

Mining and Reclamation Plan for the Mark West Quarry Expansion

Final
Environmental Impact Report
State Clearinghouse # 2005062093

September 2013

Prepared for:
Sonoma County Permit and Resource Management Department



Prepared by:
Leonard Charles & Associates

**MINING AND RECLAMATION PLAN
for the
MARK WEST QUARRY EXPANSION**

FINAL ENVIRONMENTAL IMPACT REPORT

Response to Comments Document

State Clearinghouse No. 2005062093

August 2013

Prepared for: Sonoma County Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, California 95403

Prepared by: Leonard Charles and Associates
7 Roble Court
San Anselmo, California 94960
415.454.4575

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CHAPTER 1

INTRODUCTION

A. PROJECT DESCRIPTION

The applicant, BoDean Company, Inc. proposes to expand its existing 87-acre Mark West Quarry that is located about 9 miles north-northeast of the City of Santa Rosa to include an additional 81 acres. The total mined area would increase by approximately 32 acres over the 20-year mining period. The proposed project includes: 1) rezoning of a portion of an 81-acre parcel adjacent to the existing quarry property to add the Mineral Resource Combining District that would allow the mining of this property; 2) approval of a Use Permit to allow the mining of the expanded quarry at the currently allowed maximum production rate of 500,000 cubic yards per year (which is the equivalent of 750,000 tons per year) for a 20-year period; and 3) approval of a revised Reclamation Plan that directs how the proposed expansion site would be reclaimed at the end of the use permit.

B. CEQA PROCESS

The County of Sonoma (Lead Agency) prepared a Draft Environmental Impact Report (DEIR) for the project and circulated it for public review on May 21, 2013. The 45-day public review period began on May 21, 2013 and ended on July 5, 2013. The County also held a public hearing before the Planning Commission to receive oral comment on the DEIR at the Sonoma County Permit and Resource Management Department (PRMD), at 2550 Ventura Avenue in Santa Rosa on June 20, 2013.

The DEIR for the proposed Mining and Reclamation Plan for the Mark West Quarry Expansion, together with this Response to Comments Document, constitute the Final EIR (FEIR) for the proposed project. The FEIR is an informational document prepared by the Lead Agency that must be considered by decision-makers before approving the proposed project (CEQA Guidelines, Section 15090). California Environmental Quality Act (CEQA) Guidelines (Section 15132) specify the following:

“The Final EIR shall consist of:

- (a) The Draft EIR or a revision of that draft.
- (b) Comments and recommendations received on the Draft EIR either verbatim or in a summary.
- (c) A list of persons, organizations, and public agencies commenting on the Draft EIR.
- (d) The responses of the Lead Agency to significant environmental points raised in review and consultation process.
- (e) Any other information added by the Lead Agency.”

This document has been prepared pursuant to CEQA and in conformance with the CEQA Guidelines. This Response to Comments Document incorporates comments from public agencies, organizations, and the general public, and contains appropriate responses by the Lead Agency to those comments.

C. ORGANIZATION OF THIS FEIR

This FEIR for the proposed Mining and Reclamation Plan for the Mark West Quarry Expansion contains information in response to comments raised during the public comment period.

Chapter 1 describes the CEQA process and the organization of this Response to Comments Document.

Chapter 2 contains a list of all persons and organizations that submitted written comments and/or made spoken comments on the DEIR during the public review period.

Chapter 3 contains copies of the comment letters and public hearing minutes, and the responses to those comments. Within each letter and public hearing minutes, individual comments are labeled with a number in the margin. Immediately following the comment letter are responses to each of the numbered comments.

Chapter 4. contains text changes made to the DEIR. Some changes were initiated by County staff and others were made in response to comments received on the DEIR.

CHAPTER 2

AGENCIES, ORGANIZATIONS, AND PERSONS COMMENTING ON THE DEIR

This chapter provides a list of the agencies and individuals that commented on the EIR and where their letter and the County's response to the comments can be found.

The County received eight (8) comment letters on the DEIR during the public review period. Two (2) of these letters were from public agencies, and six (6) were from individuals. In addition, one letter from a public agency and one from an individual were received after the close of the public review period. The County has decided to include those two late letters in this documents and respond to issues raised in those letters. At the public hearing, comments were submitted by five (5) members of the public and five (5) planning commissioners. The table below shows the location of the comment letter (as well as the public hearing comments) within the Final EIR and the responses to the letter or comments.

<u>Commentor</u>	<u>Date</u>	<u>Comment Page</u>	<u>Response Page</u>
<u>Public Agencies</u>			
1. State Office of Planning and Research	7/08/13	4	6
2. California Department of Transportation (Erik Alm AICP)	7/05/13	7	9
3. Sonoma County Department of Transportation and Public Works (Mitch Simson)	7/15/13	10	11
<u>Interested Persons</u>			
4. Anita C. Salas	5/29/13	12	15
5. Janet Angell	7/05/13	16	20
6. Janet Angell (second letter)	6/28/13	27	28
7. Steven R. Ourada	7/05/13	29	31
8. Bill Williams, BoDean Co.	7/05/13	34	39
9. Nick R. Green, Citizens Advocating Rational Development	7/05/13	41	43
10. Lindsay Austin et al	7/14/13	47	54
<u>Comments Made at the Public Hearing</u>			
11. Sonoma County Planning Commission Public Hearing	6/20/13	55	68

CHAPTER 3

COMMENTS ON THE DEIR AND RESPONSES TO THOSE COMMENTS

The following section contains the letters received and responses to those letters. Each letter is followed by a response page(s). Each comment and its corresponding response are numbered. The end of this chapter contains the draft Minutes that summarize comments made at the June 20, 2013 Planning Commission public hearing, and responses to those comments. Where responses have resulted in changes to the DEIR, these changes also appear in Chapter 4, Revisions to the DEIR.



EDMUND G. BROWN JR.
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE of PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



KEN ALEX
DIRECTOR

July 8, 2013

Rich Stabler
Sonoma County Permit and Resources Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403

Subject: PLP09-0035 Mark West Quarry
SCH#: 2005062093

Dear Rich Stabler:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on July 5, 2013, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

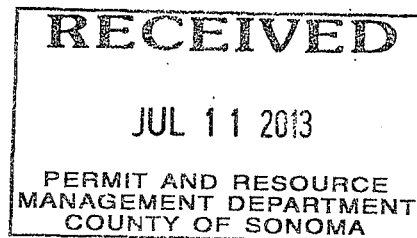
These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency



**Document Details Report
State Clearinghouse Data Base**

SCH# 2005062093
Project Title PLP09-0035 Mark West Quarry
Lead Agency Sonoma County

Type EIR Draft EIR
Description The proposed project consists of: 1) The rezoning of 33 acres of an 81-acre parcel adjacent to the existing quarry property to add the Mineral Resource Combining District that would allow the mining of this property; 2) Approval of a Use Permit to allow mining 500,000 cubic yards (750,000 tons) per year for a 20-year period; 3) Approval of a Use Permit to allow timberland conversion; and a 4. Approval of a revised Reclamation Plan that directs how the site would be reclaimed at the end of the use permit.

Lead Agency Contact

Name Rich Stabler
Agency Sonoma County Permit and Resources Management Department
Phone 707 565 8352 **Fax** (707) 565-1103
email msotak@sonoma-county.org
Address 2550 Ventura Avenue
City Santa Rosa **State** CA **Zip** 95403

Project Location

County Sonoma
City
Region
Lat / Long 38° 33' 26" N / 122° 39' 19.34" W
Cross Streets Calistoga Road
Parcel No. 120-210-048, -031, -006
Township **Range** **Section** **Base**

Proximity to:

Highways
Airports
Railways
Waterways Porter Creek
Schools
Land Use RRD B6 100 acre density SR, MR

Project Issues Aesthetic/Visual; Air Quality; Biological Resources; Geologic/Seismic; Noise; Public Services; Toxic/Hazardous; Traffic/Circulation; Water Quality; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Wildlife, Region 3; Department of Parks and Recreation; Department of Water Resources; Caltrans, District 4; Regional Water Quality Control Board, Region 1; Department of Toxic Substances Control; Native American Heritage Commission

Date Received 05/21/2013 **Start of Review** 05/21/2013 **End of Review** 07/05/2013

Response to Letter from Scott Morgan, Office of Planning and Research, State Clearinghouse

- 1-1 This is a cover letter that states that the County has complied with State Clearinghouse review requirements for draft environmental documents that are subject to CEQA. No response is required.

DEPARTMENT OF TRANSPORTATION

111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-6053
FAX (510) 286-5559
TTY 711



*Flex your power!
Be energy efficient!*

July 5, 2013

SON128067
SON-128-24.76
SCH# 2005062093

Mr. Rich Stabler
Permit and Resource Management Department
County of Sonoma
2550 Ventura Avenue
Santa Rosa, CA 95403

Dear Mr. Stabler:

Mark West Quarry Expansion Project – Draft EIR

Thank you for continuing to include the California Department of Transportation (Caltrans) in the environmental review process for the Mark West Quarry Expansion Project. The following comments are based on the Draft Environmental Impact Report (DEIR).

Signal Operations

The electronic Synchro files do not accurately reflect the existing conditions observed in the field by Caltrans, indicating that the Level of Service (LOS) and other data are not accurate within Synchro and traffic report. Please have the consultant change the signal timing parameters for the following intersections: (1) #2 River Road-Mark West Road and U.S. Highway 101 (US-101) northbound off-ramps; and (2) #10 Calistoga Road and State Route (SR) 12 on all Synchro scenarios. Due to its size the timing sheets originally provided by the consultant will be emailed to you for reference. Once these corrections have been made to Synchro, please provide Caltrans with the corrected Synchro files and traffic report for review and comment.

Highway Operations

The project indicates that the signals would be installed in the near term (2015) at various locations as part of the City of Calistoga's General Plan, which includes the southbound US-101 ramp terminal at River Road-Mark West Springs Road and possibly at the intersections of SR 128/Petrified Forest Road.

Mr. Rich Stabler/County of Sonoma
July 5, 2013
Page 2

Pursuant to Caltrans' guidelines, any new proposal for intersection signalization must include other alternatives including roundabouts. Any modifications to any intersection along the State Highway System should be coordinated with and reviewed by Caltrans.

Although existing intersection counts, Synchro outputs and LOS methodologies were included in the DEIR Appendix F. Traffic Background Data, Caltrans was unable to locate a Traffic Impact Study (TIS) specific to this proposed project which analyzes how much traffic this project will generate. Please provide Caltrans with a TIS for this proposed project.

Please feel free to call or email Luis Melendez at (510) 286-5606 or Luis_Melendez@dot.ca.gov with any questions regarding this letter.

Sincerely,

A handwritten signature in blue ink, appearing to read "Erik Alm", is written over a light blue circular stamp.

ERIK ALM, AICP
District Branch Chief
Local Development – Intergovernmental Review

c: State Clearinghouse

Response to Letter from Erik Alm, AICP, California Department of Transportation

As the comment letter states, Caltrans emailed intersection count and timing data to be used in redoing the modeling. The 38 pages of count and timing data that Caltrans attached to this comment letter are available for review at the offices of PRMD.

- 2-1 The EIR traffic engineers (TJKM) used optimized signal conditions to conduct the EIR traffic analysis, which is the customary EIR approach. Nevertheless, the modeling was redone given the timing data provided by Caltrans as part of their comment letter. The inputting of the actual signal timings at both intersections actually made the intersections operate more efficiently than reported in the DEIR, that is, the projected intersection delays decreased. The impacts to the intersections were less than projected in the DEIR, but in either case the impacts are less than significant. See Chapter 4 for the updated LOS tables.
- 2-2 Any new intersection construction would be a project initiated by the County of Sonoma or the City of Calistoga (depending on the location of the intersection). It is expected that both of those agencies would coordinate with Caltrans during the planning stage and address alternatives recommended by Caltrans, including roundabouts. The traffic signal recommended in 2035 at the Petrified Forest / SR 128 intersection is a suggested improvement for which the quarry project under review in this EIR would not be responsible in terms of design and construction, given that added quarry project traffic was found not to trigger any impact.
- 2-3 A final stand-alone Traffic Impact Study per Caltrans Guidelines was not prepared for this EIR. However, an administrative draft traffic impact study per County of Sonoma Guidelines was prepared. Much of the data in that administrative draft report was revised based on EIR team and County review and project changes. The revisions were formatted to meet CEQA presentation requirements. This corrected and revised data was presented as the Traffic and Circulation Chapter of the DEIR (Chapter 4.4 starting on page 4.4-1 of the DEIR) and in Appendix F, Traffic Background Data. The traffic count data and level of service calculations for this analysis are, as stated in the DEIR, on file at the Sonoma County Permit and Resource Management Department and have been provided to Caltrans for review. Please see pages 4.4-14 through 4.4-16 of the DEIR regarding project trip generation and the revised Level of Service tables for EIR study intersections presented in Chapter 4 of this Response to Comments Document.

Memorandum

To: Sigrid Swedenborg
Copy: Rich Stabler
From: Mitch Simson
Date: July 15, 2013
Re: PLP09-0035 (Bodean Company, Inc.)

Sigrid,

Here are TPW comments on the traffic portion of the EIR:

- Intersection #1 (River Road at southbound US 101 off ramps): This intersection is now signalized. This improves the existing condition as reported. It is accounted for in baseline and future conditions. 3-1
- The signalized intersection at Mark West Springs Road-Sutter entrance is not identified. 3-2
- The approved Mark West Springs Road-Old Redwood Highway improvements (Sutter) are not identified. 3-3
- Intersections #1 and #2 are under the jurisdiction of Caltrans, not the County. 3-4

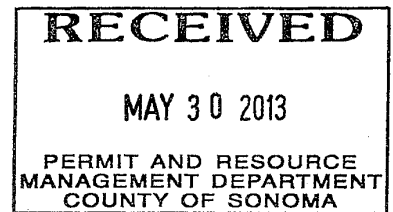
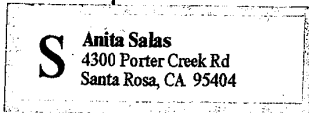
Comments on Mitigation measures:

- Mitigation Measure 4.4-D.1: The measure states, in part, "The applicant shall be responsible for a fair share for these future improvements when planning and funding are identified in the future..." This apparently allows for the expanded use prior to collection of the fair shares. The Canyon Rock and Blue Rock projects in Forestville required payment prior "authorizing expansion of clearing or mining activities." Those fair share projects are better defined, but mostly with undetermined construction dates. If the county is going to mitigate in this manner, I suggest an agreement between the applicant and county should be in place prior to authorizing expansion activities in order to insure future payments. The applicant will pay only for those projects programmed prior to the termination of mining. 3-5
- Impact 4.4-J: The secondary impacts identified in this section are not project –driven, but result from improvements the county may construct in the future. As stated on page 4.4-36, "The County currently conducts such CEQA review for these types of public works projects and has developed a list of appropriate mitigation measures..." It doesn't seem appropriate to list those measures as part of this document as project-specific review will be required. 3-6

Response to Memorandum from Mitch Simson, Sonoma County Department of Transportation and Public Works

- 3-1 This fact is noted for the record. As described on page 4.4-21 of the DEIR, this signalization was foreseen by 2015 (i.e., it was included as part of the 2015 baseline conditions), and the project would not have a significant impact on this signalized intersection. The fact that this signalization has occurred earlier than predicted in the DEIR would not result in a new impact, change in impact significance, or additional mitigation.
- 3-2 The EIR prepared for the Sutter Hospital project assessed the Mark West Springs Road-Sutter Entrance intersection, and the baseline conditions used for that EIR included a 2% increase in traffic from additional development along the Mark West Road corridor east of Old Redwood Highway – see page 3.15-27 of the *Sutter Medical Center of Santa Rosa/Luther Burbank Memorial Foundation Joint Master Plan Draft EIR* (URS, 2009). That EIR found that this intersection would operate acceptably (LOS B or better) with the Sutter project plus projected development along the Mark West Springs Road corridor and other area development, including the Mark West Quarry project that is the subject of this EIR. Because this intersection was assessed in the Sutter EIR and no significant impacts were found resulting from traffic signal implementation, the County did not require it as a study intersection for this EIR.
- 3-3 It is noted that improvements have been made at the Mark West Springs Road/Old Redwood Highway. As part of the Sutter Hospital Conditions of Approval, approach widening and lane geometry improvements were made at this intersection, and the existing signal was interconnected with the new traffic signal at the main Wells Fargo Center entrance on Mark West Springs Road. These improvements were assumed in the EIR traffic analysis for this project.
- 3-4 This fact is noted for the record. These intersections will operate acceptably with the addition of project traffic, and no project-related mitigation is required for these intersections.
- 3-5 The recommendation regarding the means of the applicant paying its fair share is noted for the record. The County will consider this recommendation in developing final Conditions of Approval, if the project is approved.
- 3-6 PRMD determined that providing a discussion of the range of impacts that could accompany future roadway widening would be consistent with CEQA. This also included the listing of possible mitigations to reduce or eliminate these secondary impacts. This discussion ensures that the EIR addresses the secondary impacts that could arise from mitigation measures recommended in the DEIR to reduce project traffic safety impacts. As stated on page 4.4-43 of the DEIR, the County could develop alternate or additional mitigations at the time such future road improvements are designed and reviewed subject to CEQA..

May 29-2013



To: county of sonoma, permit and Resource
management Department

Att- Rich Stabler, Environmental Specialist
RE: DRAFT EIR ie- Expand Mark West
Quarry

The impacts noted in your report already
EXIST. The imposition of expansion of mining
will only intensify a very dangerous condition.
The condition surrounding the Quarry is
affected, not the least Mark West Springs
Road - Porter Creek - Calistoga - Petrified
Forest - Roads (etc).

I live one residential house down from the
quarry and daily go under the imposition.

1/2

I have lived on Porter Creek Road for 30 years. As such we have known a quiet and peace before the quarry originally increased its productions.

Please See Fire and Police reports of This Area. 4-3

My family and Neighbors do not want expansion. 4-4

on Porter Creek we have to deal with Two large Commercial business projects. We are zoned agricultural - so why do you keep Expanding The quarry which promotes more danger to all?

Sincerely
Anita C. Salas

(707) 578-5805 2/2



COUNTY OF SONOMA
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

2550 Ventura Avenue, Santa Rosa, CA 95403-2829
(707) 565-1900 FAX (707) 565-1103

**NOTICE OF AVAILABILITY
OF THE
DRAFT ENVIRONMENTAL IMPACT
REPORT
AND
NOTICE OF PUBLIC HEARING**

Project Description: The Sonoma County Permit and Resource Management Department (PRMD) has received an application to expand the existing Mark West Quarry on approximately 33 acres, located at 4411 Porter Creek Road, PRMD File PLP09-0035. The proposed project consists of:

- Approval of a Use Permit to allow mining of 500,000 cubic yards (750,000 tons) per year for a 20-year period.
- A zone change on 33 acres of an 81-acre parcel adjacent to the existing quarry property to add the Mineral Resource Combining District that would allow the mining of this property;
- Approval of a Use Permit to allow timberland conversion; and
- Approval of a revised Reclamation Plan that directs how the site would be reclaimed at the end of the use permit.

Environmental Impact Report: A Draft Environmental Impact Report (Draft EIR) has been prepared and is available for public review and comment. The Draft EIR identifies potentially significant impacts and ways to reduce or mitigate those impacts as well as, alternatives to the project. Potentially significant impacts identified in the DEIR include effects on Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology & Soils, Greenhouse Gas Emissions, Hazards & Hazardous Materials, Hydrology/Water Quality, Land Use & Planning, Noise, Transportation/Traffic, Utilities/Service Systems and Cumulative Impacts.

add Depreciation of Property Value (w/ Real Estate Agents)
Mitigation Measures have been identified to reduce impacts to a less than significant level, except for certain significant and unavoidable impacts identified under Traffic and Circulation, Air Quality, Biological Resources, and Aesthetics. There is a 45-day public review period of the adequacy of the Draft EIR beginning May 21, 2013 through July 5, 2013.

Response to Letter from Anita C. Salas

- 4-1 The comment noting existing hazardous road conditions on the roadway system used by aggregate haul trucks is noted for the record. This opinion corroborates the statements about existing safety hazards found on pages 4.4-5 through 4.4-7 of the DEIR. The DEIR recommends mitigations (e.g., roadway widening) that would reduce this existing hazard.
- 4-2 The commentator's dislike of the existing effects of quarry operations is noted for the record.
- 4-3 As stated on page 4.8-6 of the DEIR, there have been no calls for fire agency response to the quarry during the past 10 years. As stated on page 4.8-8, the Sheriff's Office believes that the project will not have a significant effect on that agency. As described on page 4.4-24, there have been traffic accidents along the Mark West Springs and Porter Roads, which would have required police and emergency response. Such accidents may increase, which is why the EIR recommends mitigations to reduce the risk of such accidents.
- 4-4 The commentator's opinion about the proposed project is noted for the record. It may be helpful to clarify, however, to discuss the commentator's characterization of this project as an "expansion" project. The proposed project would "expand" mining operations onto an adjacent parcel given that hard-rock resources in the existing mining area are nearly exhausted. The project may also be thought of as a continuation of an existing mining operation, however, given that future production limits would be identical to existing production limits at the existing quarry.

Janet Angell
Petrified Forest
4100 Petrified Forest Road,
Calistoga, CA 94515

July 5, 2013

Mr. Rich Stabler,
County of Sonoma
Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403

Re: Via email Reply to EIR Report for the Mark West Quarry Expansion

Dear Mr. Stabler:

I first learned of this EIR from a notice posted on a stop sign at the Petrified Forest Road/Porter Creek Road intersection. Although PRMD had previously agreed to give me mail notice of any future action regarding the Quarry, it did not. After learning of the EIR report, I asked PRMD for an extension of time to submit written objections so that I could investigate and respond to the various issues raised in the 600+ page report. PRMD denied my request for an extension. Given the limited time I am unable to adequately respond to the findings in the report, but have done my best to present a few issues.

1. No Fossils in Sonoma Volcanics

The EIR report is inaccurate and incomplete in that it states that Sonoma Volcanics contain no fossils. "A portion of the site contains Sonoma Volcanics, which again is a rock type that does not include fossils." (EIR, Page 4.10-8) Sonoma Volcanics contain tree fossils, plant fossils, leaf fossils, pollen fossils, insect fossils, and animal fossils. *The Petrified Forest is embedded in Sonoma Volcanics*. See, for example, Pliocene Floras of California by Princeton Professor Erling Dorf, pp. 3-13, which is attached hereto as Exhibit B. Currently scientists are studying volcanic ash on the property to isolate ancient pollens and identify the kinds of vegetation that lived on site 3.4 million years ago.

2. Failure to acknowledge the Franz Valley Area Plan.

The EIR is incomplete and inadequate because it fails to acknowledge that the existing Quarry and proposed Quarry Expansion Site ("the project") are subject to policies and standards of the Franz Valley Area Plan, which is attached hereto as Exhibit B.

The EIR states that "...There is no adopted Conservation Plan, Natural Community Plan, or other approved local, regional, or State habitat conservation plan that includes the project site." See, e.g., EIR page 4.3-30.

Both the Sonoma County General Plan and the Franz Valley Area Plan provide standards for evaluating conservation issues. The Sonoma County General Plan 2020, Policy LU-1a reaffirms the authority of the Franz Valley Area Plan and further provides that:

“...In any case where there appears to be a conflict between the General Plan, and any Specific Area Plan, the more restrictive policy or standard shall apply.”

Mark West Quarry and East Porter Creek Road are specifically mentioned in the Franz Valley Area Plan. The project site is in the mapped area as well. Changing designations from Agricultural to Mineral Resource doesn't change the County's duty to honor the standards and principles promised to the other property owners in the Plan Area. “The Franz Valley Area Plan will insure protection of the area's biological diversity, and scenic, educational and recreational values.” (p. 17) The EIR did not acknowledge that the plan applied, and thus did not properly evaluate the significance of the project's impact. See EIR 4.3-30.

Below are some of the policy and standards of the Franz Valley Area Plan that are in potential conflict with the project proposal:

“Sensitivities are the third aspect of the environmental evaluation done in Franz Valley: Those natural characteristics and features which would be irreversibly affected by development activities. Scenic and bicycle routes, vistas, parks, historical sites, riparian corridors, critical habitat for peregrine falcons, sensitive areas and unique features are factors mapped in the open space map. The Franz Valley Area Plan will insure protection of the area's biological diversity, and scenic, educational and recreational values.” (p. 17)

“Large blocks of lands of limited access and marginal economic productivity are extremely important for maintaining and building soil, recharging groundwater, producing oxygen and consuming carbon dioxide, moderating climate, and sustaining biological diversity and genetic adaptability to future change. An additional human benefit resulting from resource conservation areas is the preservation of some of the County for tranquility, the freedom from urban noise and congestion necessary for spiritual growth and artistic exploration. Scientific and educational uses of these areas are also important. The mitigation of the cumulative effects of development in urban areas depends upon the protection and enhancement of these often overlooked resource conservation values in rural areas.” (p. 33)

Other standards in the Franz Valley Area Plan are:

For projects which could affect nesting raptors, prior to project construction the applicant shall have a qualified wildlife biologist conduct a pre-construction survey for nesting raptors within 800 feet of any area of proposed construction activity... (p.12) See, EIR p.4.3-33 (within 300 ft.)

Encourage the preservation and enhancement of wildlife habitat areas representative of the flora and fauna **of the area** (emphasis added) and necessary for preservation of rare and endangered species. (p. 8)

Preserve timber stands with unique biotic or scenic qualities. (p.8)

...hardwoods should be retained. (p.12)

Avoid construction of new access to remote areas. (p.12)

Ridgelines should be protected from development, and utilities for new construction installed underground along scenic routes and near vista points. (p.27)

Scenic routes in Franz Valley are Highway 128, Chalk Hill Road, Franz Valley Road, Porter Creek Road, Petrified Forest Road, Calistoga Road, and St. Helena Road. They have been selected as scenic routes because they are the area's major thoroughfares and have high scenic value for the motorist. Vista points have been identified along scenic routes where expansive views are especially noteworthy. (p. 27)

Maintain rural character of roads...(p.7)

Major Riparian Corridors - 200 ft Setback (p.34)

Minor Riparian Corridors – 100 ft Setback (p.34)

3. Failure to Assess the Impact of the Project on the Petrified Forest.

The EIR is incomplete and inaccurate in that it fails to address the project's impact on The Petrified Forest.

