain and vegetation cover are interrupted by wetlands, creeks, reservoirs, and vineyards. Left unchecked, the Oak Savanah fuel complex typically supports low intensity, fast moving fires. However, according to local fire authorities, and ranch managers, the Project area's long grazing history has significantly lowered the fire intensity and spread potential within the Project area. This is demonstrated by the recent history of fires that have burned onto the property.

During the 2020 LNU Lightning Complex, there were no known ignitions within the Project area; however, once the fire spread onto the property it exhibited very low growth. This same situation was observed during the 2015 Valley Fire. Local fire authorities attribute the presence of the active grazing program and vineyards to creating a fire resilient landscape that did not propagate the further spread of fire.

Another recent fire of note that may have impinged on the property was the 2015 Jerusalem Fire. Previous to 2015, the next most recent fire that burned onto the property was a 100-acre fire in 1996.

Historically, there were a number of fires that have burned on the property; however, ongoing grazing and regular prescribed fire use by the ranch employees through the 1950s, 60s and 70s reduced fire behavior and growth.

It's important to note that, although the vegetative conditions on the property did not promote aggressive fire behavior during these fires, access has been a significant challenge. The rural nature of the property and associated minimal road network limit fire suppression access.

Figure 2-1. Topography, Vegetation, and Existing Land Uses in the Guenoc Valley Project Area
Source: CWPC

South Lake County Wildfire History

The following wildfire history map (**Figure 2-2**) shows major fires that have occurred in Lake County between 2015-2020. **Table 2-1** provides a description of the most significant wildfires that have affected the South Lake County communities as well as past fires specific to the Guenoc Valley Project site.

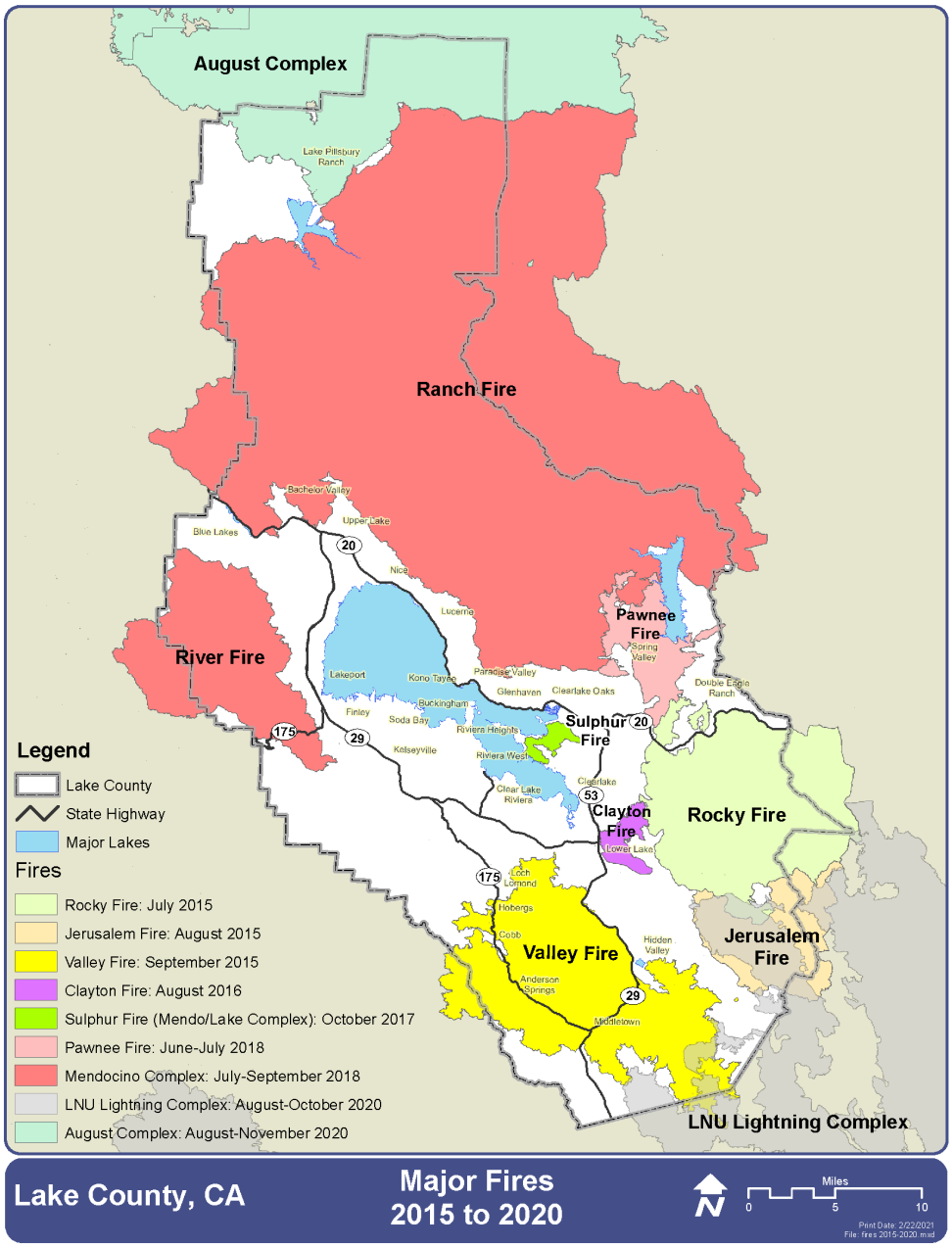


Figure 2-2. Major Fires in Lake County: 2015 to 2020
Source: Lake County CWPP

South Lake County Communities

Fires listed in **Table 2-1** affected the southern, southeastern, or central portions of Lake County within the past decade.

The LNU Complex Fire[4] started near Lake Hennessey in Napa County on August 17, 2020[5]. An evacuation warning for the LNU Complex Fire issued by the Lake County Sheriff's Office on August 20, 2020, included Middletown proper as well as all areas west of Highway 29 (including areas west of Saint Helena Creek Road), north and east of the Lake/Napa County Line (extending north to the Anderson Springs Road prolongation between the county line and Highway 175), south of Anderson Springs Road, Neft Road and the Boggs Mountain Recreation Area prolongation to the intersection of Hofacker Lane and Highway 29. Evacuation orders were issued the following day for the Hidden Valley Lake and Jerusalem Valley areas as well as the greater Middletown area.

The 2015 Valley Fire[6] began on September 12, 2015 and burned about 76,000 acres in Lake, Sonoma, and Napa Counties, south of Clear Lake. Major areas impacted include Middletown, Cobb, and Hidden Valley. Approximately 99 percent of Boggs Mountain Demonstration State Forest rapidly burned (roughly 3460 acres of the total Forest area of 3493 acres). The Valley Fire area burned went from 400 acres in the first few hours to 40,000 acres in approximately the first 18 hours due to high wind conditions, reported up to 60 mph.

Other recent fires that occurred in north or central Lake County include the Ranch Fire and River Fire (Mendocino Complex) that destroyed 157 homes (2018), the Pawnee Fire that destroyed 12 homes (2018), Sulphur Fire that destroyed 138 homes (2017) and the August Complex.

[4] *2020 Fire Siege*, CAL FIRE, April 7, 2021.
[5] *Wildfires on the Horizon*, Solano County Civil Grand Jury, 2020-2021.
[6] *Valley Fire Post Fire Watershed Emergency Response Team Report,* California Natural Resources Agency, October 12, 2015.

Table 2-1. Summary of South Lake County Wildfires

Fire Name	Summary	Evacuation Area	Sources
Butts Fire (Napa County, south of study area to the north of Pope Valley)	• Ignited on 7/1/14 off Butts Canyon Road in Pope Valley, northwest of Lake Berryessa • 2 deaths in Napa County • Two residences and seven outbuildings were destroyed • 4,300 acres burned	• Affected Napa and Lake Counties • Evacuation orders were along Butts Canyon Road from James Creek to Snell Valley Road, Berryessa Estates • Evacuation advisories included areas in Lake County on Butts Canyon Road from Lake County line to Langtry Estates	https://www.fire.ca.gov/incidents/2014/7/1/butts-fire/ https://wildfiretoday.com/2014/07/01/california-butts-fire/
Clayton Fire (Lake County, north of study area in Lower Lake)	• Ignited on 8/13/16 off Highway 29 and Clayton Creek Road south of Lower Lake • Contained on 8/26/16 • 300 structures destroyed; 189 homes many in historic downtown Lower Lake • 28 structures damaged • 3,929 acres burned • Cause of fire was arson	• 5,000-6,000 people evacuated from Lower Lake and Clearlake, including St. Helena Hospital Clearlake • Evacuation center opened at Highlands Senior Services Center	https://www.fire.ca.gov/incidents/2016/8/13/clayton-fire/ https://www.lakeconews.com/index.php/news/61943-man-accused-of-setting-clayton-fire-other-fires-around-lake-county-reaches-plea-agreement https://www.sfgate.com/news/article/Lake-County-wildfire-grows-to-1-400-acres-four-9141748.php
Jerusalem Fire (Lake County, east of study area in eastern Lake County)	• Ignited on 8/9/15 in Lake County in Jerusalem Valley northeast of Middletown and southeast of Lower Lake, near Rocky Fire area • Fire driven by fuels and terrain with total fuel consumption due to multi-year drought • Fire headed northeast and merged with Rocky Fire	• Mandatory evacuations for Jerusalem Valley areas and Hidden Valley Lake • Evacuation Center set up at Middletown High School • Temporary evacuation point set up at former Pearce Field airport in Clearlake	https://abc7news.com/jerusalem-fire-lake-county-evacuations-lower/920925/ https://www.capradio.org/articles/2015/08/10/jerusalem-fire-in-lake-county-prompts-mandatory-evacuation/ https://www.lakeconews.com/news/66393-evacuation-order-issued-for-hidden-valley-lake-and-jerusalem-valley-areas https://www.abc10.com/article/news/local/california/cal-fire-rocky-and-jerusalem-fires-have-merged/103-181832719 Interview with CAL FIRE Battalion Chief Wink

Fire Name	Summary	Evacuation Area	Sources
LNU Lightning Complex (Napa, Sonoma, Lake, Yolo, and Solano Counties) (includes Morgan, Hennessey, Gamble, Spanish, Markley, Walbridge, 15-10, 13-4, 11-16)	• Ignited on 8/17/20 • 47 days active • 363,220 acres burned • Caused by multiple lightning-sparked fires and arson (Markely fire in Solano County) • 1,490 structures destroyed; 232 structures damaged • 5 injuries • 6 deaths (3 in Napa County and 3 in Solano County) • Fires affecting Lake County: Hennessey, Morgan • No known ignitions on Guenoc Valley property from LNU Complex	• Mandatory evacuations for Hidden Valley Lake, Jerusalem Valley areas, Lower Lake • Evacuation warnings for areas north of Lower Lake to Highway 20 (excluding Clearlake) and greater Middletown area • Reports from the scene stated that authorities closed southbound Highway 29 to allow both lanes of the highway to be driven north by evacuees • Deputies and firefighters spent hours going house to house, notifying residents of the need to evacuate, according to radio traffic	http://www.lakeconews.com/index.php/news/66434-lnu-lightning-complex-adds-almost-12-000-acres-overnight https://www.lakeconews.com/index.php/news/66397-lnu-lightning-complex-nearly-triples-in-size-lake-county-evacuations-remain-in-place https://www.lakeconews.com/news/66438-lnu-lightning-complex-remains-priority-for-resources-firefighters-hold-down-daytime-growth https://www.fire.ca.gov/incidents/2020/8/17/lnu-lightning-complex-includes-hennessey-gamble-15-10-spanish-markley-13-4-11-16-walbridge/ https://www.frontlinewildfire.com/wildfire-news-and-resources/2020-california-lightning-complex-fires/ Lake County CWPP May 2022 Sonoma-Lake-Napa Unit 2021 Strategic Fire Plan Interview with CAL FIRE Battalion Chief Wink
Rocky Fire (Lake County, northeast of study area in east Lake County)	• Ignited on 7/29/15 near Morgan Valley Road and Rocky Creek Road, east of Clear Lake • Contained on 8/14/15 • 96 structures destroyed • 8 structures damaged • 69,438 acres burned • Caused by gas water heater failure near an outbuilding containing flammable liquids	• Mandatory evacuations for Jerusalem Valley area (full list in links) • Evacuation Centers at Middletown High School, Kelseyville High School, Upper Lake Middle School • Evacuation centers for animals • Local homeowner group raised issues about community-specific evacuation plans	https://www.fire.ca.gov/incidents/2015/7/29/rocky-fire/ https://www.fire.ca.gov/media/5143/2015_rockyfirecause.pdf https://m.facebook.com/recordbee/posts/10153483386874280?locale2=ar_AR https://m.facebook.com/recordbee/posts/10153483386874280?locale2=ar_AR https://bit.ly/3z9BlQd

Fire Name	Summary	Evacuation Area	Sources
Valley Fire (Lake County, encompassed entirety of study area)	• Ignited on 9/12/15 in Lake County near Cobb • Contained on 10/15/15 • 5 homeowner deaths, 4 CAL FIRE firefighters entrapped and sustained second-degree burns • 1280 Homes lost • 1955 structures destroyed • 93 structures damaged • 76,067 acres burned • Caused by faulty wiring of a hot tub at a home on High Valley Road outside the community of Cobb • Fire spread onto Guenoc Valley property but was not a priority because it was not a significant threat to lives or property	• Affected communities of Cobb, Loch Lomond, Anderson Springs, Middletown, Hidden Valley • Mandatory evacuations for Cobb Mountain and adjacent areas, Ranchos • Vehicle dash camera released by Lake County Sheriff's Office show deputies driving during Valley Fire to assist with evacuations (footage between Hidden Valley Lake and Middletown)	https://www.fire.ca.gov/incidents/2015/9/12/valley-fire/ https://www.columbian.com/news/2015/sep/15/deadly-valley-fire-in-northern-california-grows-to-67000-acres/ https://wildfiretoday.com/2015/10/29/dash-cam-video-shot-during-the-valley-fire-released/?hilite=valley+fire https://bit.ly/3PIF9io https://youtu.be/iuCz52nTp_s Interview with CAL FIRE Battalion Chief Wink

South Lake County Wildfire Evacuation History

This section is based on consultations with Sheriff Brian Martin, CAL FIRE Battalion Chief Mike Wink, and other historical documents including a presentation by CAL FIRE Division Chief Linda Green who was the Incident Commander for the Valley Fire during the first burn period. The most comprehensive information on evacuation conditions is available for the 2015 Valley Fire, which was a fast-moving fire with a series of evacuation orders that occurred over the course of the afternoon and evening of Saturday, September 12, 2015. **Table 2-2** below provides a timeline of the 2015 Valley Fire based on information from Sheriff Brian Walker and CAL FIRE Division Chief Linda Green. The mandatory evacuation order for Hidden Valley Lake, the most heavily populated community in South Lake County, was issued just before 6:00 pm. Most of the evacuations in Lake County were completed by midnight. CAL FIRE information indicates that the fire spread into Napa County around midnight and an evacuation order south to Pope Valley and Aetna Springs was issued around 2:00 am.

Table 2-2. 2015 Valley Fire Timeline

Time (PM)	Source	What Happened?
1:21	2	Fire reported
1:47	2	Evacuations started west of Bottle Rock Road and east of High Valley Road
2:00	2	Evacuation includes entire community of Cobb
3:05	1	*Bottle Rock at 175 closed*
3:15	1	*County Roads set up blocks at Bottle Rock Rd at Sulphur Creek*
3:21	1	*Bottle Rock Road closed at Harrington Flat Road*
3:23	1	*Hwy 175 shut down south of Loch Lomond*
3:23	2	Evacuation expanded to include Harbin Hot Springs, Big Canyon Road to just north of Middletown
3:43	1	*Hwy 175 is shut down at Anderson Springs*
3:46	2	Fire moved north to Loch Lomond, expanded evacuation
4:40	1	*Evacuation center established at church in Kelseyville*
4:40-4:56	2	Mandatory evacuation of Middletown, Highway 175 corridor
5:00	1	*Evacuation orders updated to include all of Highway 175 from Cobb to Dry Creek including all side streets*
5:11-5:51	2	Advisory evacuation for Hidden Valley Lakes
5:25	1	*Evacuation of Hidden Valley Lake ordered*
5:51	2	Mandatory evacuation for Hidden Valley Lakes
5:56	1	*Fire has jumped to Grange Road*
6:29	1	*Southbound traffic on Hwy 29 blocked at intersection of Hwy 53*
6:42	1	*RP reports signal in Lower Lake holding up traffic and it's backed up from Wardlaw to County line*

Time (PM)	Source	What Happened?
6:44	1	*CAL FIRE requests Hidden Valley Lake fire gates to be opened*
6:56	1	*Sheriff Martin requests Hidden Valley Security to direct traffic out Spruce Grove towards Lower Lake instead of towards Hwy 29.*
7:07	1	*CHP requested to stop traffic at Hwy 29 and Tubbs Lane in Napa County.*
7:25	1	*CHP reporting Hwy 29 closed south of Middletown with officers only allowing southbound traffic.*
8:20	1	*Lakeport PD units arrive on scene to assist with evacuations from Hidden Valley main gate*
9:43	1	*Additional evacuation center established at the Calistoga Fairground*
10:10	1	*Napa So Deputy advises he is stopping northbound traffic and turning them around*
10:12	1	*Sgt. Gregory contacting Caltrans to set up traffic control for one-way traffic*

Sources

1. Sheriff Brian Walker, August 19, 2022 meeting.
2. Valley Fire Case Study and Lessons Learned, Presentation by Linda Green, CAL FIRE, Division Chief (Sonoma, Lake, and Napa Units), Incident Commander for Valley Fire during first burn period, https://www.nrfirescience.org/resource/14495.

