



SONOMA COUNTY SHERIFF'S OFFICE

EDDIE ENGRAM
Sheriff-Coroner

October 7, 2025

Tina Wallis
Law Offices of Tina Wallis, Inc.
3558 Round Barn Boulevard, Suite 200
Santa Rosa, CA 95403

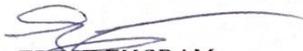
RE: Kenwood Ranch and Kenwood Winery Project

Dear Ms. Wallis,

The Sonoma County Sheriff's Office has completed its review of the Kenwood Ranch Disaster Evacuation Plan prepared by R. Giordano Consulting & Investigations and CAS Safety Consulting, dated June 27, 2022. The review included an evaluation of the proposed disaster evacuation plan and its ten recommendations, a site visit and tour of the property conducted by me, and a review of the Sonoma County Operational Area Emergency Operations Plan (EOP).

The Sheriff's Office was satisfied with the thoroughness and level of detail presented in the plan to ensure the safe and effective evacuation of individuals in the event of a disaster. Based on our review, we have no corrections or additions and fully endorse the ten recommendations as presented in the disaster evacuation plan.

Best Regards,


EDDIE ENGRAM
Sheriff-Coroner

From: [Roger Peters](#)
To: [BOS](#)
Cc: [Scott Orr](#); [Jennifer Klein](#); [Ken Compton](#); [Tina Wallis](#)
Subject: DRH21-0010 Appeal of VOTMA--Comments pending hearing on 10/21/25
Date: Friday, October 17, 2025 5:52:50 PM
Attachments: [VOTMA 10 17 2025 comments DRH21-0010 Appeal KWR Winery.pdf](#)

EXTERNAL

President Hopkins and Supervisors,

The Valley of the Moon Alliance (VOTMA) submits its comments addressing its appeal of the Planning Commission's September 2023 decision in the referenced proceeding. The appeal relates to Design Review action on the Kenwood Ranch Winery Project in Sonoma Valley.

VOTMA's comments focus on the proposal of Kenwood Ranch to develop and create an alternate road in adjacent parcels covered by a 2010 major subdivision the Graywood Ranch, owned by an affiliate LLC to that of Kenwood Ranch LLC. The Graywood Ranch was the subject of the 2010 MJS01-0002 proceeding. Kenwood Ranch proposed to develop and create a redundant alternate route that would access Highway 12 some 800 feet or so from the existing Campagna Lane main road connection to Highway 12. The new proposed exit would be activated the event a wildfire evacuation is required from KR's Winery property (as well as the evacuating population from KR's Inn, Spa and Restaurant facilities, also approved as a project in PLP01-0006). The 2022 Winery Project proposal Design Review went before the Design Review Committee and was subsequently heard by the Planning Commission. The redundant evacuation route was recommended by KR's wildfire experts as part of the operational design developed for the Winery project. The background support for the design review of that 2022 Winery Proposal included a 2022 Wildfire Evacuation Travel Time Estimate study conducted by Kenwood Ranch's consultant Fehr & Peers. That study was included in the 2022 Initial Study (Appendix V) prepared in support of the preparation of Addendum #2 to the Kenwood Ranch 2004 EIR.

The materials recently issued by Permit Sonoma for the 10/21 hearing on VOTMA's appeal of the Planning Commission's action approving the proposed design of the 2022 Winery Project now show a *revised* Addendum #2 from that reviewed by the Planning Commission and the DRC. The second evacuation road proposal has now been withdrawn by KR. Apparently that change was submitted to Permit Sonoma in mid 2024, but no public notice was given of that change until issuance of the Agenda packet for the 10/21 hearing. The background Initial Study that was reviewed by the Planning Commission, as well as the Fehr & Peers Evacuation Travel Time study that was one of many appendices to the Initial Study have both also been *revised* since the Planning Commission saw them, to reflect the elimination of that alternate road proposal. Those documents were not included in the Agenda packet, and were provided to VOTMA late yesterday afternoon, at it's request.

In light of the *revision* to Addendum #2 to eliminate the alternate road, the *revisions* to the Initial Study and the to the Fehr & Peers study to make the deletion change and other changes only now being discovered (e.g., increasing upward the size of the evacuating population), and the fact that these revisions were not reviewed by the Planning Commission, VOTMA believes it would be appropriate and prudent for this Agenda item to be withdrawn from the 10/21 meeting and the 10/21 hearing cancelled. This matter should returned to the Planning

Commission for subsequent consideration of the revisions and any action required. VOTMA has conveyed this view to Permit Sonoma but has not received a response.

VOTMA appreciates that the Board's agendas are full and this matter needs some further sorting before it is ready to come back as an appeal. We would appreciate your guidance on how to proceed in light of this changed circumstance.

Respectfully,

Roger Peters

for the VOTMA Board

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Submitted via e-mail

October 17, 2025

Sonoma County Board of Supervisors

575 Administration Drive 102A,

Santa Rosa, CA 95403

email: Planning Agency@SonomaCounty.gov

DRH21-0010: VOTMA Appeal from PC Action 09-07-23

President Hopkins and Supervisors,

The Valley of the Moon Alliance (VOTMA) appreciates the Board's consideration of VOTMA's appeal of the prior planning approvals of The Kenwood Ranch Winery Project in the referenced docket. The Kenwood Ranch Project has two phases—the Inn/Spa/Restaurant (I/S/R) phase previously approved, and the Winery Project at issue here. Both projects were approved under PLP01-0006, with an accompanying certified Environmental Impact Report adopted in 2004 (2004 EIR).

Overview of Appeal

Much has changed in Sonoma Valley over the last 21 or more years from the time the 2004 EIR was prepared. Not the least of those changes and challenges have been the 2017 and 2020 wildfires. While the 2017 Nunn's fire burned some of the Kenwood Ranch parcels (including those on and near the I/S/R envelope), the 2020 Glass Fire incinerated the I/S/R primary building site and destroyed the near surrounding forest that was to serve as the visual camouflage for those structures. The 2020 fire also burned through the Winery site area down to Highway 12.

The issues raised by VOTMA in this appeal directly relate to that recent history, and to the associated fire risk and evacuation considerations and demands that now accompany any project approval of facilities that are designed to gather, in a wildfire risk area, significant numbers of people in a relatively dense space. Those are the situations that present serious evacuation challenges.

That dilemma was not a focal point of the 2004 EIR, and indeed it was not until 2018 that the California Environmental Quality Act (CEQA) was modified to require consideration of wildfire impacts and risks among the list of topics now required by law to be addressed in

an EIR. Wildfire risk to a predictable population, and the impact on emergency response and emergency evacuation on the surrounding area from this new Winery Project development that generates a estimated evacuation population of 555 persons (combined then with those from its sister Inn/Spa/Restaurant), are the heart of this appeal. The 2004 EIR did not address these issues.

It is VOTMA's contention that Addendum #2 was the wrong CEQA vehicle to consider fire risk to people and the impacts of proposed projects on fire response and evacuation. The modifications required to address those issues do not constitute minor or technical changes which an addendum to an EIR is designed to cover. A supplement to the EIR would be the appropriate vehicle to thoroughly cover this a new topic to ensure that that the 2004 EIR, as supplemented, adequately assesses the new wildfire reality on the ground in Sonoma Valley in 2025.

Use of an addendum does not require circulation to the public, since it is intended for use only to make technical changes. But a supplement to an EIR does required circulation to the community and to responsible agencies. It also requires that those parties be provided an opportunity to provide input on the proposed supplement. There is no indication that Permit Sonoma circulated Addendum #2 to CalTrans for its input with respect to the proposed new evacuation road and other changes proposed for the Winery. That failure is a glaring hole in any assessment of the feasibility and viability of the proposal to create a new proposed evacuation road through the adjacent Graywood Ranch property and on to Highway 12.

VOTMA also contends that the studies that were tendered for use in and support of the Addendum #2 did not adequately assess the total population (the combination of the population at the Inn/Spa/Restaurant and of the Winery) that might be required to be evacuated or sheltered in areas specially designed at the winery for shelter in place use. That assessment appears to have entirely ignored the large conference/meeting space on the first floor of the Inn.

Further, VOTMA understands that the evacuation time study (Fehr and Peers study) supplied by applicant Kenwood Ranch and incorporated into the Initial Study and its voluminous appendices, was based on 2019 traffic information for the near-term horizon that did not incorporate the Sonoma Developmental Center (SDC) Specific Plan and the Hanna Project (application now withdrawn, but still likely viable). To that list now needs to be added the announced Hwy 12 CalFire Headquarters facilities and fire station.

Finally, the proposed new access road on the adjunct property owned by a sister LLC entity to Kenwood Ranch that would connect with Campagna Lane and then exit through Lot 6 on

a contorted path to Highway 12 using an old driveway (which is approximately 800' from Campagna Lane) was never considered or authorized as a permitted pathway in the 2010 subdivision proceeding governing that property (MSJ01-0002 and LLA03-0079).

At a minimum the establishment of this proposed new access road would require an amendment to MSJ01-0002, supported by environmental review. The existence of that road and its operational impacts on emergency ingress and evacuation egress thus simply have no basis in fact currently. As such, the Fehr & Peers time evacuation study, which assumed the existence of that road in its modeling (and attributed 35% of the evacuation traffic from the combined Winery and Inn/Spa/Restaurant exiting vehicles that road) simply does not address the more probable evacuation scenario—that 100% of the two projects will need to evacuate using the Campagna Lane and 100% of the emergency response vehicles will use that same road.

As to that required review (in this docket and via an amendment to MJS01-0002), there is good reason to postulate that this pathway, that 1) runs adjacent to wetlands and preserved lands, and 2) is in the recognized scenic corridor of Highway 12, and 3) raises cultural and biological issues, would not be a sound candidate for use as an evacuation/access road. The environmental checklist supporting the Mitigated Negative Declaration (MND) for MSJ01-0002 reveals that both CalTrans and Permit Sonoma opposed creation of a different more direct access road connection to Highway 12 at the southwest corner of Lot 6 of the Graywood Ranch. That proposal was thus dropped and no exit to Highway 12 from Lot 6 was otherwise proposed or approved.

As for a small old exit driveway to Highway 12 from Lot 6 that applicant now proposes for use to access Highway 12, Permit Sonoma noted in the 2010 MND checklist that it had not been proposed for development, and that development of that area would be near the wetland.

For its part, it is not clear that CalTrans has been informally advised of this proposed new evacuation road onto Highway 12. Had this matter been addressed in a Supplement to the 2004 EIR, CalTrans would have been one of several interested State agencies that would have been formally noticed and asked for comments on the proposed new access road. Its response at this point is thus speculative.

But it is fair to note that in view of the extensive involvement that CalTans in the reconfiguration of Campagna Lane to make it safe and usable, it seems safe to say that CalTrans is likely to exercise its jurisdiction to closely scrutinize the merits of this proposal. Questions as to the driveway bridge length and width requirements from Highway 12 (over the existing seasonal canal adjacent to Highway 12), the specs of connecting road

(proposed 22' wide), the composition of the road surface (paved or crushed granite), it's conditions for use (e.g., only for evacuation egress, or for access and egress), signage, and whether only left turns on to Highway 12 (vs right turns across traffic and opposite and at a skewed angle from Fry Road evacuation) would be allowed, are just a few of the items that would need attention and be of interest to both CalTrans and the public generally and in those who live in the adjacent areas in particular.

None of that critical framing has been initiated absent an application to amend MJS01-0002/LLA03-0079. Similarly, any suggestion that the filing of grading permit GRD22-0174 reflects some inevitability of a new "redundant route for ingress and egress in addition to the main Project entrance/exit" (Initial Study, p302 of 352) is misplaced. That grading permit apparently was long ago deemed withdrawn by Permit Sonoma due to a failure to pay permit fees.

What is clear for purposes of this appeal is that the 2022 Winery Proposal cannot proceed at this time with the proposed alternative evacuation road incorporated as a primary assumption. Since it appears that the Fehr & Peers Winery Evacuation Travel Time Assessment did not model a "Plus Project" *without* the alternative evacuation road in existence, that study thus has limited value as it now stands.

Based on this, the Board should reverse the Design Review approval and the Planning Commission's affirmation of that action, and send this matter back to Permit Sonoma with instruction to fully comply with the County's land use permit and CEQA obligations here, including specifically relating to the creation of a proposed alternative route for egress from Kenwood Ranch in addition to Campagna Lane. Absent that, the Board should impose a condition on any approval in this proceeding and as applied to the underlying 2004 Kenwood Ranch Project, that no grading, building or other permit may be issued for the Winery Project until the proposed new evacuation access road 1) has been reviewed and receives final approval compliant with CEQA and other County review procedures (including amendment of MJS01-0002 as to a permitted subdivision road), and 2) has been subject to and received all required review and final approval to proceed with that alternative road construction and connection to Highway 12 by CalTrans, California Fish and Wildlife and other applicable State or federal agencies.

Appeal Issues to Be Resolved

1. Does the Fehr & Peers Kenwood Estates Winery Evacuation Travel Time Assessment (ETTA) Reasonably Account for the Evacuating Population from Kenwood Ranch?