The Petrified Forest is:

California's State Historical Landmark (No. 915);
Listed on California Register of Historic Resources;
Eligible to be placed on the National Register of Historical Places; and
A named Historic Site in Sonoma County's Franz Valley Area Plan.

Also, the State of California has made factual findings that the Petrified Forest is "unique" in California and "unique" in the World.

The Petrified Forest serves the public by providing educational services and recreational activities. The walking and hiking trails display information about the local history, the geological processes, native flora and fauna, and fossils found on the property. Trail guides take guests out on various walking and hiking trails. Many school groups, college students, geologists and visitors from all over the world come here to learn about Sonoma County's unique natural wonders. See EIR 4.8-6 "Since there are no public parks or recreational areas located in the vicinity of the project site; the project would have no effect on public park and recreation facilities. EIR 4.8-6

The property is located in a scenic corridor that runs from the Alexander and Napa Valleys over Petrified Forest Road --Porter Creek Road --Mark West Springs Road – River Road and out to the Sonoma Coast. Nearly all of our visitors from Sonoma County (and North and South of Sonoma County) use Porter Creek Road to access the property. Moreover, Porter Creek Road serves as a main thoroughfare for getting Napa Valley tourists over to the Russian River Tourist Area and Sonoma Coast. Napa visitors also use Petrified Forest Road. When traffic is congested on Porter Creek Road, the big truck traffic and car traffic spills over on to Calistoga Road and Petrified Forest Road causing

and adversely affect the natural experience of the Park.

Moreover, the Petrified Forest contains wildlife, redwood groves, forests, pasture land, creeks, streams, including Biotic Habitat Areas, and contain some of the most pristine property in all of Sonoma County. The property has been privately owned and protected by our family for almost 100 years (1914-2014.) The property is noise sensitive, pollution sensitive, wildlife sensitive, rare plant sensitive, surface water and groundwater sensitive, view and vista sensitive, climate sensitive, and very sensitive to road construction, traffic congestion and noise.

The Petrified Forest should have been assessed in evaluating the project's impacts.

Sincerely,



Janet Angell

Petrified Forest
4100 Petrified Forest Road
Calistoga, CA 94515

Response to Letter from Janet Angell, Petrified Forest

- 5-1 The commentor is correct that the cited statement in the DEIR is wrong. The statement will be revised to state: “A portion of the site contains Sonoma Volcanics, which ~~again~~ is a rock type that is known to contain fossils at some locations. For example, fossils have been found in this rock type at the Petrified Forest located to the east of the site. However, it is unlikely this volcanic material would be mined as part of the proposed project given that the Sonoma Volcanics lie north of and outside of the proposed mining expansion area.”

Please note that as shown on Figure 4.1-2, the Sonoma Volcanics do not occur on the proposed expansion site. Rather, they are located on the northern portion of the site, a portion of which could be mined in the future. This potential future impact is identified on page 5-16 of the DEIR, and mitigation is provided in case paleontological resources are unearthed anywhere on the project site. Accordingly, this revision does not result in a new significant project impact nor require any additional mitigation.

The commentor attached a scholarly article (“The Pliocene Flora of California”) to this comment letter. This article is included in the appendix of this Final EIR.

- 5-2 The DEIR did not assess project consistency with the Franz Valley Area Plan (as modified through May 22, 2012) since it was found consistent with policies of the more recent General Plan 2020. As is stated in the 2012 Franz Valley Area Plan, that plan was revised in 2012 to ensure consistency with the General Plan (page 1 of the 2012 area plan). However, to provide full disclosure, the following consistency analysis is provided regarding pertinent policies and mitigation measures of the Franz Valley Area Plan.

Franz Valley Issues and Policies

Transportation - Maintain the rural character of roads while providing for necessary maintenance and limited safety improvements, especially with regard to school bus requirements and safety of children.

Consistent. The project would not alter roads in the area. There would be increased use of those roads by haul trucks, but the increase would be relatively small (i.e., one new truck trip every 10-20 minutes on Petrified Forest Road depending on the time of year - see Response 5-7 below about the impact of additional trucks on Petrified Forest Road).

Transportation - Coordinate land use and transportation planning to achieve the Level of Service designated in the General Plan Circulation and Transit Element.

Consistent. With the inclusion of EIR-recommended mitigation all study intersections would operate at acceptable levels of service.

Timber Resource Management - Preserve timber stands with unique biotic or scenic qualities.

Consistent. The project would remove timber in the proposed expansion area, but this timber stand is not unique. Views of the timber stand are not prominent from public vantage points, and the views of this timber are not unique in the area.

Stability of the Ecological System - Encourage the preservation and enhancement of wildlife habitat areas representative of the flora and fauna of the area and necessary for preservation of rare and endangered species.

Consistent. Much of the quarry property (i.e., the entire north side of the ridge) will be left undeveloped. After quarry reclamation, the site may provide more diverse habitat for wildlife than currently exists (since there would be two large ponds, streams, and riparian plantings as well as reforestation of the benches). There would be loss of a population of a special-status species of plants, but mitigations are recommended that reduce that impact to a less-than-significant level. It is also noted that because this policy uses the word “encourage,” it is not a policy that mitigates future impacts of development within the plan area, and projects are not required by this policy to meet any defined measure of preservation.

Scenic Qualities - Review proposed development with regard to its effects on views and vistas through the use of scenic routes.

Consistent. The project was reviewed for visual effects consistent with this policy.

Constraints and Mitigation Measures

The Franz Valley Area Plan also contains the following under “Constraints and Mitigation Measures,” though they are not formally listed as Policies.

Hydrology

- (1) *Within groundwater recharge areas, construction activities, creation of impervious surfaces, and changes in drainage should be avoided through discretionary actions.*
- (2) *In order to prevent unnecessary erosion and decrease in water quality, enforce the provisions of Chapter 70 of Uniform Building Code.*

Consistent. The quarry site is not a designated groundwater recharge area. In addition, recharge of the local groundwater beneath the site will continue as the quarry will not place impervious surfaces over the site. Detention ponds and benches will facilitate recharge. There will be sufficient recharge to meet project water needs except during the extreme drought year, and then operations may need to be curtailed until the groundwater is recharged. There would be a small change in drainage, but the impact on either Porter or Franz Creeks was found to be less than significant.

Wildlife and Vegetation

- (1) *Enforce protection of riparian vegetation through adoption of riparian standards in the revision of the County Zoning Ordinance.*

Not Applicable. This mitigation measure is aimed at County zoning and is not directed at specific projects.

- (2) *Timber harvest plans and other construction activities should require the preservation of all riparian grown within a corridor of 200 feet on either side of streams. In the event that this standard conflicts with policies or standards for riparian corridors in the General Plan, the more restrictive policies or standards shall apply.*

Consistent. The Open Space Plan Map in the General Plan shows that one tributary on the expansion area is a designated stream. However, most of this tributary was filled as part of the emergency grading project that occurred in 2006; no additional filling of the remaining portion of the tributary would occur under the proposed project. The proposed project would not affect any designated stream or any riparian habitat along said stream. This EIR requires mitigations for filling of non-designated intermittent streams and wetlands on the site. In addition, General Plan Policy OSRC-8d allows permitted mining activities within streamside conservation areas.

- (3) *All snag trees and hardwoods should be retained.*

Not Applicable. This measure is non-mandatory and is inapplicable in areas where forestry and mining are clearly permitted under the Franz Valley Area Plan. As stated in the plan, these types of environmental impacts will be addressed in the reclamation plan, which includes replanting reclaimed slopes with trees (including hardwoods).

- (4) *Avoid construction of new access to remote areas.*

Consistent. The project would not extend new roads to remote areas.

- (6) *For projects which could affect nesting raptors, prior to project construction the applicant shall have a qualified wildlife biologist conduct a pre-construction survey for nesting raptors within 800 feet of any area of proposed construction activity. A report containing the results of the pre-construction survey shall be submitted to the project Planner prior to the start of any proposed construction activity. If the biologist finds nesting raptors within 800 feet of any area of proposed construction activity during the pre-construction survey, the applicant shall do one of the following:*
 - a. Delay construction activity until after July 15; or*
 - b. Delay construction activity until all juvenile raptors in the nests have fledged, as determined by a qualified wildlife biologist; or*
 - c. Establish a buffer of 800 feet around each raptor nest by installing exclusionary fencing to ensure that construction vehicles, equipment, and*

workers do not enter the area.

Potentially Inconsistent. The recommended mitigation closely follows Mitigation Measure 4.3-B.1 in the DEIR (see page 4.3-33) except that the DEIR mitigation requires surveys for 300 feet from proposed quarry activities and 300-foot buffers if a nest of a special-status bird is found (though the mitigation requires CDFW review and approval of the buffer; CDFW could require a wider buffer). Given this inconsistency, Mitigation Measure 4.3-B.1 has been revised to require the 800-foot buffers around active raptor nests; see the revised text in Chapter 4 of this FEIR.

Open Space Plan

(1) Along scenic routes, a building setback of 30% of the depth of the lot (a maximum of 200 feet from the centerline of the road) is required to preserve the open rural character of the route. If development is proposed within the setback an administrative procedure is hereby established that can authorize exceptions according to design and siting criteria appropriate to rural areas.

(2) In the vicinity of vista points, a 400 foot building setback is required to prevent disturbing or blocking long views from the road. Administrative permits to build within the setback may be approved.

(4) Ridgelines should be protected from development, and utilities for new construction installed underground along scenic routes and near vista points.

Consistent. The project will not involve constructing new buildings within 200 feet of the centerline of Porter Creek Road, and the edge of mining activity will also be over 200 feet from the road centerline. There will be rock safety barriers installed above Porter Creek Road to protect the road and motorists from falling rock. However, these barriers are not so substantive an improvement as to be considered “development” (see pages 4.7-13 to 4.7-14 in the DEIR for a discussion of the views of these barriers). These barriers would be removed as mining progresses to the west, and all barriers would be removed at the final reclamation stage.

Riparian Corridors

Riparian corridors of two widths have been designated on the Open Space Plan Map. Major riparian corridors, with a 200 foot setback from the stream bank, have been designated according to the following criteria:

- a. if already a designated major riparian corridor in the General Plan*
- b. if slope is greater than 50% (many creeks)*
- c. if there are redwood groves (many creeks)*
- d. if there are known archaeological sites (Little Briggs Creek)*
- e. if stream channel is wide (Brooks Creek)*

Minor riparian corridors have a 100 foot setback and include all other creeks in the plan area.

Consistent. As mentioned previously, the Open Space Plan Map in the General Plan shows that one tributary on the expansion area is a designated stream. However, most of this tributary was filled as part of the emergency grading project that occurred in 2006. The remaining portion of this tributary is outside the

proposed mining expansion area, and all riparian vegetation associated with this tributary (inclusive of the 200-foot setback) will be retained. The proposed project would not affect any designated stream or any riparian habitat along said stream. This EIR requires mitigations for filling of non-designated intermittent stream channels and wetlands on the site. In addition, General Plan Policy OSRC-8d allows permitted mining activities within streamside conservation areas.

Biotic Habitat Areas

- (1) *Review all development and land conversion proposals in the vicinity of sensitive areas and unique features in order to mitigate potential adverse impacts.*
- (2) *Encourage open space land preservation activities and any scientific and educational activities which would protect and enhance the natural values of the area.*

Consistent. The quarry proposal has been fully reviewed in this EIR. Open space preservation is not for this property as it does not contain unique resources and adjoins an existing quarry.

- 5-3 The DEIR is correct in stating that there are no adopted Conservation Plan, Natural Community Plan or other approved habitat conservation plan that includes the project site. The Franz Valley Area Plan and the County General Plan are addressed in the EIR, but these are not habitat conservation plans as defined by that significance criterion. See the previous Response 5-2 regarding consistency of the project with the Franz Valley Area Plan. This consistency analysis complements the consistency analysis with County General Plan policies contained on pages 4.7-11 through 4.11-17 of the DEIR.
- 5-4 See Response 5-2 above regarding consistency with the actual plan policies that are intended to implement the cited aim of the plan. The DEIR did assess all the direct and indirect impacts of the proposed project on the environment and found several of these impacts to be significant and unavoidable, while most impacts could be reduced to a less-than-significant level. The DEIR also found that the proposed project was consistent with pertinent policies of the County General Plan. As noted in Response 5-2, with revision of one EIR-recommended mitigation measure, the proposed project would likewise be consistent with policies and mitigation measures listed in the Franz Valley Area Plan. That said, it is the County decision-makers who will ultimately determine project consistency with these plan policies and whether to approve the project after reviewing those policies as well as the other discussions contained in the FEIR.
- 5-5 These cited statements on pages 17 and 33 of the area plan are not plan policies, but, rather, are a discussion of plan aims that are to be implemented through the adopted plan policies. See the discussion in Response 5-2 regarding project consistency with the specific policies intended to protect area biodiversity and resource conservation.

- 5-6 This comment cites more specific policies or mitigation measures included in the plan. See Response 5-2 for the assessment of consistency with these and other area plan policies.
- 5-7 The information provided about The Petrified Forest (the Forest) and its uniqueness is noted for the record. The DEIR did not assess potential impacts to this recreational facility due to the distance between the proposed quarry expansion and this facility. According to the Forest's website, the primary public use area is located immediately north of the site's entrance off Petrified Forest Road. The nearest point of the proposed expansion site to this portion of the Forest is about one (1) mile, and the main use area is at an elevation over 500 feet lower than the highest point on the expansion parcel. The Forest is part of a larger 580-acre holding owned by the Scott Hodges R. Trust. The westernmost part of these holdings (AP No. 120-210-50) abuts the east side of the existing quarry parcel.

The DEIR remains accurate in finding that the project would have no impact on a public park or recreation facility. However, to ensure full disclosure the following provides analysis of potential impacts to this privately-owned and operated recreational facility and the larger holdings of which it is a part. Given its distance from the quarry, potential direct impacts would be limited to noise, visual, and traffic impacts. As the commentor states, the proposed project could also affect the biodiversity of the Forest property.

Due to the distance and topographic shielding (a ridgeline east of the quarry blocks a direct line-of-sight view between the quarry and the Forest), noise from future quarry operations would not be noticeable in the area used for public recreation. Quarry noise could be audible from areas on AP No. 120-210-50 immediately east of the quarry and possibly from the westernmost part of AP No. 120-210-36. However, these parcels currently experience noise from existing quarry operations. Because expansion of the quarry would be to the west (away from the Trust's holdings), noise levels on the Trust's holdings would not be expected to increase above existing levels. Accordingly, there would not be significant noise impacts to a person walking or traversing these parcel (there are no residences on these parcels).

The quarry and expansion area are not visible from the area used for public recreation. Views are blocked by the higher elevation ridge east of the quarry. As was the case with noise, views of the quarry and expansion area could be visible from certain vantage points on the western holdings of the Trust. There would be no views from residences on these holdings. Where visible, the project would constitute an expansion of the current view of an active quarry with steep rock walls and reclaimed slopes where mining has been completed.

As reported on page 4.4-25, the project would increase truck traffic by approximately 37 truck trips per day on an annual average, and 59 trips per day during the peak production month of October. There would be no truck traffic on Sunday. Because project construction requiring aggregate rarely occurs on Saturday, there is typically no to little sale of aggregate on that day. It is expected that truck traffic on Saturday would continue to be substantially less than the daily trip average described above. During the 10-hour day when the quarry is

operational, this would be an average of 3-4 new truck trips per hour (one additional truck trip every 15-20 minutes) on an average day and 6 trips during the peak month (one new truck trip every 10 minutes). While such an increase may be noticeable to the commentor and others living along Petrified Forest Road, there is no evidence that this increase would cause a significant change in roadway congestion. As described on pages 4.4-25 through 4.4-27 of the DEIR, the increase would not be expected to cause a significant impact on vehicular or bicycle safety. This additional traffic would cause a less-than-significant increase (less than one decibel, dBA increase) in noise levels along Petrified Forest Road. The commentor mentions potential effects on tourist traffic. However, this increase of one truck trip every 10-20 would not be expected to measurably affect congestion on local roadways, particularly since the project would generate little to no traffic on weekend days.

As regards the potential effects on biological resources, animals living near the quarry already experience, and are likely acclimated if they have remained in the area, to noise generated by the quarry. The project would move noise-generating activities to the west away from the Trust's holdings, so there would be no more noise impact on wildlife inhabiting the Trust's holdings than is currently the case. Quarry expansion would have no impact on plants occurring on the Trust's holdings. Project grading would slightly alter site drainage watersheds and potentially affect water quality, but the Trust's holding are upstream and would not be affected. In addition, mitigations recommended in the DEIR would reduce water quality and other hydrologic impacts to a less-than-significant level. The DEIR concludes that the project would make a cumulatively-considerable contribution to the significant cumulative impact of habitat fragmentation and corresponding blockage of wildlife movement. This could affect wildlife travelling to and from the Trust's holdings. However, the main blockage for animals moving to and from the Trust's holdings would be the existing quarry that abuts the west side of the Trust's holdings. It is unlikely that the proposed western expansion would substantially aggravate this existing travel blockage.

In summary, the project would have no direct impacts on the private recreational components of the Trust's holdings. Traffic impacts along Petrified Forest Road would be less than significant. People traversing the uppermost western parts of the Trust's holdings may hear and see the quarry expansion, but this would not constitute a major change over existing conditions. Plants and animals on the Trust's holdings would not be affected. At a cumulative level, there could be additional habitat fragmentation in the area. However, the Trust's holdings may remain a substantial block of undeveloped habitat to the east of the quarry, and the quarry expansion would not block movement on and off to the west any more than is currently the case. Accordingly, there are no new significant impacts to The Petrified Forest or the Trust's holdings and no increase in severity of any impact; no additional mitigation measures are therefore required.

Rich Stabler
County of Sonoma
Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403

Via Facsimile: 707-565-3767

Petrified Forest Reply to Mark West Quarry EIR

Dear Rich:

My sister Barbara and I lease the Petrified Forest business from the rest of the family. My comments are made on behalf of Petrified Forest Associates, LLC, and a copy of our business license should have been sent with my faxed reply.

Thank you,


Janet Angell

Response to Second Letter from Janet Angell

- 6-1 This letter includes the remainder of the article “The Pliocene Flora of California that was included in the first letter from this commentor. This information is noted for the record and included in the appendix of this FEIR. It also includes the text of the Franz Valley Area Plan. To conserve resources, this plan is not included here as it is available for review at the offices of PRMD and on line at:
[file://localhost/http://www.sonoma-county.org/prmd/docs/divpages:FranzValleyAreaPlan.pdf](file://localhost/http://www.sonoma-county.org/prmd/docs/divpages/FranzValleyAreaPlan.pdf)

Also, pertinent policies and mitigation measures included in the area plan were reproduced and responded to in Response 5-2.

Because no comments are included in this letter, no additional response needed.



July 5, 2013

Sigrid Swedenborg
Sonoma County
Permit Resource Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403

**Re: Mark West Quarry Expansion PLP 09-0035
4411 Porter Creek Road
Santa Rosa, CA**

Dear Sigrid:

This letter is a follow-up with our concerns regarding the Mark West Quarry expansion as stated at the public hearing on June 20th. As you know, I am part owner of an adjacent parcel immediately to the west of the proposed quarry expansion and am also representing the interests of California Pacific Holdings, the majority owner. Our project was approved in 2006 by Sonoma County (MNS 06-006). Again, our concern is mainly with the following 6 items from the EIR:

7-1

1. Traffic
2. Water Quality
3. Well water draw down
4. Visual Aesthetics
5. Noise
6. Economic impact on adjacent landowners

Transportation and traffic discussion in the staff report indicates that the project would cause **substantial** increase in truck traffic on Porter Creek Road. It then discusses paying a fair share contribution towards improvements to Porter Creek Road. These improvements should be spelled out and itemized, and possible some completed as part of the project approval and prior to expansion of the quarry. For instance, it would be fairly easy to provide a dedicated right turn lane from Petrified Forest Road to Porter Creek Road right next to the quarry that would allow better stacking and traffic movement at the recently installed 3-way stop. Small projects like this, and possibly some widening along Porter Creek Road just east of the quarry site, should be done by the project and not just collect money for a future project down the road. Identify the needs and take care of the problem with the project. Don't leave it hanging for others to care for in the future.

7-2

July 5, 2013

Page 2 of 2

Water quality is discussed and mitigation measure 4.2-A.1 discusses implementation of on-site plans. However, as the mining progresses, is there any off-site monitoring or creek monitoring for silt/sedimentation. With the very close proximity to the creek, there should be off-site monitoring at a minimum in all adjoining creeks. Even if you capture all the on-site water, there is no discussion about when blasting occurs what happens off-site to rock/soil movement and erosion. 7-3
7-4

Well water is briefly discussed in mitigation 4.2-F. However, additional monitoring of other off-site wells should also be conducted. The amount of water used in the mining operations together with the affects of the expanded mine on groundwater recharge could significantly affect numerous wells in the surrounding area. Not just one. Therefore mitigation should be established if other wells are affected or the expanded mining reduces the capability for surrounding property owners to develop new wells. 7-5

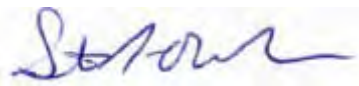
Visual aesthetics are discussed in mitigation 4.7-E. However, there is no amount of tree planting that can screen the visual effect of mining over 300 feet off the top of an existing mountain, especially to the properties immediately surrounding the quarry. This significant impact is not discussed in enough detail and there are no meaningful mitigations proposed for this impact. This very important item definitely needs to be expanded and discussed in greater detail for the EIR. 7-6

Noise, much like the visual aesthetics can not be mitigated for as the project is now proposed. Once operations remove the top of the mountain, there will be no opportunity to maintain a topographic barrier from surrounding properties. So, this item needs to be better dealt with in the EIR. 7-7

Overall, the above items will have a significant negative impact on surrounding property owners and their land values. If the quarry were to continue mining as they are entitled, operations would proceed as expected. However, allowing rezoning and a 90 degree turn in operations will directly affect adjacent landowners and greatly reduce their property values and diminish the development potential of already approved projects. There is no discussion of this in the EIR. 7-8

Thank you for your time on this project. Please feel free to contact me if you have any questions.

Sincerely,



Steven R. Ourada

Response to Letter from Steve Ourada, Ourada Engineering

7-1 The commentor characterizes his property as being adjacent to the proposed quarry expansion. For clarification, the commentor's property is located immediately west of AP No. 120-210-32, which is a 74-acre parcel that is not part of the proposed quarry expansion. The quarry expansion is on AP No. 120-210-31, which is the next parcel to the east (see Figure 3-3 in the DEIR). Accordingly, there is a parcel between the commentor's property and the quarry expansion parcel, so the commentor's property is in fact not adjacent to the proposed quarry expansion.

7-2 Fair-share contributions are calculated using a methodology adopted by Caltrans. A project's contribution to an intersection or roadway that would operate unacceptably is calculated as a percentage of all the new traffic that would use the intersection or roadway. CEQA recognizes such fair-share contributions as legitimate mitigation given that the project's contribution is only a portion of the contributing factors that result in the impact. In assessing a project's impacts and identifying mitigations for significant impacts, an impact can be caused solely by the project, and, in that case, the project applicant is responsible for the mitigation. Most of the impacts identified and the corresponding mitigation measures recommended in the DEIR are the responsibility solely of the applicant. However, in the case of roadway and intersection impacts, the project is only partially responsible for the impact, and, therefore, a fair-share contribution is warranted and required,

There must be a nexus established that shows how a mitigation measure would mitigate impacts caused by the project. The commentor's reference to possibly requiring construction of a turn lane adjacent to the quarry is not warranted by the traffic study done for the EIR. Accordingly, there is no nexus for this proposed lane. However, the commentor's recommendations on how fair share contributions for roadway improvements should be used are noted for the record. Please see Response 8-6 regarding current County recommendations regarding the fair share contributions for roadway improvements.

7-3 As described on page 4.2-6 of the DEIR and shown on Figure 4.2-2, water quality is measured at several locations on the site plus one site upstream and one downstream of the project site. Water quality benchmarks for quarry discharge to Porter Creek (which is the only creek affected by project runoff) are described under Impact 4.2-B on pages 4.2-22 through 4.2-28 of the DEIR. This impact discussion includes specific mitigation measures to monitor water quality and which require that surface water leaving the site meet those benchmarks. Compliance with these existing RWQCB-imposed benchmarks essentially requires that the water quality of discharge water cannot be reduced as compared to the water quality of water that leaves the site under existing conditions, and that is already subject to RWQCB criteria.

7-4 Blasting impacts are discussed under Impact 4.1-B on pages 4.1-23 through 4.1-32. Blasting will cause dislodgement of rock and soils that can potentially be eroded. These potential erosion impacts are assessed in Impact 4.2-B on pages 4.2-22 through 4.2-28. As noted in the previous response, erosion will be controlled on site so that sediment leaving the site will not exceed existing levels,

which are regulated by the RWQCB. Accordingly, the impact would be reduced to a less-than-significant level.

- 7-5 As discussed in the cited Impact 4.2-F and in greater detail in the Water Supply Assessment (WSA) contained in Appendix D-2 of the DEIR, project water demand is met by annual on-site rainfall recharge. The WSA addressed six off-site wells within a 1/2 mile distance from the quarry site. The WSA determined that on-site recharge was adequate to meet maximum project demand except possibly for the extremely dry year, and quarry compliance with its Permit to Operate would address any water shortfall during this extreme drought year scenario (see page 4.2-32 of the DEIR). Project withdrawals from the groundwater beneath the site would not affect aquifers supplying off-site wells. The only possible project impact to an off-site well that was identified in the DEIR was to the well immediately west of the site where project mining could remove a portion of the recharge area for that well. Mitigation Measure 4.2-F.1 addresses that impact. However, this is not the same recharge area as wells further to the west. There is a valley between the project site and the commentor's property. In addition, the nearest possible homesite on the subdivision is over 1/2 mile from the proposed project site. Given the distance, topographic breaks, and types of groundwater resources in this area, it is not expected that there would be any hydrologic connection between these sources. Accordingly, the proposed mining would not affect existing or future wells on the commentor's property.
- 7-6 The visual analysis presented in the DEIR uses the County's methodology for assessing visual impacts of a project. As described on page 4.7-10 of the DEIR, the County analyze views from public vantage points, not the private viewpoints of specific persons or hypothetical future specific persons. As shown in Figures 4.7-3, 4.7-6 and 4.7-8, the reduction in the elevation of the main ridge on the expansion parcel would have no to little impact on views from public roads. Though not required by the County's visual impact guidelines or CEQA, the DEIR also mentions impacts to "existing" residents that have a view of the quarry and/or the expanded quarry. It is true that this assessment did not include impacts to the commentor's property. This is because the vantage points from potential future private viewpoints is outside the scope of the EIR's analysis pursuant to CEQA..
- 7-7 The DEIR assessed noise impacts on adjacent residents using a sophisticated three-dimensional ray-tracing noise model which takes into account locations and sound levels of the sources of project noise, the frequency content of each noise source, site topography, and the location of sensitive residential receptors (see DEIR pages 4.5-15 through 4.5-17. This model was used to calculate existing and future noise contours, as shown in Figures 4.5-4 and 4.5-5, with future noise levels showing the westward shift in noise levels associated with the proposed shift of future mining towards the west, and the associated reduction in height of the exiting ridgeline west of existing quarry activity.