Notes

1. For source 1, all notes in italics are verbatim from sheriff timeline report.

Sheriff Walker indicated that the main evacuation bottleneck during the 2015 Valley Fire was at the Hidden Valley subdivision, which is a gated community and is the most heavily populated residential area in South Lake County. There are limited routes that remain open at all times. The volume of traffic generated by the Hidden Valley Lake subdivision caused a traffic jam as the fire was approaching from the north and eventually burned across SR 29. To mitigate congestion levels, the Sheriff decided to direct the northern half of the Hidden Valley Lake community to the north on SR 29 and the southern half of the community to the south on SR 29. Officers created contraflow conditions by establishing two northbound only lanes fed by the northerly half of the Hidden Valley Community (evacuated north towards Lower Lake and Clearlake) and two southbound only lanes fed by the southerly half of the Hidden Valley Community (evacuated south towards Middletown and Calistoga). An officer was stationed at the SR 29/SR 53 signalized intersection in Lower Lake to prevent any traffic from going south on SR 29 towards the northbound contraflow operations and another officer stationed on SR 29 and Tubbs Lane in Napa County to prevent any traffic from going north on SR 29 into Lake County.

Lake County uses Zonehaven, Everbridge, Nixle, and Wireless Emergency Alerts (WEA) via cell phones to notify residents of evacuation notices. Communication is a challenge for first responders as there are many residents who do not have the ability or systems to get messages. Particularly in the Cobb and Loch Lomond areas, there is mountainous terrain with dead spots for cell systems. For residents who use VOIP, the reverse notifications don't go through if they don't sign up for the alerts.

For the Valley Fire, Sheriff Martin indicated that Middletown residents primarily evacuated to Calistoga via SR 29, Cobb and Loch Lomond residents primarily evacuated north to Kelseyville and Lakeport, and Hidden Valley Lake residents split their evacuations north on SR 29 to Lower Lake and Clear Lake and south on SR 29 to Middletown and Calistoga. Lower Lake was not evacuated.

The 2020 LNU Lightning Complex fire was spread out over several days and not as urgent as the 2015 Valley Fire. The fire was first reported at 6:40 am on Monday, August 17, 2020. Evacuation orders or warnings occurred on Tuesday through Thursday, August 18 through 20. In Lake County, the evacuations were more precautionary based on the experience of first responders with the Valley Fire and the knowledge that they had limited resources to manage traffic. Congestion was more due to the slow response of residents to evacuate. Based on experience with the Valley Fire, more fire gates around the Hidden Valley Lake community were opened earlier in the evacuation process than with the Valley Fire and that proved to be a significant benefit in the evacuation process. The evacuations were also easier because most happened during daylight hours.

Fatalities During Wildfire Evacuations

Wildfire evacuations occurred in South Lake County communities surrounding the Guenoc Valley Project during the 2020 LNU Lightning Complex Fire, the 2015 Valley Fire, and the 2015 Jerusalem Fire. Five persons died as a result of the 2015 Valley Fire in Lake County. There were no fatalities in Lake County as a result of the LNU Lightning Complex Fire or Jerusalem Fire. In Napa County south of the project, two persons died during the 2014 Butts Fire in Pope Valley. Interviews with CAL FIRE Battalion Chief Wink[7] and Lake County Sheriff Brian Martin[8], combined with reviews of fire[9] and media[10] reports, indicate that no one died in a vehicle attempting to evacuate in Lake County during these fires.

Wildfire Evacuation Research

The following provides a summary of recent relevant research conducted of California wildfires and wildfire risk reduction measures.

Review of California Wildfire Evacuations from 2017 to 2019

Wong, S., Broader, J., Shaheen, S. (2020). *Review of California Wildfire Evacuations from 2017 to 2019*. https://escholarship.org/uc/item/5w85z07g

[7] Personal communication with Battalion Chief Mike Wink, CAL FIRE, June 3, 2022 [Personal interview by phone].
[8] Personal communication with Sheriff Brian Martin, Lake County Sheriff, October 6, 2022 [Email correspondence].
[9] *Wildfires on the Horizon*, Solano County Civil Grand Jury, 2020-2021.
[10] *Human bones IDd as brothers burned in 2014 Napa fire, San Francisco Chronicle, Oct. 5, 2016; The Markley Fire, set to cover up a murder, killed two other people, Wildfire Today, Apr. 30, 2021; 4 dead in LNU Lightning Complex Fire, 215,000 acres scorched, CAL FIRE says, ABC 7 NEWS, Aug. 20, 2020.*

The research report summarizes the evacuation of eleven major wildfires in California between 2017 and 2018 based on empirical data collected via surveys of evacuees. Approximately 1.1 million people were ordered to evacuate in the 11 wildfires that were studied. Case studies are presented for each wildfire including the Kincade Fire in Sonoma County (200,000 evacuees), the Camp Fire in Paradise/Butte County (52,000 evacuees), and the Mendocino Complex Fire (17,000 evacuees in Lake, Mendocino, Glenn, and Colusa counties).

The surveys yielded the following results with respect to individual behavior (e.g., evacuate or stay), communication (e.g., type and source of evacuation orders received), use of logistical resources (e.g., transportation mode and shelter resources), evacuation characteristics (e.g., destination and route), and return to impacted areas (e.g., reentry) for wildfires.

- A weighted average of 1.89 vehicles evacuated per household;
- A non-compliance rate (i.e., individuals who received a mandatory evacuation order but did not evacuate) ranging between 3% and 13%;
- A shadow evacuation rate (i.e., individuals who did not receive a mandatory evacuation order but evacuated) ranging between 29% and 75%;
- A “within county” evacuation rate ranging between 66% and 70%;
- Spikes in evacuation departure days ranging between 33% and 78% of evacuees leaving on a single day, depending on the wildfire;
- Variable evacuation departure times with 51% to 73% departing at night between 6:00 p.m. and 5:59 a.m., depending on the wildfire;
- Preference to shelter with family or a friend (49% to 70%) and at a hotel or motel (13% to 23%);
- Initial sheltering through a peer-to-peer service, such as Airbnb (0.4% to 3%) and low use of public shelters (2% to 5%);
- Predominate use of one vehicle (34% to 45%) and two or more vehicles (49% to 62%) to evacuate;
- Variable use of routes as the primary road type of travel but generally higher use of highways (32% to 62%), no majority type (17% to 35%), and major roads (15% to 27%);
- A low GPS-navigation usage rate ranging between 8% and 19% for routing; and
- A wide spread of reentry days (with 3% to 32% returning two weeks or more after the initial wildfire outbreak) and only 22% to 33% of respondents stating they received information to return from an official source.

Results also indicate that agencies were only moderately successful in issuing evacuation orders, communicating to the public, and managing transportation. Specific communication and opinion of government response results include:

- A moderately high rate of respondents (59% to 79%) who received a mandatory evacuation order and who found the message to be extremely clear
- A moderately low rate of respondents (37% to 45%) who received a voluntary evacuation order and who found the message to be extremely clear;
- A wide distribution of communication methods for mandatory orders, with four different platforms (two wildfires) and seven different platforms (one wildfire) each reaching 25% or more of respondents;
- Highly variable avenues of receiving information for mandatory evacuation orders that significantly differed by wildfire such as reverse 911 calls (8% to 39%); text messages (29% to 50%); social media (15% to 34%); alerts from a subscribed service (12% to 42%); and internet websites (8% to 38%);
- Receipt of mandatory evacuation orders directly through personal interactions with public officials (30% to 42%) and secondary sources such as friends, neighbors, and extended family (27% to 38%);
- A low rate of receiving mandatory evacuation orders through television announcements (13% to 21%);
- A high rate of seeking additional information, ranging from 30% to 50% and 62% to 67% of respondents for mandatory and voluntary evacuation orders respectively;
- Moderately low overall opinion of an extremely effective or very effective government management of roads (29% to 42%), shelters (37% to 40%), and overall evacuation (39% to 49%); and
- Low overall opinion of an extremely effective or very effective government management of communication (23% to 35%) and evacuation of carless populations (10% to 13%).

Post Santa Rosa Fire Survey

Santa Rosa Post-Fire Survey, (2019).
https://www.cmap.illinois.gov/documents/10180/995345/CATMUG-20190403-Lupa-EvacSurvey.pdf/f5550362-e8b3-8d57-2a50-11b4e56162f1

The following is a summary of the results of surveys conducted of residents who evacuated from the 2017 Tubbs Fire in the City of Santa Rosa, Sonoma County. It is relevant to this study because it is one of the few studies in the last five years to quantify the number of vehicles evacuated per residential household. The goal of the survey was to identify critical issues in the transportation and communication aspects of household emergency evacuation.

- A weighted average of 1.75 vehicles evacuated per household;
- The most common number of vehicles used was 1 (46%) and 2 (38%), with fewer evacuees using 3 (11%) or 4+ vehicles (5%);
- Over half of the evacuees traveled less than 10 miles to their first stop (63%);

- The most common items carried out were wallet and cellphone (85%), pets (58%), clothing (45%), medication (39%), important documents (39%), photo albums (27%), jewelry (16%), and food and drink (9%).

Assessing Effectiveness of Green Landscape Buffers to Reduce Fire Severity and Limit Fire Spread in California

Herbert, C.; Butsic, V., 2022. *Assessing the Effectiveness of Green Landscape Buffers to Reduce Fire Severity and Limit Fire Spread in California: Case Study of Golf Courses*. https://www.mdpi.com/2571-6255/5/2/44

The research report documents research to evaluate whether golf courses, as landscape buffers, alter fire severity[11] and limit wildfire spread. The analysis uses propensity score matching and multiple linear regression on golf courses that burned in California between 1986 and 2020. The research reaches the following conclusions:

- Golf courses had a predicted 49 percent reduction in fire severity relative to otherwise vegetated land.
- This reduction in fire severity is regionally dependent, with the effect of golf course buffering landscapes most pronounced in the North Bay region.
- For limiting fire spread, golf courses function similarly to hardscaped land uses such as airports, suggesting that irrigation and vegetation management can be effective in creating desired buffering qualities.
- These methods suggest that artificially created irrigated green zones act as effective buffers, providing de facto fuel breaks around communities, and can be reproduced for other potential buffering landscape features.
- "Golf courses in California are just one example of a type of landscape feature which could be incorporated as part of a community buffer zone.[12]" Other examples of artificially created irrigated green zones noted in the research are vineyards or agricultural uses. The polo field in the project is also this type of green landscape buffer use.

[11] Fire severity is defined in the report as a measure of biomass or soil change used to gauge how intensely an ecosystem was impacted by fire.

[12] Herbert, C.; Butsic, V., 2022. *Assessing the Effectiveness of Green Landscape Buffers to Reduce Fire Severity and Limit Fire Spread in California: Case Study of Golf Courses*.

3. Wildfire Risk Analysis

This section provides an analysis of the wildfire hazard and risk on the Project site and associated compliance with state minimum requirements and additional measures that will be undertaken to reduce the Project's wildfire risk.

State Responsibility Areas & Fire Hazard Severity Zones

State Responsibility Areas (SRAs) are recognized by the California State Board of Forestry and Fire Protection as areas where CAL FIRE is the primary emergency response agency responsible for fire suppression and prevention.

Public Resources Code 4202 requires the State Fire Marshal to classify lands within SRAs into fire hazard severity zones (FHSZs). Each zone shall embrace relatively homogenous lands and shall be based on fuel loading, slope, fire weather, and other relevant factors present, including areas where winds have been identified by CAL FIRE as a major cause of wildfire spread.

SRA and FHSZ designations determine where policy, regulations, and standards apply. The Guenoc Valley Project site is located on lands designated as (SRA). Within this designation, fire hazard severity zones within the Project site have been mapped by CAL FIRE as moderate, high, and very high fire hazard severity.

Figure 3-1 shows the currently adopted FHSZs for the Guenoc Valley Project site[13]. CAL FIRE released updated draft FHSZ maps for State Responsibility Areas in November 2022. The updated final FHSZ map shown was adopted in June 2023.

[13] CAL FIRE Fire Hazard Severity Zones in SRA for Lake County, adopted on June 15, 2023.

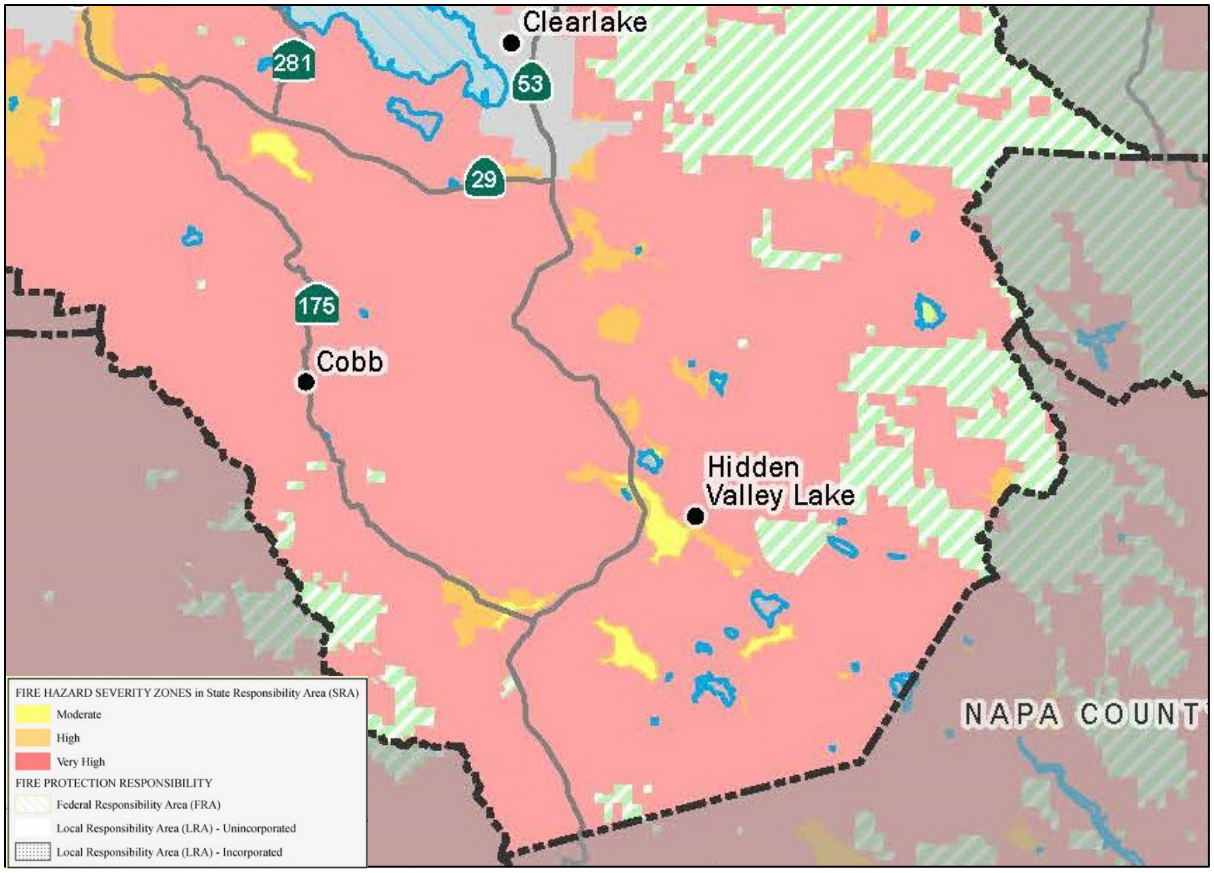


Figure 3-1. Fire Hazard Severity Zone Mapping for the Guenoc Valley Project Area
Source: CAL FIRE

State Wildfire Safety Minimum Requirements

Development applications within the SRA are reviewed by CAL FIRE to ensure compliance with the following state minimum requirements for wildfire protection and safety:

State Minimum Fire Safe Regulations (Title 14 of the California Code of Regulations, Division 1.5, Chapter 7, Subchapter 2)

State Minimum Fire Safe Regulations establish minimum wildfire protection standards in conjunction with building, construction, and development in the SRA and VHFHSZ as defined in Government Code § 51177(i). Wildfire protection measures provide for basic emergency access and perimeter wildfire protection, signing and building numbering, private water supply reserves for emergency fire use, and vegetation modification.

At the California State Board of Forestry and Fire Protection in August 2022, the Board approved proposed amendments to the State Minimum Fire Safe Regulations. The proposed amendments[14] promote compliance with the revisions to Public Resources Code (PRC) 4290 within SB 901 (Chapter 626, 2018), and improve clarity of certain administrative processes within Article 1 of the existing regulations, specifically to:

- Establish standards for fuel breaks and greenbelts near communities;
- Establish measures for the preservation of undeveloped ridgelines;
- Improve clarity regarding the inspection and enforcement agencies;
- Promote local jurisdiction compliance with the Fire Safe Regulations and to clarify the process by which that occurs;
- Increase the flexibility offered to local jurisdictions in implementing the minimum standards provided in these regulations.

These amendments are currently under review by the Office of Administrative Law and are anticipated to go into effect in 2023. There were no proposed changes to the standards for road or driveway access, building and road signing, or water supply requirements.