It does not appear so. As indicted in the F&P June 27, 2022, Memorandum summarizing the ETTA at page 3 of 14 (Initial Study Vols 2+3 at pg. 889 of 1016), the grouping titled "Other

Potential Future elements (not for CEQA)” shows “Inn Guests” at 100 and “Restaurant Guests” at 150. There is no indication that the conference space on the first floor of the Inn is accounted for as in use. That is a large area and could easily be occupied by a significant number of people during a business or social event. There is also no indication that guests of the Inn guests (assumed as 100 persons in the 50 rooms) who might be at the pool or elsewhere are included. For reference purposes that Table 1 shows that the occupancy (including staff) of the I/S/R for evacuation purposes is 345; occupancy for the Winery it is 555; occupancy for home residents is 66. The total evacuation number is 966 persons. The estimated number of vehicles assigned for evacuation is 408. The ETTA would be sensitive to how many vehicles are attempting to exit the Kenwood/Graywood Ranch areas.

2. Does the Fehr & Peers EETA Incorporate into its Traffic Modeling the Cumulative Impacts on Evacuation Traffic on Highway 12 and Arnold Drive Resulting from the buildout of SDC, Hanna, CalFire Headquarter and Fire Station, and Elnoka Projects in the Near-Term Analysis?

It appears that the EETA incorporated Alternative A of SDC and Elnoka in the Long Term 2040 forecast (F&P June 27, 2022, at pg. 6 of 14). The Hanna Project is withdrawn for now but may reemerge. The CalFire Headquarters and new Fire Station Project is a known and probable project. Were any of those projects included in the Near-Term evacuation modeling? VOTMA understands from SCTA that the SCTA travel demand 2019 model would not have picked up SDC and Hanna until the spring of 2024, so the Near-Term analysis would be off. The F&P analysis appears to have been done in mid-2022.

3. Did Fehr & Peers Run an EETA Analysis of Evacuation from the Kenwood Ranch Projects and the Graywood Ranch Properties using Campagna Lane as the Only Evacuation Route? If so, how did the Results Differ from Those Reported with Two Highway 12 Exits?

The major subdivision proceeding in 2010 for the Graywood Ranch parcels to the west of the Kenwood Ranch Projects did not authorize creation of an access road for those lots/parcels for ingress/egress to Highway 12 independent of Campagna Lane. The ingress and egress for those 6 lots remained only via Campagna Lane. Absent an amendment to MSJ01-0002 authorizing a new exit to Highway 12 from Lot 6, no authority exists to create the proposed second so-called redundant ingress or egress to Highway 12. The EETA postulates ingress and egress for more than one third of the evacuating vehicles via a road that does not exist and is not authorized to be created. Its probative value as to evacuation time impacts from the Kenwood Ranch projects does not constitute substantial evidence in any sense. Fehr & Peers must rerun its EETA model using Campagna Lane as the only exit point to address this gap in analysis.

4. Did the Fehr & Peers Analysis of Evacuation from the Kenwood Ranch Projects and the Graywood Ranch Factor in Emergency Vehicle Ingress Demands? If so, How Were Those Demands Calculated and Integrated into Evacuation Traffic Flow?

The Winery Project estimates that it could have 555 people needing to evacuate in the case of a wildfire or a winery (or Inn/Spa/Restaurant) structure fire. How does emergency equipment access the facility at the same time as 160 vehicles exit? The answer to that question should be given both from a single road exit and with the alternative road assumed. The Board should send this matter back to Permit Sonoma with the instruction to include in the EETA in-bound emergency response traffic as well as outbound evacuation traffic for both the no alternative evac road and a with proposed new evac road alternative.

5. How Did Fehr & Peers Model Evacuation Vehicle Movement East Bound (Exiting via Left Turn) Absent any Specified Turning Diagnostics?

While a right turn out of the proposed new Lot 6 exit road might seem somewhat less problematic, what assumptions were made regarding the ability and timing for vehicles attempting to turn left to evacuate from Kenwood Ranch? CalTrans seemed very involved in the relining and turn lane configurations for entrance and exit from Campagna Lane?

6. Has CalTrans Provided Any Reaction to the Proposal to Create a New Ingress/Egress Roadway at the Old Driveway 800 Feet or so From Campagna Lane and Slightly Offset from Fry Road? What is the status of CalTrans' Involvement?

Nothing in the voluminous material Permit Sonoma has posted to date suggests that CalTrans has been informed of, let alone is working on, the proposal to create a new access road exiting at Lot 6 on to Highway 12. Permit Sonoma and the Applicant owe it to the Board to make public the status of any discussions with CalTrans on this questionable proposal.

7. What Would the Owners of Lots 1-6 Gain by Having to Permit and Fund the Development of the New Access Road When They Already Have Access to Campagna Lane?

The Kenwood Ranch LLC is truly giving the sleeves off their vest to the Graywood Ranch LLC in the mutual access agreement. The MSJ01-0002 proceeding confirmed that access to Highway 12 for the new subdivision was to continue to be through the old ranch road now known as Campagna Lane. No other exit from Lots 1-6 was contemplated in MSJ01-0002. The MND indicated that a proposed had been made to create a new an exit to Highway 12 through a new access road/Highway 12 interconnect at the northwest corner of Lot 6. That proposal was dropped due to objections to that proposal by CalTrans and Permit Sonoma.

Since Lots 1-6 already have primary access via the well-maintained Campagna Lane it is not clear what value those owners (or the Graywood Ranch LLC) gets in terms of firm access to Highway 12 that they don't already have. Applicant suggests that an alternative road proposal would satisfy the independent utility test (and thus would avoid CEQA review in this proceeding) but such a proposal presumably would require that Lots 1-6 would have to bear the full costs to permit and construct the new access road through Lot 6. They may also have to compensate CalTrans for some portion of its improvement costs to refashion the old driveway access point into something resembling the Campagna Lane CalTrans upgrade. That is assuming that CalTrans would even agree to that proposal, and that other scenic Corridor, wetlands and oak land preservation, and cultural resource issues, as well as setback requirements from Highway 12 could all be resolved. How does that make viable/financial sense for those few parcels? Something seems off here.

8. The Board Should Ensure that If and When Authorization to Develop the Proposed Redundant Evacuation Road Through Lot 6, is Granted, it is Conditioned such that it is to be Used Only for Emergency Evacuation Purposes. The Corollary Condition to that is that in this Proceeding a Condition should be Imposed that No Grading, Building or Associated Development Permits for the Winery Project May be Issued Until the Proposed Lot 6 Evacuation Road has Been Approved as a CEQA evaluated amendment to MSJ01-0002, and that Approval Becomes Final.

At this point the magical redundant evacuation road to Highway 12 is just an untested proposal. As the MND in MJS01-0002 makes clear, there was no proposal in that proceeding to develop an exit road from the Graywood Ranch through Lot 6 to exit at the old driveway fronting Highway 12. As such, the MND did not address the new proposed access road for environmental impacts on the Scenic Corridor, wetlands preservation, cultural resources, woodland preservation, geological and biological issues, among others, as otherwise would have been required to be reflected in the 2009 MND for the major subdivision. The proposed major disruption to a significant portion of Lot 6 that would need to occur in order to actually construct what is now proposed as a 22 foot wide road was never parsed out. Presumably any such road, hopefully never needed for a mass evacuation event, would use crushed granite and not be paved. Other similar issues would still need to be fleshed out if the necessary proposed amendment and associated environmental review required to allow a road of this significance could be processed by Permit Sonoma. VOTMA asks that it be notified when such a filing does occur.

9. The Fact that the 2004 EIR was Certified and Judicially Sustained Does Not Mean that It Cannot be Reopened to Require Revision or Supplementation.

The 2004 EIR for the Winery Project was fully certified but that does not mean that it cannot be reopened. The relevant provisions governing the reopening of a certified EIR are as follows:

Statutory Provision re Reopening the EIR

--Public Resources Code Section 21166 addresses CEQA reconsideration of certified EIRs, and reads in pertinent part as follows:

“When an environmental impact report has been prepared for a project pursuant to this division, no subsequent or supplemental environmental impact report shall be required by the lead agency or by a responsible agency, unless one or more of the following events occurs:

(b) Substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revision in the environmental report.”

Reopening Guidelines

Under CEQA Guidelines Section 15162 as referenced “...no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in light of the whole record, one or more of the following:

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.”

Use of a Supplement

--CEQA Guidelines Section 15163 (Cal.Code Regs. Tit. 14 Section 15163) provides interpretative guidance on how PRC Section 21166(b) should be applied. It reads in pertinent part:

“(a) The lead or responsible agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:

(1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and

(2) Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

(b) The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.

(c) A supplement to an EIR shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087.

(d) A supplement to an EIR may be circulated by itself without recirculating the previous draft or final EIR.”

Use of an Addendum

Section 15164 of the CEQA Guidelines reads in pertinent part:

“(a) The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.

(b) An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred.

(c) An addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.

PRC 21166 and Issue Preclusion

Nowhere in the preceding statutory/regulatory framework is there a restriction from applying the reopener provisions based on prior judicial review. The whole purpose of PRC 21166 is to provide for reconsideration of certified EIRs to address situations where the EIR requires modification to address changed circumstances that have significant impacts.

VOTMA agrees that the limit to that application is that there must remain some outstanding resolution of issues for the project that call for discretionary decision-making. As such, since the Design Review of the I/S/R Project was final and in Permit Sonoma’s judgment no discretionary action remained, it was allowed to proceed to construction. The Winery Project has not reached that point and so PRC 21166(b) remained applicable.

Design Review under some circumstances may be classified as a ministerial (vs discretionary) agency decision process. Similarly Design Review may involve discretionary action or may involve a combination of the two. Where there is a combination, the action is deemed discretionary.

In this Design Review process for the 2022 Winery Project there are ample areas that call for the County through the Board, the Planning Commission and the Design Review Committee to apply discretion in reviewing and approving proposed “design” issues. Applicant’s entire operational plan for evacuation, its decision to propose shelter in place facilities (which have some risk attached), the design and relocation of the parking and Winery access road systems, and the proposal for an alternate “redundant route for ingress and egress, among other issues/decision all call for the application of discretion by the County as the lead agency as it related to health and safety.

If discretion remains there is no requirement in Section 21166 or the CEQA Guidelines that the changed circumstance or substantial increase in severity of previously indicated significant effects need attach directly or only to the Design Review process rubric still outstanding.

In this case the two do overlap with respect to overall fire risk impacts (and design changes to minimize those impacts) and the fire evacuation design and operational plan. But even if they did not, the cause and impact of the changed circumstance or substantial increase in severity that met the section 21166 criteria would be open for review. For example, if there was a major landslide that occurred on the Winery Project area due to an earthquake that dramatically affected the adequacy of the water supply for the Winery, PRC 21166 would be available to consider that issue, so long as some discretionary determination still remained open in an unresolved proceeding.

10.The Increasing Incidents of Significant Wildfires in California Since the 2004 EIR was Certified, The 2017 Nuns Fire and the 2020 Glass Fire that Both Burned the Kenwood Ranch Property, and the 2018 Addition of Wildfire Impacts to the CEQA Checklist of Issues Required to be Analyzed in a CEQA Review Represent Substantial Changes That Have Occurred With Respect to the Circumstances Under Which the Winery Project is Being Undertaken.

The Applicant has acknowledged that “the 2004 FEIR was prepared prior to the inclusion of wildfire impacts as a topic of consideration in the CEQA Guidelines. As such, no analysis of impacts associated with wildfires was presented in the EIR.” (I/S at pg. 325/352) Applicant also adopts the view that “The central question related to CEQA is whether the Phase II Proposed Winery would exacerbate existing wildfire risks and thereby expose Phase II Proposed Winery occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.” (Addendum #2(Draft) to Final EIR (p36/43)). That latter formulation is far too constrained. Surely another central question (among many) would be whether

consideration needs to be given to the cumulative impact and risk to Phase I I/S/R patrons in an evacuation situation, as well as the impact on the community writ large evacuating in the face of a sudden no-warning wildfire of adding 555 souls to those likely already on or still trying to get on a clogged Highway 12.

Applicant and perhaps Permit Sonoma Staff might well point to the 2022 Winery Project I/S to support the proposition that there are no substantial impacts resulting from the proposed changes in the 2022 Winery Project.

VOTMA's first response is to note that since the I/S and Addendum were not circulated for public and affected agency review, we don't know whether Applicant's and Permit Sonoma's conclusion are valid, standing as they are by themselves and unexamined by independent parties of interest and expertise. Certainly, there are questions as to the fire evacuation time analysis. That is in part why Supplements require notice and public circulation, while Addendums do not.

VOTMA's second response is to simply observe with some wonderment how it could be that a 1368-page Initial Study (Vols 1-3) would be produced that did not separately assess the significance of an element or criteria and then, at the Supplement stage roll in the mitigation factors to determine significance post mitigation. This I/S co-joins significance and mitigation. That is not a successful strategy, as recent history demonstrates. At least in the context of the 2018 addition of wildfire impacts as a topic of consideration affecting the 2004 EIR, a clean Initial Study would have been the better approach and more consistent with application of PRC 2166(b) and Guideline 15162.

One final point here--The Addendum stakes out a position (Draft Addendum #2 at pg. 5/43) that because the only approval still at issue is limited to design, the only environmental factors to be considered in the Addendum would have to be relevant to impacts resulting from the requested design changes.