Given that the Tentative Parcel map for the commentors' subdivision has not been finalized, it is not possible to determine exact noise levels at yet-to-be-determined residential sites. However, a careful comparison of Figure 4.5-5 (future noise levels) with the Tentative Parcel map for the commentor's project shows that the entire area composed of tentative parcels 1, 2, 3, 4, and the remainder area lies

westward of and outside the future (i.e., with project) 50 dBA Leq contour. In fact, roughly the western half of the tentative map area lies between the 35 dBA Leq and 45 dBA Leq contours, with only the possible housing site on parcel 3 lying between the 45 and 50 dBA Leq contours. As noted in the DEIR, the Leq average noise level is used for a conservative comparison to the L50 County noise limit of 50 dBA during the daytime, given that the hourly Leq is always equal to or greater than the hourly L50. Accordingly, this analysis shows that all tentative home sites identified on the Tentative parcel map would be exposed to project-related quarry noise that is less than 50 dBA threshold for a significant noise impact.

The DEIR also considers the implications of haul truck traffic on area residences (Impact 4.5-B, DEIR pages 4.5-17 through 4.5-18) and the combined affect of proposed quarry and haul-truck traffic on area residences (Impact 4.5-C, DEIR pages 4.5-18 through 4.5-19). Regarding Impact 4.5-B, no existing residence would be subjected to a significant increase in noise. Given that some of these residences are closer to the road than the proposed housing sites on the commentor's tentative map, it is clear that none of the sites would experience a significant increase in noise due to haul-truck traffic. Regarding the combined effect of quarry and haul-truck noise, only existing residence R2 lying immediately west of the proposed mining area would experience a significant noise increase. However, Mitigation Measure 4.5-A.1 (see DEIR page 4.5-17) would reduce this impact to a less than significant level. Similarly, implementation of this mitigation measure would ensure that noise increases even further to the west on the commentor's project site would not be significant.

- 7-8 The DEIR assessed environmental impacts on other residents living in the area – see the discussion on page 4.11-5. This discussion did not summarize potential land use conflicts with the commentor's property because there are no existing residences on the subdivision. Again, the nearest possible homesites on the commentor's property are about ½ mile from the westernmost expansion of the quarry. Similarly, the DEIR did not assess impacts to other undeveloped lands in the area. As described in the previous response, the quarry could have visual and noise impacts on two future residences on the approved subdivision. Again, the future builders of homes on the two easternmost subdivision parcels have the option to select a building site that is buffered from views of the quarry by site topography. Whether the project would affect the value of the commentor's property is not a CEQA issue as it is not an impact on the physical environment. However, the commentor's opinion and concern is noted for the record that will be reviewed by County decision-makers.



Suppliers of Quality Aggregates & Asphalt

7/5/2013

Sonoma County PRMD
Attn. Sigrid Swedenborg
2550 Ventura Ave.
Santa Rosa, CA 95403

RE: Mark West Quarry Extension DEIR

Dear Ms. Swedenborg:

On behalf of BoDean Co., Inc., I would like to thank you, County Staff and the consultants who worked in drafting the Mark West Quarry DEIR. Upon review, we find the draft to be comprehensive and detailed in identifying potential impacts and mitigating them in a fashion that seeks to protect the environment and ensure compliance on the part of the operator. However, we have identified a few items that we would like to see addressed or corrected in the Final EIR.

Vested Rights

As you are aware, the current operation operates under a “vested right,” meaning that the quarry was operating prior to the state’s passage of the Surface Mining and Reclamation Act (“SMARA”), and that it therefore can continue operations without the need to obtain new mining permits upon the parcel(s) that were in operation prior to 1976. On page 3-2, last paragraph, as describing the scope of the project, it states, “The County will condition the proposed Use Permit (if it is approved) to prohibit any mining on the currently mined quarry parcel located north of the ‘Active Mining Area’ shown on Figure 3-4 until a new Use Permit and Reclamation Plan are approved.” Such a condition in essence disavows the vested right assuming this Use Permit is approved. This would be inconsistent with past agreements and Use Permits issued under similar circumstances. The item should thus read, “The County will condition the proposed Use Permit (if it is approved) to prohibit any mining on the currently mined quarry parcel located north of the ‘Active Mining Area’ shown on Figure 3-4, but such prohibition shall take effect only if and when the proposed Use Permit takes effect. Otherwise, the operator shall maintain its vested right upon the vested parcel and may thus continue mining operations along that parcel in accordance with its vested right as it has always done.”

8-1

Timber Conversion

The EIR relies in obtaining a THP to mitigate impacts to timberland, but it is unclear as to whether a THP would even be required. Page 4.3-42 incorrectly draws conclusions regarding Timber Conversion and Timber Harvest Plan requirements as mirrored within County requirements. In the Canyon Rock FEIR, the applicant correctly pointed out to the County the fact that the project is a temporary use where land shall be reclaimed and that such language as “would” or “will” are inappropriate and should be replaced by the word, “may” (see Page V.A-11,

8-2

Canyon Rock 2005 FEIR where the county correctly replaced such wording to “may”). This is especially poignant in the Mark West Quarry case where the vast majority of trees within the expansion area are non-marketable with maybe 5 acres of marketable timber are presently mixed with chaparral (not 21 acres as indicated on page 4.3-42 of this draft).

Under the Z’Berg-Nejedly Forest Practice Act, as administered by the California Department of Forestry and Fire Protection, a “timber harvest plan,” or “THP”, is required only if the proposed project involves the conduct of “timber operations” for “commercial purposes.” (Pub. Resources Code § 4581, 4527.) The operations at Mark West Quarry involve minimal timber clearing solely for mining purposes; no timber will be sold for commercial purposes. Further, clearing will occur only a few acres at a time (environmentally preferable to wholesale clearing as required under a THP) which consists mostly of California Annual Grassland, Chamise Chaparral, Scrub Oak Chaparral, Northern Mixed Chaparral, and Mixed Evergreen Forest (California black oak, coast live oak, madrone, California bay; and to a very small extent redwood, and some Douglas Fir).

A THP is required if the project proposes to “conduct timber operations” (Pub. Resources Code § 4581). Under the Forest Practice Act, “timber operations” are defined as:

“the cutting or removal or both of timber or other solid wood forest products, including Christmas trees, from timberlands for commercial purposes, together with all the work incidental thereto, including, but not limited to, construction, landings, skid trails, beds for the falling of trees, fire hazard abatement, and site preparation that involves disturbance of soil or burning of vegetation following timber harvesting activities conducted after January 1, 1988, but excluding preparatory work such as treemarking, surveying, or roadflagging.”

(Pub. Resources Code § 4527)

The Forest Practice Act defines “commercial purposes” to include:

[T]he cutting or removal of trees which are processed into logs, lumber or other wood products and offered for sale, barter, exchange or trade,
or
[T]he cutting or removal of trees or other forest products during the conversion of timberlands to land uses other than the growing of timber which are subject to the provisions of Section 4621, including, but not limited to, residential or commercial developments, production of other agricultural crops, recreational developments, ski developments, water development projects, and transportation projects.”

(Pub. Resources Code § 4527 [emphasis added].)

Further, it is worth noting that the Z’Berg-Nejedly Forest Practice Act contains an express exemption for the “one-time conversion of less than three acres to a nontimber use,” so long as such conversions occur no more than once during a five-year period. (Pub. Resources Code, § 4584, subd. (g)(1)).

Notwithstanding the above, it is the applicant and the appropriate agencies who will determine whether the jurisdiction of any federal or other regulatory agency is implicated, and if so, whether any additional permits are required in order for the project to proceed.

Based on the above, the mandatory language in part b. of the last paragraph of page 3-7 should be revised to replace the word “must” with “may, if required,” (similarly on page 4.3-42) as it is unclear at this time whether a THP would be required for the activities contemplated under the project.

Given a THP may not be required; we believe that implementing timberland mitigation through the reclamation plan has a number of benefits. Specifically, timberland mitigation contained in the reclamation plan will be subject to inspection, oversight, and enforcement. SMARA requires the lead agency to conduct annual inspections to determine whether the surface mining operation and reclamation obligations are in compliance with the reclamation plan. (Pub.Res. Code, § 2774.) Further, SMARA requires mining operators to post a surety bond, also known as “financial assurances,” to ensure that reclamation is performed in accordance with the surface mining operation’s approved reclamation plan. (Pub.Res. Code, § 2773.1.) The financial assurances must remain in effect for the duration of the surface mining operation and any additional period until reclamation is completed. Accordingly, we believe that, given a THP permit may not be necessary for the project and therefore cannot be used as mitigation; impacts to timberland would best be addressed by the reclamation plan itself.

Solar PV System

Page 3-17, number 2, should read, “...The photovoltaic system will also be left on site to generate power that can be used by *the property owner/operator via Sonoma Clean Power, or the existing utility of choice at that time.*” 8-3

Storm Water

Mitigation 4.2-B-1, #2 incorrectly states, “The existing 2001 Storm Water Pollution Prevention Plan.” It should be “The existing *2011...*” 8-4

Traffic

The DEIR correctly notes that 28 outbound trucks in the PM peak hour can occur for both the present condition and 2015 condition. This aligns very closely with past history during peak hours of production. This also aligns with the physical constraints of loading and ticketing trucks. According to actual stopwatch observations, the quickest a typical truck can enter, get loaded with material and leave the property is 7 minutes and 30 seconds (one truck). However, because multiple activities of loading, ticketing and entering can take place at the same time, it has been demonstrated that a loaded truck can physically leave the site every 2 minutes and 15 seconds (at maximum). This is confirmed by actual observation. It should be noted that this physical constraint and time frame exists whether the annual production is 460,000 tons per year or 750,000 tons. The annual tonnage amount cannot change the physical constraints of loading and ticketing trucks, only the number of hours or days in which that peak condition occurs. 8-5

Knowing this, Figures 4.4-4, 4.4-5, 4.4-6, and most notably Figure 4.4-7 (Intersection #7), and any corresponding fair share calculations or assumptions, incorrectly quantify the trucks exiting the property. For instance, Figure 4.4-7, Intersection #7 (2015 plus Project Conditions Volumes...) state 90 total trucks will exit the property in the AM Peak Hour Volume and 54 trucks in the PM Peak Hour Volume (see intersection #7). This means that a truck can get loaded and ticketed every 0.7 minutes (AM Peak Hour) and 1.1 minutes (PM Peak Hour); a physical impossibility. Again, a truck can only get physically loaded and ticketed every 2 minutes and 15 seconds irrespective of annual tonnages. This is both a current condition and a worse case scenario condition at full sales capacity of 750,000 tons per year. To the extent the EIR's impact analysis and/or proposed mitigation measures rely on these calculations, we request that the EIR be revised to address this inaccuracy.

Further, the "fair share" percentages given on page 4.4-27 are artificially high due to an inconsistent application of assumptions. This is alluded to in the discussion on page 4.4-27, but the EIR fails to recognize the full impact of the flawed assumptions. Throughout the analysis it states that, "Based on preceding traffic volume growth over five years (2004 – 2009), the EIR traffic engineers applied an annual growth factor of 2.48 percent..." This percentage was appropriately used in calculating increases at various analyzed road sections over various time periods. However, the percentage was inappropriately used to compare fair share growth over time to an assumed, almost immediate, growth in quarry related traffic to full production in 2015. It should be noted that the current operation is vested and accordingly can sell over 750,000 tons of material annually if the market were to demand it, irrespective of the approval of the proposed Use Permit. Notwithstanding this fact, it is presumptuous to assume in the EIR that the quarry will reach full production by 2015. Accordingly, we believe that the fair share percentages are inflated and should be revised accordingly.

8-6

As in the case of traffic growth, the same principle applies to economic and market growth. Market growth occurs over periods of time, not immediately and over night. It would be an inaccurate assumption to conclude that the economy will demand 750,000 tons of material in 2015 (which IS assumed under the fair share percentage assumption), just as it would be an inaccurate assumption to apply 2035 traffic growth to 2015 (which is NOT assumed in the fair share percentage assumption).

This inconsistent application of assumptions should be realigned to either assume worse case in traffic growth for 2015 (2035 traffic figures) and subsequent worse case in quarry traffic growth, or it should apply some other rationale for quarry traffic increases in 2015 (a 2.8 percent growth (or some other reasonable assumption) in quarry related traffic for 2015 and 2.8 percent growth in non-quarry related traffic in developing the fair share percentage on page 4.4-27).

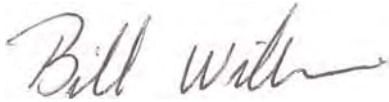
Also requiring clarification is the application of "2035 Background Plus Project Conditions" on Mitigation 4.4-G.1. The County will only allow 20 year permits for quarry operations under the ARM Plan. Assuming the permit for the Mark West Quarry Expansion is approved prior to, or in 2014, the permit will expire in 2034 at the latest. Although it is possible that the permit will be extended upon further analysis or procedure beyond 2034, that is not something that can be assumed at this time. However, the traffic analysis assumes that the growth in non-quarry traffic under the 2035 (one year after the expiration of the Use Permit) calculations shows a LOS that warrants mitigation at Mark West Springs Road/Riebli Road intersection in 2035, one year after the expiration of the proposed permit, under a fair share analysis. The same assumptions are

8-7

made for road widening along the Mark West Springs/Porter Creek Road corridor. This is neither appropriate nor “fair,” and the EIR should be revised to address this deficiency.

Again, thank you for your efforts. They are often not given the recognition that they are due. We look forward to hearing from others about this EIR and working with staff and the community to make sure that, to the extent feasible, everyone’s concerns are adequately met.

Sincerely,
BoDean Co., Inc.

A handwritten signature in cursive script that reads "Bill Williams". The signature is written in dark ink and is positioned above the printed name and title.

Bill R. Williams
General Manager

Response to Letter from Bill Williams, BoDean Company

- 8-1 The County concurs that the suggested language is also their understanding of the project description. The recommended change is made – see Chapter 4 for the revised EIR text.
- 8-2 The information and opinion are noted for the record. To clarify this issue, PRMD staff met with CAL FIRE staff (Kimberly Sone) subsequent to the Planning Commission public hearing on the DEIR. At that time Ms. Sone confirmed that CAL FIRE would require a Timber Conversion Permit and a Timber Harvest Plan for removing trees on the project site. Subsequent to that meeting the applicant had a Registered Professional Forester survey the expansion area to determine whether the site constituted “timberland.”¹ He concluded that the Mixed Evergreen Forest at the site does not meet the State’s definition of timberland. Ms. Sone also visited the site after the original consultation and concluded that CAL FIRE would need to undertake further analysis of whether there are, in fact, timberlands at the site. If it turns out that CAL FIRE concludes that there is no timberland, or a smaller acreage than the 21.15 acres of Mixed Evergreen Forest mapped in the DEIR, then CAL FIRE would make a final decision whether or not a Timber Conversion Permit is required for the project. Correspondingly, the County would determine the need for a County use permit to allow timberland conversion based on CAL FIRE’s decision.

As discussed on pages 4.3-41 to 4.3-42, any conversion of timberland would require State and County approvals for timberland conversion. As stated on those pages, the applicant will need to abide by any mitigations or protective easements included in the State’s TCP and/or the County’s use permit. This discussion in the DEIR remains accurate, though at this time there is uncertainty whether CAL FIRE will require a TCP for the project.

- 8-3 The County concurs with this revision but would add that at the time the Use Permit is terminated, future use of the photovoltaic system may be subject to new Use Permit requirements established at that time. Accordingly, the revised text on page 3-17 will say (additions are underlined and deletions are struck-through), “The photovoltaic system will also be left on site to generate power that can be used by PG&E the property owner/operator via Sonoma County Power or the existing utility of choice at that time. This future use of the photovoltaic system may be subject to new Use Permit requirements at that time.”
- 8-4 The reference in the cited text already says 2011, so no change is needed.
- 8-5 On direction from PRMD, the EIR traffic engineers assessed traffic congestion impacts that would result from a peak hour on a peak day in the peak production month (i.e., the so-called “peak of the peak”). As such, the EIR traffic analysis provides a worst case impact description. As the commentor states, such peak production may not currently be physically possible. However, it is possible that in the future the yard could be rearranged and staff added to speed the proves.

¹ “Assessment of Potential Timberland at the Proposed Mark West Quarry Expansion Site,” NCRM, August 29, 2013; available for review at the offices of PRMD.

The only change in impacts that would occur if a lower peak hour trip rate was used would be to Impact 4.4-G on pages 4.4-33 through 4.4-35 of the DEIR. The DEIR concluded that there would be a significant cumulative impact on the Mark West Springs Road/Riebli Road intersection. This impact could be mitigated by signalizing the intersection at the time signalization is warranted (it is not warranted under 2015 conditions). Because there are no plans or known funding for the signalization, the impact would remain significant even if the applicant paid its fair share towards the signalization improvement. As shown on Table 4.4-14 of the DEIR, peak project traffic would increase the peak hour delay by over 20 seconds. The impact significance criterion for an intersection such as this one is when a project causes an increase in delay of more than 5 seconds. So, even if the analysis were done using lower peak traffic as suggested by the commentor, there would still be a more than 5-second increased delay and, therefore, a significant cumulative impact at this intersection.

No change in the peak hour analysis is warranted. However, even if lower numbers, as suggested by the commentor, were used, it would not result in any fewer impacts nor change the recommended mitigation for the applicant to fund its fair share of signalizing that intersection. The other identified significant traffic impacts involve safety concerns, and these impacts are based on the daily increase in traffic and not peak hour traffic. That said, if the County concurs with the commentor about trip generation, then a lower trip generation rate could be used when calculating the applicant's fair share contribution to signalizing this intersection.

- 8-6 The County has determined that the fair share calculations should be based on the County's traffic model buildout year of 2035. Using this year to calculate the fair share for the project shows that the applicant would be responsible for 20% of the improvement cost for Segment 1; 26% for Segment 2; and 27% for Segment 3. See Chapter 4 for revisions to the DEIR text.
- 8-7 Calculations used the 2035 future baseline because the County's traffic model uses that year for projecting future traffic growth. If projections were adjusted to reflect projected conditions in 2034, there would be slightly less background traffic than listed in the DEIR. However, the traffic increase caused by the proposed project would remain the same as described for 2035. Accordingly, the project would have slightly more impact on 2034 conditions (i.e., the project's share of the overall traffic would be greater since the background traffic would be less). Again, the only intersection that would be significantly affected in 2035 (or 2034) would be the Mark West Springs Road/Riebli Road intersection. The project would make a contribution to the significant cumulative impact at this intersection in either 2034 or 2035.



Rich Stabler

Sonoma County Permit and Resources Management Department

707 565 8352

2550 Ventura Avenue

Santa Rosa, CA 95403

rstabler@sonoma-county.org

Re: PLP09-0035 Mark West Quarry

(State Clearing House No: 2005062093)

Dear Mr. Stabler:

The undersigned represents Citizens Advocating Rational Development ("CARD"), a non-profit corporation dedicated to issues in development and growth.

This letter contains comments on the Draft Environmental Impact Report on the Mark West Quarry Mining Project, in accordance with CEQA and the Notice of Completion and Availability. Please ensure that these comments are made a part of the public record.

AIR QUALITY/GREENHOUSE EMISSIONS/CLIMATE CHANGE

The EIR lacks sufficient data to either establish the extent of the problem which local emissions contribute to deteriorating air quality, greenhouse emissions or the closely related problem of global warming and climate change, despite the fact that these issues are at the forefront of scientific review

due to the catastrophic effects they will have on human life, agriculture, industry, sea level risings, and the many other serious consequences of global warming.

This portion of the EIR fails for the following reasons:

1. The DEIR does not provide any support or evidence that the Guidelines utilized in the analysis are in fact supported by substantial evidence. References to the work of others is inadequate unless the document explains in sufficient detail the manner and methodology utilized by others. 9-2
2. Climate change is known to affect rainfall and snow pack, which in turn can have substantial effects on river flows and ground water recharge. The impact thereof on the project's projected source of water is not discussed in an acceptable manner. Instead of giving greenhouse emissions and global warming issues the short shrift that it does, the EIR needs to include a comprehensive discussion of possible impacts of the emissions from this project. 9-3
3. Climate change is known to affect the frequency and or severity of air quality problems, which is not discussed adequately. 9-4
4. The cumulative effect of this project taken with other projects in the same geographical area on water supply, air quality and climate change is virtually missing from the document and the EIR is totally deficient in this regard. 9-5

For the foregoing reasons, the EIR is fatally flawed.

ALTERNATIVE ANALYSIS

The alternative analysis fails in that the entire alternatives-to-the-project section provides no discussion of the effects of the project, or the absence of the project, on surrounding land uses, and the likely increase in development that will accompany the completion of the project. 9-6

Thank you for the opportunity to address these factors as they pertain to the referenced DEIR.

Very truly yours,

CITIZENS ADVOCATING RATIONAL DEVELOPMENT

NICK R. Green

President

Response to Letter from Nick R. Green, Citizens Advocating Rational Development

- 9-1 The commentor is correct that the DEIR does not contain details about the long-term effects of climate change. To rectify this, an introductory section will be added to page 4.6-18 to summarize these effects. See Chapter 4 for the additional language. The DEIR does assess whether the project would emit greenhouse gas (GHG) that would exceed adopted significance thresholds (and by exceeding the threshold be a significant contributor to climate change). This additional introductory discussion does not affect the DEIR analysis of the impacts from project GHG emissions. The commentor is also directed to the very recent report (August 8, 2013) issued by the State that describes how climate change is currently affecting the California environment. In addition to the well known effects on sea level rise, changes in rainfall patterns, reduction in runoff from a reduced snowpack, challenges to biodiversity, and increased human health risks, the report describes how the warming environment in the State is causing increased algal blooms as a result of warmer water temperature, reduced duration and extent of winter fog in the Central Valley (with adverse effects on commercial crops dependent on winter chill), and increased survival and spread of insects and pathogens. This report is accessible at:
<http://oehha.ca.gov/multimedia/epic/pdf/ClimateChangeIndicatorsReport2013.pdf>
- 9-2 The EIR utilizes 1,100 MT CO₂e/year as a significance threshold, based on County staff's independent conclusion that BAAQMD staff's analysis of this threshold is reasonable and supported by substantial evidence. It is important to note the legislative and regulatory background under which GHG threshold determinations are made. There are currently no established state-wide GHG gas emission significance thresholds. In 2007, the Legislature enacted SB 97, which immunized a very limited number of projects from challenges based on GHG analysis, and otherwise required the Office of Planning and Research and the Resources Agency to develop new statewide CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by January 1, 2010. Prior to the adoption of these new CEQA guidelines, the Office of Planning and Research issued a "Technical Advisory" in June 2008, which stated: "In the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA." The technical advisory suggested that statewide significance thresholds were being considered, and referred to work being done by the California Air Resources Board. In October 2008, the California Air Resources Board issued a "Preliminary Draft Staff Proposal on Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act." The document proposed a sector-by-sector approach to setting GHG significance thresholds. Staff proposed a threshold of 7,000 metric tons of CO₂ equivalent (MTCO₂e) per year for operational emissions (excluding transportation), and performance standards for construction and transportation emissions. CARB Staff explained that the goal of the threshold was to achieve compliance with Governor Schwarzenegger's Executive Order S-3-05 to reduce California's greenhouse gas emissions to "80 percent below 1990 levels" by 2050. CARB's staff did not follow up on the proposed approach.

The Office of Planning and Research finalized its revised CEQA Guidelines without reference to CARB's draft proposal, and as required by SB 97, the revised guidelines were then approved by the Resources Agency. The SB 97 CEQA guidelines do not set a greenhouse gas emissions significance threshold. Instead, the Guidelines state that a significance determination may be undertaken either through modeling or through reliance "on a qualitative analysis or performance based standards." Section 15064.4(a) of the Guidelines requires that an agency "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." Section 15064.4(b) does not proscribe what threshold a lead agency must use. In response to the lack of a statewide threshold, many air districts have proposed thresholds, including the Bay Area Air Quality Management District. BAAQMD adopted numeric greenhouse gas emissions thresholds on June 2, 2010. The resolution adopting the BAAQMD thresholds was subsequently invalidated by the Superior Court for reasons related to the alleged effects of overly stringent thresholds, but unrelated to the evidentiary basis of BAAQMD staff's conclusions. On August 13, 2013, the Court of Appeal reversed the Superior Court's decision.

The significance threshold utilized in this EIR is based on the County's concurrence in BAAQMD's staff's underlying analysis supporting its threshold, not on BAAQMD's official endorsement of a particular quantitative threshold. BAAQMD's staff, like several other districts, looked to AB 32 for guidance in deriving a threshold for "cumulatively considerable" GHG impacts, and BAAQMD's staff's approach takes the broad approach that a project's emissions should be deemed significant if they hinder compliance with the emissions reductions mandates found in AB 32 (2006). BAAQMD's staff's derivation of numerical thresholds reflects their analysis and judgment regarding the quantities of emissions reductions from stationary sources and new land use projects that would be consistent with that goal, given the Air Resources Board's other Scoping Plan measures intended to reach AB 32's goals. In particular, BAAQMD staff estimated that a 23.9 percent reduction in greenhouse gas emissions could be expected from CARB's "land use driven" AB 32 Scoping Measures, leaving a "gap" of 2.3 percent in necessary additional GHG emissions reductions to meet AB 32 goals of a 26.2 percent reduction from statewide land use-driven emissions. BAAQMD staff estimated that a 2.3 percent reduction in BAAQMD's projected 2020 emissions projections requires emissions reductions of 1.6 Million Metric Tons CO₂e/yr from the land use- driven sectors, and used that number to derive a bright line threshold for individual projects. County staff has concurred in this analysis because it is reasonable, notwithstanding the fact that other thresholds could potentially be identified. BAAQMD's staff's analysis is found in the document titled "Bay Area AQMD Proposed Air Quality CEQA Thresholds of Significance, November 2, 2009," which is a publically available document that can be obtained from the BAAQMD website or from the County.