California Building Standards Code (Title 24 of the California Code of Regulations, Parts 2, 2.5, 9)

Jurisdictions in California with defined WUI areas, Fire Hazard Severity Zones, and State Responsibility Areas are required to adopt minimum building design and construction regulations, as identified in the California Building Standards Code (CBSC). These standards are found in several parts of the CBSC, including:

- Part 2 – California Building Code Chapter 7A Materials and Construction Methods for Exterior Wildfire Exposure
- Part 2.5 – California Residential Code Chapter R337 Materials and Construction Methods for Exterior Wildfire Exposure
- Part 9 – California Fire Code, Chapter 49 Requirements for Wildland-Urban Interface Areas

Due to its location in SRA moderate, high, and very high fire hazard severity zones, all new buildings for which an application for a building permit is submitted within the Guenoc Valley Project site will comply with minimum requirements as specified in the CBSC Building Code, Residential Code, and Fire Code. Applicable WUI provisions from the CBSC, including the Fire Code, are adopted as per Chapter 5 – Building Regulations, Article I of the County of Lake Code of Ordinances.

[14] The proposed rule package is available on the Board of Forestry and Fire Protection website: https://bof.fire.ca.gov/regulations/proposed-rule-packages/

Wildfire Risk

Often, the terms wildfire hazard and wildfire risk are incorrectly used interchangeably, or even combined to create the term "wildfire hazard risk." It is important to understand the difference between these two terms and use them appropriately in the community wildfire planning context (Scott et al. 2013; Thompson et al. 2016).

The Fire Hazard Severity Zones that are published by CAL FIRE describe the hazard, which is the likelihood of a wildland fire occurring and the potential intensity at which it will occur, while the broader concept of wildfire risk also includes the potential impacts a wildfire will have on the Project.

Specifically, the term wildfire risk describes the wildfire hazard along with the factors that contribute to the susceptibility of the Project, or the impact wildfire will have on what are considered highly valued resources and assets. The concept of wildfire risk is best described using the wildfire risk triangle, which combines the likelihood of ignitions and the intensity of the fire (the components of wildfire hazard) with the susceptibility of the built environment (**Figure 3-2**).

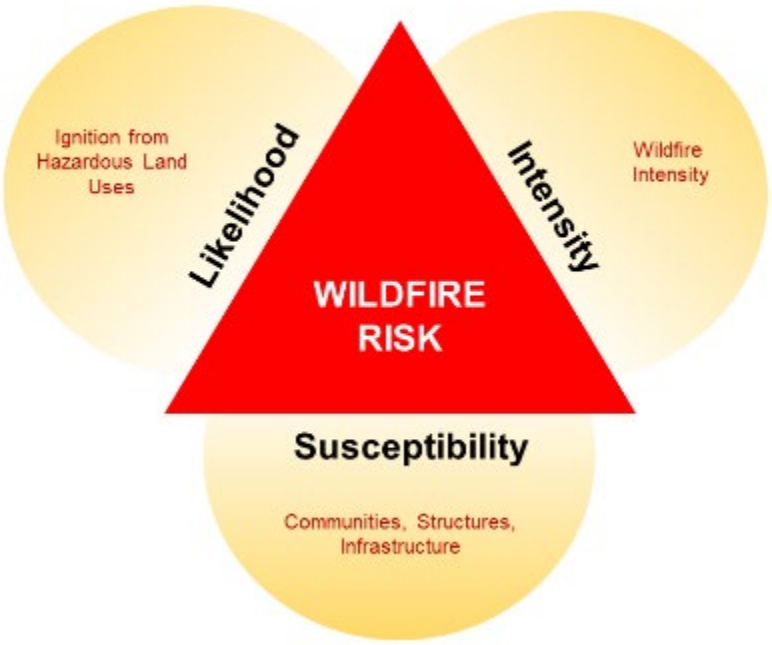


Figure 3-2. The Wildfire Risk Triangle
Source: CWPC

Factors that contribute to the susceptibility component of the wildfire risk may include the following:

- Public safety

- Ember transport modeling
- Structure and infrastructure susceptibility
- Natural resource values and susceptibility
- Source water vulnerability
- Population demographics

Most of the above factors relate directly to the physical spread and intensity of fire, and the ability for fire suppression resources to effectively intervene. However, demographics is another factor that may influence the ability of a population to respond to risk. For example, an elderly population demographic may indicate decreased mobility, or health challenges that will impact the populations' ability to efficiently evacuate without significant responder assistance.

Project Risk Reduction Measures

In September 2022, the State of California Office of the Attorney General released guidance for analyzing and mitigating wildfire impacts of development projects under CEQA. This guidance provides suggestions for how best to comply with CEQA when analyzing and mitigating a proposed project's impacts on wildfire ignition risk, emergency access, and evacuation. When analyzing a project's impact on wildfire risk, the guidance outlines several variables to consider: project density, project location in the landscape, and water supply and infrastructure. Additional examples of project mitigation measures and design alternatives to address project impacts are provided.

The following matrix (**Table 3-1**) lists wildfire risk reduction measures being implemented at the Guenoc Valley Project site. This report organizes measures into seven categories that address potential impacts resulting from increased risks identified in the Attorney General's guidance:

1. project density;
2. project location in the landscape;
3. water supply and infrastructure;
4. emergency access and egress;
5. safety zones and temporary refuge areas;
6. initial construction suppression resources;
7. communication, management, and maintenance.

Each wildfire risk reduction measure is discussed in additional detail in terms of its relevance to the Project.

Table 3-1. Project Measures to Reduce Wildfire Risk Impacts

Category	Wildfire Risk Reduction Measure
1. PROJECT DENSITY	64 residential buildings relocated to Project core
	Wildfire safety design standards and suppression systems for all buildings
	Defensible space for all buildings
	Reservation of recreational and camping area in northern portion of Project for recreational and camping uses only, with open fires strictly prohibited in that area
2. PROJECT LOCATION IN THE LANDSCAPE	Consolidated design for commercial and residential areas
	Ranch management – grazing rotations to reduce wildfire potential
	Property-wide fire breaks and resort edge defensible space
	Golf Course – buffer for fire spread
	Vineyards – buffer for fire spread
3. WATER SUPPLY AND INFRASTRUCTURE	Fire suppression surface water sources and dedicated nighttime water source for aerial firefighting
	Existing interconnected water pumping system and fire hydrants
	Power – existing generators for water system
	Underground power lines and electric system
	Microgrid system for commercial buildings
4. EMERGENCY ACCESS AND EGRESS	Additional emergency access route along Grange Road to SR 29
	On-site Emergency Response Center (ERC) located in core of Project
	Two emergency helipads
	Roadway wildfire fuel breaks – 125 feet
	Parking restricted on primary access roads
	Revised road network and surfacing– paved two-way gravel roads, added connector roads, no dead-end roads greater than 1 mile in length
5. SAFETY ZONES AND TEMPORARY REFUGE AREAS	Safety Zones for Firefighters
	Temporary Refuge Areas
6. CONSTRUCTION SAFETY	Added firefighter staff during construction
	Fire safety oversight and procedures during construction
7. COMMUNICATION, MANAGEMENT, AND MAINTENENANCE	ERC with staffed wildfire mitigation expertise in access and evacuation
	HOA funding for annual vegetation and defensible space management
	HOA contract with wildfire expert for Project duration to support homeowner education and response planning
	Early detection system and emergency notification siren system
	Opt-out communication system

Project Density

There is no definitive evidence that supports either increasing or decreasing project density as a single determinant that will change wildfire structure loss outcomes. Density can influence the amount of fire suppression resources required, with lower density developments requiring more resources that are spread out, while higher density allows less resources to protect more structures. In concept, this works well for high density areas, until more than one structure becomes fully involved with fire. A fully involved structure fire not only requires significant fire suppression resources, but in a high-density development there is a significantly higher risk of a single structure fire spreading to adjacent structures, which will quickly overwhelm fire suppression resources. Therefore, what does change these outcomes is the effective mitigation of the Home Ignition Zone.

The Home Ignition Zone (HIZ) concept consists of the condition of the structure itself, and the immediate surroundings of the structure out to 100 feet with respect to vulnerability of fire (**Figure 3-3**).

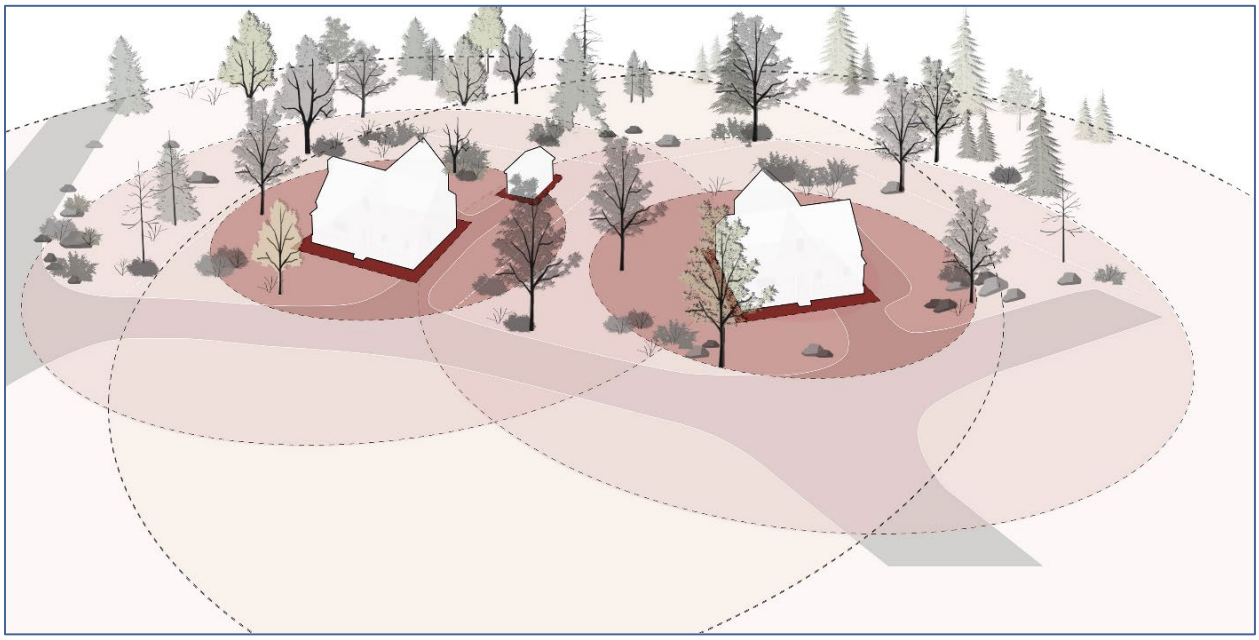


Figure 3-3. The Home Ignition Zone
Source: CWPC

Lower density developments can allow individual homeowners to manage more of their HIZ within their legal property boundaries. Conversely, higher density projects result in the HIZ's extending beyond legal property boundaries, increasing homeowners' reliance on their neighbors for effective HIZ mitigation. Regardless, diligent ongoing maintenance of the HIZ is key to effective ongoing reduced risk.

Based on these concepts, the following measures are being taken to address wildfires risks associated with project density:

- Home construction to the California Building Code Chapter 7A standards.
- HIZ management and defensible space maintenance for every building within the Project area that is required through covenants to be paid for by the HOA and supported by the resort maintenance staff.
- Reservation of the recreational and camping area in the northern portion of the Project only for recreational and camping uses, with open fires strictly prohibited to reduce ignition sources associated with this type of use in a high hazard severity zone.

Project Location in the Landscape

The Project is located in a landscape of rolling terrain of slopes and drainages dominated by Oak Savannah vegetative fuel types consisting of grass, shrubs, and oak trees. Outside of and surrounding the proposed developed areas, the current land uses of cattle grazing and vineyards will continue. New land uses, such as a golf course and a polo field, will also be developed. The topography and native vegetation are conducive to frequent and fast moving low to moderate intensity fires. Values located on ridgetops or steep slopes can result in increased susceptibility. However, the current grazing practices (**Figure 3-4**) and vineyards (**Figure 3-5**), along with the future golf course and polo field, can offer a significant benefit to risk reduction as fuel breaks, if the development is strategically located in relation to these features. Furthermore, reducing "outlying developments" and concentrating the majority of the Project population to these areas can increase both emergency response and evacuation effectiveness.

The following measures are being taken to address wildfires risks associated with Project location:

- Consolidated design in valley / commercial core so that structures are away from areas where fire behavior may be most extreme
- Strategically locating development in relation to landscape fuel break features (intensive grazing, vineyards, golf course, and polo field) with ongoing grazing management
- Maintenance of property-wide fire breaks and defensible space along the edge of developed areas in the resort

Figure 3-4. Grazed Site vs. a Site That is Not Grazed within the Guenoc Valley Project
Source: CWPC

Figure 3-5. Maintained and Irrigated Vineyards within the Guenoc Valley Project Area
Source: CWPC

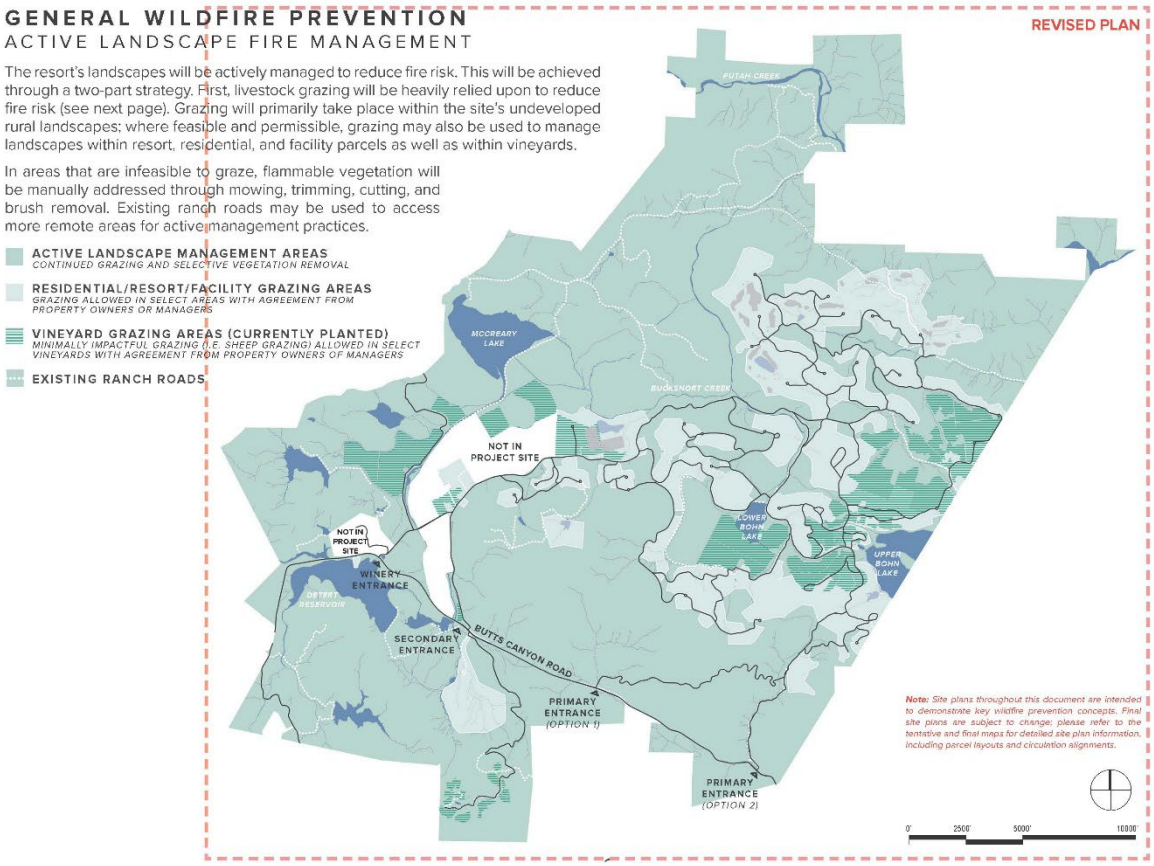


Figure 3-6. Guenoc Resort Proposed Vineyard, Grazing and Sports Facility Layout to Support Strategic Fuel Breaks
Source: SWA

Water Supply and Infrastructure

A reliable and sustainable fire water supply and electrical utility service is crucial to effective fire suppression, and community wildfire resilience. The infrastructure that supports these systems can be vulnerable to wildfire. Conversely, above ground electrical utilities have the potential to cause wildfires.

The ranch has numerous lakes with the largest amount of impounded surface water in the region. In developed portions of the Project, fire apparatus require municipal type hydrant systems with a minimum reliable fire flow to which they can connect. In the undeveloped portions of the Project, nearby water sources can be used by water tenders and firefighters to fight wildland fires. An electrical utility supply is required to keep the water system pumps running.

The following measures are being taken to address wildfires risks associated with water supply:

- A high-volume water supply through the existing irrigation system will be immediately available for all construction phases and will remain to support wildland fire water needs into the future. The presence of this volume of water supply exceeds the state's Minimum Fire Safe Regulations.
- A municipal-type fire hydrant system that meets the requirements of the California Fire Code will be installed with each new construction phase of the Project.
- All electrical utilities will be buried underground.
- Vulnerable water supply and electrical utility infrastructure will be placed underground for protection from wildfire damage.

Figure 3-7. High Volume Irrigation Pump Located on The Guenoc Valley Project Site
Source: CWPC

Emergency Access and Evacuation Egress

Effective fire suppression emergency access, and public emergency egress are critical to ensure the safe and efficient response of fire suppression resources, and evacuation of the public. The California Minimum Fire Safe Regulations require two routes of access/egress for a development. Roadside fuel breaks should also be incorporated along the project access and egress routes to reduce the fire impacts of radiant and convective heat on the travelers.