That position is untenable as related to PRC 21166. Under that provision the EIR reopener can only attach if there are discretionary actions remaining to provide the justifiable jurisdiction—i.e., that the project review is not yet final from a judgmental (discretionary vs ministerial) perspective. If jurisdiction attaches because any further discretionary decisions are still open, the review process is capable of being reopened, and is then directed at the changed circumstances and/or whatever new significant environmental effects or increased severity with respect previously identified environmental effect have been identified. The entity left with that pending discretionary decision is then tasked with resolving the That standard does not tie back exclusively to whatever procedural approvals

remain in a specific proceeding. This “limited to design change issues is a fundamental misreading of PRC 21166. See, Guideline 162(c).

10. CEQA Guideline 15164 Does Not Allow the Use of an Addendum to Address the Change in Circumstances That Have Occurred Since the 2004 EIR was Certified. Permit Sonoma Should Prepare a Draft EIR Supplement and Circulate that Publicly and to 2004 EIR Referral Agencies.

Guideline 15164(a) could not be clearer on this point.

IN SUMMARY: The Board of Supervisors Should:

1) Decline to Adopt Addendum #2 to the 2004 EIR;

2) Set Aside the Approvals of the Planning Commission and the Design Review Committee in DRH 21-0010;

3) Direct Permit Sonoma to Require the ETTA Referenced in Draft Addendum #2 to be Revised to Assess an Alternative that Incorporates Campagna Lane as the only Evacuation Route Out of Kenwood Ranch and Reflects the Cumulative Effects of the SDC and CalFire Headquarters Project at a Minimum; and

5) Direct Permit Sonoma to Review MJS01-0002 and the Approvals Required, including from Caltrans (in Consultation with CalTrans), to Develop a New Access Road Across Lot 6 to Exit onto Highway 12 Near Frey Road, and to Provide Public Notice as to Any Action Initiated by Permit Sonoma or Any Other Person or Entity Seeking Permission or Giving Notice of an Intention to Grade, Develop or Otherwise Construct Any Such New Access Road.

CLOSING COMMENT

VOTMA appreciates that this is a difficult and lengthy response to the Staff’s Report and the voluminous documents in this docket. This matter has been pending for 2 years following the Planning Commission action, and VOTMA’s request will only extend that further. That said, the issues here are significant, and the resolution will have a significant impact on Sonoma Valley residents and visitors.

The reality, as we watch the daily slow advancing grith of the Kenwood Ranch Inn/Spa/Restaurant that stands isolated on the now barren mountain top whose surrounding forest was incinerated by the 2020 Glass Fire, is that fires are now ever more present and shape both our environment and our lives. The 345 or more people who will be guests and employees at any point in time at the I/S/R facility will be exposed to risk and

evacuation peril should a third fire spring up in that area. The 2022 Winery Project proposal before you will add another 550 people to that list. Rightly, the so-called design review for that project in fact has morphed into a wildfire operation and planning exercise, with attendance protocols and cross-checks. VOTMA does not doubt that this is perhaps as good as it gets on that front. But is that good enough? Does it make sense to stash almost 1000 people (if you add the projected 66 people that will live in the 11 residences surrounding the Kenwood Ranch) in a relatively small area in a high fire risk area? How much of an impact on Highway 12 and Arnold Drive evacuation times from the Winery Project is too much. How will it be after the CalFire Headquarters/Fire Station on Highway 12 near Madrone and SDC, not far from CalFire, are fully developed? What does it mean to build like this in a Scenic Corridor? And this second road—will that really help?

It is instructive that the residents at Oakmont commissioned a study by KLD Associates before VOTMA commissioned the Sonoma Valley study (links attached) to gauge what Oakmont is facing from an evacuation framework. One of the questions the Oakmont study addressed was would it be helpful to add a third road out of Oakmont on to Highway 12 to speed evacuation? The answer was “it wouldn’t help much if at all.” That was because Highway 12 would be so crowded that the third road wouldn’t be able to ease the pressure to exit Oakmont because there was no way to get on to Highway 12 with all its then-existing congestion.

These are not easy issues. VOTMA appreciates the Board of Supervisors for wrestling with them.

Respectfully,

Roger Peters

Roger Peters

cc: Scott Orr--Interim Director Permit Sonoma

Ken Compton—Permit Sonoma

Jennifer Klein—County Counsel

Tina Wallis—Kenwood Ranch

From: [Scott Orr](#)
To: [Ken Compton](#); [Cecily Condon](#); [Crystal Acker](#)
Subject: FW: Appeal of DRH21-0010-Removal from 10/21 Board Agenda?
Date: Monday, October 20, 2025 8:12:53 AM
Attachments: [Image.png](#)

Scott Orr

Permit Sonoma, Interim Director

From: Rebecca Hermosillo <Rebecca.Hermosillo@sonomacounty.gov>
Sent: Sunday, October 19, 2025 7:54 PM
To: Scott Orr <Scott.Orr@sonomacounty.gov>
Subject: Fw: Appeal of DRH21-0010-Removal from 10/21 Board Agenda?

Forwarding as an FYI.



Rebecca Hermosillo
First District Supervisor, County of Sonoma
575 Administration Drive, Room 100A
Santa Rosa, CA 95403
Office (707) 565-2241

From: Roger Peters <rjp2ca@aol.com>
Sent: Friday, October 17, 2025 12:46:26 PM
To: Rebecca Hermosillo <Rebecca.Hermosillo@sonomacounty.gov>
Cc: Betzy Chavez <Betzy.Chavez@sonomacounty.gov>
Subject: Fw: Appeal of DRH21-0010-Removal from 10/21 Board Agenda?

EXTERNAL

Hi Rebecca,

I am forwarding you an email I just sent to Scott Orr regarding the agenda item for next tuesday--VOTMA's appeal of the approval of the the Kenwood Ranch Winery project. I was intending to contact you on this matter in any event to discuss the issues in the appeal. I will be filing comments today. They are lengthy and I wanted to see if you wanted to discuss them prior for background prior to the hearing.

The short story is that the Winery will add another 555 +(estimated for evacuation purposes) people to the Kenwood Ranch site. The Winery design is well conceived and has been thoughtful about fire risk design, and has shelter in place areas.

The adjacent Inn/Spa and Restaurant took a direct hit in the Glass fire and incinerated the forest around that site. The design approval process there had been completed before the fire and so the CEQA review could not be reopened and construction is underway.

The Winery Project was still needed Design Review at the time of the 2020 fire (the initial project approval for both the Inn/S/R and the Winery occurred in 2004, using a 2004 EIR). The Glass Fire did run through the Winery Project area but did less damage. So review of the 2018 CEQA amendments governing inclusion of wildfire issues in CEQA were applied to the the Winery Design Review. The Kenwood Ranch position appears to be that they are voluntarily agreeing to those new CEQA rules but they may not technically apply because the 2004 EIR was challenged by VOTMA and the court upheld the EIR before the 218 amendments so they were not really subject to the later CEQA amendments.

Because the Winery (555) and the Inn/Spa/Restaurant evacuation estimate of another 345 people) would together add around 900+ , Kenwood Ranch proposed in a rework of the Design to construct an alternate evac road (Campagna Lane is the main road in/out from the Winery and the I/S/R) on the adjacent Graywood Ranch property to the west. Kenwood Ranch and Graywood Ranch are owned by sister LLCs. The Graywood Ranch would only have 6 lots with 6-8 residences total.

The alternative road would run in a contorted pattern from the Winery that would go west/south/east back to exit on to Highway 12 about 800' or so from Campagna Lane. It's not clear if that new road is a full time access road or just an evac/emergency vehicle only road.

VOTMA and local residents in the Hoff/Lawndale/Frey Road/Oakmont area are opposed to the proposed road. The original approval of the I/S/R and the Winery in 2004-06 period assumed all traffic out of Campagne Lane. The approval of the major subdivision for Graywood Ranch in 2010 had traffic from those few (6) lots/parcels/residences had them using Campagna Lane as well. The proposed 22 ft wide alternate road passes along preserved wet lands and woodlands, a scenic corridor, a cultural resource area and parallels and runs immediately adjacent to Highway 12. It would exit to Highway at a small old ranch driveway offset from Frey road across the Highway. There is no indication that Cal Trans has been contacted about this new road plan or is working on it. CalTran and Permit Sonoma had previously opposed a a direct connect to Highway 12 at the southwest corner of that parcel.

After the public opposed this road plan in 2022-23 and after the Planning Commission hearing in September 2023, Kenwood Ranch apparently in June 2024 revised the Initial Study for the Addendum #2 that went to the Planning Commission, and revised the Evacuation Travel Time Assessment that supported the Initial Study by deleting the new road from and otherwise revising the study. Addendum #2 was then revised as of September 2025. Somehow Permit Sonoma did not provide to the public the revision to the ETTA study and the revisions to the Initial Study. The revised Addendum #2, which relies on those documents for support was released within the last few days as part of the Agenda packet for the 10/21 meeting. I saw that revision and called Permit Sonoma yesterday and received the revised I/S and ETTA study late yesterday afternoon. I pieced through all this today and sent Scott the forwarded email just a bit ago.

The elimination of the alternate road is transitory. We expect the applicant to seek to amend the 2010 Graywood subdivision decision to allow that road. Since that alt road was to take 35-40% of the evacuating traffic I assume that Campagna will shoulder that additional load.

Generally that would mean an increased evac issue on Campagna Lane. I don't know what the revised F&P study shows, having not read it yet.

I would be happy to discuss this with you over the next couple of days in the event it remains on the calendar for 10/21. My view is that this should be sent back to the PC for review of the revisions to the F&P study, the Initial Study and the modifications to Addendum #2. Perhaps this can all be worked out during that process.

Thanks for all you do.

Roger
415-686-8530

----- Forwarded Message -----

From: Roger Peters <rjp2ca@aol.com>

To: scott.orr@sonomacounty.gov <scott.orr@sonomacounty.gov>

Cc: Ken Compton <ken.compton@sonomacounty.gov>; jennifer.klein@sonomacounty.gov <jennifer.klein@sonomacounty.gov>

Sent: Friday, October 17, 2025 at 10:51:47 AM PDT

Subject: Appeal of DRH21-0010-Removal of item from 10/21 Board Agenda

Scott,

Yesterday, I had a telephone conversation with Ken Compton about the September 2025 Revised Addendum #2 to the Kenwood Winery Project that appears on the Agenda for the Board meeting for next Tuesday. In reviewing that Revised Addendum I was made aware that in 2024 the Applicant had withdrawn the proposed alternate evacuation road to the Winery Project Design Review. That withdrawal was never disclosed to VOTMA, despite its being the appellant in this proceeding. It is not clear that Kenwood Ranch has withdrawn that proposal from the project itself or just from Design Review. I have not seen any correspondence on that withdrawal.

During that conversation with Ken I also learned that in August 2024 the Applicant had submitted a revised Initial Study that included a revised Fehr & Peers Evacuation Travel Time Estimate study. To my knowledge those documents have not been circulated for any public review. I don't believe VOTMA has received those documents prior to yesterday. Apparently, the revised I/S reruns the the model to reflect the removal of the alternative road as an exit point. Since that alternate road is the key point that VOTMA has objected to, and that issue is the primary focus of VOTMA's comments to be filed today and presented Tuesday, this is a significant change in the posture of the appeal.

In view of the uncertainty of the Applicant's position about whether this alternate road now withdrawn from Design Review is apparently still part of the Winery Project, and more

critically the fact that the Revised Initial Study and the underlying revised F&P evacuation study therein that supports the Revised Addendum #2 have never been circulated for review, and that the resulting Revised Addendum # 2 is now just being unveiled, VOTMA believes that this matter needs to be removed from the October 21, 2025 Agenda. There is no good justification for putting this item before the Board only to have them have to direct it back to the Planning Commission for review of the revised F&P study, review of the Initial Study, as now revised, and review of the Addendum, as now revised. My initial comments to the Board would contain such a request, and I would think the Board has better ways to use its time than to take up the obvious need return this matter to the Planning Commission for further action.

I am available to discuss this matter further if that is necessary.

Thanks.

Roger
415-686-8530

I stress that the revised Initial Study with the revised F&P evacuation study as Appendix V, addresses a frontal issue in this proceeding--whether the enhanced wildfire CEQA study requirements, including evacuation considerations, are adequate to protect the health and safety of both those present at the proposed project as well as those who live in the surrounding area.

----- Forwarded Message -----

From: Ken Compton <ken.compton@sonomacounty.gov>

To: Roger Peters <rjp2ca@aol.com>

Sent: T

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From: [Tina Wallis](#)
To: [Ken Compton](#)
Subject: Kenwood Ranch: Winery Design Review
Date: Saturday, October 18, 2025 11:04:05 AM
Attachments: [image001.png](#)
[08 Fehr and Peers One Entrance and Exit.pdf](#)

EXTERNAL

Good Morning Ken:

I did not see the attached memo, which we previously provided in the BOS hearing documents, so I am resubmitting it for inclusion in the record of this matter. The memo is a four page memo from Fehr & Peers dated July 19, 2023.

Can you please confirm receipt of this email and its attachment?

Thank you,



Tina Wallis

Law Offices of Tina Wallis, Inc.
Santa Rosa | San Francisco
Email: twallis@twallislaw.com
Phone: (707) 595-8681
www.twallislaw.com

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Memorandum

Date: July 19, 2023
To: Terri Avila and Luke Evans, ESA
CC: Tina Wallis, Law Offices of Tina Wallis, Inc.
From: Ian Barnes, PE, Fehr & Peers
Subject: Kenwood Winery Single-EVA Evacuation Travel Time Assessment

WC22-3875

This memorandum presents the results of an evacuation travel time assessment for the proposed Kenwood Winery project assuming a “With Notice” evacuation scenario and a single emergency vehicle access (EVA) for the site. This analysis in this memorandum tiers off of the assumptions, methodologies, and analysis documented in a memorandum dated June 27, 2022 and titled *Kenwood Estates Winery Evacuation Travel Time Assessment*.