- 9-3 The commentor is correct that climate change may alter the timing and amount of rainfall and the snow pack. The project site is not reliant on snowfall, so the only hydrologic effect climate change could have at the site would be a reduction in rainfall and the possible consequent reduction in the recharge of the groundwater supplying the onsite wells. The impact of climate change on precipitation in the project area remains speculative. To quote the overview of current knowledge

regarding climate change in the Bay Area *Preparing the Bay Area for A Changing Climate*, Bruce Riordan, Bay Joint Policy Committee, Bay Area Climate & Energy Resilience Project, 2012; accessible at

<http://www.cakex.org/sites/default/files/documents/Key Bay Area Research 1 1 July 2012.pdf>

“The North Bay watersheds study concluded that one cannot definitively project whether the North Bay will be faced with consistently more or less precipitation as a result of climate change because there is greater uncertainty in projected precipitation trends than in projected temperature trends. However, the study found that hydrologic models predict reduced early and late wet season runoff for the next century, resulting in a potentially extended dry season, regardless of potential increases in precipitation.”

Nevertheless, if one were to project an as yet unknown reduction in precipitation at the site, the effect could be a reduction in groundwater recharge, though recharge is dependent on more than just the annual quantity of rainfall. If one posited a 25% reduction in recharge, this would result in an annual site recharge of about 453 acre-feet (as shown on Table 6 of Appendix D-2 in the DEIR, the average recharge is currently 602 acre-feet per year). This is equivalent to the recharge for multiple drought years (457 acre-feet per year – see Table 6 of Appendix D-2). As shown on Table 9 of Appendix D-2, recharge of the site groundwater is adequate to serve the project as well as off-site domestic wells during this multiple drought year recharge scenario. The one time where recharge is not adequate is the single extreme year. This situation would be aggravated by a reduction in recharge. As described on page 4.2-30, the project would need to reduce well pumping and quarry operations during the single extreme dry year in order to maintain compliance with its Permit to Operate from the BAAQMD. This would remain the case even if precipitation and resulting site recharge were reduced.

- 9-4 It is widely recognized that anthropogenic emissions of greenhouse gases and aerosols are contributing to changes in the global climate, and that such changes are having and will have adverse effects on the environment, the economy, and public health. These are cumulative effects of past, present, and future actions worldwide that exist with or without this project's emissions. While worldwide contributions of greenhouse gases are expected to have widespread consequences, it is not possible to link particular changes to the environment of California to greenhouse gases emitted from a particular source or location. When considering a project's contribution to climate change impacts, it is possible to examine the quantity of greenhouse gases that would be emitted either directly or indirectly from a project. However, that quantity cannot be tied to a particular adverse effect on the environment associated with climate change.

Climate change is likely to have a number of adverse effects. With exceptions, the effects of climate change are not site-specific. Emission of greenhouse gases would contribute to the changes in the global climate, which would in turn, have a number of physical and environmental effects. A number of general effects, among many others, some of which are not yet well understood, include potential changes to rainfall patterns, impacts to human health, and sea level rise and flooding.

The greenhouse gas emissions from an individual project, even a very large development project, would not individually generate sufficient greenhouse gas emissions to measurably influence global climate change. However, climate change will have impacts on a global scale. Consideration of a project's impact to climate change, therefore, is an analysis of a project's contribution to a cumulatively significant global impact through the project's emission of greenhouse gases. This EIR finds that greenhouse gas emissions from the project do not make "cumulatively considerable" contribution to the existing impact after mitigation, and based on the significance threshold utilized in this EIR, this project will not have a significant impact on climate change

- 9-5 The commentor is directed to Section 5.2, Cumulative Impacts starting on page 5-3 of the DEIR for a discussion of cumulative impacts. The project's water usage does not affect water supply in the area as it is supplied by groundwater beneath the site (see Table 9 in Appendix D-2), which does not affect groundwater supplies serving other area wells. As described above in Response 9-4, the project would not make a significant contribution to a cumulative impact related to air quality or climate change.

The EIR preparers share the commentor's concerns about the long-term effects of global climate change. That said, the role of this EIR is to assess the project's GHG emissions, which could combine with emissions from other projects throughout the world to cause climate change, and determine, per adopted significance thresholds, whether the contribution is significant. The DEIR has done this. No additional significant impacts or increase in the severity of impacts associated with GHG emissions would occur as a result of the comments in this letter, and no additional mitigation beyond the one recommended to offset GHG emissions is required.

- 9-6 The commentor is directed to the discussion of each of the four project alternatives beginning on page 6-3 of the DEIR that includes analysis of the impacts of each alternative on environmental resources. This includes analysis of impacts on climate change and land use compatibility. There is no evidence that the project would result in increased development in the area. A quarry does not typically attract other development. In fact, it may discourage residential development in the area (see the previous Comment Letter No. 7 regarding potential project impacts on development in the area).

RECEIVED

JUL 18 2013

Mr. Rich Stabler,
County of Sonoma
Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403

CC Chief Deputy Clerk
County of Sonoma
Board of Supervisors
575 Administration Ave
Room 100A

Date July 14, 2013

Re: Reply to EIR Report for the Mark West Quarry Expansion

Santa Rosa, CA
95403

Dear Mr. Stabler:

We the undersigned share the concerns raised by Janet Angell owner of the Petrified Forest. We do not believe the EIR Report adequately address the following issues:

1. Failure to acknowledge the Franz Valley Area Plan.

The EIR is incomplete and inadequate because it fails to acknowledge that the existing Quarry and proposed Quarry Expansion Site ("the project") are subject to policies and standards of the Franz Valley Area Plan, which is attached hereto as Exhibit B.

10-1

The EIR states that "...There is no adopted Conservation Plan, Natural Community Plan, or other approved local, regional, or State habitat conservation plan that includes the project site." See, e.g., EIR page 4.3-30.

Both the Sonoma County General Plan and the Franz Valley Area Plan provide standards for evaluating conservation issues. The Sonoma County General Plan 2020, Policy LU-1a reaffirms the authority of the Franz Valley Area Plan and further provides that:

"...In any case where there appears to be a conflict between the General Plan, and any Specific Area Plan, the more restrictive policy or standard shall apply."

Mark West Quarry and East Porter Creek Road are specifically mentioned in the Franz Valley Area Plan. The project site is in the mapped area as well. Changing designations from Agricultural to Mineral Resource doesn't change the County's duty to honor the standards and principles promised to the other property owners in the Plan Area. "The Franz Valley Area Plan will insure protection of the area's biological diversity, and scenic, educational and recreational values." (p. 17) The EIR did not acknowledge that the plan applied, and thus did not properly evaluate the significance of the project's impact. See EIR 4.3-30.

10-2

Below are some of the policy and standards of the Franz Valley Area Plan that are in potential conflict with the project proposal:

10-3

“Sensitivities are the third aspect of the environmental evaluation done in Franz Valley: Those natural characteristics and features which would be irreversibly affected by development activities. Scenic and bicycle routes, vistas, parks, historical sites, riparian corridors, critical habitat for peregrine falcons, sensitive areas and unique features are factors mapped in the open space map. The Franz Valley Area Plan will insure protection of the area's biological diversity, and scenic, educational and recreational values.” (p. 17)

“Large blocks of lands of limited access and marginal economic productivity are extremely important for maintaining and building soil, recharging groundwater, producing oxygen and consuming carbon dioxide, moderating climate, and sustaining biological diversity and genetic adaptability to future change. An additional human benefit resulting from resource conservation areas is the preservation of some of the County for tranquility, the freedom from urban noise and congestion necessary for spiritual growth and artistic exploration. Scientific and educational uses of these areas are also important. The mitigation of the cumulative effects of development in urban areas depends upon the protection and enhancement of these often overlooked resource conservation values in rural areas.” (p. 33)

Other standards in the Franz Valley Area Plan are:

For projects which could affect nesting raptors, prior to project construction the applicant shall have a qualified wildlife biologist conduct a pre-construction survey for nesting raptors within 800 feet of any area of proposed construction activity... (p.12) See, EIR p.4.3-33 (within 300 ft.)

10-4

Encourage the preservation and enhancement of wildlife habitat areas representative of the flora and fauna **of the area (emphasis added)** and necessary for preservation of rare and endangered species. (p. 8)

Preserve timber stands with unique biotic or scenic qualities. (p.8)

...hardwoods should be retained. (p.12)

Avoid construction of new access to remote areas. (p.12)

Ridgelines should be protected from development, and utilities for new construction installed underground along scenic routes and near vista points.

(p.27)

Scenic routes in Franz Valley are Highway 128, Chalk Hill Road, Franz Valley Road, Porter Creek Road, Petrified Forest Road, Calistoga Road, and St. Helena Road. They have been selected as scenic routes because they are the area's major thoroughfares and have high scenic value for the motorist. Vista points have been identified along scenic routes where expansive views are especially noteworthy.

(p. 27)

Maintain rural character of roads...(p.7)

Major Riparian Corridors - 200 ft Setback (p.34)

Minor Riparian Corridors – 100 ft Setback (p.34)

2. No Fossils in Sonoma Volcanics

The EIR report is inaccurate and incomplete in that it states that Sonoma Volcanics contain no fossils. “A portion of the site contains Sonoma Volcanics, which again is a rock type that does not include fossils.” (EIR, Page 4.10-8) Sonoma Volcanics contain tree fossils, plant fossils, leaf fossils, pollen fossils, insect fossils, and animal fossils. *The Petrified Forest is embedded in Sonoma Volcanics*. See, for example, Pliocene Floras of California by Princeton Professor Erling Dorf, pp. 3-13, which is attached hereto as Exhibit B. Currently scientists are studying volcanic ash on the property to isolate ancient pollens and identify the kinds of vegetation that lived on site 3.4 million years ago.

10-5

3. Failure to Assess the Impact of the Project on the Petrified Forest.

The EIR is incomplete and inaccurate in that it fails to address the project's impact on The Petrified Forest.

10-6

The Petrified Forest is:

California's State Historical Landmark (No. 915);
Listed on California Register of Historic Resources;
Eligible to be placed on the National Register of Historical Places; and
A named Historic Site in Sonoma County's Franz Valley Area Plan.

Also, the State of California has made factual findings that the Petrified Forest is “unique” in California and “unique” in the World.

The Petrified Forest serves the public by providing educational services and

recreational activities. The walking and hiking trails display information about the local history, the geological processes, native flora and fauna, and fossils found on the property. Trail guides take guests out on various walking and hiking trails. Many school groups, college students, geologists and visitors from all over the world come here to learn about Sonoma County's unique natural wonders. See EIR4.8-6 "Since there are no public parks or recreational areas located in the vicinity of the project site; the project would have no effect on public park and recreation facilities. EIR 4.8-6

The property is located in a scenic corridor that runs from the Alexander and Napa Valleys over Petrified Forest Road --Porter Creek Road --Mark West Springs Road – River Road and out to the Sonoma Coast. Nearly all of our visitors from Sonoma County (and North and South of Sonoma County) use Porter Creek Road to access the property. Moreover, Porter Creek Road serves as a main thoroughfare for getting Napa Valley tourists over to the Russian River Tourist Area and Sonoma Coast. Napa visitors also use Petrified Forest Road. When traffic is congested on Porter Creek Road, the big truck traffic and car traffic spills over on to Calistoga Road and Petrified Forest Road causing more traffic congestion, pollution, noise, and dangerous conditions which undercut the experience of the scenic corridor. Road traffic noise from the proposed expansion will infiltrate the Petrified Forest and adversely affect the natural experience of the Park.

Moreover, the Petrified Forest contains wildlife, redwood groves, forests, pasture land, creeks, streams, including Biotic Habitat Areas, and contain some of the most pristine property in all of Sonoma County. The property has been privately owned and protected by our family for almost 100 years (1914-2014.) The property is noise sensitive, pollution sensitive, wildlife sensitive, rare plant sensitive, surface water and groundwater sensitive, view and vista sensitive, climate sensitive, and very sensitive to road construction, traffic congestion and noise.

The Petrified Forest should have been assessed in evaluating the project's impacts.

4. Failure to access the reduced quality of life for all the people living on Mark West Rd, Porter Creek Rd, Petrified Forest Rd and Calistoga rd.

We believe the number of trucks should be capped at the current level to limit the noise, limit the traffic congestion, limit the pollution and limit the damage to the road.

10-7


Sincerely,

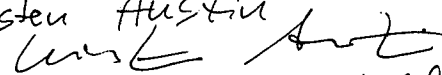
The undersigned persons agree with the above letter sent to:

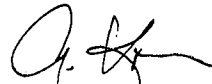
Mr. Rich Stabler,
County of Sonoma
Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403

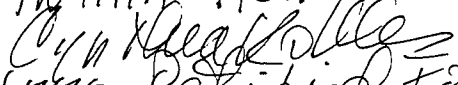
Date July 14, 2013


Re: Reply to EIR Report for the Mark West Quarry Expansion

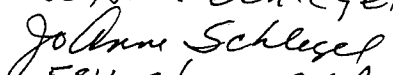
Name Lindsay Austin
Signature 
Address 3404 Kings Hill Rd, Santa Rosa, CA 95404

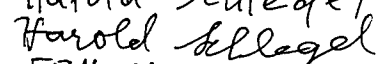
Name Kirsten Austin
Signature 
Address 3404 Kings Hill Rd. Santa Rosa CA 95404

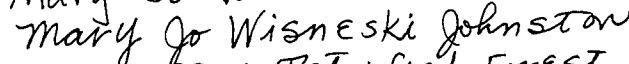
Name GREGORY KOHLES 
Signature
Address 4770 PETRIFIED FOREST RD CALISTOGA 94515

Name CYNTHIA KOHLES
Signature 
Address 4770 Petrified Forest Rd, Calistoga, 94515

Name ~~BRINK MERVIN~~
Signature 
Address 4000 PETRIFIED FOREST RD, CALISTOGA, CA 94515

Name Jo Anne Schlegel
Signature 
Address 5811 Sharp Rd, Calistoga

Name Harold Schlegel
Signature 
Address 5811 Sharp Rd, Calistoga

Name Mary Jo Wisneski JOHNSTON
Signature 
Address 5310 + 5326 Petrified Forest Rd., Calistoga, CA 94515

The undersigned person agree with the letter sent to:

Mr. Rich Stabler,
County of Sonoma
Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403

Date July 14, 2013

Re: Reply to EIR Report for the Mark West Quarry Expansion

Name *CHARLES JOHNSTON*
Charles Johnston
Signature
Address *5326 Pat. Forest Road*
Calistoga - 94515

Name *Carlene Loeffler-Darlene Loeffler*
Signature
Address *6951 Sharp Rd - Calistoga, Ca. 94515*

Name *Dennis Loeffler*
Signature
Address *6951 SHARP RD, CALISTOGA CA. 94515*

Name *THOMAS PAYNE*
Thomas Payne
Signature
Address *3402 KINGS HILL RD SANTA ROSA CA 95404*

Name *Herbert Ginsberg*
Signature
Address *Herbert Ginsberg*
3460 Calistoga Road, Santa Rosa 95404

Name *Charlotte Ginsberg*
Signature
Address *Charlotte Ginsberg*
3460 Calistoga Rd, Santa Rosa, Ca 95404

Name *Charlotte Keane*
Signature
Address *3460A ~~Keane~~ Calistoga Rd Santa Rosa CA 95404*

Name *Jeremy Ginsberg*
Signature
Address *3460 Calistoga Road . SR . CA . 95404*

The undersigned person agree with the letter sent to:

Mr. Rich Stabler,
County of Sonoma
Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403

Date July 14, 2013

Re: Reply to EIR Report for the Mark West Quarry Expansion

Name *Ashley Eib*
Signature *[Handwritten Signature]*
Address *3460 Calistoga Rd. Santa Rosa, CA 95404*

Name
Signature
Address

Name
Signature
Address

Name
Signature
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Name
Signature
Address

Name
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Response to Letter from Lindsay Austin et al

This letter includes the same comments contained in Comment Letter No. 5, so the responses below direct the commentors to the appropriate responses to comments within Comment Letter No. 5.

10-1 Please see Response 5-3.

10-2 Please see Response 5-4.

10-3 Please see Response 5-5.

10-4 Please see Response 5-6.

10-5 Please see Response 5-1.

10-6 Please see Response 5-7.

10-7 The opinion is noted for the record. Alternative 2 in the DEIR would cap production as suggested in this comment

Public Hearing Comments

A public hearing on the DEIR was held before the Sonoma County Planning Commission on June 20, 2013. The draft Minutes of that hearing are provided below along with responses to comments on the DEIR.



Sonoma County Planning Commission

DRAFT MINUTES

Sonoma County Permit and Resource Management Department
2550 Ventura Avenue, Santa Rosa, CA 95403
(707) 565-1900 FAX (707) 565-1103

Date: June 20, 2013
Meeting No.: 13-007

ROLL CALL

Commissioners

Don Bennett
Paula Cook
Jason Liles
Pam Davis
Greg Carr, Chair

Staff Members

Jennifer Barrett
Yolanda Solano
Sigrid Swedenborg
Sue Dahl
David Hurst, Chief Deputy County Counsel

1:00 PM Call to order and Pledge of Allegiance

Approval of Minutes -

Correspondence

Board of Supervisors Actions

Commissioner Announcements/Disclosures

Public Appearances. E. J. McVey, Kenwood, expressed concern about the Cunningham winery, which is proposed for his neighborhood, which is now mainly residential. There are seventeen or so homes in the area, and the occupants are retirees or used as second homes by people who want to get away from noise, traffic and the city. The last thing these residents want nearby is a facility with 24 events. There are walnut trees being removed early in morning with excavator and chain saw in total inconsideration of neighborhood. Steve Ledson always seems to get what he wants and if allowed to build this winery it will destroy a peaceful residential neighborhood.

Items scheduled on the agenda

REGULAR CALENDAR

Item No.1 Time:	1:05 p.m.	File:	ORD13-0002
Applicant:	County of Sonoma	Staff:	Yolanda Solano
Env. Doc:	Environmental Impact Report		
Proposal:	Proposal amending the Zoning Code to incorporate the stream protection policies of the County's General Plan and Area Plans and to rezone properties in the zoning data base to add the new RC (Riparian Corridor) combining zone to all rivers and streams designated by the adopted General Plan and the Area and Specific Plans. The RC		

combining zone will include a numeric extension that indicates the minimum setback for the stream conservation area adjacent to streams. The proposed amendments incorporating the General Plan policies into zoning would bring the Zoning Code into consistency with the County's Building Regulations and Grading Ordinance which already apply General Plan stream protection policies. Affected parcels include those with land in the unincorporated County that adjoin rivers or streams identified in the General Plan Open Space Maps or Area Plans, including all streams shown on USGS maps.

Location: Countywide

APN: Numerous

Supervisory District: All

Zoning:

Yolanda Solano summarized the staff report, which is incorporated herein by reference.

Deputy Director Barrett indicated that because the item is legislative in nature, the public hearing could remain open and the commissioners could discuss it with the public.

Public Hearing Opened 1:50 p.m.

Brian McFadden, Regional Water Quality Control Board, commended staff for professional, excellent job done on a good proposal. The California Regional Water Quality Control Board supports protecting riparian zones in ways that interface with land use actions to protect water quality. The policies will help them in their efforts.

Streamside conservation areas help to manage sediment, nutrients, and temperature and incorporated into the TMDL (Total Maximum Daily Load) program. The California Regional Water Quality Control Board is in the process of developing TMDLs for the Russian River, Santa Rosa, and Gualala, and Salmon Creek.

Water temperature is a major concern. The California Regional Water Quality Control Board hopes to have a regionwide policy by end of the year clarifying the importance of shade provided by riparian corridors to attain water quality objectives. The SCWA doesn't have permitting authority, and PRMD's effort to have an ordinance and zoning requirements in place will be extremely helpful to the SCWA when they develop their water quality programs.

Mr. McFadden suggested that the emphasis should be on protecting riparian vegetation. This is important because trees are needed to create shade. They support the dripline concept that captures and expands the streamside conservation area. McFadden expressed concern about the 25 foot limit in upland areas on slopes, which is likely to present problems, and then the SCWA will have to step in and do permitting. McFadden urged expansion of the upland areas to allow greater widths for area and specific plans. When implementing policies, it is critical to have good guidance and public outreach materials available for applicants so they know what they have to do, and it is critical to be clear about defining the objectives.

Tony Linegar, Ag Commissioner, asked for clarification on Ordinance Page 4, where the reference to water quality protections of the Ag Commissioner is mentioned. He was not sure what this refers to.

Deputy Director Barrett indicated that this was carried over from the General Plan. Mr. Linegar stated that the Ag Commission does not have specific water quality guidelines unless they are related to VESCO. **Deputy Director Barrett** said that this should be clarified in the ordinance. Mr. Linegar stated that setbacks have not been implemented in VESCO since the of the General Plan. Many creek setbacks have not been implemented, and there is concern in the agricultural community about increased impacts from setbacks.

Jean Kapolchok, Kapolchok and Associates, commented that the staff report states the purpose of the ordinance is to implement General Plan policies. We should take a closer look, Kapolchok warned, as we may be entering into the world of regulation creep. For example, in the Franz Valley Area Plan, most creeks have a 200 foot setback. The Open Space map in the General Plan shows most minor creeks

with a 50 foot setback. The Franz Valley Area Plan was adopted in 1979, and has been updated, but many things were just carried over rather than being reanalyzed with an environmental assessment. Ms. Kapolchok said that the 200 foot setback requirement was for structures. Since policy dictates that the more restrictive policy shall apply, this 200 foot setback for creeks will take away the ability to have agriculture, access roads, private trails, etc. This is very different than what was talked about in the 1979 area plan. It is inconsistent to simply carry over policies, and add additional regulations. In addition, Kapolchok expressed concern about the dripline policy, which may be removing land from agriculture to protect the tree. No environmental assessment has been done on this, and if the intention is to protect vegetation, the policy should allow alternatives, such as an arborist' report or other protective mechanisms. Rail crossings and private roads require construction plans, and the proposed policies seem excessive. Also, problems could be created if someone wants to remove invasive plants. We need to be specific in open space easements. There could be unintended consequences. Ms. Kapolchok asked if, under the proposed ordinance, a zoning permit would be required to remove trees. If so, the public needs to know what is required in a permit for fuel management. Also, the ordinance did not mention access to water containment structures. Roads and structures could conflict with ordinance.

Kimberly Burr, Attorney, complimented staff on a thorough job of critically important work. This type of process takes a long time, and time is not on our side. Burr encouraged the County to make it meaningful. 1,500 acres of new vineyard have been applied for this year. They require environmental review, there is no requirement for water, and no public outreach. The creeks are being destroyed by vineyards. Burr supports the dripline measure policy, which is based on science. She supports a science based approach, and said setbacks need to be generous because we don't know what changes are coming from climate change. If riparian areas are denuded they need to be replanted. Landowners and vineyard development need to follow the same rules and work with the county to protect the critical habitat to the maximum.

Mike Jani, Chief Forester for Mendocino Redwoods, asked if staff had looked at what is required by Cal-Fire when someone does a timber harvest plan. A THP is required in all zones, and the focus is on protection of water quality. Jani wondered if staff analyzed current forest practice rules about stream restrictions in riparian zones and researched state approved exemptions. Many areas that were grass woodlands are being overtaken by Douglas Fir. Consideration should be given to removing the firs to protect the oak woodland. Ranchers and wildland owners need to be able to cut down trees to restore oak woodlands, so will the ordinance require them to obtain a discretionary permit? Also, when defining riparian vegetation for non TP zones lands, you need to ask if a Redwood Tree is a riparian species. When extending the riparian zone, does this include all trees on a person's land? This needs to be clarified.

Tito Sasaki Farm Bureau, urged the Commission to not take action on the proposal until the Farm Bureau could have time to study the ordinance more carefully. Sasaki indicated that there are ambiguities and contradictions in the documents that need to be studied, and all affected parcel owners should be notified and told clearly how the ordinance will affect their setback areas. The Farm Bureau will submit comments, and people are not aware what riparian lands are.

Dave Hardy, Monte Rio, supports the general direction, and opposes willow removal on the river, which creates a habitat for fish. He supported allowing an exception to clear area for a garden. The ordinance, as written, does not allow a relief valves for guys like him or people doing restoration projects like Patterson Pond. As the ordinance currently reads, if you clip a blackberry, you go to jail.

John Williams, Occidental, is a professional forester and Co-owner of Environmental Solutions. While supporting protection of riparian corridors, Williams expressed concern about how it is written, warned of serious unintended consequences, and against the idea that if things are left alone will get better, which is not always right. The ordinance does not address those areas which have been degraded by invasive plants, causing a poorly functioning riparian zone. He has blackberries and can't get to the creek, and they are choking everything else. If he wanted to clear blackberries, he would be prohibited from doing it as the ordinance is written. ordinance.

Williams commented that when forest practice rules are implemented, water quality is protected. He also expressed concern that trees cannot be managed trees in riparian zone. A typical young growth forest

can have about 350 trees per acre. As they get bigger, trees are lost from death and decay. There are entities like Sonoma Land Trust who actively manage existing forests, and this involves tree removal. Watercourses should also be taken into account. The ordinance is confusing as to what is and is not allowed in streamside conservation areas. Sonoma County already has requirements in place for tree removal in our timber conversion permits.

Steve Butler, Attorney, stated there are issues that the agricultural community would like addressed. The policies for areas covered by area and specific plans should be reexamined to look at what evolved, for example, the Franz Valley Area Plan originated in 1979 and has been redone many times. In Ordinance Section D, paragraph 1, use of the word “may” for all uses that could be allowed indicated discretion. In this case, an agricultural use could be considered discretionary and subject to CEQA.

Issues regarding replanting need to be clarified, and although the riparian policy talks about balancing, no thorough analysis has been done. Mr. Butler would like to see it discussed.