The following measures are being taken to address wildfires risks associated with emergency access and evacuation egress:

- Three access and egress routes are planned; two that connect directly to Butts Canyon Road and a third is now planned through Grange Road to SR 29.
- All roadways within the Project area will exceed the minimum California Fire Safe Regulations with a 50-foot-wide fuel treatment on each side, which will be maintained by grazing (**Figure 3-8**)
- All roadways will be 25 feet wide with an all-weather surface.
- Fire suppression resources will be stationed on site at the Emergency Response Center (ERC) to minimize response times and mitigate evacuation traffic counter flow barriers for initial attack fire suppression resources.
- Two emergency helipads will provide aerial support site access points

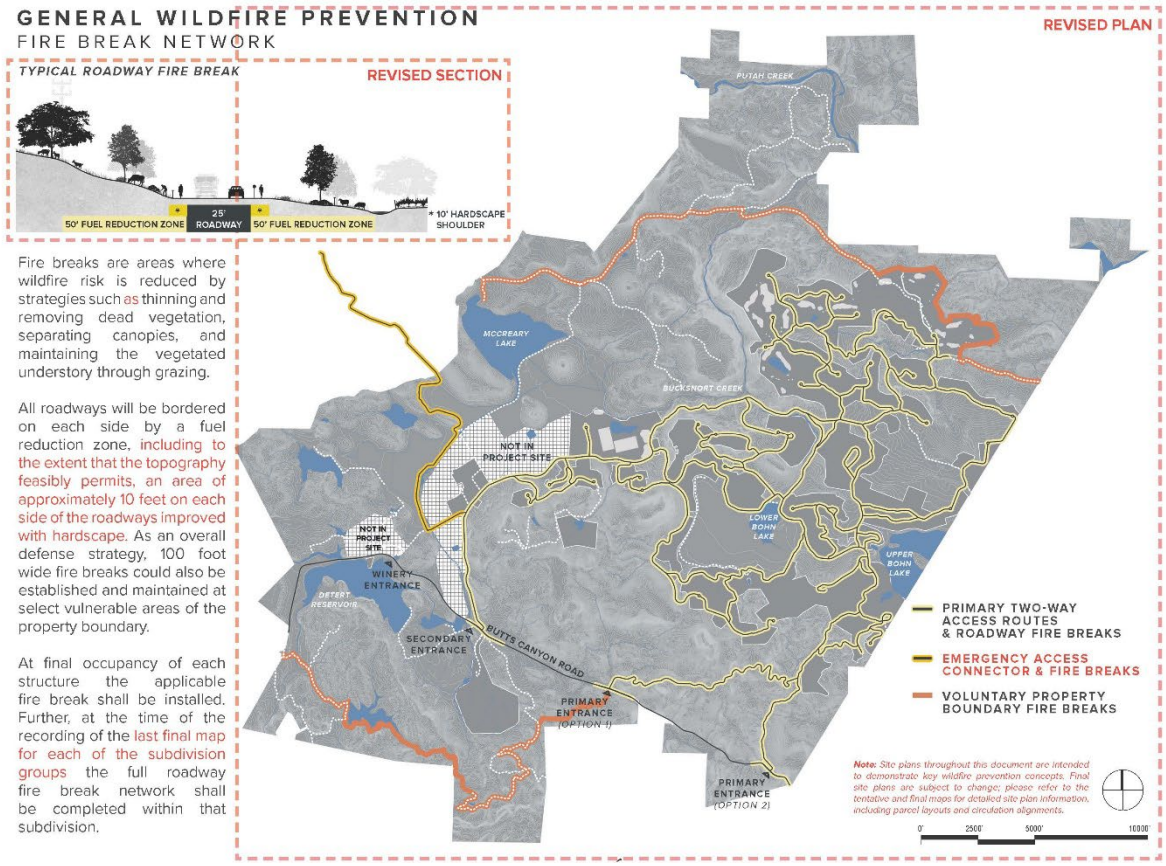


Figure 3-8. Guenoc Resort Proposed Roadway Fuel Breaks
Source: SWA

Safety Zones and Temporary Refuge Areas

In the event that evacuation routes are compromised, either by fire, or other unforeseen events, it is important to ensure that there are opportunities within the Project area to establish Temporary Refuge Areas for public members. Furthermore, a core safety requirement for all firefighters is to establish at least two escape routes, which lead to effective safety zones. Ultimately, fire suppression resources will determine where to establish escape routes, and effective safety zones, based on location, and the current and expected fire behavior, and the Incident Commander will determine where effective Temporary Refuge Areas for the public can be established, using the same criteria. However, understanding the general needs for a safety zones and temporary refuge areas and integrating these needs into the Project design, will provide opportunities for firefighters as part of their decision-making process.

Research on safety zone size is ongoing. The current general guidance from USDA Forest Service researchers with regards to the size of an effective safety zone is an area that will not support fire

that is four times (4x) the maximum flame height to the nearest person within the safety zone, where flame height can be estimated as two times (2x) the vegetation height.

The following measures are being taken to address wildfires risks associated with safety zones and temporary refuge areas:

- Identifying the maintained polo field, golf course, grazed areas, and vineyards as safety zone and temporary refuge area opportunities.

Construction Safety

It is important to have fire response and suppression resources available throughout all phases of development. These resources can respond to onsite ignitions associated with accidental equipment sparks during construction and other wildfires or emergency situations that threaten the safety of Project staff, development crews, and visitors. Staffing up a fully staffed and equipped Emergency Response Center (ERC), however, can take time. As a result, the following measures are being taken to address wildfire risks associated with the initial construction phase prior to completion of the ERC:

- The Guenoc Valley Project developer will formalize an agreement with the Lake County Fire Protection District to pay them to hire and train new emergency responders, who will initially be housed at the Middletown fire station. This additional capacity ensures a smooth transition and eliminates any coverage gaps from start of construction through when the ERC is ready to have 24/7 staff on-site.
- Additional fire safety oversight and procedures will be implemented to avoid construction-caused fires, immediately report any accidental fires, and provide appropriate equipment for notification and response (e.g., shovels, fire extinguishers, air horn).

Communication, Management, and Maintenance

Many of the risk reduction measures outlined above rely on communication, management, and maintenance strategies to ensure they are implemented as intended and can be maintained for the life of the Project for sustained risk reduction. To achieve these outcomes, the following measures are being taken to provide for effective and ongoing communication, management, and maintenance:

- The Guenoc Valley Project Homeowners Association (HOA) will contract with a fire expert to educate homeowners and visitors on wildfire safety and mitigation and consult with the HOA in its implementation of wildfire prevention measures. This position would be required to be funded for the full duration of the Project.
- The Project's ERC will have at least one individual on-site with wildfire expertise related to evacuation and emergency access, the costs for which will be paid by the Guenoc Valley Project HOA, for a minimum of 30 years.

- The HOA will also pay for vegetation and HIZ / defensible space management around homes, which will be written into HOA bylaws. Homes will also have fire tools and fire extinguishers.
- The Project will maintain an onsite early detection system to identify potential fires igniting onsite or in the vicinity.
- All residents, visitors, and employees will be enrolled in an opt-out phone-based communication system to receive emergency notifications.

Key Takeaways

All proposed development projects in the SRA, including the Guenoc Valley Project, must comply with a set of minimum wildfire safety requirements that are set forth in California's Code of Regulations and Public Resources Code. These include the California Building Code, Fire Code, Minimum Fire Safe Regulations, and defensible space inspections. Guidance by the California State Attorney General provided additional considerations for projects to comprehensively address wildfire risk.

This chapter reviewed the proposed Guenoc Valley Project measures for compliance with minimum fire safety standards (as required by the state) and analyzed wildfire risk reduction across seven categories based on the California State Attorney General's guidance:

1. project density;
2. project location in the landscape;
3. water supply and infrastructure;
4. emergency access and egress;
5. safety zones and temporary refuge areas;
6. initial construction suppression resources;
7. communication, management, and maintenance.

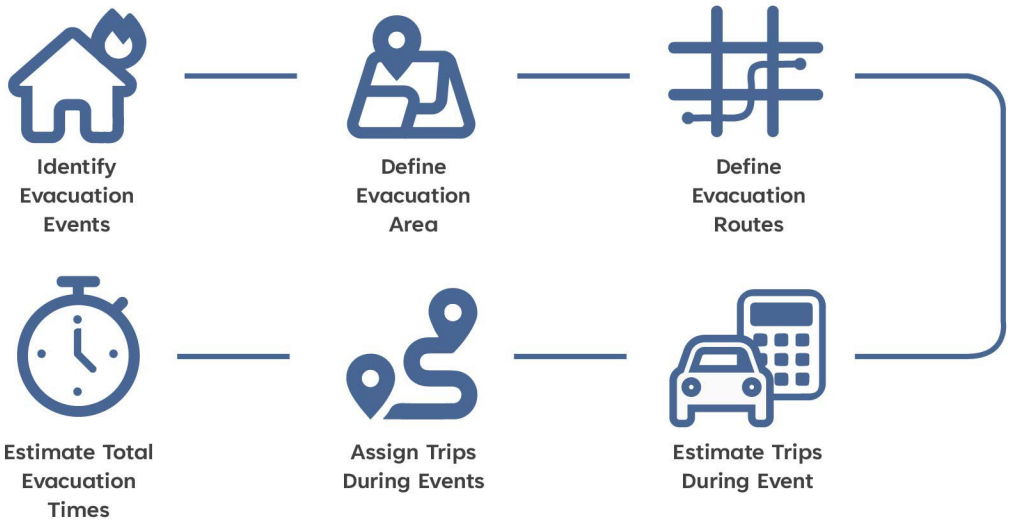
Based on the review and analysis, the Guenoc Valley Project meets and exceeds state minimum requirements for wildfire safety by incorporating a comprehensive set of measures, including but not limited to:

- addressing wildfire risk across multiple scales by identifying strategies that reduce risk at the building/lot site level, commercial and residential development nodes, and landscape scale;
- incorporating appropriate land uses to reduce fire behavior and provide for potential firefighter safety zones and temporary areas of refuge for the public, such as strategic placement of the golf course and polo field;
- expansion of vegetation management along roadways and incorporation of a third access route for emergency evacuation;
- implementation of communication and maintenance measures that occur from Project inception and throughout the duration of the Project.

4. Evacuation Assessment

This chapter presents the evacuation assessment approach and total evacuation times for two wildfire evacuation event scenarios in South Lake County for the Guenoc Valley Project. The following flow chart illustrates the steps in the process that are based on the Lake County Superior Court decision, subsequent Attorney General Guidance, and consultation with Lake County first responders and staff:

- Identify evacuation event scenarios
- Define the evacuation area
- Define evacuation routes
- Estimate evacuation trip demand for evacuation scenarios
- Assign trips along evacuation routes during evacuation scenarios
- Estimate total evacuation times



The following is an overview of key parameters for the evacuation assessment.

- Evacuation Time: Summer Friday afternoon with 4:00 pm evacuation notice
- Two Wildfire Hazard Event Scenarios
- Two Horizon Years (2022 and cumulative 2040), Baseline and Plus Project Conditions for each Wildfire Scenario
- 100 percent of community households and Project households occupied

- 80 percent of community employees and 100 percent of Project employees are at work
- 85 percent of community hotel rooms and 100 percent of Project hotel rooms occupied
- Police/first responders not assumed to be available for traffic management
- Through traffic not stopped during evacuation
- Lake County Area-Wide Microsimulation Model (LAMM) used to estimate evacuation times

Evacuation Area and Evacuation Routes

Based on a review of Lake County wildfire history including fire reports, consultation with local first responders, and emergency declaration/warnings for the areas evacuated for the 2020 LNU Complex Fire and 2015 Valley Fire, the Evacuation Area encompasses the South Lake County communities of Middletown, Hidden Valley, Cobb, Loch Lomond, and surrounding areas (hereafter referred to as "Evacuation Area"). **Figure 4-1** shows the Evacuation Area.

The Lake County Superior Court Decision, which upheld the CEQA analysis for the Project in all other respects, specifically addresses the need to analyze the Project's "impacts to community emergency evacuation routes." Evacuation routes are used to transport evacuees to temporary shelter using either their own vehicle or a vehicle provided by others. Routes that provide the most direct path to exit the Evacuation Area with the least exposure to risk will be used by evacuees. The primary and secondary evacuation routes for South Lake County communities are identified in the South Lake County Wildland Fire Preparation and Emergency Plan.[15] **Figure 4-2** shows the designated community evacuation routes that are listed below.

Primary Community Evacuation Routes

- State Route (SR) 29
- SR 175

Secondary Community Evacuation Routes

- Butts Canyon Road
- Big Canyon Road
- Spruce Grove Road
- Loch Lomond Road
- Bottleneck Road
- Seigler Canyon Road

[15] *South Lake County Wildland Fire Preparation and Emergency Plan*, South Lake County Fire Protection District and South Lake Fire Safe Council, 2016.

The Guenoc Valley Project site now would have three evacuation routes for vehicles exiting the site as described below, including a recently added route that would connect to SR 29 via Grange Road, in addition to two previously analyzed evacuation routes that provide access to Butts Canyon Road. The first evacuation route connecting to Butts Canyon Road is the new Primary Access Road that would be located at McCain Canyon, approximately 2.6 miles south of the existing Langtry Winery Entrance. The second evacuation route (Secondary Access Road) would connect to Butts Canyon Road at the existing intersection located approximately halfway between the Langtry Winery entrance and the entrance to the Primary Access Road. The third evacuation route would be via a newly improved road, for evacuation egress and emergency access only, that would connect from the interior of the Project site through an adjacent property (per easement agreement) to SR 29 via Grange Road.

Project Evacuation Routes

- Primary Access Road to Butts Canyon Road
- Secondary Access Road to Butts Canyon Road
- Grange Road (evacuation egress and emergency access only) connection to SR 29

Evacuation Scenarios

This section provides a description of the wildfire events and study years that define the evacuation scenarios evaluated in this assessment.

Wildfire Scenarios

Two primary hypothetical wildfire events as summarized below are evaluated based on a review of the South Lake County wildfire history described in ***Section 2: Wildfire and Evacuation History*** and consultation with wildfire experts.

- **Wildfire Scenario A (wildfire from north to south)** is based on a wildfire that starts in Boggs Mountain Demonstration State Forest in the northwest portion of the Evacuation Area and moves to the southeast, similar to the 2015 Valley Fire that was a significant wind-driven weather event that traveled from northwest to southeast from Cobb Mountain into the valleys and communities of Middletown and Hidden Valley Lake.
- **Wildfire Scenario B (wildfire from south to north)** is based on a wildfire that starts on Mt. St. Helena in the southernmost portion of the Evacuation Area and moves to the north. This is somewhat similar to the LNU Lightning Complex fire that affected the southern portion of the Evacuation Area.

Evacuation Study Years

The following evacuation study years will be evaluated for each of the wildfire hazard scenarios described above.

- Baseline (2022)
- Baseline (2022) plus Guenoc Valley Project Phase 1
- Cumulative (2040)
- Cumulative (2040) plus Guenoc Valley Project Full Build-out

Study Scenarios

Table 4-1 summarizes the eight study scenarios that encompass the two wildfire hazard scenarios and four evacuation study years described above. All eight evacuation scenarios assume a mandatory evacuation order is issued for the Evacuation Area on a typical Friday afternoon (i.e., at approximately 4:00 PM) during the summer season (i.e., August). Counts conducted at various locations along SR 29 indicate that the highest hourly volumes in the pm period on a Friday occur between 4:00-5:00 pm.

Scenarios 1-4 are based on a wildfire originating in the northwest of the Evacuation Area that travels to the south while Scenarios 5-8 are based on a wildfire originating in the southern part of the Evacuation Area that travels to the north.