The With Notice scenario, as more fully described in the June 27, 2022 memorandum, analyzes the proposed project under an evacuation pattern similar to that of the 2020 Glass Fire. The purpose of the analysis is to assess how the project’s early evacuation procedures would change evacuation travel times for the surrounding area given the Glass Fire evacuation pattern. As described in the June 27, 2022 memorandum, if early evacuation of the project site results in all vehicles leaving the project site through the study area to the north (i.e., State Route 12/Los Alamos Road) within 53 minutes, the early evacuation procedure would result in no net change in evacuation travel times for the study area.

The June 27, 2022 memorandum outlines the study parameters for the With Notice scenario. The analysis performed for the single EVA scenario differs from the previously-completed With Notice scenario in two key areas:

- Concentration of evacuation demand from the project site to a single access point to State Route 12
- Removal of Special Event guests from the scenario – the previously-completed analysis included Special Event guests in the analysis to be conservative, however based on the proposed permitted operations for the project, Special Events cannot occur during the



study evacuation scenario (generally defined as 4:30 PM on the Friday before Labor Day). The analysis retains demand generated by Special Event employees as a conservative assumption.

Table 1, presented below, summarizes the results of the analysis of the With Notice scenario under a single-EVA assumption.

Table 1: Single-EVA With Notice Scenario Operations Analysis Results

Travel Time Calculation Step		Near Term Year 2019	Far Term Year 2040
A	Presumed time for first visitor to travel from parking lot to SR 12 (min)	7.5	7.5
B	Campagna Lane Driveway/SR 12 Delay (sec)	21.4	29.1
$C = 67 * B/60$	Elapsed Time to Evacuate Last Car from Project Site towards Santa Rosa via SR 12 (min)	23.9	32.5
D	Average travel time to SR 12/Los Alamos (min)	9.0	11.0
$E = A + C + D$	Total Evacuation Time for Last Car to Leave Study Area (min)	40.4	51.0
	Delta Versus 53-minute Criteria (min)	-12.6	-2.0

Source: Fehr & Peers, 2023.

The results of the analysis in **Table 1** indicate the modeled amount of time to clear the study area of evacuation demand under 2019 and 2040 conditions is less than the 53-minute time between the first Evacuation Warning and first Evacuation Order in the study area (see Appendix A of the June 27, 2022 memorandum for the definition of the 53-minute time calculation).

If the early evacuation procedure was not in place, much of this evacuation demand would occur as part of normal site closure operations as the winery, tasting room and other uses would close per usual operating hours at 8:00 PM; this normal vehicle demand would then enter the evacuation study area concurrently with persons evacuating from the Oakmont neighborhood and other surrounding areas. So, in the With Notice scenario, the early evacuation procedure results in avoidance of conflict between project-related evacuation demand and evacuation demand caused by Evacuation Orders for the surrounding area.

The operations analysis does note, however, that left turning vehicles exiting the project site would incur long delays in this particular scenario because SR 12 would be full of commuter and visitor (i.e., non-evacuation) traffic. It is likely that, in reality, traffic volumes would go down substantially as news of Evacuation Warnings in the area spread because many users of the SR 12 corridor in the study area would instead be at home or work preparing to evacuate. Similarly,



because the operations analysis does not assume that the SR 12/Pythian Road signal platoons cross traffic, nor does it assume full utilization of the two-way left-turn lane at SR 12/Campagna Lane, the left turn delay to enter eastbound SR 12 from the driveways identified in the operations modeling is likely much higher than would be experienced during an evacuation. Evacuation demand from the project site towards Sonoma would not impede evacuation travel times for land uses to the northwest of the project site because evacuation demand from the project site destined towards Sonoma never enters the evacuation area and must wait for gaps in cross traffic to enter eastbound SR 12.

From: [Tina Wallis](#)
To: [Ken Compton](#)
Subject: Kenwood Winery Design Review: 10/21/25 BOS hearing
Date: Monday, October 20, 2025 10:25:42 AM
Attachments: [image001.png](#)
[2025 1020 Losh Letter re Fire Safe Standards.pdf](#)

EXTERNAL

Good Morning Ken:

Attached is a copy of a letter that is being delivered to the Clerk of the Board today. Please include the three page letter, from Vern Losh, dated October 20, 2025 in the record of this matter.

Please also confirm receipt of this email and its attachment.

Thank you,



Tina Wallis

Law Offices of Tina Wallis, Inc.
Santa Rosa | San Francisco
Email: twallis@twallislaw.com
Phone: (707) 595-8681
www.twallislaw.com

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October 20, 2025

Sonoma County Board of Supervisors
575 Administration Drive, Room 100
Santa Rosa, CA 95403
Submitted via hand delivery

Dear Board Members:

The purpose of this letter is to explain that even in 2004, the Sonoma County Fire Safe Standards considered *both public evacuation and first responder ingress*. Thus, while the 2004 Kenwood Ranch¹ EIR doesn't explicitly use the word "evacuation", the discussion between the former Kenwood Fire Protection District Chief, Bob Ubaldi, and then-Sonoma-County-Emergency-Services staff, Jack Rosavear, about compliance with the Sonoma County Fire Safe Standards included evacuation of the public while providing for simultaneous ingress of emergency vehicles.

I have personal knowledge of this because I started my employment with Sonoma County Fire in March of 1995. I first served as County Fire Marshal then was promoted to Fire Chief/Department Director. My roles and responsibilities included management of staff in the areas of fire prevention, fire suppression, emergency management, and hazardous materials. In 2004, I was the Sonoma County Fire Chief and the department head of Sonoma County's Emergency Services Department.

During my tenure at Sonoma County, I was involved with the development and enforcement of laws, codes, and ordinances related to fire prevention, fire safety, and Chapter 13, the Sonoma County Fire Code. The Sonoma County Fire Code Chapter 13B includes the California Fire Code adoption and the State Minimum Fire Safe regulations, or the Fire Safe Standards.

When Public Resources Code 4290, or the Fire Safe Standards, went into effect in January of 1991, Sonoma County was one of just a few counties that was given the authority to plan review and enforce the code on new construction within the county.

¹ Kenwood Ranch was formerly known as the "Sonoma Country Inn" project.

The scope of the fire safe regulations adopted in 1991 included several items related to life safety and wildfire prevention including:

- Signage to identify streets, roads, and buildings.
- Water supply for fire suppression and firefighter safety.
- Vegetation management, fuel breaks, and greenbelts.
- Road and driveway standards for emergency evacuation and access.

Life safety has always been the number one priority of all emergency responders and the purpose and goal of all fire codes or regulations. The Public Resources Code is no exception to that priority.

The signage regulations allow responders to locate the emergency quickly. Available water supply helps with fire suppression. Vegetation management helps reduce flammable fuels that increase the wildfire threat to dwellings and other structures.

From the beginning of the process in 1987 to create the state fire safe regulations the legislative intent² was to require that all new roads and driveways be constructed to allow the evacuation of the public and access for emergency vehicles.

As applied to Kenwood Ranch, “total conformance with the Fire Safe Standards” included road widths sufficient for evacuating the public and first responder access to the project site. To ensure adequate road width for evacuations and first responder ingress, the Kenwood Ranch project was required to have a 22’ wide road with two, two-foot shoulders.³ The project was further condition to require a hydrant system and fire sprinklers in all structures.

During our plan reviews of new construction, it was always a priority to follow the regulations as written and the intent of the legislation. We placed the ability to allow people to evacuate a life-threatening situation as the top priority. After that we wanted to ensure that emergency vehicles could safely respond into the area of the emergency while the public was leaving.

Since 2017, the fire history experience in Sonoma County and throughout the country showed that emergency evacuation planning needed significant improvement. In conjunction with law enforcement, fire, and emergency management officials a robust plan was developed. This included the development enhanced early warning systems, evacuation zones, evacuation routes, and public education.

² I reviewed relevant legislative history of this statute as part of my due diligence and before writing this letter.

³ 2004 FEIR, page 9.0-111.

Sonoma County Board of Supervisors
October 20, 2025
RE: Kenwood Ranch Winery Design Review
Page 3 of 3

I will be personally present tomorrow, when the Board of Supervisors considers an appeal of the Planning Commission's design review approval for the Kenwood Ranch Winery and am happy to answer any questions about this letter.

A handwritten signature in black ink, appearing to read 'Vern Losh', with a long horizontal flourish extending to the right.

Vernon A. Losh II
Vern Losh and Associates

C: Compton, Ken (Sonoma County Planner)
Wallis, Tina (Applicant Counsel)

From: [Tina Wallis](#)
To: [Ken Compton](#)
Subject: Kenwood Winery: Appeal of Design Review Approval
Date: Friday, October 17, 2025 12:33:47 PM
Attachments: [image001.png](#)
[2025 0818 FP Review of KLD Sonoma Valley Analysis.pdf](#)
[2025 1007 Letter from Sheriff Eddie Engram re Endorsement of Disaster Evacuation Plan for Kenwood Winery.pdf](#)

EXTERNAL

Good Afternoon Ken:

I am submitting the following three items for inclusion in the record of this matter:

1. Video at this link: <https://thekenwoodranch.net/open-house>
2. An August 19, 2025 Memo from Ian Barnes of Fehr & Peers with an attachment, totaling 28 pages;
3. An October 7, 2025, one page, letter from Sheriff Engram.

Can you please confirm receipt of this email and its attachments?

Thank you,



Tina Wallis

Law Offices of Tina Wallis, Inc.
Santa Rosa | San Francisco
Email: twallis@twallislaw.com
Phone: (707) 595-8681
www.twallislaw.com

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Memorandum

Date: August 19, 2025
To: Terri Avila, ESA
CC: Tina Wallis, Law Offices of Tina Wallis, Inc.
From: Ian Barnes, PE, Fehr & Peers
Subject: Comparative Review of KLD Associates *Sonoma Valley, California Wildfire Evacuation Time Estimate Study*

WC22-3875

This technical memorandum documents Fehr & Peers’s review of the January 2025 *Sonoma Valley, California Wildfire Evacuation Time Estimate Study* conducted by KLD Associates. This review compares the assumptions and methods of the KLD Study against the assumptions and methods of Fehr & Peers’s *Kenwood Ranch Winery Evacuation Travel Time Assessment* (May 2024). The primary objective of the 2024 Kenwood Ranch Winery study was to assess the impact of the Kenwood Ranch Winery project on evacuation times in the surrounding area, adhering to California Environmental Quality Act (CEQA) standards. In contrast, the KLD study provides a broader analysis of the transportation network under various evacuation scenarios, using different assumptions and methodologies.

Two key differences emerged immediately: (1) the KLD analysis assumes that the Kenwood Ranch is fully operational (e.g. all uses – resort, winery, and residential)¹ and relies on the data in Fehr & Peers’s 2024 evacuation analysis for the Kenwood Ranch Winery and (2) the KLD analysis is a generic, higher-level analysis, while the Kenwood Ranch Winery analysis is project-specific.

Regulatory Background

The Kenwood Ranch Winery applied for design review approval. The County is processing this application. The project applicant retained Fehr & Peers to complete a CEQA-level evacuation time estimate analysis to determine the effects of the Kenwood Ranch Winery project on the evacuation of the surrounding area. The 2024 Kenwood Winery analysis is extremely conservative

¹ KLD analysis page 1-5: “Data for the Kenwood Estates Winery project and Kenwood Ranch Inn, Spa, and Restaurant has been obtained from the Fehr and Peers Study. It assumed that the construction of the Kenwood Ranch project has been completed.”



because it assumes every aspect of the larger Kenwood Ranch (e.g.: inn/spa/hotel, residences, winery, and winery events all fully operational on a Friday afternoon before a summer holiday weekend. Fehr & Peers included winery events in its afternoon analysis; it is noted that the winery use permit, condition of approval 47(b) restricts event hours to:

Weekdays: 7:00 p.m. to 10:00 p.m.

Saturdays: 9:00 a.m. to 3:00 p.m. and 7:00 p.m. to 10:00 p.m. (A maximum of six special events may start before 3:00 p.m. and end after 7:00 p.m., but no event shall conclude between these hours.)

Sundays: 9:00 a.m. to Noon and 7:00 p.m. to 10:00 p.m. Only wine tasting dinners are permitted.

(Note: Special events shall not start before or end after the times stated above.)

Input from Qualified Local Experts with Local Knowledge

Kenwood Ranch relied on input from known and trusted retired Sonoma County officials with first-hand experience and knowledge of local conditions and local conditions during disasters. Retired Chief Vern Losh (former head of the Sonoma County Department of Emergency Services), Retired Sonoma County Sheriff Robert Giordano, and Retired Sonoma County Assistant Sheriff, Clint Shubel, who served as the Sonoma County Sheriff's Incident Commander during the 2017 Sonoma County Complex Wildfire Disaster, contributed to and reviewed the study areas that the 2024 Kenwood Winery analysis relies on. The Kenwood Ranch Winery study was also favorably reviewed by the Sonoma County Sheriff² and Sonoma Valley Fire District.³ In contrast, project assumptions for the KLD study were created by lay person members of the Valley of the Moon Alliance (with the Kenwood Fire Protection District only attending meeting(s) to define methodology and data requirements).