Rebecca Jenkins, Sonoma, is a private landowner and grape grower and said that the 200 foot setback requirement is taking land from private owners. Property values are high, and many property owners have lands along creeks. Jenkins asked if these people will be compensated for loss of use, by eminent domain. The hearing should have involved all affected property owners, who should have a chance to speak. Jenkins said it was not right to generalize, as every site is different. The General Plan is supposed to be general, not have a bunch of regulations.

Commission Discussion

Deputy Director Barrett mentioned that the exception for stream allows for removal of invasive vegetation and does not require a permit. Much of the language in the ordinance comes directly from the General Plan, and the wording can be clarified. The word “may” in Section D (referring to Steve Butler’s comments) reflects that it is subject to whether the use is permitted or not in the underlying base zone. If allowed by right, no permit is required. Some uses require permits. Regarding comments made about fire fuel, Cal-Fire has fire safe standards that explain what the management plan includes. Existing uses and structures can remain and continue. A Zone Change already includes a 10% one-time expansion.

The definition of replanting in five years came out of VESCO. It was added to the zoning code to differentiate from other uses so ag land replanted in five years was recognized as being fallow or changes of crop size.

Commissioner Carr recommended that staff address comments and concerns expressed and come back with a revised report. Many policy issues were raised, and these should come back as policy options.

Commissioner Liles noted much concern in Franz Valley about using the most restrictive policies. He expressed concern that all affected landowners were not notified.

Commissioner Bennett wanted to have all comments addressed and for staff to come back with a updated recommendations, adding that this item should be treated as we would treat an EIR, with specific responses to comments. Commissioner Bennett said that the riparian policy issues were thoroughly vetted in the course of the General Plan update over months, and a fair agreement was made. He doesn’t want to reopen that box.

Commissioner Cook supported treating the item as we would an EIR and stated that there are legitimate concerns on both sides. She asked if property setbacks are included on a purchase agreement? Staff Solano said that people can come into PRMD to research setbacks, and sometime it is hard to tell.

Commissioner Davis commented that we are codifying Zoning Code on a policy matter that has already been vetted. **Deputy Director Barrett** said that the three main areas are about area plan setbacks, the dripline requirement (versus ag setback measured from the top of bank), and timber operations.

Commissioner Davis commented that important issues were raised, and she wants more information and to be clear what the policy decisions are.

Commissioner Carr wanted the next hearing to be formally noticed, and the staff report to include specific options that closely follow and clarify the policies in the General Plan. He asked staff to look at the option to expand the riparian setback area to include all riparian vegetation. This departs from the General Plan when including all riparian vegetation. Commissioner Carr said that all timber operations all should be exempt, and to include an option, although he supports trying to stop someone from using a timber harvest plan to cut down riparian vegetation. He asked for another option to look at area and specific plan setbacks and how they were utilized and applied. He does not recall that they ever applied to ag cultivation, but rather was used for structures.

Counsel Hurst asked that the filter strips and access roads for ag also be looked at, and referred staff to Gail Davis to ask about compatibility. He asked staff to bring back language from the VESCO ordinance, and that we are creating policy options that follow the General Plan. A lot of time and effort went into the General Plan update to reach compromises.

Action: **Commissioner Liles** moved to continue the item to August 22nd at 1:05 p.m. Public Hearing to remain open. Seconded by **Commissioner Cook and** passed with a 5-0 vote.

Appeal Deadline: n/a

Resolution No.: n/a

Carr: Aye

Bennett: Aye
Ayes: 5

Cook: Aye
Noes: 0
Absent: 0

Liles: Aye
Abstain: 0

Davis: Aye

Item No.2 Time: 2:15 p.m.

File: PLP09-0035

Applicant: Bodean, Inc.

Staff: Sigrid Swedenborg

Con't from: May 16, 2013

Env. Doc: Environmental Impact Report

Proposal: A public hearing on the adequacy of the Draft Environmental Impact Report to rezone a 33-acre portion of an 81- acre parcel to add the MR (Mineral Resource) Combining District to allow for future mining, a Use Permit to allow timberland conversion, a Use Permit to expand the existing Mark West Quarry to allow mining of 500,000 cubic yards (750,000 tons) per year for a 20-year period, and approval of a revised Reclamation Plan that directs how the area mined on the site would be reclaimed.

Location: 4411 Porter Creek Road, Santa Rosa, CA

APN: 120-210-006, -048, and -031 Supervisorial District: 1

Zoning: RRD (Resources and Rural Development), B6 – 100 acre density, MR (Mineral Resources), SR (Scenic Resources)

TRANSCRIPT OF HEARING ON MARK WEST QUARRY DEIR

Staff Swedenborg: “Good afternoon members of the Commission. The project site is located near the intersection of Porter Creek Road and Petrified Forest Road. The project itself is a request to extend the mineral resources allowances to the parcel to the west of the existing quarry site by a Zone Change on about 33 acres, a Use Permit for timberland conversion, mining of 500,000 cubic yards of aggregate per year, and approval of a reclamation plan.

This is the existing is this one but the applicant leases from the property owner. The quarry down here, this is an area that has been quarried and mined and then reclaimed and there is a large solar array here. And this is the area that they are currently mining. This mine started in 1910 and, through vested rights through the State and the Aggregate Resources Management Plan, they were given the right to mine 500,000 cubic yards a year on this parcel. As they mined to the north, they got into a different strata of rock and wanted to stay with the same material that they had been mining, so determined it was necessary that they move to the west to continue getting that same material. This property owned by the lessees and the applicant was able to get a lease to mine it. So the project is an expansion of the quarry into this parcel.

The project includes a zone change to add the MR zoning district, which is a combining district of the base Resource and Rural Development zone to allow this portion of the parcel to be mined. This piece is all zoned Mineral Resources and here is the plan in the reclamation site currently. As they move to the west they would be reclaiming what they have already mined. This is the plant area that would be expanded and then they would start reclaiming here, this is the stockpile for overburden, as they move to the west they would start reclaiming more of the property that had already been mined, and finally move to the edge of the property with certain setbacks here and again reclaim the area behind it. As Commissioner Carr said, this hearing is to receive testimony on the adequacy of the draft Environmental Impact Report and provide directions to staff to prepare a final Environmental Impact Report.

The Draft Environmental Impact Report it is on the web and we have copies of these available if you would like to have your own copy, there are a variety of potential environmental impacts and these potential impact issues have less than significant or no impacts: Population and Housing, Ag Resources, Mineral Resources, Public Safety and Recreation. These impacts could be reduced to a less than significant with mitigation measures. On page 6 of staff report is a table that goes into each of these items, what the potential impacts are, and establishes the mitigation measures.

There are significant unavoidable impacts related to transportation to increasing traffic hazards, biology and air quality. There are cumulative impacts to traffic on Mark West Springs Road and Reibli Road intersections and traffic safety issues on Mark West Springs Road and Porter Creek Road. However, both can be addressed with traffic signalization at the intersections and road improvements, but there is no planned project or funding to do this. The applicant must contribute their fair share to making those improvements.

There are air quality and cumulative air quality impacts. The Environmental Impact Report establishes alternatives. The No Project alternative, which is interesting in this case because it would allow mining to the north, which they have a vested right to do, but they would be getting into a different area where there are biological and more visual impacts to people farther north on the Mountain Home Ranch area.

There is always reduced production as an alternative and then a reduced mining footprint that would eliminate mining in sensitive habitat areas and reduce other impacts. So, the next steps with this project are to receive comments till July 5, 2013, then we will prepare responses to comments and the final Environmental Impact Report, and then there will be a Planning Commission hearing on the final EIR and the merits of the project and then the project has to go to the Board of Supervisors because of the zone change only adding the MR zoning designation. Commissioner Carr asked for some timing. It is a little hard to be sure and maybe Jennifer wants to weigh in on some of this, but given the response to comments and final Environmental Impact Report we are hoping to get to hearing sometime in October, and then the final hearing on the Environmental Impact Report and the merits of the project and then the Board of Supervisor's hearing would have to go as soon as we could get a date after than hearing. Thank you."

Oh, and I would like to introduce the project team: Scott Briggs, retired from PRMD, coming back to work on the EIR, Sandi Potter, new Special Projects/ Environmental Review manager, Rich Stabler, EIR project manager, Verne Ball from County Counsel (not here) and Leonard Charles, consultant. They can help address on the comments and questions on the EIR."

Chair Carr: "Sounds good. Do the commissioners have any questions for staff at this point about the project or the Environmental Impact Report? Nada? I do have a couple and I will do it as briefly as possible. I am a little bit confused about the timber conversion aspects of this project. It looks to me like the applicant is searching for an approval of a county timber conversion permit, but there is nothing in the project description or the EIR that identifies the THP, the impacts of the THP, and whether or not the project conversion would meet the standards in the county ordinance for offsetting mitigations. In meeting with the applicant the other day one of the things he pointed out is the applicant believes that there may be an opportunity or may not be required by CDF to do a timber conversion permit on this area of expansion and so I am looking for some further analysis of this comments about how this timber conversion permit is going to fit in to the mining, because the applicant needs to get the THP and timber conversion permit before he can go too far into that new parcel."

Staff Swedenborg: "If he converts less than three acres of commercial timber he will have to get a minor conversion permit with us but if it is more than 3 acres of commercial timber then it would be with Calfire."

Chair Carr: "Are you anticipating that this would be done before the quarry permit is approved or as a follow up action?"

Staff Swedenborg: "Well, it is part of the Use Permit that he made the application for. I don't know, let's look into that so we can address it."

Chair Carr: "And it's part of the EIR as well so mention it when we get to the EIR portion."

Counsel Hurst: "And, Mr. Chairman, the applicant...the County would not be able to take action on the use permit or the conversion until after Calfire has issued their conversion permit."

Chair Carr: "And they are in [unintelligible] of that, I think that is the problem. Theoretically, we would rely on the CEQA document from Calfire to go through the conversion..."

Counsel Hurst: "Yes, unless we were assuming agency status on this, which I am sure Calfire would have a big problem with."

Chair Carr: "The applicant and Board might. Have we received any comments from the City of Calistoga? I know that in the EIR there were several potential impacts on the city and I just wondered if we had heard anything."

Staff Swedenborg: "I haven't heard anything...actually I have not received a single written comment."

Chair Carr: "OK, that is all the questions I have."

Commissioner Liles: "A quick comment for general principal, and then I am going to be asking the applicant and staff about this. This is a quarry in the First Supervisorial District. However, a large part of road impact perspective is in the Fourth District. After meeting with my supervisor, I have some pretty clear direction about his interest in that road and making sure it is maintained from a safety standpoint and a maintenance standpoint, so that will be a large portion of my questions."

Chair Carr: "We are going to open the hearing. This hearing provides comments on the draft Environmental Impact Report. Normally during hearing on a project we might have applicant responses to comments, but not today. Today it's just the EIR, so we there won't be any change for debate. We have one speaker card from Janet Engell. If anyone else wants to speak please make sure you fill out a speaker card and give it to the secretary."

Speakers: Janet Angell, my family owns the Petrified Forest. The Forest is a neighbor of the quarry, on 580 acres situated in Sonoma County. It is State Historic Monument # 915, and it is eligible to be on the National Register of Historic Places. One of the reasons here today, is I have only gotten through half of the EIR because I just found out about hearing last week. My real concern is that as you may know, our family has owned the property for the last 100 years, and we have spent most of our lives protecting as a natural preserve. It has been a long haul, we have spent hundreds of thousands of dollars, and is it protected because of efforts of family beginning with my great aunt in 1914. There are six parcels all together, One is -050 adjacent and to the east side of the quarry. We have -036 which is above the proposed site of new quarry. I don't think the EIR adequately considered the location of the Petrified Forest in the impacts that expansion of the quarry will have on the forest. The State has determined that it is a State Historic Monument #915, and the State also determined that it was unique in the roles of the fossils it has. The EIR says there are no fossils in Sonoma Volcanics, but the Petrified Forest is Sonoma Volcanics and all those fossils are Sonoma Volcanics. There are giant petrified redwood trees that are 3.5 million years old, there are plant and vegetation fossils that have been studied by Yale University, Princeton University, University Berkeley....and maybe four weeks ago, paleobotanist from UC Berkeley came up to Sonoma Volcanics to take samples of pollen that is trapped. Berkeley is currently taking samples in the Volcanics around the county in order to identify these various fossils that are located in the Volcanics. There are new methods of determining what sort of forest existed at the time 3.5 million years

ago. A lot of what I see is that is incorrect that Sonoma Volcanics had no fossils. I can give you a citation if you want. It is also untrue in the EIR that the Petrified Forest is eligible in national historic place, is a state historic landmark, and all those features should be looked at in terms of impact. We have 580 acres of first grade fir, Sequoia Redwood trees, coast redwood trees, and wildlife that travels from one end of 580 acres over to Mountain Home Ranch road and back, and trees on the property. One parcel of 1.76 acres is actually in Porter Creek itself. The Petrified Forest was completely ignored.

The Petrified Forest attracts international travelers and is a big component of Sonoma and Napa county tourism. When looking at traffic coming down Porter Creek Road, you have to also look at what is coming down from Napa and Lake Counties. Tourists are being directed out to Sonoma coast along river road and porter creek mark west out to river road so all the impact of tourism out river road is going to be an impact for that too. The EIR has to address the impact on the neighbors. Mountain Home Ranch is an important historic feature, and has been there 100 years. This is all the history of Sonoma County. Original homesteads have been kept in families for hundreds of years and they need to be addressed. It can't [unintelligible] that we are the next door neighbor of the quarry with 580 acres of pristine property, probably the most pristine property in Sonoma County, because it has been kept absolutely protected from development, pollution, and anything else in the family guardianship. I don't mean to exclude neighbors, but include them as all part of that community out there. I think that you really have to look at it in terms of its effect on Sonoma County, the tourism coming in from Calistoga, and also the natural resource itself, and to say there are no fossils in Sonoma Volcanics, people didn't even go to the nearest neighbor. It's the Petrified Forest, folks.

Chair Carr: Thank you, we appreciate those comments. The EIR will prepare a summary of the comments and prepare a response.

Deputy Director Barrett: Please submit your comments in writing to us.

Chair Carr: July 5th is the deadline.

Steve Ourada: I am part owner of parcel just to the left of the leased parcel the quarry is looking at on 3815 Porter Creek Road. I looked at the EIR and have some issues about the website. I looked and printed out some of the information. Basically, I have some issues with the traffic in the EIR, the way they analyzed traffic, water quality, well water draw down, the economic impact on adjacent land owners, visual aesthetics and noise. We purchased 120 acres on Porter Creek Road in 2005 and our intent was to subdivided into four large estate lots. We envisioned would be multi-million dollar homes, two of which would sit up on the hill overlooking where the quarry expansion would be happening. If you look at Figure 4.7-1 in the EIR, it is near the back...but basically the overall topography of the whole site. And you can kind of see where the expansion area is, but our parcel, if you look just to the west of where the expansion area is noted....[mumbling]"

11-3

Sigrd Swedenborg: "It's in Visual Resources."

Steve Ourada: Again, our parcel if you see where porter creek does the big dive and the nose living thing, our parcel basically goes across that nose and is up on the ridge. So you can see the expansion is coming right towards our parcel."

Chair Carr: "Where are you from the Less parcel?"

Steve Ourada: "Just to the west. We abut them on their west property line. So anyway if you take a look at that, just kind of where we are so you can see where our property is. Our parcels are anywhere from 12 – 30 acre parcels and we have a tentative map approved. So, getting back to the traffic, the EIR traffic states that traffic on the road will not decrease because they are already mining up to 500,000 cubic yards of soil. Traffic will increase. You know that or they would not be asking to additionally go into the hillside the way they are. And, just to let you know I think the Soiland's have been wonderful neighbors to this point. I think the quarry is a class quarry, you guys talk about the solar that they have, it's the only quarry maybe in the nation that operates off solar power, so they are doing good things out there. I am not here to argue about that, I think they are doing great things as a quarry operator. But with expansion you have to look at how that impacts everyone around. Traffic expansion talks about doing signalization,

but there are no projects proposed for that. Well if there is enough impact for a project, the project itself can make those improvements. I am more concerned about road widening and if that is going to be proposed, because that would directly impact our parcel. And as that road wraps around that nose it is very narrow and windy in there, the lanes are possibly only ten feet wide in that area, it's very narrow and any expansion of that roadway would have to...the hills are really steep and it would really impact that area and it doesn't really address that.

So I would just like to see further expansion of the traffic impacts. Water quality – I am a civil engineer and noted in the EIR there is not a lot of discussion. They showed a couple of detention basins on the project and a couple of grading plans. But on a project that size you cannot capture all the water. There is absolutely no way to capture 100 % of storm water on the site, so I would like a more detailed analysis of how that is going to happen.

I didn't see anything in the EIR about well water use and drawdown and expanding the quarry additionally and so far if they are going to be using more water or use the same amount over those years. I would like to see that brought into the EIR. And well water out there is hard to find, very hard to find. They are very lucky they have a couple of really nice wells on their property, so I would like to see that addressed in the EIR.

Economic impact on adjacent landowners - for us, it is going to be huge. If you can imagine if you look at the photo on Page 4.1-1 looking into the quarry from the east looking west. That same picture is what it is going to look like from what we hope to be very nice parcels up on the hill. Oh I sorry, Page 4.1-30. We are going to see that exact same picture looking from our two lots on the hilltop looking east into the quarry. That's the hill they will be coming through as they expand to the west, what used to be a buffer between the Less property and the quarry, now our ridge will be a buffer. The visual and economic impacts to adjacent landowners needs to be discussed, and also noise. It talks about existing homes that are out there but it doesn't talk about already approved projects, ours being one of those. If you look again at that photo on 4.1-1, there is no way to screen. They always talk about putting a row of trees in to screen both visual and noise, and there is absolutely no way you can screen that with trees. The idea here is to take 300 feet off that hill. So you take 300 feet, you cannot screen that out with even a 60 foot tall tree, there is absolutely no way to screen the visual or the noise. I think that needs to be discussed more, and the size of the project. Everybody is familiar with a football field, approximately 1.3 acres. They are going to expand the quarry up to 90 acres approximately. If you look at what going to do out there - 90 acres, 500,000 cubic yards – that's about 3.5 feet a year. You can put 90 acres into approximately 70 football fields. It's going to be a stadium of about 70 of those fields edge to edge, going to go down 3.5 feet a year, so that doesn't seem ok - what's the big deal there. But think of a quarry, they aren't going to lower the whole 90 acres 3.5 feet a year. They are going to take off the top of the mountain, about 300 feet. So again, the noise, and visual and aesthetics and economic impacts are the three biggies I see that need to be better addressed in the EIR.

Commissioner Carr: Are you going to submit written comments?

Steve Ourada: "Yes we are."

Herbert Ginsberg: I am by training a biostatistician and retired from UCSF and I have been a resident in sight of the quarry since 1977, must be 3,000 yards or so. In time we were able to see the top of the quarry to the west part of it, and now it is nearly 15 degrees difference in what we can see. We can now see Anderson Valley, which we could not see before...I have a question about this 750,000 tons doesn't mean very much to us, but I would like to know how much each truck carries.

11-4

Chair Carr: The EIR says 21 tons...

Herbert Ginsberg: I would like it converted to truck loads, I think it would make more meaning to us. What I have to say is anecdotal, I have no data, just noticed it this morning and two days ago....I would say the wind patterns have changed dramatically and I have no way of proving it, but the fact that I waved my hands before and there was a 20-30 degree difference probably has a major difference in the wind patterns. We get the early fog wind patterns, we are up 1,000 feet at our ranch and that is a significant

thing that has changed for us. Again, I regret that I have no data to show that, and one of the things I would like to see is talk about tons of gravel per truck load.

Bill Williams: General Manager, Bodean Company, operates the quarry. I don't have much to say but would like to thank you for the work by staff that has been done on the document, we understand today is the day to look at the draft and look for clarification if there is any, and in light of that I will defer comments to those that are present today, but we would be happy to answer any questions that you might have about the site and the proposal and would welcome any input from the neighbors and look forward to hearing their comments and we have heard some of them today. We want to extend an invitation to the neighbors to sit down and talk about some of their concerns and how we can further address them or give them a tour of the quarry so they can see what the proposal is and so forth, and we wanted to extend that invitation."

Chair Carr: "Does anyone on the commission have any questions? No"

Dean Soiland, Bodean, Company: "Thank you for taking the time to meet today. I am available for questions and a little history. I had an opportunity to go to school and get into geology and when I got back from college I was presented with an ARM Plan in 1981. Much of the work and authorship of that plan was done by a member of the Planning Commission, so I have a lot of history there, and one of the main things I got out of that at the time is we were a sand and gravel industry, mostly in Healdsburg and at the time I realized that the instream mining of a variety of operators all the way from Cloverdale to Jenner, multiple operators, even Sonoma Creek down in Sonoma. One of the primary goals of the ARM plan was to shift away from the instream and middle terrace mining to quarries. There was a lot of push back of course because change is hard, but one of the things I realized is there is a big demand for gravel and there was a lot of strong feelings about mining. So I had an opportunity then to go to this small quarry back in 1988 and basically I bet my life savings and future career on the fact that the county's ARM Plan was promoting a shift away from alluvium mining to hardrock mining. We have been there since 1989, it's been interesting. I inherited a site that has been in operation since 1910, so there is a history there and we have done everything that we can to be good operators and stewards of the land and operate in a sound way. It's been a great experience for the most part and I think we have had a good relationship with the County and neighbors and we want that to continue. So all of the history is great, and I have my son here, and he is hopefully part of the future. We look forward to that in this process. I am available if you have any questions.

Chair Carr: "Any questions? I don't have any more speaker cards. Does anyone else wish to speak on the draft EIR? There is a written comment period that goes until July 5th so you have opportunity to add some more comments. I have a couple things I want to see clarified in the EIR and I want to ask commissioners if you have any individual comments on the draft EIR>

Commissioner Cook: "Sigrid, I have some questions on the biology and assessment over time for the various species and if that could potentially impact, depending what is found, that peninsula that had been described as a buffer area that includes the wetland and what not. I am just trying to understand - there is a business plan at play here and there could be potential impacts and it isn't clear that I am aware of at this point what the outcomes will be from that.

Staff Swedenborg: "I would like to defer to people that have been more involved...."

Commissioner Cook: "To restate my question, the requirements of the surveys that will have to be undertaken, are those going to impact and require a larger amount of land set aside. Is the amount of land that we are talking about assessment going to change the impact of the mapping that we are seeing here and the activities that are planned for that area?"

11-5

Leonard Charles: "It is possible that there is the potential for California Red Legged Frog there. None were found during the surveys, but, unfortunately the timing did not meet the protocol for Red Legged Frog. So in the interim, protection zone was established until such time as they can complete the full protocol studies and it turns out, it's quite unlikely, that there are Red Legged Frogs there, there would be a change in the mining, because part of the proposed mining area would be in that protected area. I don't think any of the other species would be affected, but I can look at that and get back to you."

Commissioner Cook: "I just wanted a general sense of how dramatic you see a shift and what you planner versus what that assessment might entail."

Commissioner Bennett: "Just this one question this time. Clarification. The fact that the roads are inadequate that requirement here is by contribution...improvement...I didn't get is there any time table on when that has to be done, for example is this just putting money in a pot that may be used 20 years from now?"

Deputy Director Barrett: "Funding for mitigation has to be used within 10 years or returned."

Commissioner Bennett: "So the quarry could be operating in two years and the road would not have to be improved for eight years."

Deputy Director Barrett: "That is possible but I am not sure what the traffic section says once you are in an interim was there an interim impact for traffic?"

Leonard Charles: "yes."

Deputy Director Barrett: "What we have typically done where improvements and required but the funding is not there is say this is the mitigation and they will contribute a fair share but it's not known when that improvement will be made so there could be a significant impact in the interim."

Commissioner Bennett: "That could be a decision after the eir is approved and before the project is approved."

Deputy Director Barrett: "We usually identify that as significant and unavoidable but we have mitigations and a plan to try to mitigate it."

Commissioner Bennett: "My point was, we can approve the EIR, and when you approve the project you can condition when the improvements are done. That is something you can handle later."

Deputy Director Barrett: "Yes."

Commissioner Davis: "I have a question in terms of the border the new MR zone it includes the overburden area but they are not actually going to be mining that area...just curious if it is that critical that..."

Leonard Charles: "It's not part of the active mining area shown on the maps. It is the area where they store overburden on the top of the hill going to the north but there was a landslide so they moved it over to they got an emergency permit to move it over to that area that is currently shown as the overburden stockpile area. They will continue and as they start expanding the mine to the west, put the overburden on top of there for three years. That's all the area allowed and it is 10,000 cubic feet a year for three years. After that they will start using the additional overburden to reclaim areas to the west. They could also sell that if there were projects that need overburden dirt but they are not proposing to mine that at this juncture."

Commissioner Davis: Then my question is, if it isn't not going to be an active mine, is there a reason why it would go to MR...do you need to have it MR for storage?

Leonard Charles: "Right, it is part of the mining."

Commissioner Liles: "First of all, I will state the obvious, that it is amazing that we are doing an EIR for a quarry and we have only got this many people in the room, we have more staff than residents. Obviously it is because things are working pretty well up there and staff has done a good job with the EIR, not that they are not concerned that have been brought up, but overall, it is pretty impressive that the operation has been run as successfully as it has been. I am going to confine my comments to traffic and to the road. The word "fair share" is something that is really up in the air and I note that this will probably be

taken care of in the conditions of approval and not the EIR, but I just want to throw it out there - How exactly do you figure out what the fair share is? I have a little bit of concern that the proposed project would contribute to the degradation of pavement on public roads. There is a brand new, beautiful road up there but then it says no mitigations required. I just want to throw that out to staff.