Table 4-1. Evacuation Scenarios

Scenario	Wildfire Hazard Scenario	Evacuation Study Year	Project Conditions
1	Wildfire Scenario A – wildfire from north to south	2022	No Project
2		2022	Project Phase 1
3		2040	No Project
4		2040	Project Build-out
5	Wildfire Scenario B – wildfire from south to north	2022	No Project
6		2022	Project Phase 1
7		2040	No Project
8		2040	Project Build-out

Source: Fehr & Peers

FIGURE 4-1
EVACUATION AREA

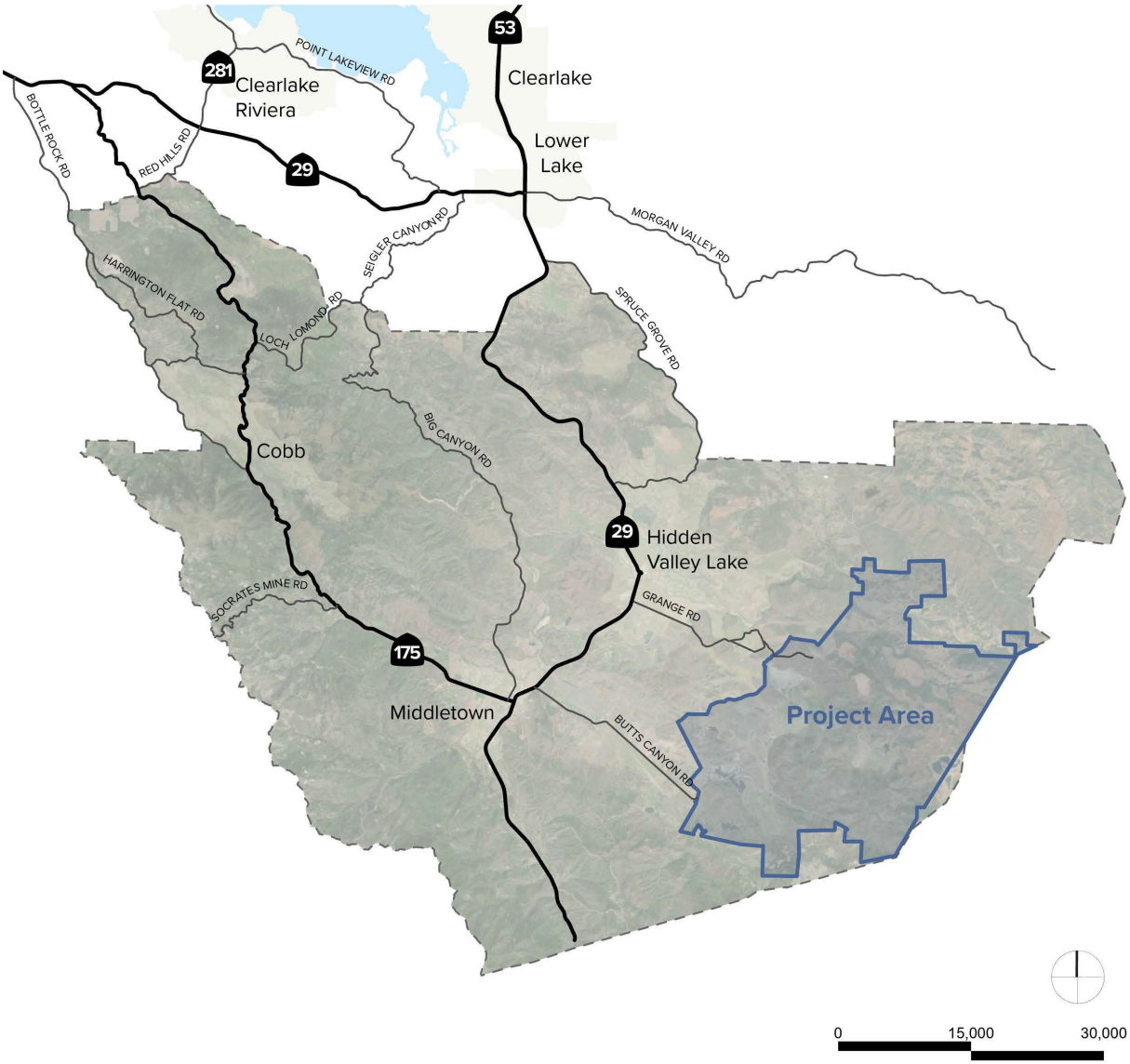


Figure 4-1. Evacuation Area

FIGURE 4-2
EVACUATION ROUTES

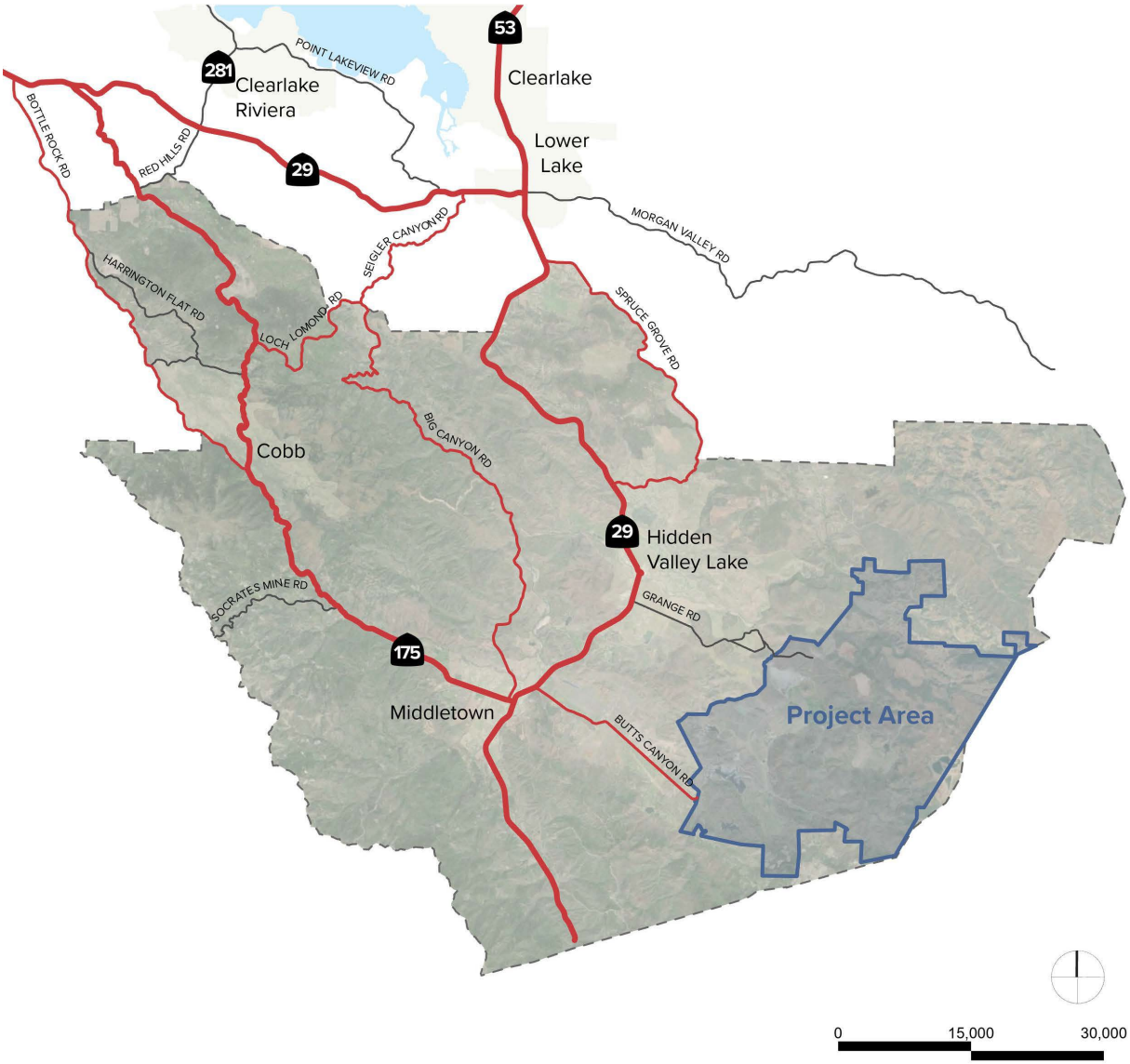


Figure 4-2. Evacuation Routes

Evacuation Model

The following section describes the simulation model used to develop evacuation time estimates for the study scenarios.

Traffic Simulation Model

Assessing the capacity of the evacuation system can be completed in different ways, from identifying a theoretical hourly capacity of the roadways and comparing it to an expected traffic volume to a full simulation of the roadway network to assesses how traffic will redistribute to alternative routes during an evacuation and identification of congested locations in the event of an evacuation.

For this 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.[16] LAMM is a 450-square-mile microscopic traffic simulation model spanning most of Lake County. The model study area includes 720 road miles, 120 of which are on State Routes 20, 29, and 53. The model also includes road network detail in local communities. LAMM was prepared using a simulation-based Dynamic Traffic Assignment (DTA) package called TransModeler.[17] Calibration and validation criteria published by the Federal Highway Administration (FHWA) and Caltrans were targeted in the calibration and validation phases of model development. An extensive traffic count data collection effort was conducted in September of 2011. The LAMM met all standards set by Caltrans for micro-simulation projects for both the AM and PM periods overall and within each of their three hours. The LAMM also met all of the statistics for the turning movement counts.

The LAMM was designed to interface with the Wine Country Interregional Partnership (WCIRP) travel demand model (TDM). The LAMM and WCIRP TDM are built on shared geographic information system platform. The LAMM includes nearly every street in Lake County and was calibrated and validated based on criteria published by the Federal Highway Administration (FHWA) and Caltrans. LAMM was used for the traffic operations assessment for the SR 29 South Corridor Engineered Feasibility Study.[18]

The LAMM relies on a series of zones consistent with the WCIRP TDM, trip tables that identify trips between land uses in the origin zones and destination gateways, and the existing road network. LAMM estimates traffic and levels of congestion on 15-minute intervals and, as link congestion builds (i.e., roads fill with cars), it dynamically reassigns traffic to less congested routes if available.

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[16] *Lake County Area-Wide Micro-Simulation Model Draft Report*, Prepared for the Lake County/City Area Planning Council, Caliper Corporation, February, 2013.

[17] TransModeler Traffic Simulation Software, Caliper Corporation, https://www.caliper.com/transmodeler/default.htm

[18] *State Route 29 South Corridor Engineered Feasibility Study*, Prepared for Caltrans District 1 and Lake County/City Area Planning Council, Prepared by Omni-Means, January, 2014.

This is a dynamic approach to estimating trip assignment and identifying congested locations on the transportation network.

For this 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 model was originally developed, and 2022 from 64,300 to 68,200 for a total growth of 6.1 percent.[19] This indicates there was not a substantial change in population in Lake County over the period of time since the LAMM model 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.

Cumulative (2040) Transportation Network Adjustments

One modification to the transportation network was made in the LAMM for the cumulative (2040) analysis. For cumulative (2040) conditions, Segment 2C of the Konocti Corridor (formerly Lake 29 Improvement) project was added to the LAMM network.[20] The Konocti Corridor project would ultimately widen SR 29 to a four-lane expressway with access control between the communities of Lower Lake and Kelseyville. Segment 2C, which is currently under construction, is a 3.1-mile segment (from postmile 28.5 to 31.6) from just west of the junction with SR 175 to about one-half mile west of the signalized intersection at SR 281/Red Hills Road. The following is a summary of the SR 29 Segment 2C improvements that are incorporated in the cumulative (2040) transportation network.

- Widening of SR 29 from 2 to 4 lanes with a 46’ median (where the left turn and acceleration lanes described below will be located) for the 3.1 mile Segment 2C (Caltrans postmile 31.6 to 28.5), from just west of the junction with SR 175 to about one-half mile west of the signalized intersection at SR 281/Red Hills Road.
- 4-leg intersection at SR 29/SR 175 with side street stop control on the north and south (new) approaches.
    - SR 175 approach reconfigured to connect at 90-degree angle
    - Eastbound and westbound left turn pockets on SR 29 (assume 800’ long storage/deceleration lane length)
    - Eastbound and westbound acceleration lanes to support 2 stage left turns onto SR 29 (assume 1,000’ long acceleration lanes)

[19] UC Census Bureau. Quick Facts. Retrieved August 4, 2023, from https://www.census.gov/quickfacts/fact/table/lakecountycalifornia/PST045222.

[20] *Lake 29 Improvement Project Final Environmental Impact Report/Environmental Assessment and De Minimis Section 4 (f),* Caltrans District 1, November 2016.

Segments 2A and 2B of the Konocti Corridor project are not included in the cumulative (2040) network because funding for the two segments is not currently programmed.[21]

Caltrans District 1 staff have indicated that improvement measures to increase the capacity of the signalized SR 29/Wardlaw Street intersection in Middletown are funded and design efforts are under way[22]. Since the exact configuration of the intersection improvements has yet to be finalized, capacity improvements at the intersection are not included in the cumulative (2040) network.

Project Phase 1 and Project Build-out Networks

For both the Phase 1 and Build-out Project scenarios, a roundabout is added to the existing network at the intersection of SR 29 and Butts Canyon Road. The roundabout improvement at this intersection is identified as a Project mitigation measure to be constructed prior to the beginning of Phase 1 construction.

Reduced Road Network Capacity During Evacuation

The typical daily operating conditions for both the number of travel lanes per direction and associated hourly capacity per lane in the LAMM is based on road segment capacity and intersection capacity as defined in the *Highway Capacity Manual* (HCM).[23] The HCM is a national guide for computing the capacity and quality of service of various transportation facilities including rural highways, arterial roads, roundabouts, and signalized and stop-controlled intersections.

However, depending on the emergency event, the roadway capacity and intersection capacity of the evacuation routes can change over the duration of the event. This may be due to changes in driver behavior and/or presence of wildfire smoke, debris, or other hazards that change throughout the modeled evacuation period.

There is little research on how people drive in wildfire smoke and how changes in driver behavior during a wildfire evacuation affect roadway capacity. Research conducted in China[24] reports that drivers reduce their speed in low-visibility conditions by approximately 40 percent in order to increase safety. For this evacuation assessment, a reduced capacity of approximately 40 percent below standard road capacity levels is applied to reflect the effects of smoke and evacuation conditions on driver behavior.

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[21] *2022 State Transportation Improvement Program (STIP),* California Transportation Commission, Adopted March 16, 2022.

[22] Personal communication with Rex Jackman, Office Chief of Transportation Planning/South Counties – Lake and Mendocino, California Department of Transportation (Caltrans), May 31, 2022 [Personal interview by phone].

[23] *Highway Capacity Manual 7th Edition: A Guide for Multimodal Mobility Analysis*, Washington, D.C., Transportation Research Board, 2022.

[24] *Investigating factors influencing drivers' speed selection behavior under reduced visibility conditions*, Zhang W, Hu Z, Feng Z, Ma C, Wang K, Zhang X (2018).

Two lane roads comprise all of the evacuation routes within the study area. The per-lane capacity of a two-lane highway is estimated at 1,700 passenger cars per hour (pc/h) based on the Highway Capacity Manual. This capacity value has been used in numerous evacuation studies for two lane roads including the *City of Ashland Evacuation Time Estimate Study* (April 2021)[25]. For this evacuation study, a reduced capacity of 1,000 passenger cars per hour per lane was applied to the evacuation routes to account for the effect of low-visibility conditions.

Evacuation Vehicle Trip Demand

The following section describes the population groups that would evacuate, and the number of vehicle trips generated by both community population groups (existing residents, employees, and visitors) and Project population groups. The following are key parameters of the evacuation demand estimates.

- Evacuation order issued at 4:00 pm on a Friday afternoon in August
- All homes are occupied for both community population groups and Project population groups
- 100 percent of residents for both community population groups and Project population groups in Evacuation Area evacuate
- 80 percent of employees for community population groups and 100 percent of employees for Project population groups are at their place of employment
- 85 percent hotel occupancy for community population groups and 100 percent hotel occupancy for Project population groups

Traffic counts obtained for SR 29, the evacuation route with the highest volumes in the Evacuation Area, show that daily volumes are highest on Fridays when compared to Wednesday and Thursday counts. PM peak hour volumes are traditionally the highest hourly volumes of weekdays, and counts conducted at various locations along SR 29 indicate that the highest hourly volumes in the pm period on a Friday occur between 4:00-5:00 pm, which is why the evacuation assessment is based on an evacuation order at 4:00 pm on a Friday in August when background volumes are at their highest.

It is unlikely that the combination of the above key parameters would occur and, as such, the evacuation vehicle trip demand estimates are likely to be conservative. As an example, surveys conducted for a UC Berkeley study of California Wildfire Evacuations from 2017 to 2019 summarized earlier in this report indicate an evacuation non-compliance rate ranging between 3 and 13 percent, and this assessment is based on 100 percent evacuation of project residents, employees, and visitors.

[25] *City of Ashland Evacuation Time Estimate Study*, prepared for City of Ashland, Oregon, KLD Engineering, P.C., page 4-6, April 2021.

One component not described above is the evacuation of people who do not have access to a vehicle, such as people with mobility limitations, zero vehicle households, and visitors staying in South Lake County. As described in Section 2, a priority for Lake County Sheriff personnel is evacuation notification and evacuation of residents who are not able to evacuate themselves. The Sheriff maintains a database of residents who need evacuation assistance in the Zonehaven platform and identifies those residents for assistance when their zone is designated for evacuation. In previous fires such as the Valley Fire, the Sheriff has performed these evacuations and requested and obtained assistance from other agency staff to support these evacuations.

Evacuation Trips Generated by Community Population Groups

The affected community population groups would be permanent residents, employees, and visitors/tourists who would be present during an evacuation in the Evacuation Area. The estimate of evacuation trips for community population groups assumes that 100 percent of all residential units are occupied, 85 percent of hotel units are occupied, and 80 percent of all employees are on-site when the evacuation order occurs on Friday at 4:00 pm.

Trips generated by residential households were informed by the most recent available data from the US Census Bureau. This includes data on population, the number of households, persons per household, and vehicles per household.

Employees who work in the Evacuation Area include those who live within the Evacuation Area and those that live outside the Evacuation Area. The analysis assumes that employees who live within the Evacuation Area would make a trip from work to home, and then be part of a subsequent evacuation trip from their primary household via an evacuation route to the boundary of the Evacuation Area which is hereafter described as a gateway. Employees that live outside the Evacuation Area were assumed to travel directly to a gateway and beyond to their residence.

Employees that live within but work outside the Evacuation Area would be at work at the time of the evacuation order. The analysis assumes that they would make a trip from their place of work outside the Evacuation Area to their residence within the Evacuation Area, and then be part of a subsequent evacuation trip from their primary household to a gateway.

For the 2022 No Project evacuation scenario, the Evacuation Area includes approximately 4,455 households, 1,214 second homes, 123 hotel rooms, 1,591 employees at work who live and work inside the Evacuation Area, 1,240 employees at work who work inside but live outside the Evacuation Area, and 1,414 employees at work who live inside but work outside the Evacuation Area. These population groups are estimated to generate a total of 13,542 evacuation-related trips. **Table 4-2** identifies the number of evacuation trips generated by each of the community population groups.