Different Geographic "Study Areas"

Geographic study parameters are critical to the development of any traffic study. The 2024 Kenwood Ranch Winery report's study area was chosen by experienced experts with first-hand local knowledge and first-hand experience responding to disasters in Sonoma County – namely, retired Fire Chief Vern Losh and retired Sheriff Rob Giordano. As Figures D-1 through D-14 of the KLD study show, KLD used a different geographic area for its analysis. KLD's study area was based on input from laypersons, not seasoned experts with local knowledge and personal experience managing disasters in Sonoma County. The different geographic study areas makes it impossible to make direct comparisons between the two reports or to draw any project-specific conclusions

² See November 22, 2022 letter from former Sonoma Sheriff Mark Essick.

³ See July 15, 2025 letter from Fire Chief Stephen Akre, Sonoma Valley Fire District.



about the Kenwood Ranch Winery design review application. Because the study areas are different, the boundaries of what is considered the “area of risk” are also likely different, which in turn means estimates of evacuation times will be different.

Different Times of Day & Different Traffic Estimate Methodologies

The two reports evaluate evacuation impacts at different times. The KLD study evaluates a summer weekend midday period, and a fall midweek evening period. The KLD study does not readily define the time of day that these scenarios represent but instead estimates evacuation traffic to be 60% of peak hour traffic volumes using the SCTA travel demand model.⁴ While the KLD report projects evacuation traffic, it appears KLD used weekday model volumes and applied them to summer weekend scenarios. KLD study’s assumptions about external traffic volumes and time-of-day scenarios may not accurately reflect peak traffic conditions, potentially leading to unrealistic evacuation time estimates.

Given that SCTA model modules are available for the Weekend midday peak hour, Weekend PM peak hour, and Weekend 24-hour Daily periods, there may be a misapplication of SCTA model volumes to arrive at background external traffic volumes for either the weekday or weekend scenario. This is important because the quoted southbound (i.e. eastbound) external gateway flow on SR 12 in Table 2-10 (1,134 vehicles per hour) is well in excess of the calibrated SCTA Model weekday PM commute peak hour capacity of 900 vehicles per hour for SR 12 between Los Alamos Road and Pythian Road (i.e. the vicinity of the study area boundary) for the typical day.

It is also noted that the K-factors⁵ being used are from the *Highway Capacity Manual* and not based on publicly-available data from the Caltrans Traffic Census Program, which suggests that the K-factors for SR 12 in the study area are closer to 8%-9%, instead of the 11.8% assumption used from the *Highway Capacity Manual*.

The reviewed SCTA model weekday PM commute peak hour volume for eastbound SR 12 approaching Oakmont Drive is 847 vehicles. It is uncertain whether background external volumes were reduced after the evacuation is called to avoid double counting external trips that represent people evacuating. Excessive background external volumes being input into the evacuation model – as noted in the KLD study, external volumes are assumed to continue for two hours after the evacuation is called (even though it is illegal per the California Penal Code for the public to enter

⁴ The KLD report, on page 1-7, notes that external traffic for the evening scenarios is estimated by applying a 60% reduction factor to the peak hour volume estimated. As the external traffic methodology (described in Table 2-10) relies on (1) 24-hour daily volume data from the SCTA travel demand model and (2) K-factors that convert daily volume to a volume that is an effectively a peak hour volume, it can be concluded that the evening scenarios are not reflective of the peak hour of commute traffic on corridors such as SR 12

⁵ A K-factor converts 24-hour daily volumes to peak hour volumes. A lower K-factor indicates that less volume throughout the day occurs during the peak hour.



or re-enter an evacuation order area) – unrealistically reduces the remaining capacity for evacuating trips and thus unrealistically increases evacuation travel time estimates.

In contrast, the Fehr & Peers study uses a combination of the calibrated and validated SCTA Weekday PM peak hour model and Location-Based Services “Big Data” factors⁶ to reflect a “4:30 PM on a Friday before Labor Day” scenario to assess external background traffic volumes. Expert opinion from retired Sonoma County Sherriff Rob Giordano noted that 90 minutes-worth of post-evacuation order background traffic was an appropriate amount, based on his first-hand experience during the 2017 Sonoma Complex Fires. To avoid double-counting of external trips that represent people evacuating, the SCTA Weekday PM peak hour model origin-destination matrix was modified to only consider trips through the study area. The more appropriate, expert-based external background traffic assumptions in the Fehr & Peers study provides for a more realistic establishment of capacity remaining in the roadway system for evacuees to use.

Different Temporal Evacuation Demand Loading Assumptions

The two studies include very different evacuation trip generation assumptions that fundamentally alter the outcomes of the evacuation time estimate analysis.

The Fehr & Peers study considers, based on expert input, a rapidly-spreading “No Notice scenario” that was inspired by the 2017 Sonoma County Complex Fires. In this scenario, input from the retired Sonoma County Fire Chief, Sonoma County Sheriff, and Sonoma County Assistant Sheriff indicated that the evacuation demand loading assumptions should reflect a fast-moving wildfire requires immediate evacuation. Accordingly, the experts developed a demand loading pattern which included 100% of evacuation demand loading onto the roadway network within 45 minutes of an evacuation order being issued.

The KLD study includes different temporal evacuation demand loading curves based on a public survey approach as suggested by the US Nuclear Regulatory Commission and not by Sonoma County expert input. As noted in Section 4.2, the fundamental basis of the evacuation procedure in the KLD study includes persons taking an evacuation approach including (1) departing from work, (2) arriving home, and (3) departing on an evacuation trip that are not legally permissible when an evacuation order is issued and is not consistent with the expert input provided for the Fehr & Peers study regarding a fast-moving wildfire similar to conditions in 2017. Similarly, Table 4-4 of the KLD study suggests that it would take over 90 minutes for commuters to travel home to pack for an evacuation.

The resulting evacuation demand loading curves from the KLD study are substantially different than the ones used in the Fehr & Peers study. As noted in Figure 5-10, the KLD study presumes that only 40% of the evacuation demand has loaded onto the roadway system by 60 minutes after

⁶ “Big Data” relies on GPS measurements from cell phones to estimate area traffic patterns and volumes.



the issuance of the evacuation order, and that only 90% of the evacuation demand has loaded onto the roadway system within 120 minutes (two hours) of the evacuation order being called. The evacuation demand curves in KLD study Figure 5-10 suggest that it would take over four hours to load the evacuation demand onto the roadway system. The longer demand loading pattern fundamentally alters the evacuation time estimates because available evacuation capacity is underutilized earlier in the evacuation.

In summary, the evacuation demand loading assumptions vary significantly. The Fehr & Peers study, based on expert input, assumes a rapid evacuation scenario similar to the 2017 Sonoma County Complex Fires, with 100% of evacuation demand loading onto the roadway network within 45 minutes of an evacuation order. In contrast, the KLD study's assumptions are based on a public survey approach, resulting in a longer demand loading pattern that may not be consistent with actual evacuation behavior.

Different Operations Analysis Methodology

The methodologies for operations analysis and trip distribution also differ. The Fehr & Peers study uses a calibrated simulation model consistent with state practices, while the KLD study employs a model with varying capacities and assumptions that may not be calibrated to local conditions.

The Fehr & Peers study uses capacities that are in-line with the calibrated peak hour capacities (divided by 4 to arrive at 15-minute capacities) from the SCTA model. These capacities are then used in an operations simulation analysis to assess congestion patterns throughout the study area. Documented, targeted modifications to capacities were made based on Fehr & Peers's review of the roadway system and input from the project team's experts. This analysis approach has been used throughout the State of California on both planning and CEQA applications. The nature of the capacity assumptions underlying the simulation modeling in the Fehr & Peers study reflects significant uncertainty in travel behavior underlying evacuation events, but is consistent with the state of the practice assumptions for large scale network capacities within the Sonoma Valley (as expressed in the adopted SCTA model).

The KLD study mixes and matches capacities from a variety of sources. As noted previously, the external background trips are based on outputs from the SCTA model, and the associated calibrated capacities therein. The simulation model then uses substantially different capacities from the Highway Capacity Manual to estimate operating conditions, as well as simulates the traffic signals; no information about calibrating the model to typical conditions has been provided (as is typically done in California for operations projects). This yields a significant effect on the outputs of the analysis, as noted in the next section.



Key Differences in Trip Distribution Methodology

The KLD study fails to provide information as to the trip distribution of the evacuating vehicles. As noted in methodology documents that KLD provides to its clients (provided as an attachment), the DYNEV II simulation model incorporates a Dynamic Trip Assignment and Distribution model named DTRAD. As noted in the documentation, DTRAD calculates an "optimal dynamic trip distribution and optimal dynamic trip assignment of the traffic generated at each origin node traveling to its set of candidate destination nodes, so as to minimize evacuee travel "cost"." KLD then asserts that *"people in vehicles seek to travel out of an area of potential risk as rapidly as possible by selecting the "best" routes. The model is designed to identify these "best" routes in a manner that realistically distributes vehicles from origins to destinations and routes them over the highway network, in a consistent and optimal manner, reflecting evacuee behavior."*

According to the documentation KLD provides to its clients, the DTRAD process changes the evacuation destination and route of evacuees based on the traffic congestion in the model in a mathematically optimal manner and that KLD claims that this mathematically optimal manner represents evacuee behavior. However, Question 12B of the demographic survey conducted by KLD suggests that respondents said they would evacuate to places such as "A relative's or friend's home," "Evacuation shelter," "Hotel, motel or campground," or "a second/seasonal home." This suggests that the final desired destinations of evacuees are already known prior to an evacuation being ordered, and that a particular evacuee may decide to travel farther through an evacuation zone because the route is perceived as being quicker to get to a shelter, hotel, friend's house, or second home, not because it is the fastest route out of the evacuation zone.

Therefore, the trip distribution assumptions in the KLD model are (1) not based on expert input with local knowledge and first-hand local experience responding to disasters and (2) can fluctuate based on operations modeling assumptions that can wildly vary because of the wide variety of unknowns regarding traffic operations during an evacuation event. Or, in other words, the distribution of Sonoma Valley evacuees to places like Santa Rosa, Petaluma, (City of) Sonoma, or Napa varies based on the traffic operations inputs in the model and reflects a mathematically optimal condition and not human behavior during an emergency. The choice to go to a particular hotel or stay with a particular family member when an evacuation order is issued does not consider evacuation traffic conditions.

The Fehr & Peers study relies on experts with local knowledge and combined decades of experience responding to emergencies in Sonoma County, including the 2017 Sonoma Complex Fires. These experts understand of key bottlenecks in the study area, the locations of evacuation shelters and hotels, roadway capacities based on their first-hand experience during local emergencies. The pattern for evacuations during the No Notice scenario reflects that while many people will choose to take a mileage-efficient path to leave the study area, many other people will not because of other factors like hotel availability, where family live, the locations of evacuation



shelters, etc. that do not change regardless of congestion patterns. The routing in the operations analysis is subject to dynamic assignment when multiple paths are available, but the overall distribution of traffic from the Sonoma Valley to places like Santa Rosa, Petaluma, (City of) Sonoma, or Napa does not vary because the overall land use mix of evacuation destinations like shelters, the locations of hotels and family, etc. changes little between model runs.

Conclusions

The Fehr & Peers study for the Kenwood Ranch Winery and the KLD study on evacuating Sonoma Valley were based on very different assumptions.

The Fehr & Peers study focused on how the winery project would affect the local community. It followed CEQA (California Environmental Quality Act) Guidelines and included expert input – experts with first-hand disaster response experience in Sonoma County. The methods used were consistent with current practices in traffic forecasting and analysis in the Bay Area and across California.

One important expert recommendation was to model an evacuation scenario similar to the fast-moving wildfires of 2017 in Sonoma County. In this situation, people would have very little time to gather their things and leave. The study's assumptions about where people would go during an evacuation were carefully reviewed by experts and stayed the same throughout the analysis, even though mass evacuations are unpredictable.

On the other hand, the KLD study used longer timelines for evacuation and changed its assumptions based on a more flexible traffic analysis. However, because it lacks documentation and expert input, it may not reflect local conditions accurately. While the KLD study is helpful for general planning, it does not meet the standards required for CEQA review.

This completes our review of the of the January 2025 *Sonoma Valley, California Wildfire Evacuation Time Estimate Study* conducted by KLD Associates.

Ian Barnes, PE
Principal/Senior Market Leader
Fehr & Peers

Attachment: KLD Methodology Information

DYNAMIC TRAFFIC ASSIGNMENT AND DISTRIBUTION MODEL

This section describes the integrated dynamic trip assignment and distribution model named DTRAD (Dynamic Traffic Assignment and Distribution) that is expressly designed for use in analyzing evacuation scenarios. DTRAD employs logit-based path-choice principles and is one of the models of the DYNEV II System. The DTRAD module implements path-based *Dynamic Traffic Assignment* (DTA) so that time dependent Origin-Destination (OD) trips are “assigned” to routes over the network based on prevailing traffic conditions.

To apply the DYNEV II System, the analyst must specify the highway network, link capacity information, the time-varying volume of traffic generated at all origin centroids and, optionally, a set of accessible candidate destination nodes on the periphery of the Focus Areas for selected origins. DTRAD calculates the optimal dynamic trip distribution (i.e., trip destinations) and the optimal dynamic trip assignment (i.e., trip routing) of the traffic generated at each origin node traveling to its set of candidate destination nodes, so as to minimize evacuee travel “cost”.