Chair Carr: "I was surprised that the EIR didn't mention that there is a countywide wear and tear fee of 10 cents per ton and it wasn't mentioned in the impacts section or the cumulative impact section. It needs to be added. I don't expect it will address all the wear and tear from the operation. I think that dealing a little more succinctly with the wear and tear impacts of the project and I think would do well. A second point for me, back to the timberland conversion issue, I would like to see some clarification and if we can't help the applicant to a THP as a follow up, and extensive additional impacts, I fear going through the THP before he gets his permit. And I know the applicant doesn't want that, and I would like to try to see if there is a way to do the THP later, and I think that would make everybody a lot happier. In know the applicant is up against the wall and doesn't have a lot of material heading into the middle of the construction season." 11-7

I would appreciate it if you would take a look at the noise section and the General Plan noise standards to the neighborhood residences. It wasn't clear that the project would meet the noise standards of the General Plan and I am not sure if this is Mr. Ginsbergs' residence or not, but the two across Porter creek Road on the top of the hill as you look in the quarry. 11-9

Figure 6-2, identified in alternatives section was not there. Don't know if intentional. And this is not a comment on the EIR, so I am not expecting a response, but I think it would be valuable when the project comes back to have a discussion about the vested rights for the quarry vis a vis the new proposal and at what point both geographically and in terms of annual tonnage does the vested right lapse, if ever, or does permanent conditions take effect." 11-10

Deputy Director Barrett: "It's not really not an EIR issue, but to give background, what we have done in the past for quarries is during 20 year mining permit for which their approval is for, they have to abide by all conditions even in the vested rights area. But we have not superceded a permit and usually allow vested rights to remain because this permit is only 20 years. If is a major expansion, could work with that, but in the past the Board has looked at this and decided to leave the vested rights as long as the quarry operators agree."

Chair Carr: " I think it would be helpful to have a discussion about that. If there are no commissioner comments we will close the hearing on the draft EIR. What's next?"

Deputy Director Barrett: "I wouldn't schedule a hearing yet, we need to wait for the deadline for comments and assess how much time it will take to respond, but the intention is to schedule this as soon as possible and try to get it to the Board by October. It might be a little tight but we don't have a lot of issues yet to address.

Chair Carr: "I think it is critically important to the applicant to get material flow going."

Deputy Director Barrett: "Yes, they are up against the wall and we will try to move this along as quickly as we can."

Chair Carr: "Thanks to everyone who came down to speak. Hopefully we can get this back and make a decision sometime soon. That's it for today."

Action: The Commission heard testimony on the draft EIR and closed the public hearing.

Comments will be taken to July 5th.

Appeal Deadline: n/a

Resolution No.: n/a

Carr:

Bennett:

Cook:

Liles:

Davis:

Ayes:

Noes:

Absent:

Abstain:

Responses to Public Hearing Comments

- 11-1 As discussed in Response 8-2, CAL FIRE may require a Timber Conversion Permit (TCP) for the project, and a THP would need to be approved to remove timber to allow that conversion. It is possible that obtaining these permits could constrain expansion of the quarry. The commentor also asked about the timing of County approval of the proposed Use Permit vis-à-vis State approval of a TCP.
- 11-2 The commentor, Janet Angell, raised the same issues that are included in her comment letter (Comment Letter No. 5). Please see responses to comments within that letter regarding her concerns about the presence of fossils in Sonoma Volcanics, project consistency with the Franz Valley Area Plan, and impacts on The Petrified Forest.
- 11-3 The commentor, Steve Ourada, raised the same issues he included in his letter. Please see Comment Letter No. 7 and the responses to comments within that letter for discussion of his concerns about traffic, water quality, groundwater, visual effects on his property, noise, and economic effects.
- 11-4 The commentor's view of the property and how mining has opened views to Alexander Valley are noted for the record. Regarding the question of how much aggregate a truck hauls, the average truck hauls about 21 tons of aggregate (see page 4.4-14 of the DEIR). It would take about 3,570 trucks to haul 750,000 tons.
- It is possible that past mining of the hillside has caused some shifting of local wind patterns, but there is no evidence that, if this has occurred, it has caused an air quality or noise impact in the area.
- 11-5 As stated in the draft Minutes, if California red-legged frog were found on the site, it would diminish the area that could be mined as described under Impact 4.3-C on pages 4.3-34 through 4.336 of the DEIR. The presence of any other special-status species of wildlife that could occur on this site would not require permanent mining exclusion.
- 11-6 As described on page 4.4-27 of the DEIR, fair shares were developed using the Caltrans Guide to Traffic Impact Studies. As described in Response 8-6, the County has recalculated the fair share based on the year 2035, which reduces the applicant's fair share for road improvements. Regarding pavement wear, the County has an adopted program for collecting a fee of \$0.10 per ton from aggregate hauling to help offset the damage to pavement.
- 11-7 The commentor is directed to Impact 4.4-F beginning on page 4.4-29 for a discussion of project impacts to roadway pavement. The additional trucks would affect pavement on Mark West Springs Road and other haul roads. However, the impact would be less than significant given the significance criterion used for the Traffic Index increase.
- 11-8 See earlier Response 11-1 regarding the CAL FIRE requirement for a TCP and THP.

- 11-9 As described in Table 4.5-5 on page 4.5-17, the residence across Porter Creek road to the south of the site is identified as “R5.” The L50 noise increase at this residence would be 1 dBA Ldn, and this would not exceed General Plan noise limits. As stated on page 4.5-6, the General Plan states that maximum allowable noise levels are to be adjusted when the existing ambient noise L50 exceeds the level allowed on General Plan Table NE-2. This was done and resulted in an ambient noise level of 53 dBA L50 at the Residence R5. The project would increase noise at this residence by 1 dBA L50. This is a less-than-significant impact.

Further, the FEIR also now considers potential noise implications on yet-to-be-built homes which may someday be developed on an approved minor subdivision west of the proposed project (See Comment Letter No. 7, and Response 7-7. As shown in that response, future noise levels at these potential home sites would not exceed General Plan standards.

- 11-10 This is an error in the DEIR; the reference has been changed to Figures 5-1 and 5-2. See Chapter 4.

CHAPTER 4

REVISIONS TO THE DPEIR

The following chapter presents changes to the text of the DPEIR that are warranted given errors found by the County and the comments presented in Chapter 3. Changes are shown in the following manner:

- Additions to the text are shown as underlined text like this added text.
- Deletions from the text are shown as strike-out text, like this ~~strike-out~~.

1. **Errata**

1. **Page 2-19** (Erratum identified by PRMD staff)

The Significance Before Mitigation rating for Impact 4.4-D should have been PS (Potentially Significant) and not LTS (Less Than Significant). This erratum has been changed. See the revised Table 2-1 at the end of Chapter 4.

Page 4.3-42 (Erratum identified by PRMD staff)

“Until CAL FIRE approves these plans, the applicant cannot remove trees on the proposed quarry expansion area ~~or the asphalt processing facility site.~~”

2. **Page 4.5-12** (Erratum identified by PRMD staff)

The location identifier on Figure 4.5-2: Noise Measurement Locations should be changed from Mark West Lodge to Mark West Quarry.

3. **Page 6-4** (See Comment and Response 11-10)

“This existing MR-zoned area on the existing quarry parcel is covered under the quarry’s vested rights and the existing 1988 Reclamation Plan (see Figures 5-1 and 5-2 ~~6-1 and 6-2~~).”

4. **Page 4.3-41** (Erratum identified by PRMD staff)

“Impact 4.3-H Proposed expansion activities would result in the loss of trees and may constitute a conversion of timberland. This is a potentially significant impact.

The quarry expansion area contains trees that constitute timberland as defined by the State. There are 21.15 acres of Mixed Evergreen Forest within the mining expansion area, a portion of which may be classified by CAL FIRE as timberland. The Mixed Evergreen Forest at the site may not be suitable for timber production due to poor soils that limit growth. A Registered Professional Forester has evaluated the site and documented low growth to age ratios, poor conifer canopy development, and rocky soils that suggests that the entirety, of the 21.15 acres of Mixed Evergreen Forest may not be classified by CAL FIRE as timberland. The project includes a Reclamation Plan that includes planting new

trees at the termination of mining in 20 years. Thus, the site is not being permanently “converted.”

2. Revisions of the DEIR Text Based on Comments Received

Based on comments received, the following DEIR text revisions are warranted. These revisions are intended to clarify the EIR analyses. However, none of these revisions would result in a new potentially significant impact nor substantially increase the significance of any impact.

1. Page 3-2 (see Comment and Response 8-1)

“The County will condition the proposed Use Permit (if it is approved) to prohibit any mining on the currently mined quarry parcel located north of the “Active Mining Area” shown on Figure 3-4, but such production shall take effect only if and when the proposed Use Permit takes effect, until a new Use Permit and Reclamation Plan are approved. Otherwise, the operator shall maintain its vested right upon the vested parcel and may thus continue mining operations along that parcel in accordance with its vested right as it always has done.”

2. Page 3-17 (see Comment and Response 8-3)

“The photovoltaic system will also be left on site to generate power that can be used by ~~PG&E~~ the property owner/operator via Sonoma County Power or the existing utility of choice at that time. This future use of the photovoltaic system may be subject to new Use Permit requirements at that time.”

3. Page 4.3-33 and Page 2-16 (Summary Table) (see Comment and Response 5-2)

“4.3-B.1 Avoid disturbing active nests of raptors and other special-status birds through preconstruction surveys and creation of no-disturbance buffers during ground-clearing and grading activities associated with initiation of each mining phase. If site preparation activities are scheduled to occur during the general breeding season (February 1 through August 31), the following measures shall be implemented to avoid potential adverse effects to nesting raptors, other special-status birds, and bats:

1. A qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat for raptors and other special-status birds within ~~300~~ 800 feet of construction activities where access is available.
2. If active nests of raptors or other special-status birds are found during preconstruction surveys, a no-disturbance buffer acceptable in size to CDFW shall be created around active raptor nests and nests of other special-status birds during the breeding season or until it is determined that all young have fledged. Buffers include ~~300~~ 800 feet for raptors and 75 feet for other nesting special-status birds. The size of these buffer zones and types of construction activities restricted in these areas may be further modified through coordination with CDFW and will be based on existing noise and human disturbance levels at each project site. Nests initiated during construction are

presumed to be unaffected and no buffer is necessary. However, the “take” of any individual is prohibited.”

4. **Page 4.4-5** (see Comment and Response 2-1)

The following changes are made to Table 4.4-3:

**Table 4.4-3
Intersection Levels of Service: Existing Conditions To Be Revised**

ID	Intersection	Control	Existing Conditions			
			A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS
1	River Road-Mark West Springs Road / U.S. 101 Southbound Ramps	One-way stop	61.8	F	32.5	D
2	River Road-Mark West Springs Road / U.S. 101 Northbound Ramps	Signal	19.3 8.0	BA	21.0 11.8	CB
3	Mark West Springs Road / Old Redwood Highway	Signal	36.6	D	33.9	C
4	Mark West Springs Road / Ursuline Road	Signal	17.9	B	19.7	B
5	Mark West Springs Road / Riebli Road	One-way stop	29.4	D	22.0	C
6	Mark West Springs Road / Franz Valley Road / Porter Creek Road	One-way stop	11.8	B	9.6	A
7	Porter Creek Road / Quarry Driveway	One-way stop	13.4	B	14.2	B
8	Porter Creek Road / Calistoga Road / Petrified Forest Road	All -way stop	13.4	B	27.4	D
9	Petrified Forest Road / State Route (SR) 128	All-way stop	21.4	C	34.3	D
10	Calistoga Road / State Route (SR) 12	Signal	41.1 27.1	DC	36.8 23.2	DC

Source: TJKM Transportation Consultants

- Notes:
- 1) LOS=Level of Service, Delay = Average control delay per vehicle
 - 2) Signalized and four-way stop controlled intersections – Delay / LOS is for overall intersection
 - 3) Unsignalized one- and two-way stop controlled intersections – Delay / LOS is for critical minor stop-controlled approach.
 - 4) **Bold** indicates LOS exceeds applicable jurisdictional standards for operating conditions.

5. **Page 4.4-18** (see Comment and Response 2-1)

The following changes are made to Table 4.4-6:

**Table 4.4-6
Intersection Levels of Service: Existing plus Project Conditions**

ID	Intersection	Control	Existing Conditions				Existing Plus Project Conditions			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	River Rd.-Mark West Springs Rd. / U.S. 101 Southbound Ramps	One-way stop	61.8	F	32.5	D	66.0	F	35.0	D
2	River Rd.-Mark West Springs Rd. / U.S. 101 Northbound Ramps	Signal	<u>8.0</u> 19.3	<u>A</u> B	<u>11.8</u> 21.0	<u>B</u> C	<u>8.0</u> 19.5	<u>A</u> B	<u>13.3</u> 20.8	<u>B</u> C
3	Mark West Springs Rd. / Old Redwood Highway	Signal	36.6	D	33.9	C	36.7	D	34.0	C
4	Mark West Springs Rd. / Ursuline Rd.	Signal	17.9	B	19.7	B	17.5	B	19.7	B
5	Mark West Springs Rd. / Riebli Rd.	One-way stop	29.4	D	22.0	C	32.6	D	23.4	C
6	Mark West Springs Rd. / Franz Valley Rd. / Porter Creek Rd.	One-way stop	11.8	B	9.6	A	12.0	B	9.7	A
7	Porter Creek Rd. / Quarry Driveway	One-way stop	13.4	B	14.2	B	14.8	B	18.3	C
8	Porter Creek Rd. / Calistoga Rd. / Petrified Forest Rd.	All-way stop	13.4	B	27.4	D	13.7	B	27.9	D
9	Petrified Forest Rd. / State Route (SR) 128	All-way stop	21.4	C	34.3	D	22.3	C	34.9	D
10	Calistoga Rd. / State Route (SR) 12	Signal	<u>27.1</u> 41.4	<u>C</u> D	<u>23.2</u> 36.8	<u>C</u> D	<u>27.2</u> 41.2	<u>C</u> D	<u>23.2</u> 36.8	<u>C</u> D

Source: TJKM Transportation Consultants

- Notes: 1) LOS=Level of Service, Delay = Average control delay per vehicle
 2) Signalized and four-way stop controlled intersections – Delay / LOS is for overall intersection
 3) Unsignalized one- and two-way stop controlled intersections – Delay / LOS is for critical minor stop-controlled approach.
 4) **Bold** indicates LOS exceeds applicable jurisdictional standards for operating conditions.

6. **Page 4.4-21** (see Comment and Response 2-1)

The following changes are made to Table 4.4-7:

**Table 4.4-7
Intersection Levels of Service – Near Term (2015) Background Conditions**

<i>ID</i>	<i>Intersection</i>	<i>Control</i>	<i>Near Term (2015) Background Conditions</i>			
			<i>A.M. Peak Hour</i>		<i>P.M. Peak Hour</i>	
			<i>Delay</i>	<i>LOS</i>	<i>Delay</i>	<i>LOS</i>
1	River Road-Mark West Springs Road / U.S. 101 Southbound Ramps	Signal	8.5	A	8.1	A
2	River Road-Mark West Springs Road / U.S. 101 Northbound Ramps	Signal	19.3 8.2	B A	21.9 12	C B
3	Mark West Springs Road / Old Redwood Highway	Signal	36.6	D	34.7	C
4	Mark West Springs Road / Ursuline Road	Signal	16.8	B	18.7	B
5	Mark West Springs Road / Riebli Road	One-way stop	29.0	D	28.3	D
6	Mark West Springs Road / Franz Valley Road / Porter Creek Road	One-way stop	12.1	B	9.6	A
7	Porter Creek Road / Quarry Driveway	One-way stop	13.9	B	14.6	B
8	Porter Creek Road / Calistoga Road / Petrified Forest Road	All -way stop	14.5	B	31.5	D
9	Petrified Forest Road / State Route (SR) 128	All-way stop	24.3	C	36.3	E
10	Calistoga Road / State Route (SR) 12	Signal	42.1 28.5	D C	37.1 23.6	D C

Source: TJKM Transportation Consultants

7. **Page 4.4-22** (see Comment and Response 2-1)

The following changes are made to Table 4.4-8:

**Table 4.4-8
Intersection Levels of Service – 2015 Background Plus Project Conditions**

ID	Intersection	Control	Near Term (2015) Background Conditions				2015 Plus Project Conditions			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	River Rd.-Mark West Springs Rd. / U.S. 101 Southbound Ramps	Signal	8.5	A	8.1	A	8.7	A	8.3	A
2	River Rd.-Mark West Springs Rd. / U.S. 101 Northbound Ramps	Signal	8.2 19.3	A B	12.0 24.9	B E	8.2 19.0	A B	12.0 21.7	B E
3	Mark West Springs Rd. / Old Redwood Highway	Signal	36.6	D	34.7	C	37.0	D	36.3	D
4	Mark West Springs Rd. / Ursuline Rd.	Signal	16.8	B	18.7	B	16.4	B	18.9	B
5	Mark West Springs Rd. / Riebli Rd.	One-way stop	29.0	D	28.3	D	33.8	D	30.7	D
6	Mark West Springs Rd. / Franz Valley Rd. / Porter Creek Rd.	One-way stop	12.1	B	9.6	A	12.3	B	9.7	A
7	Porter Creek Rd. / Quarry Driveway	One-way stop	13.9	B	14.6	B	16.4	C	19.2	C
8	Porter Creek Rd. / Calistoga Rd. / Petrified Forest Rd.	All -way stop	14.5	B	31.5	D	15.1	C	33.1	D
9	Petrified Forest Rd. / State Route (SR) 128	All-way stop	24.3	C	36.3	E	26.1	D	37.4	E
		Signal	17.0	B	29.4	C	17.4	B	29.8	D
10	Calistoga Rd. / State Route (SR) 12	Signal	28.5 42.4	C D	23.6 37.4	C D	28.6 42.4	C D	23.5 37.4	C D

Source: TJKM Transportation Consultants

Notes: 1) LOS=Level of Service, Delay = Average control delay per vehicle

2) Signalized and four-way stop controlled intersections – Delay / LOS is for overall intersection

3) Unsignalized one- and two-way stop controlled intersections – Delay / LOS is for critical minor stop-controlled approach.

4) **Bold** indicates LOS exceeds applicable jurisdictional standards for operating conditions.

5) LOS E at Petrified Forest Road / SR 128 exceeds local jurisdictional operational standards, but is a less-than-significant impact based on applicable significance criteria.

8. **Page 4.4-27** (see Comment and Response 8-6)

“Fair shares were calculated according to the Caltrans Guide to Traffic Impact Studies. Fair shares are based on the proportion of expected added project traffic to overall future traffic increases. The estimated fair shares that the applicant would be required to pay for the above improvements under ~~2015~~ 2035 plus Project Conditions are the following:

1. Segment 1: ~~54~~ 20 percent
2. Segment 2: ~~65~~ 26 percent
3. Segment 3: ~~64~~ 27 percent

~~The project's fair share percentages are high because the project would be the main contributor to new traffic on these roads by 2015. It is very unlikely that these roadway~~

improvements would be constructed by 2015. Every year that passes before the improvements are planned and funded, the applicant's fair share would decrease (due to project-generated traffic remaining constant while the other new traffic from other development on the roads would increase, so the project's percentage of the total new traffic would decrease)."

9. **Page 4.4-32** (see Comment and Response 2-1)

The following changes are made to Table 4.4-13:

**Table 4.4-13
Intersection Levels of Service – Long-term (2035) Background Conditions**

ID	Intersection	Control	Long-term (2035) Background Conditions			
			A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS
1	River Road-Mark West Springs Road / U.S. 101 Southbound Ramps	Signal	9.4	A	9.6	A
2	River Road-Mark West Springs Road / U.S. 101 Northbound Ramps	Signal	9.7 48.8	<u>A</u> <u>B</u>	13.1 26.2	<u>B</u> <u>C</u>
3	Mark West Springs Road / Old Redwood Highway	Signal	42.4	D	37.7	D
4	Mark West Springs Road / Ursuline Road	Signal	46.8	D	15.4	B
5	Mark West Springs Road / Riebli Road	One-way stop	77.7	F	177.3	F
6	Mark West Springs Road / Franz Valley Road / Porter Creek Road	One-way stop	13.5	B	9.8	A
7	Porter Creek Road / Quarry Driveway	One-way stop	15.8	C	16.6	C
8	Porter Creek Road / Calistoga Road / Petrified Forest Road	All -way stop	24.2	C	56.3	F
9	Petrified Forest Road / State Route (SR) 128	All-way stop	59.1	F	59.1	F
10	Calistoga Road / State Route (SR) 12	Signal	51.0 51.7	D	24.8 38.6	<u>C</u> <u>D</u>

Source: TJKM Transportation Consultants

- Notes:
- 1) LOS=Level of Service, Delay = Average control delay per vehicle
 - 2) Signalized and four-way stop controlled intersections – Delay / LOS is for overall intersection
 - 3) Unsignalized one- and two-way stop controlled intersections – Delay / LOS is for critical minor stop-controlled approach.
 - 4) **Bold** indicates LOS exceeds applicable jurisdictional standards for operating conditions.

10. **Page 4.4-34** (see Comment and Response 2-1)

The following changes are made to Table 4.4-14:

**Table 4.4-14
Intersection Levels of Service – 2035 Background Plus Project Conditions**

ID	Intersection	Control	2035 Background Conditions				2035 Plus Project Conditions			
			A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	River Road-Mark West Springs Road / U.S. 101 Southbound Ramps	Signal	9.4	A	9.6	A	9.7	A	9.7	A
2	River Road-Mark West Springs Road / U.S. 101 Northbound Ramps	Signal	<u>9.7</u> 18.8	<u>A</u> B	<u>13.1</u> 26.2	<u>B</u> C	<u>9.8</u> 19.3	<u>A</u> C	<u>13.1</u> 26.5	<u>B</u> C
3	Mark West Springs Road / Old Redwood Highway	Signal	42.4	D	37.7	D	43.5	D	38.1	D
4	Mark West Springs Road / Ursuline Road	Signal	46.8	D	15.4	B	53.1	D	15.5	B
5	Mark West Springs Road / Riebli Road	One-way stop	77.7	F	177.3	F	99.7	F	198.8	F
	Mitigation: Install Signal		-	-	-	-	7.6	A	8.9	A
6	Mark West Springs Road / Franz Valley Road / Porter Creek Road	One-way stop	13.5	B	9.8	A	13.9	B	9.9	A
7	Porter Creek Road / Quarry Driveway	One-way stop	15.8	C	16.6	C	19.5	B	23.9	C
8	Porter Creek Road / Calistoga Road / Petrified Forest Road	All-way stop	24.2	C	56.3	F	26.4	C	58.7	F
9	Petrified Forest Road / State Route (SR) 128	All-way stop	59.1	F	59.1	F	62.4	F	60.8	F
		Signal	19.7	B	35.6	C	20.4	D	36.3	D
10	Calistoga Road / State Route (SR) 12	Signal	<u>51.0</u> 54.7	D	<u>24.8</u> 38.6	<u>C</u> D	<u>50.9</u> 52.0	<u>D</u>	<u>24.8</u> 38.6	<u>C</u> D

Source: TJKM Transportation Consultants

- Notes: 1) LOS=Level of Service, Delay = Average control delay per vehicle
 2) Signalized and four-way stop controlled intersections – Delay / LOS is for overall intersection
 3) Unsignalized one- and two-way stop controlled intersections – Delay / LOS is for critical minor stop-controlled approach.
 4) **Bold** indicates LOS exceeds applicable jurisdictional standards for operating conditions.

11. **Page 4.6-18** (see Comment and Response 9-1)

The following shall be added after the end of the second paragraph under the heading “Greenhouse Gas Emissions and Climate Change.”²

² Data taken from *Stanford University Draft Community Plan and General Use Permit Application Final EIR*, Parsons, 2000. This EIR provides a good overview of the range of impacts that may be caused by climate change. The EIR is available at:
http://www.sccgov.org/sites/planning/PlansPrograms/Stanford/Documents/Stanford_CP-GUP_FEIR_V1.pdf

“It is widely recognized that anthropogenic emissions of greenhouse gases and aerosols are contributing to changes in the global climate, and that such changes are having and will have adverse effects on the present, and future actions worldwide. The major changes are summarized below.

Sea Level Rise and Flooding. The California Climate Change Center predicts that sea level in California would rise between 10.9 to 71.6 centimeters (cm) (0.36 to 2.3 feet) above existing mean sea level (MSL) by 2099 as a result of climate change.

Rainfall. In the future, precipitation events are predicted to vary in terms of timing, intensity, and volume according to many climate change models. Extreme storm events may occur with greater frequency. The effect on peak runoff is not known because most climate change models have not used a temporal (or spatial) scale necessary to identify effects on peak flows, and existing precipitation/runoff models for assessing the effects of climate change do not yet adequately predict rainfall/runoff scenarios. Changes in rainfall and runoff could affect flows in surface water bodies, causing increased flooding and runoff to the storm drain system.

Snowfall. Most of the scientific models addressing climate change show that the primary effect on California’s climate would be a reduced snow pack and a shift in stream-flow seasonality. A higher percentage of the winter precipitation in the mountains would likely fall as rain rather than as snow in some locations, reducing the overall snowpack. Further, as temperatures rise, snowmelt is expected to occur earlier in the year. As a result, peak runoff would likely come a month or so earlier. The end result of this would be that the State may not have sufficient surface storage to capture the resulting early runoff, be lost to the oceans, rather than be available for use in the State’s water delivery systems.

Water Quality. Climate change could have adverse effects on water quality, which would in turn affect the beneficial uses (habitat, water supply, etc.) of surface water bodies and groundwater. The changes in precipitation discussed above could result in increased sedimentation, higher concentration of pollutants, higher dissolved oxygen levels, increased temperatures, and an increase in the amount of runoff constituents reaching surface water bodies.

Ecosystems and Biodiversity. Climate change is expected to have effects on diverse types of ecosystems, from alpine to deep sea habitat. As temperatures and precipitation change, seasonal shifts in vegetation will occur; this could affect the distribution of associated flora and fauna species. As the range of species shifts, habitat fragmentation could occur, with acute impacts on the distribution of certain sensitive species. Shifts in existing biomes could also make ecosystems vulnerable to invasive species encroachment. Wildfires, which are an important control mechanism in many ecosystems, may become more severe and more frequent, making it difficult for native plant species to repeatedly re-germinate. In general terms, climate change is expected to put a number of stressors on ecosystems, with potentially catastrophic effects on biodiversity.

Human Health Impacts. Climate change may increase the risk of vector-borne infectious diseases, particularly those found in tropical areas and spread by insects—malaria, dengue fever, yellow fever, and encephalitis. Cholera, which is associated with algal blooms, could also increase. While these health impacts would largely affect tropical areas

in other parts of the world, effects would also be felt in California. Warming of the atmosphere would be expected to increase smog and particulate pollution, which could adversely affect individuals with heart and respiratory problems, such as asthma. Extreme heat events would also be expected to occur with more frequency, and could adversely affect the elderly, children, and the homeless. Finally, the water supply impacts and seasonal temperature variations expected as a result of climate change could affect the viability of existing agricultural operations, making the food supply more vulnerable.”