For the 2040 No Project evacuation scenario, growth in households and employment was forecast based on land use forecasts in the Wine Country Travel Model. Average annual growth rates were

identified based on 2009 and 2030 land use forecasts in the model. Those average annual growth rates were applied to the Year 2022 residential and employment totals described above to generate year 2040 land use forecast. An overall growth of 28 percent in households and employment is forecast to occur on the South Lake County communities of Cobb, Hidden Valley Lake, and Middletown from 2022 to 2040. This represents a forecast annual average growth of about 1.6 percent through the cumulative horizon year of 2040. For reference, the annual average growth in Lake County population between 2011 and 2022, from 64,300 to 68,200, was 0.6 percent[26]. The cumulative forecast growth is more than double the rate of growth experienced in Lake County over the past decade. Almost half of this growth is forecast to occur in the Hidden Valley Lake community and surrounding area.

Table 4-2. Evacuation Trips for Community Population Groups

Group	Units	Quantity	Trips
Primary Households	Dwelling Units	4,455	7,735
Second Homes	Dwelling Units	1,214	1,457
Hotels	Hotel Rooms	123	105
Employees at Work (who live and work inside Evacuation Area)	Persons	1,591	1,591
Employees at Work (who work inside but live outside Evacuation Area)	Persons	1,240	1,240
Employees at Work (who live inside but work outside Evacuation Area)	Persons	1,414	1,414

Source: Fehr & Peers

Evacuation Trips Generated by Project Population Groups

The affected Project population groups would be estate residents, hotel guests, employees, and visitors who would be present within the Project site during an evacuation. The estimate of evacuation trips for the Project population groups assumes that 100 percent of all Project residential and hotel units are occupied, and that 100 percent of all Project employees are on-site when the evacuation order occurs on Friday at 4:00 pm.

Evacuation trips by residents of estate units were assumed to occur 90 percent by private vehicle and 10 percent by plane or helicopter. Evacuation trips by hotel unit guests were assumed to occur 55 percent by private vehicle, 30 percent by shuttle, and 15 percent by plane or helicopter. Air transportation and/or arrival will be provided via an on-site helipad and float plane dock. Additionally, an emergency heliport will be centrally located at the on-site Emergency Response Center. The estate units that evacuate via private vehicle are estimated to generate 1.9 vehicle

[26] UC Census Bureau. Quick Facts. Retrieved August 4, 2023, from https://www.census.gov/quickfacts/fact/table/lakecountycalifornia/PST045222.

evacuation trips per unit. For context, the 1.9 trips per unit rate is higher than the rates identified through the previously noted surveys of recent fire evacuees.

- Santa Rosa Post-Fire Survey – 1.75
- UC Berkeley Study of 2017-19 Fires – 1.89

Resort residential units were assumed to generate 1.0 vehicle evacuation trips per unit, as these units would be smaller two-bedroom, two-bath houses rented through the hotels, with parking for one vehicle.

Phase 1 of the Guenoc Valley Project would include or be assumed to include 401 estate units, 141 resort residential units, 127 hotel rooms, 610 employees, and 100 visitors on a Friday at 4:00 pm. These population groups are estimated to generate a total of 1,609 evacuation trips. **Table 4-3** identifies the number of evacuation trips generated by Phase 1 of the Project population groups.

Table 4-3. Evacuation Trips for Project Phase 1 Population Groups

Group	Units	Quantity	Trips
Estate Units	Dwelling Units	401	686
Resort Residential Units	Dwelling Units	141	141
Hotels	Hotel Rooms	127	89
Employees	Persons	610	610
Visitors	Persons	100	83

Source: Fehr & Peers

Full build-out of the Guenoc Valley Project would include or be assumed to include 1,400 estate units, 450 resort residential units, 400 hotel rooms, 1,220 employees, and 200 visitors on a Friday at 4:00 pm. These population groups are estimated to generate a total of 4,511 evacuation trips. **Table 4-4** identifies the number of evacuation trips generated by Build-out of the Project population groups.

Table 4-4. Evacuation Trips for Project Build-out Population Groups

Group	Units	Quantity	Trips
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

Source: Fehr & Peers

Background Traffic Trips

"Background" traffic is comprised of through trips on the evacuation routes that do not have an origin or destination in the Evacuation Area. Examples of background traffic on a late Friday afternoon in the summer are recreational trips destined for Lake County and employees returning to homes in communities north of the Evacuation Area from jobs in adjacent Napa or Sonoma Counties.

SR 29 is the primary route for through traffic in the Evacuation Area, as it serves as the direct route between Napa and communities on the east side of Clear Lake. Road segment counts conducted on SR 29 just south of Lower Lake on Friday, September 30, 2022 yielded a total daily volume of 13,430 which exceeded the daily volumes on the two prior days of 11,970 on Wednesday and 12,290 on Thursday. The highest hourly volumes on this segment of SR 29 occurred on Friday between 3:30 and 4:30 pm when a total of 1,020 vehicles per hour were counted. The hourly segment volumes were 860 between 5:00-6:00 pm and 380 between 8:00-9:00 pm.

Through trips for the Evacuation Area network were estimated based on daily and peak hour traffic counts collected in 2022 as well as origin-destination matrices extracted from the WCIRP TDM.

To facilitate evacuation on SR 29 during the 2015 Valley Fire evacuation, southbound traffic on SR 29 was stopped at Lower Lake and northbound traffic on SR 29 was stopped at Tubbs Lake in Napa County by California Highway Patrol (CHP) and Napa sheriff deputies, respectively. These road closures, which stopped through traffic in both directions on SR 29, were made about 5 to 5.5 hours after the Valley Fire was initially reported. To provide a conservative assessment of evacuation conditions, this evacuation assessment does not assume closure of SR 29 as occurred in the Valley Fire. As such, through traffic continues to travel on the transportation network throughout the evacuation simulation period.

Evacuation Departure Time Distribution

The evacuation departure time for trips leaving the Evacuation Area varies by many factors including, but not limited to, the time of day, type of hazardous event, perceptions of risk, and

relative preparedness of evacuees. For situations where ample notice is given or the family unit is already together, less time is needed to prepare for the evacuation. On the other hand, where there is minimal notice given or when the family unit is not together, the time required to prepare for an evacuation is typically longer as residents need to pack belongings, collect their animals, and conduct other coordination activities before beginning their evacuation trip.

With different evacuation starting times for evacuees, the impact of the evacuation trips on the roadway network will be dispersed. For the evacuation scenario testing, the starting time for all evacuation scenarios was set at 4:00 PM, which represents the earliest time evacuees begin their trip to leave the Evacuation Area after receiving a mandatory evacuation notice.

The evacuation time distribution is the anticipated rate at which evacuees would vacate and begin their travel on the evacuation routes. The evacuation time distributions by affected population groups for the eight evacuation scenarios are shown in **Table 4-5**. The table shows the percent of the population that begins their evacuation trips, by 15-minute intervals, starting at 4:00 PM. The trip allocation ranges are separately provided for trips by employees/tourists, residents without a commuter, residents with a commuter, and employees for the proposed Project. The table builds on research conducted for the *City of Ashland Evacuation Time Estimate Study* (April 2021) which identified evacuation curves for employees and residents based on surveys. Employees and tourists in the community population group have the steepest departure curve as they do not have to pack items or coordinate evacuations with others. Residents that do not have a worker employed outside the household are able to evacuate quicker than residents with a worker employed outside the household, as many of those households would wait for the person to return home from work before evacuating. Lastly, Guenoc Valley Project employees would have a delayed departure curve compared to other employees in the Evacuation Area because most of them would be required and would be trained to assist in the evacuation of residents and guests.

Table 4-5. Percent of Population Beginning Evacuation Trip after Evacuation Notice

Time Interval (PM)	Employee or Tourist	Resident with No Commuter	Resident with Commuter	Project Employees
4:00-4:14	45%	8%	0%	0%
4:15-4:29	82%	48%	1%	5%
4:30-4:44	93%	75%	8%	10%
4:45-4:59	96%	85%	23%	15%
5:00-5:14	100%	92%	43%	20%
5:15-5:29		95%	60%	25%
5:30-5:44		96%	73%	45%
5:45-5:59		97%	81%	82%
6:00-6:14		98%	86%	93%
6:15-6:29		99%	90%	96%
6:30-6:44		99.5%	94%	100%
6:45-6:59		100%	96%	
7:00-7:14			97%	
7:15-7:29			98%	
7:30-7:44			99%	
7:45-7:59			100%	

Sources: *City of Ashland Evacuation Time Estimate Study*, April 2021; Fehr & Peers, 2022.

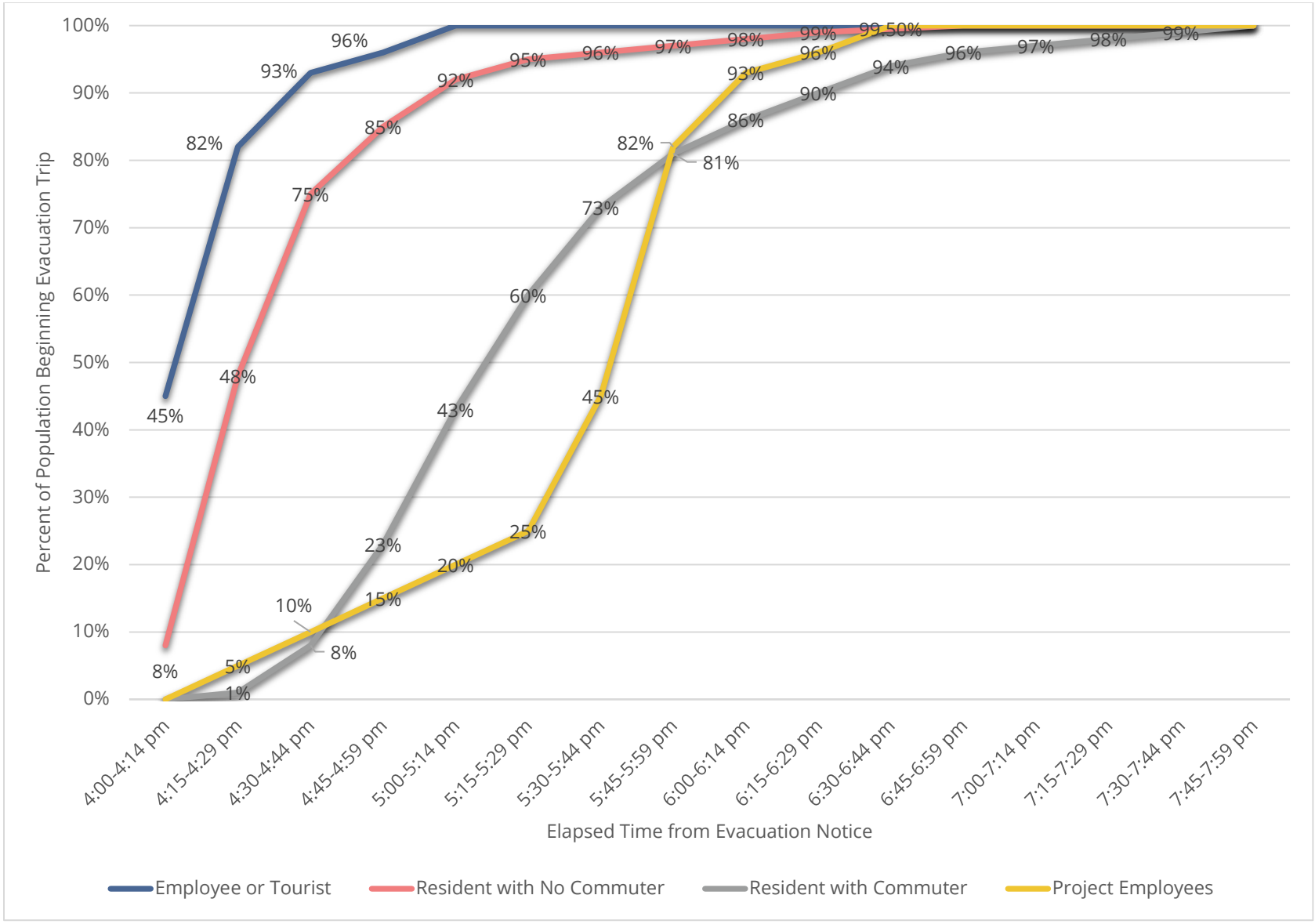

Figure 4-3. Evacuation Departure Time Distribution – Start Time for Evacuation Trip

Evacuation Departure Directional Distribution

The following section describes the directional distribution of evacuation trips to four primary gateways at the edges of the Evacuation Area.

1. Northwest towards Kelseyville and Lakeport via SR 175 and Bottle Rock Road
2. North towards Lower Lake and Clear Lake via SR 29
3. Southeast towards Napa, Sacramento, and East Bay via Butts Canyon Road
4. South towards Calistoga, Sonoma, Marin, and San Francisco Counties via SR 29

Figures 4-4 and **4-5** show the directional distribution to each gateway for Wildfire Scenarios A and B for the community and Project population groups, respectively. Additional background on the directional distribution is provided below.

Directional Distribution for Community Population Groups

Evacuation trips generated by households would likely be pretty evenly distributed to the northwest, north, and south gateways for Wildfire Scenario A (fire moving from north to south) based on data gathered about evacuation patterns for previous wildfires, particularly the 2015 Valley Fire. Under Wildfire Scenario B (fire moving from south to north), the number of evacuation trips traveling to the south via SR 29 would likely be reduced by half with those trips shifting to the northwest and north gateways. Employees that are working on a Friday afternoon and live within the Evacuation Area would travel home and then become part of the household evacuation based on the household distribution. Employees that live outside the Evacuation Area are distributed directly to gateways based on distribution data extracted from the WCIRP TDM for the 2020 scenario.

Evacuation trips generated by second homes would likely be pretty evenly distributed to the north and south gateways, with almost half expected to evacuate via the south gateway as many of the visitors coming to Lake County would travel from areas towards the south, such as the Bay Area. Under Wildfire Scenario B (fire moving from south to north), the number of evacuation trips traveling to the south would be reduced by almost half with those trips shifting primarily to the northwest gateway. Evacuation trips generated by hotel guests would be distributed similarly to those generated by second homes as both population groups would have a similar visitor profile.

Directional Distribution for Project Population Groups

Residents living in the Project's estate units and hotel guests would primarily travel to the Project site from the Bay Area or Sacramento Valley and are thus primarily assigned to the south and southeast gateways for Wildfire Scenario A (fire moving from north to south). Under Wildfire Scenario B (fire moving from south to north), the number of evacuation trips traveling to the south and southeast gateways would be reduced by half with those trips shifting to the northwest and north gateways.

A large share of employees are expected to live in Lake County and, under Wildfire Scenario A, would travel either to homes in the Evacuation Area (and then evacuate to gateways based on the household distribution above for community population groups) or to the north or northwest gateways. Under Wildfire Scenario B, the number of evacuation trips traveling to the south and southeast gateways would be reduced by half with those trips shifting to the northwest and north gateways.

Visitors to the Project site are expected to be equally distributed between those who live in Lake County to the north and those who live in the Bay Area and Sacramento Valley to the south. Most visitor evacuation trips are assigned equally to the southeast and north gateways under Wildfire Scenario A, with a smaller share assigned to the northwest and south gateways. Under Wildfire Scenario B, the number of evacuation trips traveling to the southeast gateway would be reduced by almost half with those trips shifting to the northwest and north gateways.