Overview of Integrated Distribution and Assignment Model

The underlying premise is that the selection of destinations and routes is intrinsically coupled in an evacuation scenario. That is, people in vehicles seek to travel out of an area of potential risk as rapidly as possible by selecting the “best” routes. The model is designed to identify these “best” routes in a manner that realistically distributes vehicles from origins to destinations and routes them over the highway network, in a consistent and optimal manner, reflecting evacuee behavior.

For each origin, a set of “candidate destination nodes” is selected by the software logic and by the analyst to reflect the desire by evacuees to travel away from the hazard and to access major highways. The specific destination nodes within this set that are selected by travelers and the selection of the connecting paths of travel, are both determined by DTRAD. This determination is made by a logit-based path choice model in DTRAD, so as to minimize the trip “cost”, as discussed later.

The traffic loading on the network and the consequent operational traffic environment of the network (density, speed, throughput on each link) vary over time as the evacuation takes place. The DTRAD model, which is interfaced with the DYNEV simulation model, executes a succession of “sessions” wherein it computes the optimal routing and selection of destination nodes for the conditions that exist at that time.

Interfacing the DYNEV Simulation Model with DTRAD

The DYNEV II system reflects evacuation behavior wherein evacuees will seek to travel in a general direction away from the location of the hazardous event. An algorithm was developed to support the DTRAD model in dynamically varying the Trip Table (O-D matrix) over time from one DTRAD session to the next. Another algorithm executes a “mapping” from the specified “geometric” network (link-node analysis network) that represents the physical highway system,

to a “path” network that represents the vehicle [turn] movements. DTRAD computations are performed on the “path” network: DYNEV simulation model, on the “geometric” network.

DTRAD Description

DTRAD is the DTA module for the DYNEV II System.

When the road network under study is large, multiple routing options are usually available between trip origins and destinations. The problem of loading traffic demands and propagating them over the network links is called Network Loading and is addressed by DYNEV II using macroscopic traffic simulation modeling. Traffic assignment deals with computing the distribution of the traffic over the road network for given O-D demands and is a model of the route choice of the drivers. Travel demand changes significantly over time, and the road network may have time dependent characteristics, e.g., time-varying signal timing or reduced road capacity because of lane closure, or traffic congestion. To consider these time dependencies, DTA procedures are required.

The DTRAD DTA module represents the dynamic route choice behavior of drivers, using the specification of dynamic origin-destination matrices as flow input. Drivers choose their routes through the network based on the travel cost they experience (as determined by the simulation model). This allows traffic to be distributed over the network according to the time-dependent conditions. The modeling principles of DTRAD include:

- It is assumed that drivers not only select the best route (i.e., lowest cost path) but some also select less attractive routes. The algorithm implemented by DTRAD archives several “efficient” routes for each O-D pair from which the drivers choose.
- The choice of one route out of a set of possible routes is an outcome of “discrete choice modeling”. Given a set of routes and their generalized costs, the percentages of drivers that choose each route is computed. The most prevalent model for discrete choice modeling is the logit model. DTRAD uses a variant of Path-Size-Logit model (PSL). PSL overcomes the drawback of the traditional multinomial logit model by incorporating an additional deterministic path size correction term to address path overlapping in the random utility expression.
- DTRAD executes the Traffic Assignment (TA) algorithm on an abstract network representation called “the path network” which is built from the actual physical link-node analysis network. This execution continues until a stable situation is reached: the volumes and travel times on the edges of the path network do not change significantly from one iteration to the next. The criteria for this convergence are defined by the user.
- Travel “cost” plays a crucial role in route choice. In DTRAD, path cost is a linear summation of the generalized cost of each link that comprises the path. The generalized cost for a link, a , is expressed as

$$a = a_1 t + a_2 d + a_3 s$$

Where a is the generalized cost for link and t , d , and s are cost coefficients for link travel time, distance, and supplemental cost, respectively. Distance and supplemental

costs are defined as invariant properties of the network model, while travel time is a dynamic property dictated by prevailing traffic conditions. The DYNEV simulation model computes travel times on all edges in the network and DTRAD uses that information to constantly update the costs of paths. The route choice decision model in the next simulation iteration uses these updated values to adjust the route choice behavior. This way, traffic demands are dynamically re-assigned based on time dependent conditions. The interaction between the DTRAD traffic assignment and DYNEV II simulation models is depicted in Figure 1. Each round of interaction is called a Traffic Assignment Session (TA session). A TA session is composed of multiple iterations, marked as loop B in the figure.

- The supplemental cost is based on the “survival distribution” (a variation of the exponential distribution). The Inverse Survival Function is a “cost” term in DTRAD to represent the potential risk of travel toward the hazard:

$$s_a = -\beta \ln(p), 0 \leq p \leq 1; \beta > 0$$

$$p = \frac{d_n}{d_0}$$

d_n = Distance of node, n, from the hazard

d_0 = Distance from the hazard where there is zero risk

β = Scaling factor

A d_0 was chosen such that the evacuating areas are within the area at risk. Note that the supplemental cost, s_a , of link, a, is (high, low), if its downstream node, n, is (near, far from) the hazard.

Network Equilibrium

In 1952, John Wardrop wrote:

Under equilibrium conditions traffic arranges itself in congested networks in such a way that no individual trip-maker can reduce his path costs by switching routes.

The above statement describes the “User Equilibrium” definition, also called the “Selfish Driver Equilibrium”. It is a hypothesis that represents a [hopeful] condition that evolves over time as drivers search out alternative routes to identify those routes that minimize their respective “costs”. It has been found that this “equilibrium” objective to minimize costs is largely realized by most drivers who routinely take the same trip over the same network at the same time (i.e., commuters). Effectively, such drivers “learn” which routes are best for them over time. Thus, the traffic environment “settles down” to a near-equilibrium state.

Clearly, since an emergency evacuation is a sudden, unique event, it does not constitute a long-term learning experience which can achieve an equilibrium state. Consequently, DTRAD was not designed as an equilibrium solution, but to represent drivers in a new and unfamiliar situation, who respond in a flexible manner to real-time information (either broadcast or observed) in such a way as to minimize their respective costs of travel.

DYNEV TRAFFIC SIMULATION MODEL

The DYNEV traffic simulation model is a *macroscopic* model that describes the operations of traffic flow in terms of aggregate variables: vehicles, flow rate, mean speed, volume, density, queue length, *on each link*, for each turn movement, during each Time Interval (simulation time step). The model generates trips from “sources” and from Entry Links and introduces them onto the analysis network at rates specified by the analyst based on the mobilization time distributions. The model simulates the movements of all vehicles on all network links over time until the network is empty. At intervals, the model outputs Measures of Effectiveness (MOE) such as those listed in Table 1.

Model Features Include:

- Explicit consideration is taken of the variation in density over the time step; an iterative procedure is employed to calculate an average density over the simulation time step for the purpose of computing a mean speed for moving vehicles.
- Multiple turn movements can be serviced on one link; a separate algorithm is used to estimate the number of (fractional) lanes assigned to the vehicles performing each turn movement, based, in part, on the turn percentages provided by the DTRAD model.
- At any point in time, traffic flow on a link is subdivided into two classifications: queued and moving vehicles. The number of vehicles in each classification is computed. Vehicle spillback, stratified by turn movement for each network link, is explicitly considered and quantified. The propagation of stopping waves from link to link is computed within each time step of the simulation. There is no “vertical stacking” of queues on a link.
- Any link can accommodate “source flow” from zones via side streets and parking facilities that are not explicitly represented. This flow represents the evacuating trips that are generated at the source.
- The relation between the number of vehicles occupying the link and its storage capacity is monitored every time step for every link and for every turn movement. If the available storage capacity on a link is exceeded by the demand for service, then the simulator applies a “metering” rate to the entering traffic from both the upstream feeders and source node to ensure that the available storage capacity is not exceeded.
- A “path network” that represents the specified traffic movements from each network link is constructed by the model; this path network is utilized by the DTRAD model.
- A two-way interface with DTRAD: (1) provides link travel times; (2) receives data that translates into link turn percentages.
- Provides MOE to animation software, EVacuation Animator (EVAN).
- Calculates ETE statistics.

All traffic simulation models are data-intensive. Table 2 outlines the necessary input data elements.

To provide an efficient framework for defining these specifications, the physical highway environment is represented as a network. The unidirectional links of the network represent roadway sections: rural, multi-lane, urban streets or freeways. The nodes of the network generally represent intersections or points along a section where a geometric property changes (e.g. a lane drop, change in grade or free flow speed).

Figure 2 is an example of a small network representation. The freeway is defined by the sequence of links, (20,21), (21,22), and (22,23). Links (8001, 19) and (3, 8011) are Entry and Exit links, respectively. An arterial extends from node 3 to node 19 and is partially subsumed within a grid network. Note that links (21,22) and (17,19) are grade-separated.

Methodology

The Fundamental Diagram

It is necessary to define the fundamental diagram describing flow-density and speed-density relationships. Rather than “settling for” a triangular representation, a more realistic representation that includes a “capacity drop”, $(I-R)Q_{\max}$, at the critical density when flow conditions enter the forced flow regime, is developed and calibrated for each link. This representation, shown in Figure 3, asserts a constant free speed up to a density, k_f , and then a linear reduction in speed in the range, $k_f \leq k \leq k_c = 45$ vpm, the density at capacity. In the flow-density plane, a quadratic relationship is prescribed in the range, $k_c \leq k_s = 95$ vpm which roughly represents the “stop-and-go” condition of severe congestion. The value of flow rate, Q_s , corresponding to k_s , is approximated at $0.7 RQ_{\max}$. A linear relationship between k_s and k_j completes the diagram shown in Figure 3. Table 3 is a glossary of terms.

The fundamental diagram is applied to moving traffic on every link. The specified calibration values for each link are: (1) Free speed, v_f ; (2) Capacity, Q_{\max} ; (3) Critical density, $k_c = 45$ vpm; (4) Capacity Drop Factor, $R = 0.9$; (5) Jam density, k_j . Then, $v_c = \frac{Q_{\max}}{k_c}$, $k_f = k_c - \frac{(v_f - v_c) k_c^2}{Q_{\max}}$. Setting $\bar{k} = k - k_c$, then $Q = RQ_{\max} - \frac{RQ_{\max}}{8333} \bar{k}^2$ for $0 \leq \bar{k} \leq \bar{k}_s = 50$. It can be shown that $Q = (0.98 - 0.0056 \bar{k}) RQ_{\max}$ for $\bar{k}_s \leq \bar{k} \leq \bar{k}_j$, where $\bar{k}_s = 50$ and $\bar{k}_j = 175$.

The Simulation Model

The simulation model solves a sequence of “unit problems”. Each unit problem computes the movement of traffic on a link, for each specified turn movement, over a specified time interval (TI) which serves as the simulation time step for all links. Figure 4 is a representation of the unit problem in the time-distance plane. Table 3 is a glossary of terms that are referenced in the following description of the unit problem procedure.

The formulation and the associated logic presented below are designed to solve the unit problem for each sweep over the network (discussed below), for each turn movement serviced on each link that comprises the evacuation network, and for each TI over the duration of the evacuation.

Given = $Q_b, M_b, L, TI, E_0, LN, G/C, h, L_v, R_0, L_c, E, M$

Compute O, Q_e, M_e

Define $O = O_Q + O_M + O_E$; $E = E_1 + E_2$

1. For the first sweep, $s = 1$, of this TI, get initial estimates of mean density, k_0 , the R – factor, R_0 and entering traffic, E_0 , using the values computed for the final sweep of the prior TI. For each subsequent sweep, $s > 1$, calculate $E = \sum_i P_i O_i + S$ where P_i, O_i are the relevant turn percentages from feeder link, i , and its total outflow (possibly metered) over this TI; S is the total source flow (possibly metered) during the current TI. Set iteration counter, $n = 0$, $k = k_0$, and $E = E_0$.