12. **Page 4.10-8** (see Comment and Response 5-1)

“A portion of the site contains Sonoma Volcanics, which ~~again~~ is a rock type that does not include fossils. For example, fossils have been found in this rock type at the Petrified Forest located to the east of the site. In addition, it is unlikely this volcanic material would be mined as part of the proposed project as it lies north of the proposed expansion area.”

TABLE 2-1- IMPACT AND MITIGATION SUMMARY

IMPACTS		SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
4.1	Geology and Soils			
4.1-A	In the event of a major earthquake in the region, seismic ground shaking could result in injury to mine personnel, increase the potential for slope instability, and cause damage to equipment and structures.	PS	4.1-A.1 Following discernible seismic shaking at the quarry project, a visual inspection shall be made by experienced, onsite mining personnel of all quarry slopes and slopes above Porter Creek Road. The intent shall be to identify any failure or incipient failures that require correction for safety or ongoing mining. In the event of failures causing substantial damage, or an identified incipient failure that could cause such damage, a Certified Engineering Geologist and/or licensed Geotechnical Engineer shall be immediately retained to characterize the failure(s) and recommend repair procedures. All slope repairs within the active mining area posing a risk to workers shall be completed prior to resuming routine mining activities in the affected area. All slopes above Porter Creek Road posing a risk to road traffic shall be immediately protected or stabilized prior to reopening the road to traffic.	LTS
4.1-B	Mining practices could cause slope failure, landsliding, or rockfalls that could injure on-site workers and travelers on Porter Creek Road.	PS	<p>4.1-B.1 Mining slopes will be graded to meet the following guidelines:</p> <ol style="list-style-type: none"> 1. In order to reduce the damage created by rock failures, benching is required on active mining slopes over 60 vertical feet in height. 2. The width of the benches shall be no less than half the height of the slope face that is directly above it. 3. Inter-bench mining cuts shall have an average steepness of no more than 0.25 to 0.5:1 (horizontal to vertical) and generally be kept to 60 feet in height or less, and 90-foot cuts shall only be excavated if the rock appears highly stable and shows no signs of failure, such as incipient wedge failures, substantial raveling or sloughing. 4. Overburden at the top of working slopes consisting of soil and severely weathered rock shall be sloped no steeper than 2:1. 5. Minimum 10-foot wide benches shall be constructed every 30 vertical feet or at the middle of the soil/overburden slopes, whichever is less. <p>4.1-B.2 For the first five years of production, the applicant shall be responsible for annual monitoring and assessment of the mining production slope stability. After 5 years, the monitoring will be done every 3 years; after 10 years the monitoring interval will be extended to every 5 years. This work will be done by a qualified engineering geologist. The geologist shall prepare a written report describing the results of the monitoring and any related subsurface investigations, and will specifically note any observed changes in the properties of newly exposed rock that might indicate that large, or otherwise damaging slope failures could occur. In the event that such changes in rock properties are</p>	LTS

			<p>observed, the geologist will make recommendations for revisions to the Final Grading Plan that may be required to improve slope stability and protect adjacent properties. The geologist's report will be submitted to the Sonoma County Permit and Resource Management Department by June 30th of each year. If the geologist recommends changes to the Final Grading Plan in any area of the quarry, the quarry operator will revise that plan and submit it to the County. Once the County has approved the changes, the Reclamation Plan will be also be revised accordingly. This must be done prior to making further excavations in the area requiring grading.</p> <p>4.1-B.3 Before production slopes are developed in the quarry expansion area, the large landslide above the quarry driveway (the "Potential Rockfall" on Figure 4.1-2) shall be removed or stabilized. An engineering geologist shall confirm that subsequent mining would not cause additional sliding or rockfall off the site that cannot be contained by the proposed rockfall barrier system.</p> <p>4.1-B.4 Prior to the initiation of mining on the slopes above Porter Creek Road, the applicant shall develop a blasting program to reduce blasting vibrations on these slopes. This will be done to minimize the potential for blasting-triggered instability above the road. This shall include retaining a blasting engineer to assist in selecting, calibrating, and installing a vibration monitoring system. The purpose of the system would be to determine if recommended vibration limits are being exceeded on the slopes and, if necessary, to reduce them to acceptable levels through modification of blasting practices.</p> <p>4.1-B.5 The applicant shall prepare a final design for the rockfall barrier system. The final design and supporting geotechnical data shall be submitted to the County for review. The applicant shall pay for any technical review required by the County. The final design shall include the following:</p> <ol style="list-style-type: none"> 1. The barrier system will be designed to capture rocks that could be dislodged from Landslide A on Figure 4.1-2 as well as from all other sources above Porter Creek Road on the project site. 2. The barrier shall capture rocks of a size that currently exist on the slopes as well as rocks that could be expected (as predicted by an engineering geologist) to be exposed or dislodged given future blasting, seismic ground shaking, and mining activities. 3. The height of the barriers shall be sufficient to accommodate the predicted bounce height of dislodged rocks. 4. Details specifying when and how to shift the upper temporary 	
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			<p>removable fence downslope, remove debris, and maintain the fence, shall be included.</p> <p>5. No road or trail shall be constructed on the slopes above Porter Creek Road to install the rockfall barriers.</p> <p>4.1-B.6 During the duration of mining the slope above Porter Creek Road, visual inspections shall be made at least once a month by mining personnel to confirm the slopes and slope protection facilities are performing satisfactorily. Any necessary slope maintenance or repairs shall be promptly completed.</p> <p>4.1-B.7 The temporary fence will be removed once mining of the section of slope being protected ends.</p> <p>4.1-B.8 The final highwall slopes shall be developed to include the following measures:</p> <ol style="list-style-type: none"> 1. Final reclaimed cuts in rock slopes shall average no steeper than 1.5:1 from the toe of the overall highwall cut to the top. 2. Fifteen-foot wide drainage/catchment benches shall be constructed every 30 vertical feet and intervening cut slopes shall have a maximum inclination of 1:1. 3. Benches shall be cut to dip into the slope at an angle of no less than 2%. 4. If a zone of weathered rock (overburden) or soil remains at the top of the highwall cut, it shall be sloped no steeper than 2:1. 5. At least 10-foot wide benches shall be constructed every 30 vertical feet or at the middle of the weathered rock zone, whichever is less. 6. A permanent earthen berm (compacted to a minimum of 85% relative compaction) or rock containment fence shall be installed along the outside perimeter of the wide bench that will be constructed beyond the base of the completed highwall. 7. The top of the throughcut backslope facing the base of the completed highwall shall be rounded off to prevent a sharp edge that will be susceptible to accelerated erosion or rock fall. 8. Prior to construction of the final highwall, a Certified Engineering Geologist or licensed Geotechnical Engineer and a blasting engineer shall review the geologic conditions exposed at that time and develop a blasting program appropriate for the construction of the finished highwall slopes. 9. Once final highwall construction starts, the project applicant shall annually survey the highwall benches and maintain them free of loose rock and debris and maintain interbench 	
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			<p>drainage ditches and culverts in good operating order. This shall be done prior to the onset of the rainy season and following intense rainfall events (3 inches or more in 24-hour period). The engineering geologist conducting monitoring of slopes will determine if the frequency of inspections and maintenance by mine personnel is adequate, will identify incipient failures that require repair, and develop recommendations for their repair. Recommended repairs shall be made, documented, and submitted to County PRMD.</p> <p>10. Any portions of the final highwall or the proposed location of Detention Basin A that are found to include unstable/compressible landslide material shall be corrected by either removing the debris and/or stabilizing the wall and ground beneath the basin. Stabilization can include one of several geotechnically acceptable methods, and depending on conditions encountered, could include placement of rip rap, gabion structures, reinforced fills, or retaining walls. Additionally, surface runoff from the highwall or nearby areas shall be directed away from the surface of the slide. The monitoring engineering geologist and geotechnical engineer will determine whether additional measures are needed to ensure that the landslide is not reactivated. Alternatively the highwall corner and basin site can be shifted to the east to eliminate intrusion by the landslide.</p> <p>11. The final highwall shall be inspected on an annual basis for a period of 5 years after final reclamation by an engineering geologist. If more than two damaging failures occur within the five year inspection period, inspections shall be extended in increments of two years until the slopes are free of all but minor failures that constitute routine maintenance. Maintenance and repairs shall be done prior to the following rainy season. Documentation of monitoring and any maintenance/repair shall be submitted to County PRMD.</p> <p>4.1-B.9 All rock slopes to be capped with fill shall be developed to include the following measures:</p> <ol style="list-style-type: none"> 1. Fill will be placed on completed rock benches as described in Mitigation Measure 4.1-B.8 (subsections 1-4). 2. The slope ratio of the overall final fill slope shall be no steeper 2.4:1 (H:V). 3. Permanent interbench fill slopes shall be no steeper than 2:1 (H:V), as shown on Figure 8 of Miller Pacific 2003 report (part of the project application). 4. Minimum 10-foot wide benches shall be constructed no more than 30 vertical feet apart. 5. Keyways and subdrains for the fill shall be placed as shown on Figure 8, referenced above. 	
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			6. Once it has been determined what the maximum thickness will be of the fill to be placed on constructed rock slopes of the highwall, the project applicant shall retain a geotechnical engineer to provide additional design-level mitigations to insure fill performance. One of the most important of these will be the degree of compaction required for long term stability of the high (300 feet) filled slopes. Other design guidelines to be developed by the geotechnical engineer include guidelines for the placement of fill keyways and installation of subdrains and their outlets.	
4.1-C	If the deep backfill to be placed at the base of the completed highwall is not properly engineered, settlement/differential settlement of the fill beneath the large siltation ponds and any piping connecting them could occur. This could damage the ponds and piping and compromise their intended performance.	PS	4.1-C.1 The applicant shall have a Final Grading Plan for the final reclamation phase prepared by geotechnical and civil engineers. That plan shall include the following requirements regarding fill operations. The final plan shall be submitted to County PRMD for review and comment prior to implementation. <ol style="list-style-type: none"> 1. Fill with a plasticity index (PI) of less than 30 (non-expansive) may be placed at slopes no steeper than 3:1. 2. Fill with a PI of greater than 30 (moderately to highly expansive) may be placed at slopes no steeper than 4:1. 3. All quarry floor fills shall be moisture conditioned to near optimum and track-walked in lifts to provide initial compaction that will decrease the erosion potential. 4. Any fills that are steeper than described in requirements 1 and 2, above, shall be constructed based on the recommendations for final reclaimed fill slopes presented above. 5. Where catchment dams, ponds, subdrains, or other structures used for drainage or water retention are either buried in or rest on top of reclaimed fill on the quarry floor, the compaction of the fill under and around these structures shall be designed to minimize the settlement of the fill to limit damage or decreased performance over the long term. 6. Gravity flow storm drains, open channels, or other improvements with minimal slopes toward outfalls shall be designed to accommodate settlement of loosely compacted fill. 	LTS
4.1-D	Removal of overburden from the Overburden Stockpile Area could result in slope failure and exposure of the subdrain system.	PS	4.1-D.1 Overburden that was placed in the Overburden Storage Area prior to the initiation of project operations shall not be removed until a geotechnical engineer and a hydrologic engineer prepare a removal plan that identifies what and how materials should be removed to maintain slope stability and control erosion. This plan shall be submitted to the County for review and approval. At final reclamation, any remaining fill will be assessed by a geotechnical engineer to determine what, if any, additional treatment is required to maintain slope stability and erosion control per the requirements of the Reclamation Plan.	LTS

4.2	Hydrology and Water Quality			
4.2-A	<p>Quarry expansion, removal of overburden material, and subsequent exposure of bedrock would increase the amount of storm water runoff leaving the site and increase peak flows in Porter Creek. The additional flows caused by the project could lead to downstream flooding, bank erosion, and channel instability in Porter Creek.</p>	PS	<p>4.2-A.1 The applicant shall prepare, for the review and approval by the Sonoma County Permit and Resource Management Department, a final Stormwater/Water Quality Protection Program (including appropriate hydrologic and hydraulic calculations). The plan and calculations shall include sizing for all sediment retention/storm water detention facilities (see Mitigation Measure 4.2-B.4) and shall verify the available capacity of existing conveyance facilities (culverts) exiting the project site. The storm water plan and calculations shall ensure that peak storm water flows are managed to the extent that flows entering the existing culverts crossing under Porter Creek Road do not exceed pre-project peak flow estimates for the 10-, 25-, 50, and 100-year flows. Alternative detention strategies could include additional detention basins, expanded use of the quarry floor for detention, or expanded use of infiltration areas for percolation and storage. The drainage plan and accompanying design calculations shall be prepared by a Registered Civil Engineer and in conformance with the Sonoma County Water Agency's Flood Control Design Criteria. The plan shall be approved and detention facilities constructed prior to the onset of mining the expansion area.</p> <p>4.2-A.2 All on-site drainage facilities shall be constructed according to Sonoma County Water Agency's Flood Control Design Criteria and the County of Sonoma Permit and Resource Management Department standards and requirements, and shall be operated in accordance with the prepared drainage plan.</p> <p>4.2-A.3 All detention basins and other drainage features shall be maintained (e.g., accumulated sediment shall be removed) pursuant to the standards stated in the approved sediment/erosion control and drainage plan. The sediments shall be stockpiled for use as topsoil in the reclamation process. All detention basins and drainage features shall be cleaned out by October 15 each year. If upon inspection by the County or RWQCB, the basins and drainage system have not been adequately maintained by October 15, the owner of the quarry would be notified that the maintenance must be completed within 30 days or all crushing, screen, grading, and sales of material on site shall immediately cease until the basins and drainage system have been sufficiently maintained.</p> <p>4.2-A.4 All detention basins and other drainage features shall be monitored and maintained for 5 years after completion of site reclamation. At the end of this 5-year period, the applicant shall engage a qualified civil engineer to determine whether the site drainage system can operate without further maintenance. If further maintenance is warranted, it will be done. A new review</p>	LTS

			will be done each year until the engineer determines that the system is self-sustaining for a period of an additional 5 years.	
4.2-B	During quarry expansion and active mining, disturbed and unprotected soil and overburden could erode from contact with wind and water causing an increased amount of sediment and other pollutants to be carried downstream through the proposed drainage system. This could degrade water quality in Porter Creek, Mark West Creek, and the Russian River.	PS	<p>4.2-B.1 The applicant shall develop and implement a final Stormwater/Water Quality Protection Program (the Program) to control sediment and pollutant runoff from the quarry expansion for both interim mining operations and after final reclamation. All erosion control measures listed in the proposed Reclamation Plan shall become conditions of approval for the project. In addition, the following measures are required:</p> <ol style="list-style-type: none"> 1. All structural elements and drainage features shall be designed and approved by a professional civil engineer experienced in storm water management and sediment control. The design shall meet the standards of the Sonoma County SMARO. All hydrologic and engineering calculations, including sediment retention pond trap efficiency, shall be submitted to the County for review and approval prior to commencement of quarry expansion activities. 2. The existing 2001 Storm Water Pollution Prevention Plan (SWPPP) shall be updated to include the proposed quarry expansion. The SWPPP shall be regularly updated to reflect current conditions at the quarry. The following recommendations supplement the proposed actions: 3. The applicant shall update the Spill Prevention Control and Countermeasures Plan (SPCCP), which identifies and evaluates sources of pollutants associated with industrial activities at the quarry including the use, storage, and quantity of potential contaminants. The SPCCP shall also include emergency response and notification procedures. 4. As specified by SMARA, sediment retention ponds will be reconstructed or, if needed, new ones constructed so that particles of medium silt (0.32 mm) will be settled out for no less than the 20-year, 1-hour rainfall event before runoff leaves the site. Flocculents and/or filters can be used to enhance the settling process in order to meet this standard. Sediment retention design shall include emergency spillways sized to accommodate larger less frequent storm events (25-, 50-, and 100-year) and concomitant overtopping. Prior to each construction season (May 1), the applicant shall quantify the total proposed drainage area contributing to each sediment retention pond at the beginning of the next winter season (October 15) and verify the ponds provide adequate residence time and design capacity to meet both water quality and flow detention goals. All design and annual pond sizing verification shall be completed by a professional civil engineer 	LTS

			<p>experienced in sediment detention basin design and the regulations of SMARA. All hydrologic and engineering calculations, including sediment trap efficiency, shall be submitted to the County for review and approval prior to any additional quarry expansion.</p> <ol style="list-style-type: none"> 5. If any semi-annual monitoring indicates that the mining of that year exceeded the water quality performance criteria, the applicant shall confer with the Regional Board and propose changes to the sediment control program that will improve its performance sufficiently to meet the performance criteria of the Reclamation Plan and the general permit. The proposed changes shall be submitted to the Regional Board for comment, revised as needed to address their comments, and then implemented by the applicant. If the performance criteria are not met for two consecutive years, the County will confer with the applicant and the Regional Board to determine what additional changes in the sediment control plan are needed to result in compliance, and these changes shall be made until compliance is reached. 6. Chemical dust suppressants and sediment detention basin enhancement chemicals or polymers shall be used strictly according to the manufacturer's specifications as well as any additional restrictions required by the RWQCB. An accurate accounting of all these materials purchased and used on the site shall be maintained, including kinds and quantities of material. 7. The Basin Plan allows storm water from a project site to increase turbidity in a receiving stream by no more than 20%. However in the case of this project, because of the sensitivity of Porter Creek, the storm water from the project would not be allowed to increase turbidity any more than the runoff from the existing quarry does for an overall no net increase as a result of quarry expansion. The RWQCB shall review the water quality monitoring data and determine the turbidity baseline to be used in the final Stormwater/Water Quality Protection Program. 8. The applicant shall monitor all storms that generate discharge from the active mining portion and overburden stockpiling area of the project site to Porter Creek. However, as a practical measure, it shall not be required that monitoring events occur more frequently than once every two weeks or pursuant to the criteria developed by the RWQCB. The discharge end of each outfall shall be made easily accessible for inspection and water sampling during storm events by the 	
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			applicant.	
4.2-C	Quarry expansion may result in reduced summer baseflow to salmonid streams (Franz Creek and Porter Creek Tributary).	LTS	No mitigation is required.	LTS
4.2-D	The proposed mine expansion would require additional groundwater pumping. The increased pumping of onsite wells could reduce recharge to the underlying bedrock aquifers and lead to long-term reduction in groundwater availability.	LTS	No mitigation is required.	LTS
4.2-E	The proposed project would increase pumping rates in the four onsite supply wells. The increased use of onsite wells could periodically lower groundwater levels in adjacent domestic wells and potentially lower productive capacity.	LTS	No mitigation is required.	LTS
4.2-F	The proposed mining expansion would reduce the contributing area and potential groundwater recharge to the domestic supply well located below Sub-basin A.	PS	4.2-F.1 With the permission of the property owner, the applicant shall monitor the domestic water supply well located on Assessor's Parcel 120-021-032 for significant changes due to quarry expansion and regrading of recharge areas. Monitoring shall include quarterly observations of groundwater levels in the well and shall commence before quarry expansion. Well monitoring shall continue through the length of the project. If it is determined that well levels have deviated statistically from the baseline condition at any time during the expansion and reclamation of the quarry (accounting for rainfall totals), or within five-years following the completion of the expansion and reclamation, and the owner of the property requests, the applicant shall be financially responsible for providing a reliable supply of water to the impacted property, which may include deepening of the existing well and/or drilling a new well.	LTS
4.3	Biological Resources			
4.3-A	Future mining of the project site would displace a population of Jepson's linanthus.	PS	4.3-A-1 Prior to ground-disturbing activities in any part of the expansion area, and for several years in succession, conduct annual focused surveys until ground clearing removes all potential habitat to identify all localities of Jepson's linanthus within the project area. Each year that plants are found, collect voucher specimens, mark the locations in the field, and collect seed when mature. Donate voucher specimens to university herbaria and donate cleaned seed to research institutions with facilities for long-term storage. Details are provided below: a. A qualified botanist familiar with Jepson's linanthus and its habitat in Sonoma County shall conduct the focused surveys.. b. Each annual survey shall cover 100% of the California annual grassland found within the project area. c. For each locality of Jepson's linanthus that is found, the surveyor shall record the location with a Global Positioning System (GPS) unit; record habitat information (soil type, slope position, elevation, vegetation type, associated species, etc.), and phenology (vegetative, early flowering, etc.); collect herbarium-quality voucher specimens of Jepson's linanthus	LTS

			<p>and its associated species; mark the location in the field using a durable and visible marking system; and photograph Jepson's linanthus and its habitat.</p> <p>d. Voucher specimens shall be collected, dried, stored and distributed according to the requirements of the receiving institution.</p> <p>e. The surveyor shall make a return visit to each Jepson's linanthus locality during the time period when seeds are mature, and shall collect as much mature, dry seed as possible. Several visits each year may be needed. Seed shall be stored in paper envelopes labeled with the date, location and species name.</p> <p>f. Cleaned seed shall be donated to a university or other research institution located in California that has modern cold-storage or other state-of-the-art facilities for keeping plant seed in good condition over the long term. Any required storage fees shall be paid by the project applicant.</p> <p>g. Location and habitat information for all localities of Jepson's linanthus found during pre-ground-clearing surveys shall be provided to CNDDDB during the calendar year that the locality is found.</p> <p>h. Results of each annual survey shall be provided in memo format, and shall include a figure showing the location of all Jepson's linanthus localities found to date within the project site.</p>	
4.3-B	Project construction and grading activities within the proposed aggregate mining area could disturb active nests of special-status birds, as well as roosts of special-status bats.	PS	<p>4.3-B.1 Avoid disturbing active nests of raptors and other special-status birds through preconstruction surveys and creation of no-disturbance buffers during ground-clearing and grading activities associated with initiation of each mining phase. If site preparation activities are scheduled to occur during the general breeding season (February 1 through August 31), the following measures shall be implemented to avoid potential adverse effects to nesting raptors, other special-status birds, and bats:</p> <ol style="list-style-type: none"> 1. A qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat for raptors and other special-status birds within 300 <u>800</u> feet of construction activities where access is available. 2. If active nests of raptors or other special-status birds are found during preconstruction surveys, a no-disturbance buffer acceptable in size to CDFW shall be created around active raptor nests and nests of other special-status birds during the breeding season or until it is determined that all young have fledged. Buffers include 300 <u>800</u> feet for raptors and 75 feet for other nesting special-status birds. The size of these buffer zones and types of construction activities restricted in these areas may be further modified through coordination with 	LTS

			<p>CDFW and will be based on existing noise and human disturbance levels at each project site. Nests initiated during construction are presumed to be unaffected and no buffer is necessary. However, the “take” of any individual is prohibited.</p> <p>4.3-B.2 If evidence of special-status bats in trees on the property is observed by the wildlife biologist, the following measure is required. Removal of trees or other suitable habitat showing evidence of special-status bat activity will occur during the period least likely to impact the bats as determined by a qualified bat biologist (generally between February 15 and October 15 if winter hibernacula are observed or between August 15 and April 15 if maternity roosts are present). If known bat roosting habitat is destroyed during tree or other suitable habitat removal activities, artificial bat roosts shall be constructed in an undisturbed area of the property, at least 200 feet from any project activities. The design and location of the artificial bat roost(s) shall be determined by a qualified bat biologist.</p>	
4.3-C	Project construction and grading activities within the proposed aggregate mining area could injure or kill special-status species of frogs and turtles.	PS	<p>4.3-C.1 Prior to vegetation removal or grading on the expansion site, a survey of the site for California red-legged frog shall be conducted per the protocol established by the USFWS. If red-legged frogs are found, a work plan shall be developed addressing how to avoid impacts to this species. This plan shall be submitted to the USFWS and CDFW for review and comment.</p> <p>Until such time that protocol surveys can be completed in their entirety, it is assumed the California red-legged frog inhabits the Wetland A area. Therefore, to protect the potential habitat until such time as the protocol study has been done and, if frogs are present, a work plan has been submitted, a protective buffer and continuing seasonal restrictions will be implemented. A buffer area as shown on Figure 4.3-5 will be maintained and no vegetation or grading will occur there.</p> <p>Seasonal restrictions will be imposed during the winter period (November 15 – April 1). During this time period mining and excavation operations will not be conducted during extended rain events that produce overland flow. California red-legged frog dispersal typically occurs during these rainy periods and therefore, these seasonal restrictions of operations will provide another source of protection to any potentially occurring California red-legged frogs.</p> <p>4.3-C.2 The project shall not injure or destroy habitat used by foothill yellow-legged frogs (on Porter Creek near the confluences with Tributaries D and E), and/or northwestern pond turtle (at Wetland A on the project property and on the Less pond west of the project site). To accomplish this, a qualified biologist, capable of</p>	LTS

			<p>monitoring projects with potential habitat for these three species, shall conduct a pre-construction survey for these species no more than 14 days prior to grading or construction in suitable aquatic habitats within the project site, including stream crossings, drainage ditches, settling ponds, and culverts. The confluence of project site tributaries with Porter Creek shall also be surveyed for foothill yellow-legged frog and northwestern pond turtle to determine if the species is present near tributaries draining the site. If these species are found near any proposed construction areas, impacts on individuals and their habitat shall be avoided. In addition, if any species are found during pre-construction surveys, a work plan addressing how to avoid impacts to these species shall be submitted to USFWS and CDFW for approval prior to construction. If occupied habitat can be avoided, an exclusion zone shall be established around the habitat and temporary plastic exclusion fencing shall be installed around the buffer area with "Sensitive Habitat Area" signs posted and clearly visible on the outside of the fence. If avoidance is not possible and the species is determined to be present in work areas, a qualified biologist with appropriate permits from USFWS and CDFW may capture frogs and turtles prior to construction activities and relocate them to nearby, suitable habitat out of harm's way (e.g., downstream from the work area or as designated by the agency). Exclusion fencing shall then be installed to prevent these animals from re-entering the work area. For the duration of work in these areas the biologist shall conduct monthly follow-up visits to monitor effectiveness of the mitigations.</p>	
4.3-D	Project construction and grading activities could pollute downstream waterways and adversely affect special-status species of fish, amphibians, and turtles.	PS	Mitigation measures recommended for Impact 4.2-B also apply to this impact.	LTS
4.3-E	Future mining of the project site would remove waters of the U. S.	PS	<p>4.3-E.1 The project applicant shall prepare a formal wetland delineation in accordance with 1987 <i>Corps of Engineers Wetlands Delineation Manual</i> and have it verified by the U.S. Army Corps of Engineers (Corps). If the Corps and/or CDFW determine that the potentially affected water-associated feature is jurisdictional, then the applicant shall obtain appropriate wetland permits and implement all conditions contained in the Section 404 Clean Water Act permit (possibly a Nationwide permit) from the Corps, Section 1603 Streambed Alteration Agreement from CDFW, and/or Section 401 water quality certification from the Regional Water Quality Control Board.</p> <p>4.3-E.2 The applicant shall compensate for the loss of jurisdictional wetlands at a 2:1 ratio (or as agreed to by the permitting agencies) within the project site boundary, or at a 3:1 ratio (or as agreed to by the permitting agencies) off-site within the local watershed, by creating, restoring or enhancing waters of the U.S., contributing in-lieu funds to an existing or new restoration project</p>	LTS