FIGURE 4-4
COMMUNITY TRIP DISTRIBUTION

	1 SR 175 N		2 SR 29 N		3 Butts Canyon Rd		4 SR 29 S	
Scenario	A	B	A	B	A	B	A	B
Households	31%	37%	38%	47%	1%	1%	30%	15%
Second Homes	10%	25%	42%	47%	3%	3%	45%	25%
Visitors	10%	25%	42%	47%	3%	3%	45%	25%

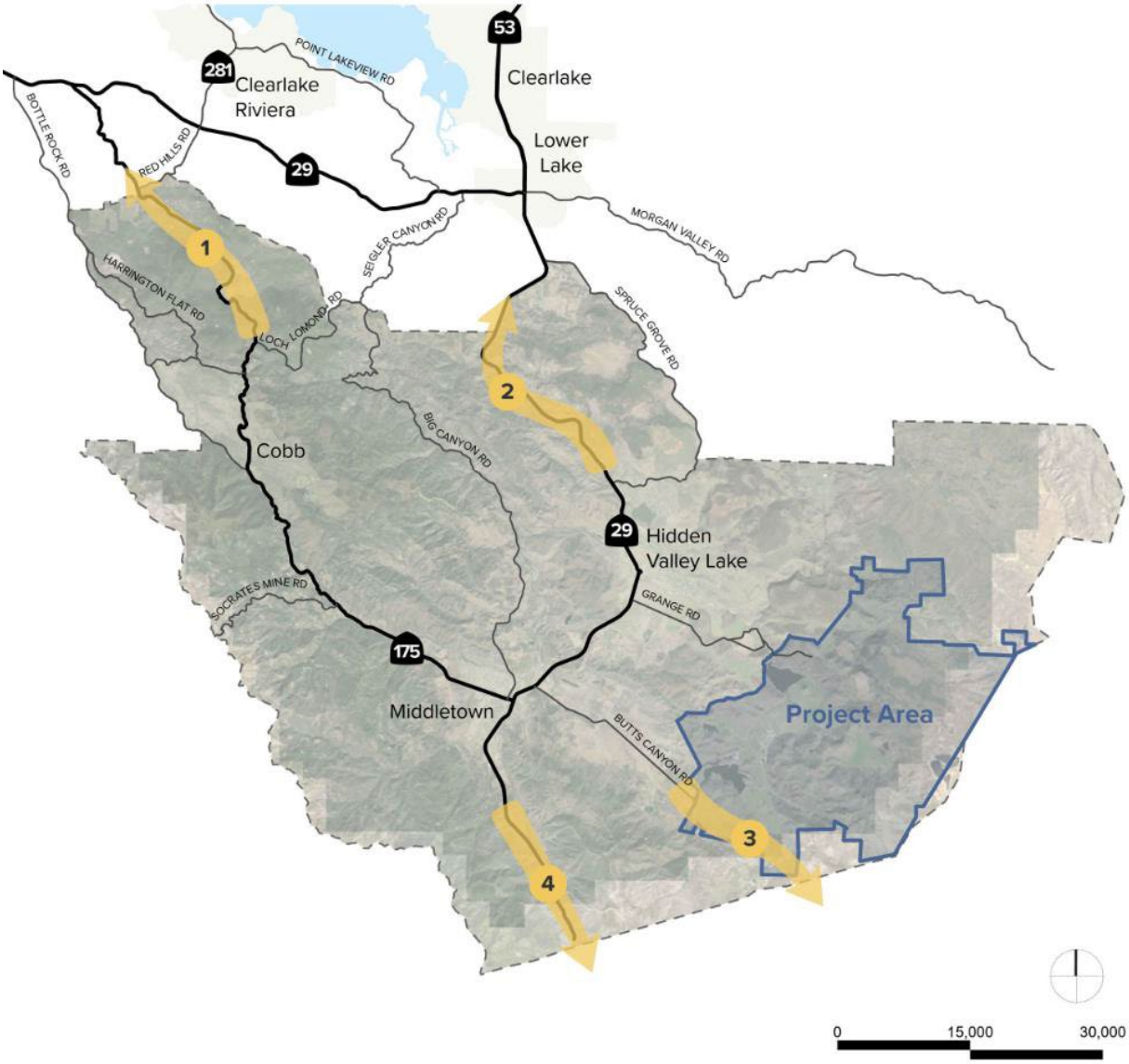

Figure 4-4. Community Trip Distribution

FIGURE 4-5
PROJECT TRIP DISTRIBUTION

	1 SR 175 N		2 SR 29 N		3 Butts Canyon Rd		4 SR 29 S	
Scenario	A	B	A	B	A	B	A	B
Estate Units	5%	25%	5%	25%	45%	30%	45%	20%
Hotel Guests	5%	20%	15%	35%	40%	25%	40%	20%
Employees	20%	25%	50%	60%	20%	10%	10%	5%
Visitors	10%	20%	40%	45%	40%	25%	10%	10%

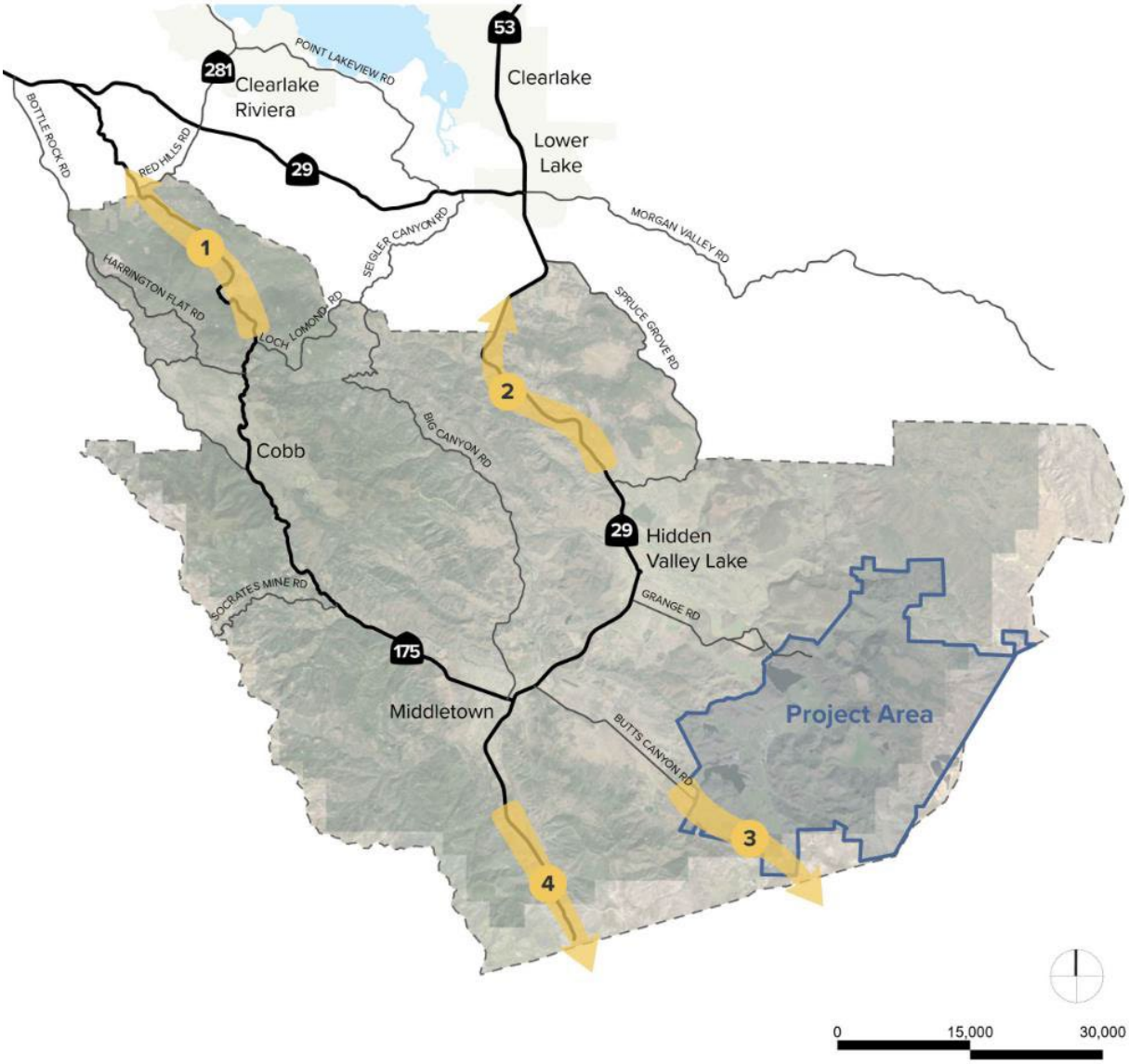

Figure 4-5. Project Trip Distribution

Evacuation Time Estimates

After determining the evacuation trip demand and associated transportation network, a dynamic traffic assignment was performed to reflect congestion and departure time to estimate evacuation times, or ETE. An ETE is a metric that is defined as the estimated time necessary to safely evacuate all evacuees, from the time when a hazard is first identified until the time when either the last evacuee leaves a hazardous area, or the remaining population is forced to shelter-in-place. The determination of whether it is the last evacuee or forced shelter-in-place is made by emergency response personnel, is hazard-specific, and considers factors such as the type of hazard or threat, level of notice, population characteristics of the area at the time of the hazardous event, and evacuee behavior. There are several phases of an ETE described below:

- Hazard Detection: Time when hazard is first identified.
- Hazard Notification to the Public: Time when any official releases an evacuation order to the public.
- Evacuation Order Received: Time when people receive the evacuation order.
- Preparation: Time it takes to prepare to depart after receiving evacuation order.
- Evacuation Time: The total elapsed time until all people in vehicles are out of the Evacuation Area including time driving (moving) and delay due to congestion. The calculated evacuation time does not account for unexpected complications or incidents on the roadways during the evacuation.

It should be noted that some phases may not occur. This can result from a variety of events including failure of officials to identify the hazard, slow response in sending evacuation orders, damaged or non-functional communication networks, and/or a sufficiently high perceived threat of the hazard by residents. Additionally, research on California wildfire evacuations found that some people evacuated their home prior to receiving an evacuation order (Wong et al. 2020). This assessment assumes that Lake County officials and emergency response personnel will be able to send out informed evacuation orders in a timely manner.

This assessment calculates the evacuation time estimates (last evacuee leaves the Evacuation Area) after an evacuation order was received by the public. The evacuation time estimates do not account for time it takes for a hazard to be identified or the amount of time it takes for the official release of an evacuation order to the public. **Table 4-6** summarizes the evacuation time estimates (last vehicle out) for each of the evacuation scenarios included in this assessment.

Table 4-6. Evacuation Time Estimates by Scenario

Criteria	Scenario							
	1	2	3	4	5	6	7	8
Hazard Type	**Wildfire Scenario A (Wildfire from North to South)**				**Wildfire Scenario B (Wildfire from South to North)**			
Study Year	**Baseline (2022)**		**Cumulative (2040)**		**Baseline (2022)**		**Cumulative (2040)**	
Project Conditions	**No Project**	**Project Phase 1[1]**	**No Project**	**Project Build-out[2]**	**No Project**	**Project Phase 1[1]**	**No Project**	**Project Build-out[2]**
Evacuation Time Estimate (hours) – 90% Evacuated	3.5 hours	4 hours	4 hours	5.5 hours	3.5 hours	4 hours	4 hours	5 hours
Evacuation Time Estimate (hours) – 100% Evacuated	4.5 hours	5 hours (+0.5 hours)	5 hours	7.5 hours (+2.5 hours)	4.5 hours	5 hours (+0.5 hours)	5 hours	7 hours (+2 hours)

Notes:

1. Project Phase 1 includes 401 residential estate units, 141 resort residential units, 127 hotel rooms, Middletown off-site employee housing for 221 employees, 610 employees, and 100 visitors.
2. Full Project Build-out: 1,400 residential estate units, 450 resort residential units, 400 hotel rooms, Middletown off-site employee housing for 221 employees, 1,220 employees, and 200 visitors.
3. Evacuation notice time of day (4:00 PM), day of week (Friday), time of year (August), hazard response (100% evacuation) assumed consistent for all scenarios.

Source: Fehr & Peers, 2023.

Key Takeaways

This section summarizes the evacuation assessment approach and evacuation time estimates presented in this report for two wildfire scenarios in South Lake County for the Guenoc Valley Project. Two wildfire scenarios are assessed, the first based on a wildfire progressing from north to south similar to the 2015 Valley Fire and the second based on a wildfire progressing from south to north.

The evacuation assessment approach sections include a description of the evacuation scenarios, evacuation model, and evacuation vehicle trip demand. The discussion of evacuation vehicle trip demand includes evacuation trips generated by the community population groups, evacuation trips generated by the Guenoc Valley Project, background (i.e., through) trips, evacuation departure time distribution, and evacuation departure directional distribution.

The evacuation assessment is conservative in that it is for a summer Friday afternoon (4:00 pm evacuation notice) and assumes 100 percent of Project homes and hotels are occupied; 100 percent of residents, employees and visitors evacuate; and no police resources are available to provide traffic control to manage evacuation traffic. The assessments of evacuation times yield the following results.

Wildfire Scenario A (wildfire from north to south)

- Congestion forms along primary and secondary evacuation routes in all scenarios.
- The segment of SR 29 from Middletown to the south is the most heavily used evacuation route and most congested. The most significant bottleneck is at the Hidden Valley Lake community access points to SR 29 under both no Project and with Project scenarios. Other significant bottlenecks are at the traffic signals along SR 29 at SR 53/Main Street in Lower Lake, at SR 175 in Middletown, and at SR 281 south of Clear Lake Riviera. Under cumulative conditions, the new roundabout that would be constructed as a Project mitigation measure at the SR 29/Butts Canyon Road intersection is heavily congested with evacuation vehicle trips generated by full build-out of the Project.
- The addition of evacuation vehicle trips generated by Phase 1 of the Project, when added to evacuation vehicle trips generated under existing conditions by existing community population groups in South Lake County, would increase total evacuation time by approximately 30 minutes (from about 4.5 hours to about 5 hours) for Wildfire Scenario A.
- The addition of evacuation vehicle trips generated by full build-out of the Project, when added to evacuation vehicle trips generated under future cumulative 2040 conditions by surrounding community population groups in South Lake County, would increase total evacuation time by approximately 2 hours and 30 minutes (from about 5 hours to about 7.5 hours) for Wildfire Scenario A.

Wildfire Scenario B (wildfire from south to north)

- Congestion forms along primary and secondary evacuation routes in all scenarios.
- The segment of SR 29 south of Lower Lake is the most heavily used evacuation route and most congested. The most significant bottleneck is at the Hidden Valley Lake community access points to SR 29 under both no Project and with Project scenarios. Other significant bottlenecks are at the traffic signals along SR 29 at SR 53/Main Street in Lower Lake, at SR 175 in Middletown, and at SR 281 south of Clear Lake Riviera. Under cumulative conditions, the new roundabout that would be constructed as a Project mitigation measure at the SR 29/Butts Canyon Road intersection is heavily congested with evacuation vehicle trips generated by full build-out of the Project.
- The addition of evacuation vehicle trips generated by Phase 1 of the Project, when added to evacuation vehicle trips generated under existing conditions by existing community population groups in South Lake County, would increase total evacuation time by approximately 30 minutes (from about 4.5 hours to about 5 hours) for Wildfire Scenario B.
- The addition of evacuation vehicle trips generated by full build-out of the Project, when added to evacuation vehicle trips generated under future cumulative 2040 conditions by surrounding community population groups in South Lake County, would increase total evacuation time by approximately 2 hours (from about 5 hours to about 7 hours) for Wildfire Scenario B.

5. CEQA Impacts and Mitigation Measures

This section provides a description of potential wildfire risk and evacuation time estimate impacts in the Project area and describes the changes to those conditions that would result from implementation of the proposed Project. This wildfire evacuation impact assessment addresses the Superior Court Ruling on the Guenoc Valley Mixed Use Planned Development Project (Project) Environmental Impact Report (EIR), subsequent CEQA guidance released by the Attorney General, and compliance with CAL FIRE regulations related to wildfire evacuation and emergency access.

The potential wildfire risk and evacuation time impact effects of full build-out of the Project under the proposed General Plan amendment and rezoning of the Guenoc Valley Site are analyzed on a programmatic level. In addition to the program-level analysis, a project-level analysis of the impacts of the first phase (Phase 1) of the proposed Project is provided.

The analysis of wildfire impacts is based upon a review of project plans, maps, Cal Fire data, and other available documents as well as the wildfire risk assessment and evacuation assessment presented in Sections 1 through 4 of this study. The wildfire risk assessment and evacuation assessment conducted in this study was based on consultation with the Lake County Sheriff's Office, CAL FIRE, and Lake County counsel, public works, and community development staff. The impact analysis considers federal, state, and local regulations and guidelines.

Regulatory Framework

This section describes the wildfire and evacuation (emergency access/emergency egress) regulatory framework, which includes federal, state, regional, and county programs and other plans related to the Guenoc Valley Project and the associated EIR.

Federal

National Fire Protection Association 1710: The National Fire Protection Association (NFPA) is the international nonprofit organization devoted to establishing industry standards, known as the NFPA 1710, related to eliminating death, injury, property, or economic loss due to fire, electrical and related hazards. The NFPA recommends that fire departments respond to fire calls within 6 minutes of receiving the request for assistance for 90 percent of incidents. These time recommendations are based on the demands created by a structural fire. It is crucial to attempt to arrive and intervene at a fire scene prior to the fire spreading beyond the room of origin. Total structural destruction typically starts within 8 to 10 minutes after ignition. Response time is generally defined as 1 minute to receive

and dispatch the call, 1 minute to prepare to respond to the fire station or field, and 4 minutes (or less) travel time. (NFPA, 2020.)

State

Senate Bill (SB) 99 (2019)

SB 99 requires review and updating of each local city and county general plan's safety element to include information to identify residential developments in hazard areas that do not have at least two emergency evacuation routes.

Assembly Bill (AB) 747 (2019)

AB 747 requires that general plan safety elements be reviewed and updated to identify evacuation routes and their capacity, safety, and viability under a range of emergency scenarios.

Assembly Bill (AB) 1409 (2021)

AB 1409 requires general plan safety elements to be reviewed and updated to identify evacuation locations.

California Fire Safe Regulations (Public Resources Code Section 4290)

California Department of Forestry and Fire Protection (Cal Fire) is responsible for protecting natural resources from fire on land designated within a State Responsibility Area (SRA). The Guenoc Valley Site is within an SRA, specifically the Sonoma Lake Napa Administrative Unit. All development applications within the SRA must be reviewed by Cal Fire prior to issuance of County permits or entitlements. The Fire Safe Regulations include requirements for on-site water storage and fuel breaks.

Fire Hazard Severity Zones

Public Resources Code Sections 4201-4204 specify that lands within SRAs be classified into fire hazard severity zones. These zones are classified based on fuel loading, slope, fire weather, wind, and other relevant factors.

California Code of Regulations Title 24

California Fire Code

The California Fire Code is Part 9 of the California Code of Regulations (CCR) Title 24 and provides minimum building and fire safety standards for new construction. Standards include fire protection systems, fire and smoke protection, egress, fire resistant materials, and other safety standards.

California Building Code

The California Building Code (CBC) is Part 2 of the CCR Title 24. Specifically, chapter 7 includes regulations for fire and smoke protection. Chapter 7A includes requirements for flame resistant materials and construction methods for wildfire exposure. The requirements in this chapter apply to Wildland-Urban Interface Fire Areas, which are defined as "areas in state designated Fire Hazard Severity Zones or other areas designated by the enforcing agency to be at a significant risk from wildfires."

California Office of Attorney General

On October 10, 2022, the Attorney General's office published *Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act* (AG Guidance). The AG Guidance is designed to help lead agencies comply with CEQA when considering whether to approve projects in wildfire-prone areas. The guidance provides "*suggestions for how best to comply with CEQA when analyzing and mitigating a proposed project's impacts on wildfire ignition risk, emergency access, and evacuation*."