2. Calculate $v(k)$ such that $k \leq 130$ using the analytical representations of the fundamental diagram.

Calculate $Cap = \frac{Q_{max}(TI)}{3600} (G/C) LN$, in vehicles, this value may be reduced due to metering

Set $R = 1.0$ if $G/C < 1$ or if $k \leq k_c$; Set $R = 0.9$ only if $G/C = 1$ and $k > k_c$

Calculate queue length, $L_b = Q_b \frac{L_v}{LN}$

3. Calculate $t_1 = TI - \frac{L}{v}$. If $t_1 < 0$, set $t_1 = E_1 = O_E = 0$; Else, $E_1 = E \frac{t_1}{TI}$.

4. Then $E_2 = E - E_1$; $t_2 = TI - t_1$

5. If $Q_b \geq Cap$, then

$O_Q = Cap, O_M = O_E = 0$

If $t_1 > 0$, then

$Q'_e = Q_b + M_b + E_1 - Cap$

Else

$Q'_e = Q_b - Cap$

End if

Calculate Q_e and M_e using Algorithm A (below)

6. Else ($Q_b < Cap$)

$O_Q = Q_b, RCap = Cap - O_Q$

7. If $M_b \leq RCap$, then

8. If $t_1 > 0$, $O_M = M_b, O_E = \min\left(RCap - M_b, \frac{t_1 Cap}{TI}\right) \geq 0$

$Q'_e = E_1 - O_E$

If $Q'_e > 0$, then

Calculate Q_e, M_e with Algorithm A

Else

- $Q_e = 0, M_e = E_2$
- End if
- Else ($t_1 = 0$)
- $O_M = \left(\frac{v(TI) - L_b}{L - L_b} \right) M_b$ and $O_E = 0$
- $M_e = M_b - O_M + E; Q_e = 0$
- End if
9. Else (M_b)
- $O_E = 0$
- If $t_1 > 0$, then
- $O_M = RCap, Q'_e = M_b - O_M + E_1$
- Calculate Q_e and M_e using Algorithm A
10. Else ($t_1 = 0$)
- $M_d = \left[\left(\frac{v(TI) - L_b}{L - L_b} \right) M_b \right]$
- If M_d , h
- $O_M = RCap$
- $Q'_e = M_d - O_M$
- Apply Algorithm A to calculate Q_e and M_e
- Else
- $O_M = M_d$
- $M_e = M_b - O_M + E$ and $Q_e = 0$
- End if
- End if
- End if
11. Calculate a new estimate of average density, $\bar{k}_n = \frac{1}{4} [k_b + 2 k_m + k_e]$,
 where k_b = density at the beginning of the TI
 k_e = density at the end of the TI
 k_m = density at the mid-point of the TI
 All values of density apply only to the moving vehicles.
- If $|\bar{k}_n - \bar{k}_{n-1}| > \epsilon$ and $n < N$
 where N = max number of iterations, and ϵ is a convergence criterion, then
12. set $n = n + 1$, and return to step 2 to perform iteration, n , using $k = \bar{k}_n$.
 End if

Computation of unit problem is now complete. Check for excessive inflow causing spillback.

13. If $Q_e + M_e > \frac{(L-W) LN}{L_v}$, then

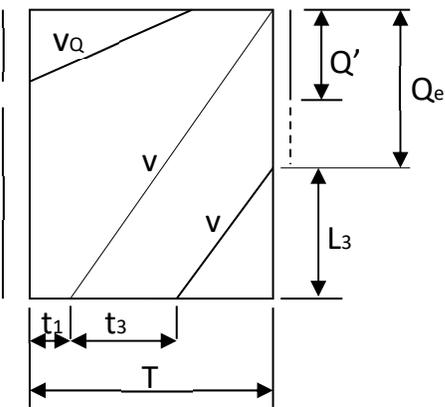
The number of excess vehicles that cause spillback is: $SB = Q_e + M_e - \frac{(L-W) \cdot LN}{L_v}$, where W is the width of the upstream intersection. To prevent spillback, meter the outflow from the feeder approaches and from the source flow, S , during this TI by the amount, SB . That is, set

$$M = 1 - \frac{SB}{(E + S)} \geq 0, \text{ where } M \text{ is the metering factor (over all movements).}$$

This metering factor is assigned appropriately to all feeder links and to the source flow, to be applied during the next network sweep, discussed later.

Algorithm A

This analysis addresses the flow environment over a TI during which moving vehicles can



join a standing or discharging queue. For the case shown, $Q_b \leq \text{Cap}$, with $t_1 > 0$ and a queue of length, Q'_e , formed by that portion of M_b and E that reaches the stop-bar within the TI, but could not discharge due to inadequate capacity. That is, $Q_b + M_b + E_1$. This queue length, $Q'_e = Q_b + M_b + E_1 - \text{Cap}$ can be extended to Q_e by traffic entering the approach during the current TI, traveling at speed, v , and reaching the rear of the queue within the TI. A portion of the entering vehicles, $E_3 = E \frac{t_3}{TI}$, will likely join the queue. This analysis calculates

t_3 , Q_e and M_e for the input values of L , TI , v , E , t , L_v , LN , Q'_e .

When $t_1 > 0$ and $Q_b \leq \text{Cap}$:

Define: $L'_e = Q'_e \frac{L_v}{LN}$. From the sketch, $L_3 = v(TI - t_1 - t_3) = L - (Q'_e + E_3) \frac{L_v}{LN}$.

Substituting $E_3 = \frac{t_3}{TI} E$ yields: $-vt_3 + \frac{t_3}{TI} E \frac{L_v}{LN} = L - v(TI - t_1) - L'_e$. Recognizing that the first two terms on the right hand side cancel, solve for t_3 to obtain:

$$t_3 = \frac{L'_e}{\left[v - \frac{E}{TI} \frac{L_v}{LN} \right]} \quad \text{such that } 0 \leq t_3 \leq TI - t_1$$

If the denominator, $\left[v - \frac{E}{TI} \frac{L_v}{LN} \right] \leq 0$, set $t_3 = TI - t_1$.

Then, $Q_e = Q'_e + E \frac{t_3}{TI}$, $M_e = E \left(1 - \frac{t_1 + t_3}{TI} \right)$

The complete Algorithm A considers all flow scenarios; space limitation precludes its inclusion, here.

Lane Assignment

The “unit problem” is solved for each turn movement on each link. Therefore it is necessary to calculate a value, LN_x , of allocated lanes for each movement, x . If in fact all lanes are specified by, say, arrows painted on the pavement, either as full lanes or as lanes within a turn bay, then the problem is fully defined. If however there remain un-channelized lanes on a link, then an analysis is undertaken to subdivide the number of these physical lanes into turn movement specific virtual lanes, LN_x .

Implementation

Computational Procedure

The computational procedure for this model is shown in the form of a flow diagram as Figure 5. As discussed earlier, the simulation model processes traffic flow for each link independently over TI that the analyst specifies; it is usually 60 seconds or longer. The first step is to execute an algorithm to define the sequence in which the network links are processed so that as many links as possible are processed after their feeder links are processed, within the same network sweep. Since a general network will have many closed loops, it is not possible to guarantee that every link processed will have all of its feeder links processed earlier.

The processing then continues as a succession of time steps of duration, TI, until the simulation is completed. Within each time step, the processing performs a series of “sweeps” over all network links; this is necessary to ensure that the traffic flow is synchronous over the entire network. Specifically, the sweep ensures continuity of flow among all the network links; in the context of this model, this means that the values of E , M , and S are all defined for each link such that they represent the synchronous movement of traffic from each link to all of its outbound links. These sweeps also serve to compute the metering rates that control spillback.

Within each sweep, processing solves the “unit problem” for each turn movement on each link. With the turn movement percentages for each link provided by the DTRAD model, an algorithm allocates the number of lanes to each movement serviced on each link. The timing at a signal, if any, applied at the downstream end of the link, is expressed as a G/C ratio, the signal timing needed to define this ratio is an input requirement for the model. The model also has the capability of representing, with macroscopic fidelity, the actions of actuated signals responding to the time-varying competing demands on the approaches to the intersection.

The solution of the unit problem yields the values of the number of vehicles, O , that discharge from the link over the time interval and the number of vehicles that remain on the link at the end of the time interval as stratified by queued and moving vehicles: Q_e and M_e . The procedure considers each movement separately (multi-piping). After all network links are processed for a given network sweep, the updated consistent values of entering flows, E ; metering rates, M ; and source flows, S are defined so as to satisfy the “no spillback” condition. The procedure then performs the unit problem solutions for all network links during the following sweep.

Experience has shown that the system converges (i.e., the values of E , M and S “settle down”

for all network links) in just two sweeps if the network is entirely under-saturated or in four sweeps in the presence of extensive congestion with link spillback. (The initial sweep over each link uses the final values of E and M, of the prior TI). At the completion of the final sweep for a TI, the procedure computes and stores all measures of effectiveness (MOEs) for each link and turn movement for output purposes. It then prepares for the following time interval by defining the values of Q_b and M_b for the start of the next TI as being those values of Q_e and M_e at the end of the prior TI. In this manner, the simulation model processes the traffic flow over time until the end of the run. Note that there is no space-discretization other than the specification of network links.

Interfacing with Dynamic Traffic Assignment (DTRAD)

The **DYNEV II** system reflects evacuation behavior wherein evacuees will seek to travel in a general direction away from the location of the hazardous event. Thus, an algorithm was developed to identify an appropriate set of destination nodes for each origin based on its location and on the expected direction of travel. This algorithm also supports the DTRAD model in dynamically varying the Trip Table (O-D matrix) over time from one DTRAD session to the next.

Figure 1 depicts the interaction of the simulation model with the DTRAD model in the **DYNEV II** system. As indicated, **DYNEV II** performs a succession of DTRAD “sessions”; each such session computes the turn link percentages for each link that remain constant for the session duration, $[T_0, T_2]$, specified by the analyst. The end product is the assignment of traffic volumes from each origin to paths connecting it with its destinations in such a way as to minimize the network-wide cost function. The output of the DTRAD model is a set of updated link turn percentages which represent this assignment of traffic.

As indicated in Figure 1, the simulation model supports the DTRAD session by providing it with operational link MOE that are needed by the path choice model and included in the DTRAD cost function. These MOE represent the operational state of the network at a time, $T_1 \leq T_2$, which lies within the session duration, $[T_0, T_2]$. This “burn time”, $T_1 - T_0$, is selected by the analyst. For each DTRAD iteration, the simulation model computes the change in network operations over this burn time using the latest set of link turn percentages computed by the DTRAD model. Upon convergence of the DTRAD iterative procedure, the simulation model accepts the latest turn percentages provided by the DTA model, returns to the origin time, T_0 , and executes until it arrives at the end of the DTRAD session duration at time, T_2 . At this time the next DTA session is launched and the whole process repeats until the end of the **DYNEV II** run.

Table 1. Selected Measures of Effectiveness Output by DYNEV II

Measure	Units	Applies To
Vehicles Discharged	Vehicles	Link, Network, Exit Link
Speed	Miles/Hours (mph)	Link, Network
Density	Vehicles/Mile/Lane	Link
Level of Service	LOS	Link
Content	Vehicles	Network
Travel Time	Vehicle-hours	Network
Evacuated Vehicles	Vehicles	Network, Exit Link
Trip Travel Time	Vehicle-minutes/trip	Network
Capacity Utilization	Percent	Exit Link
Attraction	Percent of total evacuating vehicles	Exit Link
Max Queue	Vehicles	Node, Approach
Time of Max Queue	Hours:minutes	Node, Approach
Route Statistics	Length (mi); Mean Speed (mph); Travel Time (min)	Route
Mean Travel Time	Minutes	Evacuation Trips; Network

Table 2. Input Requirements for the DYNEV II Model

HIGHWAY NETWORK

- Links defined by upstream and downstream node numbers
- Link lengths
- Number of lanes (up to 9) and channelization
- Turn bays (1 to 3 lanes)
- Destination (exit) nodes
- Network topology defined in terms of downstream nodes for each receiving link
- Node Coordinates (X,Y)
- Hazard Coordinates (X,Y)

GENERATED TRAFFIC VOLUMES

- On all entry links and source nodes (origins), by Time Period

TRAFFIC CONTROL SPECIFICATIONS

- Traffic signals: link-specific, turn movement specific
- Signal control treated as fixed time or actuated
- Location of traffic control points (these are represented as actuated signals)
- Stop and Yield signs
- Right-turn-on-red (RTOR)
- Route diversion specifications
- Turn restrictions
- Lane control (e.g. lane closure, movement-specific)

DRIVER'S AND OPERATIONAL CHARACTERISTICS

- Driver's (vehicle-specific) response mechanisms: free-flow speed, discharge headway
- Bus route designation.

DYNAMIC TRAFFIC ASSIGNMENT

- Candidate destination nodes for each origin (optional)
- Duration of DTA sessions
- Duration of simulation "burn time"
- Desired number of destination nodes per origin

INCIDENTS

- Identify and Schedule of closed lanes
- Identify and Schedule of closed links

Table 3. Glossary

Cap	The maximum number of vehicles, of a particular movement, that can discharge from a link within a time interval.
E	The number of vehicles, of a particular movement, that enter the link over the time interval. The portion, E_{TI} , can reach the stop-bar within the TI.
G/C	The green time: cycle time ratio that services the vehicles of a particular turn movement on a link.
h	The mean queue discharge headway, seconds.
k	Density in vehicles per lane per mile.
\bar{k}	The average density of <u>moving</u> vehicles of a particular movement over a TI, on a link.
L	The length of the link in feet.
L_b, L_e	The queue length in feet of a particular movement, at the [beginning, end] of a time interval.
LN	The number of lanes, expressed as a floating point number, allocated to service a particular movement on a link.
L_v	The mean effective length of a queued vehicle including the vehicle spacing, feet.
M	Metering factor (Multiplier): 1.
M_b, M_e	The number of moving vehicles on the link, of a particular movement, that are moving at the [beginning, end] of the time interval. These vehicles are assumed to be of equal spacing, over the length of link upstream of the queue.
O	The total number of vehicles of a particular movement that are discharged from a link over a time interval.
O_Q, O_M, O_E	The components of the vehicles of a particular movement that are discharged from a link within a time interval: vehicles that were Queued at the beginning of the TI; vehicles that were Moving within the link at the beginning of the TI; vehicles that Entered the link during the TI.
P_x	The percentage, expressed as a fraction, of the total flow on the link that executes a particular turn movement, x.