California Department of Transportation

Caltrans manages interregional transportation, including the management and construction of the California highway system. In addition, Caltrans is responsible for the permitting and regulation of state roadways. The Project area includes four roadways that fall under Caltrans' jurisdiction, State Route 29, State Route 53, State Route 175, and State Route 128. Any improvements to these roadways would require Caltrans' approval.

SR 29 South Corridor Engineered Feasibility Study

The SR 29 South Corridor Engineered Feasibility Study (2014) identified a series of planned improvements along SR 29 between the Lake County/Napa County line and Lower Lake. Based on consultation with Rex Jackman (Caltrans District 1 Office Chief of Transportation Planning/South Counties), since the study was completed, a roundabout was installed as planned at the SR 29/Hartmann Road intersection and passing lanes were constructed near Lower Lake. Caltrans is in the early project development stages of designing capacity improvements at the signalized intersection of SR 29/Wardlaw Street intersection.

County

The following plans and studies in Lake County are the applicable adopted emergency response/emergency evacuation plans:

- South Lake County Wildland Fire Preparation and Emergency Plan (2016)
- Lake County Emergency Operations Plan (2020)

The following plans and studies are also relevant to emergency responses and evacuations as well as fire risk reduction strategies in Lake County:

- Lake County Community Wildfire Protection Draft Plan (2022)
- Lake County Regional Transportation Plan/Active Transportation Plan (2022)
- Lake County Local Hazard Mitigation Plan (2018)
- Lake Transit Development Plan & Marketing Plan (2015)
- Valley Fire Post Fire Watershed Emergency Response Team Report (2015)
- Middletown Community Action Plan (2014)
- SR 29 South Corridor Engineered Feasibility Study (2014)
- Lake County General Plan (2008)

Lake County General Plan (2008)

The policies related to wildfire risk and evacuation in the Transportation & Circulation and Health & Safety Elements of the Lake County General Plan are summarized below.

Transportation & Circulation Element

The following policies in the Transportation & Circulation Element are relevant to the wildfire risk and evacuation assessment.

- Policy T-1.1 (Provision of Adequate Road Network): The County shall establish a road network (see Figure 6-1) to accommodate projected growth in traffic volume resulting from residential development, commercial and tourism expansion, and geothermal activity and other industrial development.
- Policy T-1.2 (Compliance with County Road Standards): Roads should be improved and constructed to the design standards recommended by the County Department of Public Works, as shown in Table 6-1, Lake County Road Design and Construction Standards. Road design standards shall be based on the American Association of State Highway and Transportation Officials (AASHTO) standards, and supplemented by California Department of Transportation (Caltrans) and County standards.
- Policy T-1.8 (Level of Service): County maintained roadways should be improved and maintained to provide an adequate peak period Level of Service (LOS) of "C" or better for existing and anticipated traffic volumes if roadway upgrades are feasible, such as roadway widening, addition of lanes via re-striping, and other safety and operational improvements. The County shall allow a limited number of County roadway segments to operate at a level of service of "E" or better where improving the segment to LOS C are deemed infeasible due to cost, negative community and/or environmental impacts, and constructability issues. This "E" level

of service for certain roadways shall not include any State Highway unless approved by Caltrans.

Health & Safety Element (Section 7.7-Urban and Wildland Fire Hazards)

The following policies in the Health & Safety Element are relevant to the wildfire risk assessment.

- Policy HS-7.1 (Consultation with Fire Service Districts): The County shall consult with the appropriate fire service district or California Department of Forestry in areas designated as high and extreme fire hazard, for particular regulations or design requirements prior to issuance of a building permit or approval of subdivisions (refer to Figure 7-3).
- Policy HS-7.2 (Encourage Cluster Development): In areas designated as high or extreme fire hazards, the County should encourage cluster developments to provide for more localized and effective fire protection measures such as consolidations of fuel build-up abatement, firebreak maintenance, firefighting equipment access, and water service provision.
- Policy HS-7.4 (Wildland Fire Management Plans): The County shall require the development of wildland fire management plans for projects adjoining significant areas of open space that may have high fuel loads.
- Policy HS-7.5 (Fuel Breaks): Fuel breaks of at least 30 feet should be maintained around all structures. Additional fuel breaks or fuel modifications up to 100 feet around structures should be required when the fire officials find that extra hazardous conditions exist. Secondary fuel breaks up to 200 feet in width should be required when the fire authority finds that additional precautions are necessary. Fire buffers should be created along heavily traveled roads within high and extreme fire hazard areas by thinning, discing, or controlled burning. Parks, golf courses, utility corridors, roads and greenbelts should be located so they may serve a double function as fuel breaks.
- Policy HS-7.6 (Development Guidelines): The County should consider fire hazards in evaluating development proposals. Within designated areas where population or residential building densities may be inappropriate to the hazards present, measures should be developed and adopted to mitigate risk to life and property loss. Lands designated as having high and extreme wildfire hazards may be developed provided that the following guidelines are satisfied:
- Development should be limited to Rural Residential or Rural lands only; and cluster development is encouraged.
- Developers and/or subsequent owners must assume responsibility for ongoing fire prevention maintenance activities for the project, including; abatement of fuel buildup, fire break maintenance, access provision, and provision of adequate water supply to meet fire flow.

- Separately developed dwellings with an individual private water supply shall provide an acceptable guaranteed minimum supply of water, in addition to the amount required for domestic needs.
- Policy HS-7.7 (Fire Resistant Building Materials): The exterior of residential units should be composed of fire resistant materials and designed to reduce fire vulnerability within high and extreme fire hazard areas.

Health & Safety Element (Section 7.8-Emergency Response)

The following policies in the Health & Safety Element are relevant to the wildfire evacuation assessment.

- Policy HS-8.7 (Emergency Operations Plan): The County shall ensure that the Emergency Operations Plan continues to meet current federal and state emergency requirements through periodic updating.

Middletown Community Action Plan (2014)

The Middletown Area Plan (Area Plan) is a specific plan that guides growth in the Middletown community and surrounding areas. The Area Plan provides guidance about public safety, including wildfires. The Area Plan indicates that wildfires are a significant hazard in the Middletown Planning Area and provides policies to minimize hazards. The relevant policies are as follows.

- Policy 4.3.1a: Coordinate land use planning with needed services, personnel and facilities for fire departments, law enforcement, medical emergencies, and public emergencies
- Policy 4.3.1b: Continue to support and assist in the implementation of adopted emergency preparedness plans and regulations.
- Policy 4.3.1c: Maintain an aggressive fire prevention program.
- Policy 4.3.1d: Residential development in high and very high fire hazard areas shall meet the following fire protection standards unless adequate fire suppression facilities are already available:
    - Adequate fuel breaks and fuel reduction shall be created and maintained.
    - Adequate water storage shall be provided and maintained.
    - Residential access roads shall not exceed slopes that allow safe passage by fully loaded fire equipment, and shall be maintained. Roads and driveways shall meet CAL FIRE standards and be either looped or double-access to provide escape routes in the event of wildland fire emergencies.
    - Development shall be clustered where appropriate to take advantage of fuel breaks and improved access to reduce fire danger.

- Policy 4.3.1e: Homeowners and homeowner's associations are encouraged to work with CAL FIRE, local fire protection districts, the Lake County Sheriff and adjacent property owners to establish and maintain programs for annual vegetation clearing and fuel breaks around the existing subdivisions in efforts to reduce fuel loading.

2009 Lake County Community Wildfire Protection Plan (CWPP) and Draft 2022 CWPP

The 2009 CWPP remains in effect as the Draft 2022 CWPP was released and the subject of an October 5, 2022 public workshop in the Board of Supervisors' chambers but has yet to be adopted[27]. The Draft 2022 Lake County Community Wildfire Protection Plan (CWPP) updates and streamlines the 2009 CWPP in accordance with newer guidelines, provides fire safety information to homeowners, provides information to homeowners to reduce ignitability of their homes, identifies recommended fuel reduction projects throughout Lake County, and identifies fire safety resources and groups throughout Lake County. The Draft 2022 CWPP provides a description of wildfire history in Lake County by decade, noting that the last decade has seen increased fire activity and intensity, as numerous homes have been lost and most residents have needed to evacuate at least once. Communities at highest level of wildfire risk include Cobb, Hidden Valley Lake, Loch Lomond, and Middletown in South Lake County near the proposed Project. The South Lake County Fire Protection District, one of six county Fire Protection Districts, is responsible for serving communities in South Lake County. Four fire stations are located throughout the district in Middletown, Hidden Valley Lake, Cobb and Loch Lomond. CAL FIRE has four stations within Lake County including Middletown Station 31 located in Middletown. The Lake County Sheriff's Office of Emergency Services (OES) is the lead agency for local emergency management efforts for the County of Lake. Emergency notifications are provided via the Everbridge/Nixle platform, the Zonehaven platform, Wireless Emergency Alerts, LakeCoAlerts, and door-to-door notifications during evacuation orders.

Appendix A of the Draft 2022 Lake County CWPP provides a list of fuel-reduction & prevention priorities. Fuel-reduction and prevention treatments identified in Appendix A include shaded fuel break, control burn, prescribed burn, fuel reduction, community education, defensible space assistance, clearance, vegetation management, and post-fire restoration measures. These treatments are identified in several South Lake County communities including Anderson Springs, Cobb, Guenoc Ranch, Harbin Hot Springs, Hidden Valley, Jerusalem Valley, Loch Lomond, and Middletown. Several of the priority treatments have been completed in recent years.

Appendix B of the Draft 2022 Lake County CWPP provides action plan items to address advancing defensible space, reducing fuels, reducing structural ignitability, enhancing fire protection, evacuation planning and emergency preparedness, promoting fire safe education, and facilitating long-term fire safety.

[27] Personal communication with Linda Juntunen, Lake County Fire Safe Council, April 6, 2023, [Personal interview by phone].

South Lake County Wildland Fire Preparation and Emergency Plan (2016)

The South Lake County Wildland Fire Preparation and Emergency Plan (2016) was written by the South Lake County Fire and South Lake Fire Safe Council and includes information for the public about how to prepare for emergency events and what do to during an evacuation. The South Lake County Wildland Fire Preparation and Emergency Plan identifies primary and secondary evacuation routes for South Lake County communities. Primary community evacuation routes include SR 29 and SR 175. Secondary community evacuation routes include Butts Canyon Road, Big Canyon Road, Spruce Grove Road, Loch Lomond Road, Bottle Rock Road, and Seigler Canyon Road. The South Lake County Wildland Fire Preparation and Emergency Plan also identifies temporary assembly zones (or areas) that will usually be those established locations on the emergency plan evacuation map. Assembly zones nearest to the Project site are Middletown High School (20932 Big Canyon Road) and Coyote Valley Elementary School (18950 Coyote Valley Road).

Lake County Emergency Operations Plan (2020)

The Lake County Emergency Operations Plan (2020) contains a Wildland Urban Interface Annex (WUI Annex). The WUI Annex was written by the Lake County Fire Chief's Association to establish priorities, responsibilities, and assign tasks to coordinate response operations during wildfires. According to the WUI Annex, Cal-Fire provides wildland fire suppression, structure protection, and incident management to lands within the State Responsibility Area and has mutual aid agreements with the Lake County Fire Districts and County Government Departments. Lake County Fire Districts provide wildland fire suppression, structure protection, and incident management within designated Local Responsibility Areas. Under federal law, the U.S. Forest Service and the Bureau of Land Management provide wildland fire suppression, structure protection and incident management to designated Federal Lands. The Sheriff's Office Central Dispatch Center answers fire services emergency related requests. The WUI Annex also includes a contingency plan with actions such as notifying emergency response departments of anticipated emergencies, testing the County's emergency alert systems, and pre-establishing human and animal evacuation shelters. Additionally, the WUI Annex outlines the strategies and guiding principles fire fighters should use in the event of a wildfire and includes a structure assessment checklist.

The EOP also incorporates by reference hazard specific annexes including the Wildfire Fire Annex that provides the structure for coordinating interagency support for a local response to an incident. Upon activation of the Annex "contingency plan" for a wildfire by the Lake Operational Area Fire/Rescue Coordinator, tasks include working with Field Response Departments to update evacuation routes and shelter sites, creating an Incident Command Post, and identifying an Incident Commander. One of the actions is to pre-position resources and equipment. The Lake Operational Area Coordinator (Sheriff) will evaluate resources and determine whether mutual aid from any of the sixteen counties in Region II.

Thresholds of Significance

Section 7.7 of the Lake County General Plan Health & Safety Element addresses Urban and Wildland Fire Hazards. The Health & Safety Element includes policies related to new development that call for consultation with fire service districts, encouraging cluster development, requiring development of wildland fire management plans, establishing fuel breaks around structures, implementing wildfire risk mitigation measures (i.e., cluster development, providing ongoing fire prevention maintenance activities, and providing an adequate private water supply), and using fire resistant building materials. The goal of Section 7.8 of the Health & Safety Element is to ensure the maintenance of an emergency operations plan in order to maintain its effectiveness in preparing and responding to a natural or human-made disaster.

Based on consultation with Lake County staff, the following threshold from Appendix G of the *CEQA Statute & Guidelines* is applied in the context of the wildfire risk and evacuation time estimate assessments provided in this study.

- Substantially impair an adopted emergency response plan or emergency evacuation plan.

The analysis and mitigation of impacts is also based on guidance provided by the California Attorney General in *Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects under the California Environmental Quality Act* released on October 10, 2022. This document provides guidance on factors that should be considered in analyzing a project's impacts related to wildfire risk, analyzing a project's impacts related to evacuation and emergency access, and identifying mitigation measures for wildfire risk and evacuation, and emergency access impacts. This includes considering whether the project creates an inconsistency with:

- An adopted emergency operations or evacuation plan;
- A safety element that has been updated per the requirements in Government Code sections 65302(g)(5) and 65302.15 to integrate wildfire and evacuation concerns; or
- Recommendations developed by the California Board of Forestry and Fire Protection regarding the safety of subdivisions pursuant to Public Resources Code section 4290.5.

Impacts and Mitigation Measures

Impact 5-1: Substantially Impact an Adopted Emergency Response Plan or Emergency Evacuation Plan

The Guenoc Valley Project is located in South Lake County. The nearby areas that would be affected by the evacuation of the Project's residents during a wildfire include the South Lake County communities of Middletown, Hidden Valley Lake, Cobb, and Loch Lomond.

The emergency response and evacuation plans in effect in Lake County are the Lake County Community Wildfire Protection Plan, the Lake County Emergency Operations Plan, and the South Lake County Wildland Fire Preparation and Emergency Plan.

CAL FIRE has mapped the moderate, high, and very high Fire Hazard Severity Zones (FHSZs) in Lake County. State Responsibility Areas (SRAs) are recognized by the California State Board of Forestry and Fire Protection as areas where CAL FIRE is the primary emergency response agency responsible for fire suppression and prevention. The Guenoc Valley Project site is located within an SRA. Within this designation, fire hazard severity zones within the Project site have been mapped by CAL FIRE as very high, high and moderate fire hazard severity. Most of the Project site is located on land designated as very high fire hazard severity.

The South Lake County Wildland Fire Preparation and Emergency Plan identifies primary and secondary evacuation routes for South Lake County communities. Primary community evacuation routes include SR 29 and SR 175. Secondary community evacuation routes include Butts Canyon Road, Big Canyon Road, Spruce Grove Road, Loch Lomond Road, Bottle Rock Road, and Seigler Canyon Road.

For evacuation egress and emergency access purposes, the Project site would have evacuation routes that connect to Butts Canyon Road directly and to SR 29 (via Grange Road). Two evacuation routes would provide access to Butts Canyon Road. The first evacuation route connecting to Butts Canyon Road is a new Primary Access Road that would be located at McCain Canyon, approximately 2.6 miles south of the existing Langtry Winery Entrance. The second evacuation route would connect to Butts Canyon Road at the existing intersection located approximately halfway between the Langtry Winery entrance and the Primary Access Road entrance. The third evacuation route would be via a newly improved road, for evacuation egress and emergency access only, that would connect from the interior of the Project site through an adjacent property (per easement agreement) to SR 29 via Grange Road.

Assessment of Wildfire Risk

The South Lake County Fire Protection District and CAL FIRE would provide emergency wildfire response to the Project site and nearby areas. The Project would construct an Emergency Response

Center within the site that includes a new fire station, emergency helipad, dedicated nighttime water source for aerial firefighting, and a designated meeting and staging area.

General Plan Policy HS-7.4 (Wildland Fire Management Plans) requires development of wildland fire management plans for projects adjoining significant areas of open space that may have high fuel loads. Accordingly, a Wildfire Prevention Plan for the Project has been prepared in collaboration with the County, CAL FIRE, design and engineering teams, and grazing consultants. The Wildfire Prevention Plan, included in **Appendix FIRE** of the 2020 Final Environmental Impact Report**,** includes measures to aid emergency response on the Guenoc Valley Project Site. In the event of a wildfire, the on-site emergency response system would utilize early detection high-definition cameras, an emergency notification siren system, an on-site Emergency Response Center, six designated meeting and staging areas, and emergency helipads. The Emergency Response Center would include a structure to house firefighting equipment, as well as a headquarters space and storage for minor medical supplies.

Additional firefighting resources would be funded by the proposed Project as follows.

- 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 Emergency Response Center for fire services, including wildfire response. This includes added staff during construction that may be housed at existing SLCFPD or CAL FIRE facilities.
- 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, with costs paid by the HOA. The HOA shall consult with the wildfire expert in its implementation of wildfire prevention measures, including those identified in the Wildfire Prevention Plan.