Q_b, Q_e	The number of queued vehicles on the link, of a particular turn movement, at the [beginning, end] of the time interval.
Q_{max}	The maximum flow rate that can be serviced by a link for a particular movement in the absence of a control device. It is specified by the analyst as an estimate of link capacity, based upon a field survey, with reference to the Highway Capacity Manual (HCM) 2022.
R	The factor that is applied to the capacity of a link to represent the “capacity drop” when the flow condition moves into the forced flow regime. The lower capacity at that point is equal to RQ_{max} .
RCap	The remaining capacity available to service vehicles of a particular movement after that queue has been completely serviced, within a time interval, expressed as vehicles.
S_x	Service rate for movement x, vehicles per hour (vph).
t_1	Vehicles of a particular turn movement that enter a link over the first t_1 seconds of a time interval, can reach the stop-bar (in the absence of a queue downstream) within the same time interval.
TI	The time interval, in seconds, which is used as the simulation time step.
v	The mean speed of travel, in feet per second (fps) or miles per hour (mph), of <u>moving</u> vehicles on the link.
v_Q	The mean speed of the last vehicle in a queue that discharges from the link within the TI. This speed differs from the mean speed of moving vehicles, v.
W	The width of the intersection in feet. This is the difference between the link length which extends from stop-bar to stop-bar and the block length.

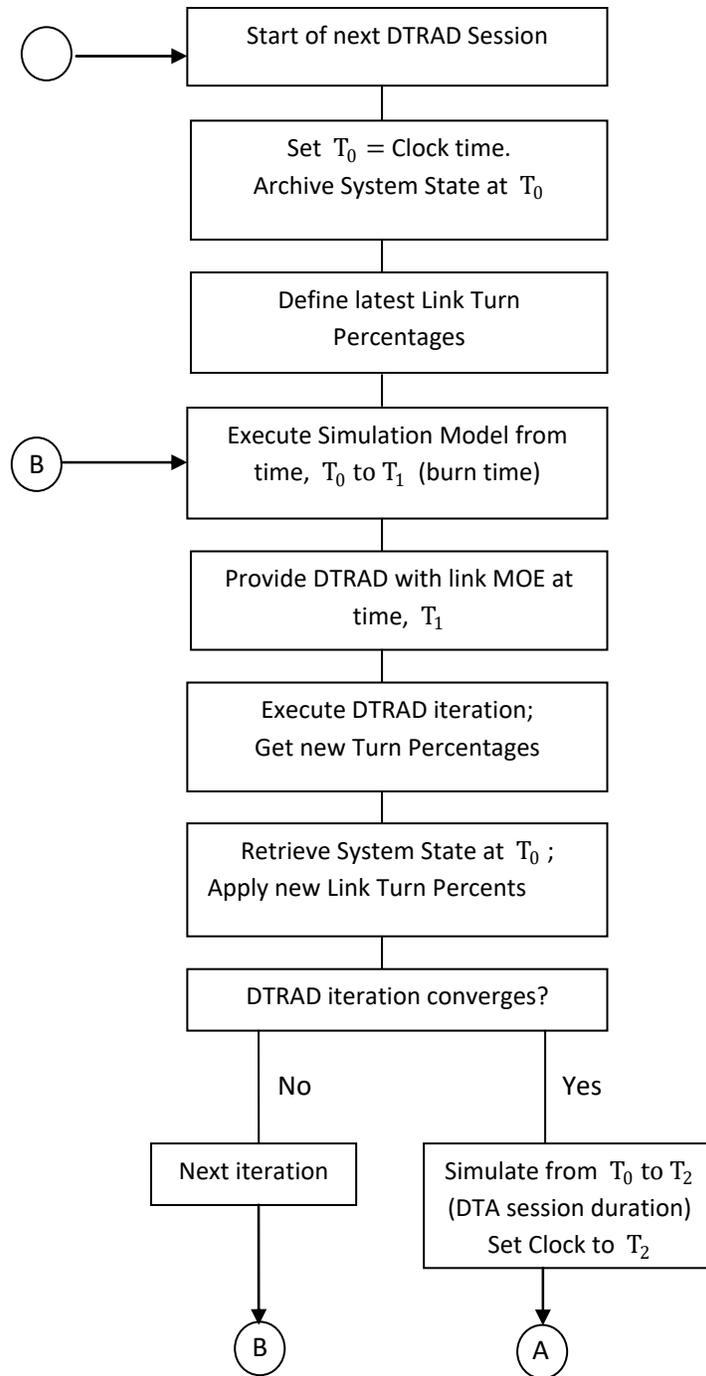


Figure 1 Flow Diagram of Simulation-DTRAD Interface

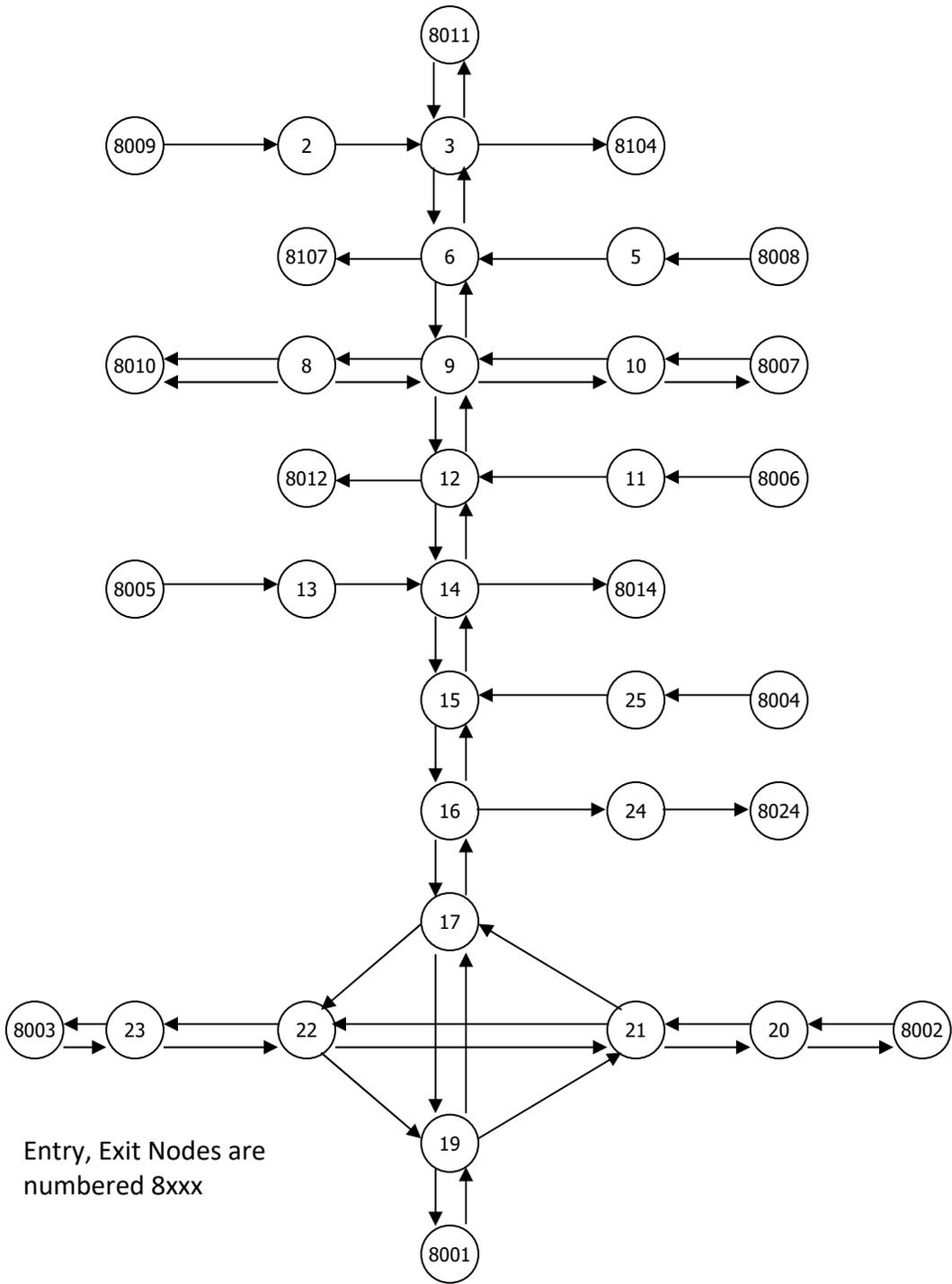


Figure 2 Representative Analysis Network

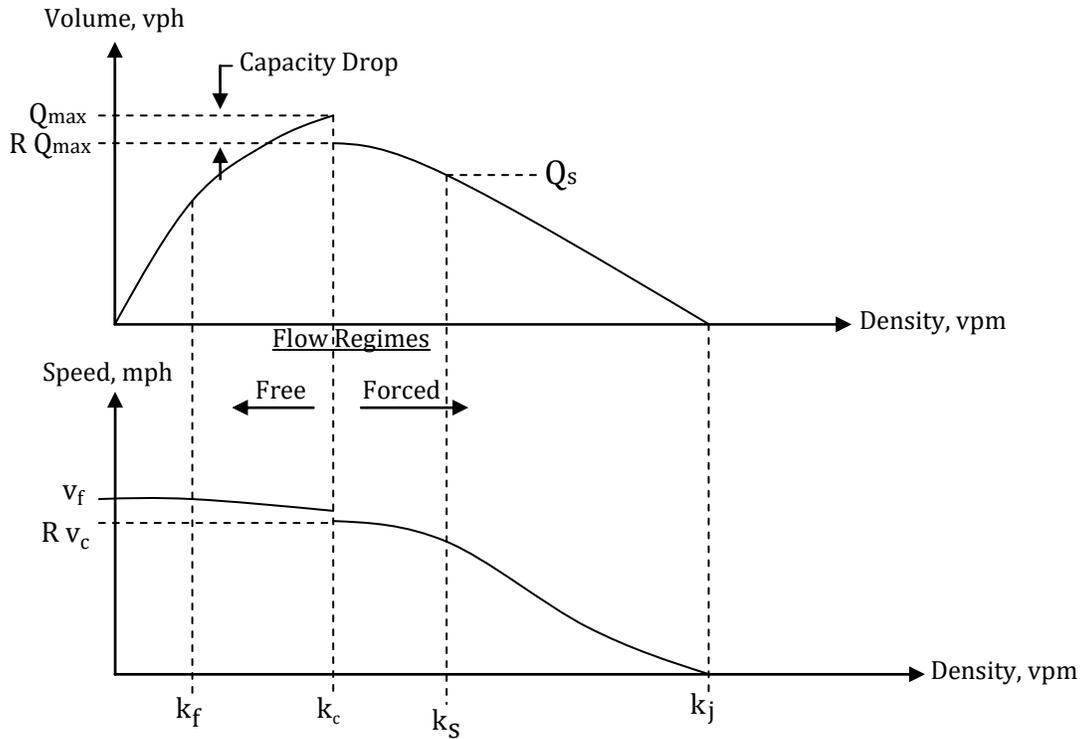


Figure 3 Fundamental Diagrams

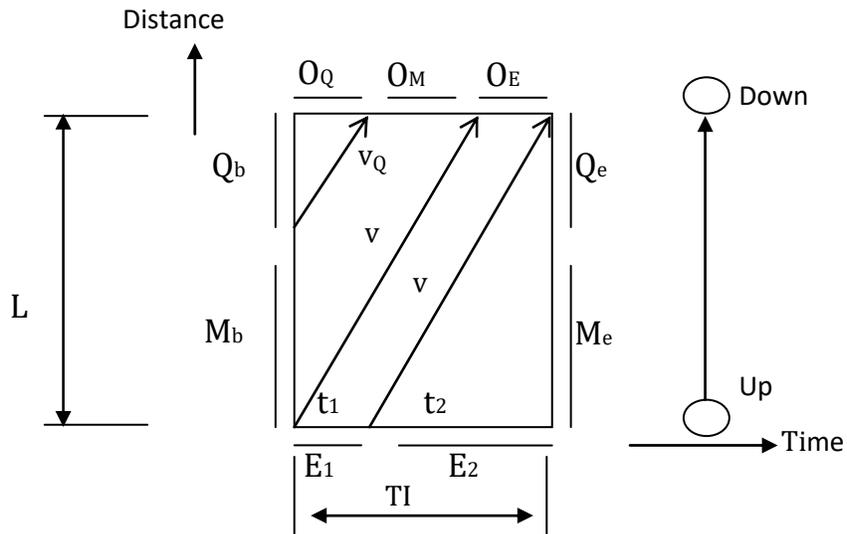


Figure 4 A UNIT Problem Configuration with $t_1 > 0$



SONOMA COUNTY SHERIFF'S OFFICE

EDDIE ENGRAM
Sheriff-Coroner

October 7, 2025

Tina Wallis
Law Offices of Tina Wallis, Inc.
3558 Round Barn Boulevard, Suite 200
Santa Rosa, CA 95403

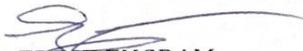
RE: Kenwood Ranch and Kenwood Winery Project

Dear Ms. Wallis,

The Sonoma County Sheriff's Office has completed its review of the Kenwood Ranch Disaster Evacuation Plan prepared by R. Giordano Consulting & Investigations and CAS Safety Consulting, dated June 27, 2022. The review included an evaluation of the proposed disaster evacuation plan and its ten recommendations, a site visit and tour of the property conducted by me, and a review of the Sonoma County Operational Area Emergency Operations Plan (EOP).

The Sheriff's Office was satisfied with the thoroughness and level of detail presented in the plan to ensure the safe and effective evacuation of individuals in the event of a disaster. Based on our review, we have no corrections or additions and fully endorse the ten recommendations as presented in the disaster evacuation plan.

Best Regards,


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Sheriff-Coroner