			<p>preserved in perpetuity, or purchasing wetland creation credits at an approved wetland mitigation bank. The restoration effort shall require implementation of a five-year monitoring program with applicable performance standards (as agreed to by the permitting agencies), including but not limited to: 80 percent survival rate of restoration plantings; restoration species that are native to the local watershed; absence of invasive plant species; erosion features will be remediated; and a functioning, and self-sustainable wetland system will be maintained.</p> <p>4.3-E.3 Obtain a Streambed Alteration Agreement from CDFW pursuant to Section 1603 of the California Fish and Game Code for removing on-site ephemeral drainages. Mitigation measures designed to offset streambed-related impacts may include on-site creation of drainage habitats (unlikely) and/or enhancement of existing drainage habitats. Off-site mitigation may also be an option. Mitigations could include conducting stream and riparian enhancement projects identified by CDFW, Sotoyome Resource Conservation District, or Friends of the Mark West, as approved by CDFW. Mitigation measures will be finalized in coordination with the CDFW through the Streambed Alteration Agreement process.</p>	
4.3-F	Blasting activities associated with the proposed project could result in noise disturbance to special-status wildlife species.	LTS	No mitigation is required.	LTS
4.3-G	Proposed expansion activities would cause the loss of wildlife corridors through fragmentation of open space, loss of habitat such as mixed evergreen forest, and new fencing.	LTS	No mitigation is required.	LTS
4.3-H	Proposed expansion activities may constitute a would result in the loss of trees and conversion of timberland.	LTS	No mitigation beyond complying with existing laws and regulations is needed.	LTS
4.4	Traffic and Circulation			
4.4-A	Project-generated traffic would impact study intersections.	LTS	No mitigation is required.	LTS
4.4-B	Project-generated traffic will increase traffic delay at one study intersection in 2015.	LTS	No mitigation is required.	LTS
4.4-C	Project-generated traffic will affect intersection operations at the Porter Creek Road / Project Access Driveway intersection both for Existing Conditions and in 2015.	LTS	No mitigation is required	LTS
4.4-D	The project would add substantial truck traffic to certain primary haul roads that do not meet current County roadway design standards and/or contain limited sight distance.	<u>LTS-PS</u>	<p>4.4-D.1: The applicant shall pay its fair share to improve haul route roads to meet County road standards where such improvements are determined by the County to be feasible. The following roadway segments have minimal shoulders that currently do not meet County roadway standards and would require shoulder and/or lane widening to meet County standards on the Mark West Springs – Porter Creek Road haul corridor:</p> <ol style="list-style-type: none"> 1. An approximately one-mile segment of Mark West Springs Road between Riebli Road and Mark West Lodge; 	SU

			<p>2. A 1.6-mile Porter Creek Road segment between Mark West Lodge and Franz Valley Road; sand</p> <p>3. Approximately 2.9 of 3.2 miles of Porter Creek Road between Franz Valley Road and Petrified Forest Road.</p>	
4.4-E	The project would add substantial truck traffic to the Mark West Springs/Porter Creek Road primary haul road that is designated a proposed bikeway and is regularly used by bicyclists or pedestrians, and which do not meet current County roadway design standards.	PS	Mitigation Measure 4.4-D.1 also applies to this impact.	SU
4.4-F	The proposed project could contribute to the degradation of pavement on public roads.	LTS	No mitigation is required.	LTS
4.4-G	Project-generated traffic will cause unacceptable intersection operations at two study intersections in 2035.	PS	4.4-G.1 The applicant will pay its fair share to fund installation of a traffic signal at the Mark West Springs Road / Riebli Road intersection.	SU
4.4-H	Project-generated traffic will impact intersection operations at the Porter Creek Road / Project Access Driveway intersection in the Long-term Base (2035) Plus Project conditions.	LTS	No mitigation is required.	LTS
4.4-I	Project-generated traffic will increase the risk of collisions between haul trucks and other vehicles, pedestrians, and bicyclists, along the Mark West Springs/Porter Creek Road haul corridor under the Long-term (2035) plus Project Condition.	PS	Mitigation Measure 4.4-D.1 (Road widening to County standards) applies to this cumulative impact.	SU
4.4-J	Implementation of Mitigation Measure 4.4-D.1 on Mark West Springs Road and Porter Creek Road could result in short-term and/or long-term environmental impacts on geology and soils, hydrology and water quality, hazardous materials, biological resources, transportation and circulation, air quality, noise, aesthetics and cultural resources.	PS	<p>4.4-J.1 A design level geotechnical investigation shall be required to identify site specific geologic conditions and geotechnical constraints and develop adequate engineering design criteria and remedies to reduce the potential for slope instability from cutting and filling of adjacent slopes along the roadway alignments. Methods for reducing potential slope instability effects could include, but are not limited to, slope reconstruction, earth buttress construction, or retaining structures/walls. All recommendations identified by the licensed geotechnical engineer shall be included in the final design and be incorporated into the roadway widening project.</p> <p>4.4-J.2 As part of the grading and construction specifications for the roadway widening, implement best management practices (BMPs) to reduce or eliminate soil erosion during construction. The contractor shall implement these BMPs and be responsible for the inspection and maintenance of the BMPs during construction. These measures shall be incorporated into the Storm Water Pollution Prevention Plan (SWPPP) for the proposed roadway widening.</p> <p>4.4-J.3 Prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) before commencing with roadway widening construction. As part of this process, a Notice of Intent shall be filed with the State Water Resources Regional Control Board, in compliance with the statewide NPDES General Permit for Discharges of Stormwater Runoff Associated with Construction</p>	SU

			<p>Activity (General Construction Permit). The SWPPP shall specify Best Management Practices (BMPs) to control contamination of surface flows through measures to prevent the potential discharge of pollutants from the construction area. The BMPs shall be designed to minimize erosion of disturbed soil areas. BMPs could include, without limitation, silt fences, gravel or sand bags, stormdrain inlet protection, soil stockpile protection, preservation of existing vegetation where feasible, use of straw mulch, dust control, and other measures. The SWPPP will also include protection and spill prevention measures for any temporary onsite storage of hazardous materials used during construction.</p> <p>4.4-J.4 The proposed storm drain system for the roadway widening improvements shall be designed in accordance with all applicable County and Sonoma County Water Agency (SCWA) drainage and flood control design standards. The drainage plan for the roadway widening improvements shall ensure the proposed drainage facilities are properly sized to accommodate projected storm flows and prevent any potential project flooding on-site and in downstream areas.</p> <p>4.4-J.5 To mitigate the filling or excavating of potentially jurisdictional wetlands along the roadway widening alignments, the County shall:</p> <ol style="list-style-type: none"> 1. Conduct a formal wetland delineation in accordance with 1987 Corps of Engineers Wetlands Delineation Manual and have it verified by the U.S. Army Corps of Engineers (Corps). If the Corps and/or CDFW determine that the potentially affected water-associated features are jurisdictional, then the County shall obtain appropriate wetland permits and implement all conditions contained in the Section 404 Clean Water Act permit (possibly an Nationwide permit) from the Corps, Section 1603 Streambed Alteration Agreement from CDFW, and/or Section 401 water quality certification from the Regional Water Quality Control Board. 2. Compensate for the loss of jurisdictional wetlands at a 2:1 ratio (or as agreed to by the permitting agencies) within the project site boundary, or at a 3:1 ratio (or as agreed to by the permitting agencies) off-site within the local watershed, by creating, restoring or enhancing waters of the U.S., or contributing in-lieu funds to an existing or new restoration project preserved in perpetuity. The restoration effort shall require implementation of a five-year monitoring program with applicable performance standards, including but not limited to establishing: 80 percent survival rate of restoration plantings native to local watershed; absence of invasive plant species; absence of erosion features; and a functioning, and self-sustainable wetland system. 	
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			<p>administrator. The contractor shall notify the facility owner in advance of the timing, location, and duration of construction activities and the locations of detours and lane closures.</p> <ol style="list-style-type: none"> 6. The County shall require the contractor to provide for passage of emergency vehicles through the project site at all times. 7. The County shall require the contractor to maintain access to all parcels adjacent to the construction zone during construction. <p>4.4-J.9 The following dust control measures will be included in the project:</p> <ol style="list-style-type: none"> 1. Water or dust palliative shall be sprayed on unpaved construction and staging areas during construction as directed by the County. 2. Trucks hauling soil, sand and other loose materials over public roads shall cover the loads, or keep the loads at least two feet below the level of the sides of the container, or shall wet the load sufficiently to prevent dust emissions. 3. Paved roads shall be swept as needed to remove soil that has been carried onto them from the project site. 4. Water or other dust palliative shall be applied to stockpiles of soil as needed to control dust. <p>4.4-J.10 Roadway widening construction activities for this project shall be restricted as follows:</p> <ol style="list-style-type: none"> 1. All internal combustion engines used during construction of this project shall be operated with mufflers that meet the requirements of the State Resources Code, and, where applicable, the Vehicle Code. 2. Except for actions taken to prevent an emergency, or to deal with an existing emergency, all construction activities shall be restricted to the hours of 7:00 a.m. and 7:00 p.m. on weekdays and 9:00 a.m. and 7:00 p.m. on weekends and holidays. Only work that does not require motorized vehicles or power equipment shall be allowed on holidays. If work outside the times specified above becomes necessary, the resident engineer shall notify the PRMD Environmental Review Division as soon as practical. <p>4.4-J.11 Following roadway widening and creation of any cut slopes, the County shall require the contractor to provide landscape improvements. Native shrubs and trees shall be planted to create a landscape that recalls the native landscape of the region. Plants shall be selected that require the least maintenance, and create a sustainable landscape. If retaining walls are required as part of the roadway widening, the use of natural finishes shall be considered, if feasible. A maintenance program, including weeding and summer watering shall be followed until plants have become established (minimum of three years).</p>	
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			<p>4.4-J.12 If archaeological materials are discovered during project construction, construction shall cease in the immediate vicinity of the find until a qualified archaeologist is consulted to determine the significance of the find, and has recommended appropriate measures to protect the resource. Further disturbance of the resource will not be allowed until those recommendations deemed appropriate by the County have been implemented.</p> <p>4.4-J.13 If paleontological resources or unique geologic features are discovered during project construction, construction shall cease in the immediate vicinity of the find until a qualified paleontologist or geologist is consulted to determine the significance of the find and has recommended appropriate measures to protect the resource.</p>	
4.5	Noise			
4.5-A	Noise from on-site operations of the proposed project would affect three noise sensitive receiving locations (residences) in the vicinity of the project.	PS	4.5-A.1 If overburden is removed in areas that have a clear path to the two residences to the west of the quarry (Residences R1 and R2 on Figure 4.5-5) for longer than a single construction period (an 8-month period), the applicant shall shield the mobile equipment from the two residences. This can be accomplished by removing overburden starting in the east and retaining a slope between the mobile equipment and the residences to the west. The detailed mining plan required by Mitigation Measure 4.1-D.1 shall delineate the methodology that will be used to maintain a topographical barrier between operating mobile equipment in the overburden area and the receptors to the west.	LTS
4.5-B	Project traffic would increase noise levels at noise sensitive receptors along roadways that carry quarry traffic.	LTS	No mitigation is required.	LTS
4.5-C	The combined noise from operations on the project site plus aggregate haul traffic would affect noise sensitive receptors in the vicinity of the project.	PS	Mitigation Measure 4.5-A.1 applies to this impact.	LTS
4.5-D	Blasting would result in noise and vibration at sensitive receptors.	PS	4.5-D.1 When blasting within 600 feet of a residence limit the charge weight per delay to a maximum of 60 pounds. Monitor vibration levels at the residence to confirm that the vibration level is less than 0.5 inch/sec PPV. If not, further limit the charge weight per delay until that target vibration level is achieved.	LTS
4.6	Air Quality and Climate Change			
4.6-A	The quarry project would generate emissions of criteria pollutant emissions (NOx, CO, ROG, PM10, and PM2.5) from on-site and off-site activities during operation of the quarry which could exceed applicable significance levels.	LTS	No mitigation is required.	LTS
4.6-B	The project could violate the ambient air quality standard for carbon monoxide.	LTS	No mitigation is required.	LTS
4.6-C	Emissions of diesel particulate matter and crystalline silica from the project could injure the health of workers and	LTS	No mitigation is required.	LTS

	residents living in the area.			
4.6-D	Naturally Occurring Asbestos could be present at the project site, and mining activities would expose persons to levels of asbestos which would have adverse health effects.	LTS	No mitigation is required.	LTS
4.6-E	The proposed project could result in greenhouse emissions, either directly or indirectly, that may have a significant impact on the environment.	PS	<p>4.6-E.1 The applicant shall offset all remaining GHG emissions above the threshold of 1,100 MT CO₂e/year. Any offset of project emissions shall be demonstrated to be real, permanent, verifiable, enforceable, and additional as determined by PRMD at its sole discretion. To the maximum extent feasible, as determined by PRMD, offsets shall be implemented locally. Offsets may include but are not limited to the following (in order of preference):</p> <ol style="list-style-type: none"> 1. Applicant funding of local projects, subject to review and approval by PRMD, that will result in real, permanent, verifiable, and enforceable, and additional reduction in GHG emissions. If the BAAQMD or Sonoma County develops a GHG mitigation fund, the applicant may instead pay into this fund to offset GHG emissions in excess of the significance threshold. 2. Purchase of carbon credits to offset emissions below the significance threshold. Only State Air Resource Board carbon offset credits, credits verified and registered with the Climate Action reserve, or available through a County-approved local GHG mitigation bank or fund may be used to offset project emissions., 	LTS
4.7	Aesthetics			
4.7-A	The proposed quarry expansion would alter the visual character of the project site and adversely affect views of the site from both public and private vantage points.	PS	<p>The previously described Mitigation Measure 4.1-B.5 also applies to this impact.</p> <p>4.7-A.1 Within the first year after project approval, Douglas fir trees or alternative evergreen species acceptable to the County shall be planted in the area where the trees are shown screening some of the solar panels in Figure 4.7-4. A certified arborist or landscape architect shall develop a final tree plan for this area. The plan shall meet at least the following requirements unless the arborist can demonstrate that substitute measures would meet the targets listed at the end of this mitigation. At least 30 trees shall be planted. The trees shall be fertilized, irrigated, protected, and maintained until they are five years old. Any trees dying within that period shall be replanted until there are 30 new live trees that have been alive for at least seven years. Compacted ground shall be broken to an area three times the diameter of the root ball prior to planting to allow root growth. Trees shall be watered weekly by the property owner in weeks with no natural precipitation (usually April 15 through October 15 of each year), and for the first three years after planting they shall be watered three times per week when temperatures exceed 100 F°. The plan will be based on the</p>	SU

			targets of: 1) the trees being at least 20 feet high after seven years; and 2) sufficient trees shall be planted to provide the screening shown on Figure 4.7-4. The plan will be reviewed and approved by the County prior to expansion of mining.	
4.7-B	The project could result in the production of new sources of light and/or glare.	LTS	No mitigation is required.	LTS
4.8	Public Services			
4.8-A	The project would generate increased calls for fire response and emergency medical aid.	LTS	No mitigation is required.	LTS
4.8-B	The project would increase the risk of igniting wildland fires or being affected by a wildland fire.	PS	4.8-B.1 Prior to vegetation removal or mining of the expansion area, the project applicant shall provide to the Sonoma County Fire and Emergency Services Department an affirmative covenant, that includes a vegetation management maintenance agreement approved by the County Fire Marshal, which shall run with the land in perpetuity.	LTS
4.8-C	The proposed project would require police protection and traffic enforcement services of the Sonoma County Sheriff's Department.	LTS	No mitigation is required.	LTS
4.8-D	The proposed project would generate solid waste as well as allow use of recycled materials at the quarry.	LTS	No mitigation is required.	LTS
4.9	Hazards and Hazardous Materials			
4.9-A	Hazardous materials transported or used on the project site during proposed mining and reclamation activities (i.e., petroleum products, blasting materials) could be spilled or otherwise released through improper handling or storage.	PS	4.9-A.1 Prior to initiation of the project, the applicant shall prepare a revised Spill Prevention, Control and Counter Measure Plan (SPCCMP) in conformance with the requirements of the Code of Federal Regulations 40CFR112. A copy of the SPCCMP shall be submitted to the Sonoma County Department of Emergency Services to demonstrate completion of the mitigation. 4.9-A.2 If hazardous waste is generated or stored, then the operator shall comply with hazardous waste generator laws and AB2185 requirements and obtain a permit or approval from the C.U.P.A. or the participating agency. The applicant shall submit a copy of a current permit to the Permit and Resource Management Department Health Specialist to verify compliance. 4.9-A.3 All hazardous waste materials shall be stored, handled and managed in accordance with the approved site plan and hazardous materials plan so as to reduce the potential for any spillage. No soil or other material containing hazardous or toxic waste shall be imported to the quarry.	LTS
4.10	Cultural and Paleontological Resources			
4.10-A	Land alteration proposed by the project could affect existing as well as undiscovered cultural resources.	PS	4.10-A.1 If concentrations of prehistoric or historic-period materials (other than the GANDA-571-01H resource) are encountered during	LTS

			<p>ground-disturbing work at the project location, all work in the immediate vicinity will be halted until a qualified archaeologist can evaluate the finds and make recommendations. Historic-period features that may be present include backfilled privies, wells, and refuse pits; concrete, stone, or wood structural elements or foundations; and concentrations of metal, glass, and ceramic refuse. Prehistoric cultural remains might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, choppers), midden (culturally darkened soil containing heat-affected rock, artifacts, animal bone, or shellfish remains), and/or stone milling equipment, such as mortars and pestles.</p> <p>4.10-A.2 If human remains are encountered, work in the immediate vicinity will stop and the Sonoma County Coroner will be notified immediately. At the same time, a qualified archaeologist will be contacted to evaluate the discovery. If the human remains are determined to be of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification.</p>	
4.10-B	Land alteration proposed by the project could affect undiscovered paleontological resources.	PS	4.10-B.1 If paleontological resources are found, all work in the vicinity of the find must cease, and a paleontologist and PRMD staff must be notified to develop proper mitigation measures required for the discovery. No earthwork in the vicinity of the find shall commence until a mitigation plan is approved and completed subject to the review and approval of the paleontologist and Project Review staff. This condition shall be noted on all grading and construction plans and provided to all contractors and superintendents on the job site.	LTS
4.11	Land Use			
4.11-A	The proposed project would expand existing quarry operations onto an undeveloped site, The effect of this expansion on compatibility with surrounding land uses would be less than significant.	LTS	No mitigation is required	LTS
4.12	Energy			
4.12-A	Expanded quarry production would not result in the wasteful or inefficient use of fuel or energy.	LTS	No mitigation is required	LTS

APPENDIX

The following article was an attachment to Comment Letters 5 and 6 from Janet Angell.

PLIOCENE FLORAS OF CALIFORNIA

INTRODUCTION

It is the purpose of this paper to describe fossil plant remains from the Pliocene deposits of California and to discuss as fully as possible the physical and environmental conditions under which they lived, as well as their stratigraphic significance. The plant remains are nowhere abundant nor are they as perfectly preserved as might have been wished. The small collections which have been made, however, have resulted in the recognition of thirty-four species, the associations of which, at sixteen localities, are consistently indicative of the same general climatic conditions. It is hoped that the present paper will contribute materially toward filling in the gap which has long existed in the Tertiary plant record of western North America between the Miocene and Pleistocene epochs.

The study of the Pliocene floras was begun in the summer of 1927, at the suggestion of Dr. R. W. Chaney of the Carnegie Institution of Washington. A good collection was secured at that time from the Sonoma tuffs. During the following summer additional material was collected from new localities in the Wildcat formation, the Sonoma tuffs, the Merced sandstones, and the Pico shales. A collection of plants which Dr. Chaney had collected some years previously was also secured, and abundant remains were collected from the Santa Clara beds, from which Hannibal had previously described¹ a small flora. During this summer the writer was assisted by H. L. Mason and S. Dorf. The summer of 1929 yielded good collections from new localities in the Orinda and Etchegoin formations and from a new horizon of the Sonoma tuffs. Valuable material from Alturas was also obtained from Dr. Chaney, and cone material from the Merced sandstone was secured from H. L. Mason. The entire project has been done under the auspices of Carnegie Institution of Washington and Princeton University.

A number of references to the presence of fragmentary plant remains in the Pliocene deposits of California have been published by various authors, notably Merriam,² Lawson,³ and Nomland.⁴ None of these occurrences, however, seems to have furnished material sufficiently abundant or well-preserved to make accurate de-

¹ Hannibal, *Bull. Torrey Bot. Club*, vol. 38, 329, 1911.

² Merriam, *Univ. Calif. Dept. Geol. Bull.*, vol. 7, No. 19, 383, 1913.

³ Lawson, *U. S. Geol. Surv.*, 15th Ann. Rpt., 460, 1895.

⁴ Nomland, *Univ. Calif. Dept. Geol. Bull.*, vol. 9, No. 6, 79, 1916.

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terminations possible. The first scientific paper, as far as the writer is aware, to be devoted mainly to the discussion of Pliocene plant materials is by Marsh, on *A Fossil Forest in the Tertiary of California*,¹ in which he describes the occurrence of petrified logs in the Sonoma tuffs near Calistoga. The wood is here referred to *Sequoia* by M. C. White and the tuffs are described as of probable Pliocene age. A more comprehensive description of silicified wood from the same locality was subsequently published by Platen,² in 1907. By far the most important contribution to Paleobotany has been *A Pliocene Flora from the Coast Ranges of California*, by Hannibal,³ in which he describes plant material from the Santa Clara beds of the region south of San Francisco Bay. A tentative revision of Hannibal's collections, in which all the forms were referred to modern species, was recently made by Chaney.⁴ On the basis of the writer's collections from the Santa Clara beds and a study of Hannibal's type specimens at Leland Stanford Junior University a more complete revision will be attempted in the present paper.

Other Pliocene material has furnished comments and inferences to Chaney's recent paper on the Mascall flora.⁵ Another recent report on Tertiary conifers of western America, by Mason,⁶ describes the occurrence of coniferous material at two Pliocene localities. Both Chaney's and Mason's material is included in the present report.

No other references have been made to Pliocene plant remains other than mere incidental mention of fragmentary material in scattered localities throughout the state.

The stratigraphic and structural relations of the Pliocene formation of California have been adequately treated in numerous publications which will be mentioned in the detailed descriptions of the various formations from which fossil plants have been collected.

The writer takes this opportunity to express his appreciation to Carnegie Institution of Washington and the Department of Geology of Princeton University for their support of the project, and to the Department of Geology of the University of Chicago, in whose laboratories the work was completed. It is a pleasure to acknowledge the cooperation and encouragement rendered by Dr. R. W. Chaney of Carnegie Institution, under whose direction the work has been done, and who has given invaluable assistance in the final completion of the manuscript. Other helpful suggestions have been received from Mr. H. L. Mason, of the University of California, Dr. Arthur Hollick, of The New York Botanical Garden, Dr. A. C. Noé, of the University

¹ Marsh, Amer. Jour. Sci. and Arts, 3d ser., vol. 1, 266, 1871.

² Platen, Natur-Forsch. Gesell. zu Leipzig, vol. 34, 4, 1907.

³ Hannibal, Bull. Torrey Bot. Club, vol. 38, 329-343, 1911.

⁴ Chaney, Carnegie Inst. Wash. Pub. No. 349, pt. II, 45, 1925.

⁵ Chaney, op. cit., 25-48.

⁶ Mason, Carnegie Inst. Wash. Pub. No. 346, pt. V, 138-158, 1927.

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of Chicago, and Dr. Paul C. Standley, of the Field Museum, Chicago. For the use of herbarium materials the writer is grateful to The New York Botanical Garden, the Field Museum, and the University of California. Material aid has been received from Dr. A. F. Budington, of Princeton University, in the petrographic examination of sediments.

GEOGRAPHIC DISTRIBUTION OF PLANT LOCALITIES

The localities from which Pliocene plant remains have been obtained center about the San Francisco Bay Region of California. The accompanying map (plate 1) indicates the distribution of the plant-bearing outcrops by groups rather than by single localities, as many of the locations are in such close proximity as to make it impracticable to attempt to represent each one by a circle.

Ten of the localities are situated less than 35 miles from San Francisco Bay. To the north, five localities in the Sonoma formation and one in the Merced, represented by circles 1 and 2 respectively, lie just east of the Santa Rosa Valley in the eastern portion of Sonoma County and the western border of Napa County. To the east of the bay, two localities in the Orinda, at circle 3, lie in the Berkeley Hills of Contra Costa County. To the south, one locality in the Merced formation, represented by circle 4, lies directly on the coast near the boundary between San Francisco and San Mateo Counties, and one locality, at circle 5, lies in the Santa Clara valley, in the eastern portion of Santa Clara County.

The remaining six localities are situated at considerable distances from San Francisco Bay, four to the north and two to the south. Three localities at circle 6 lie in the southern portion of Humboldt County, in the valley of the south fork of the Eel River, and one locality at circle 7 is in Modoc County near the western margin of the Warner Mountains in the Pitt River valley. In the southern part of the state the locality represented by circle 8 lies in the southwestern part of King County, and the locality at circle 9 lies directly on the coast in the southwestern section of Ventura County.

Physiographically the sixteen localities may be grouped as follows:

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|-------------------------------------|-----------------------------------|
| Coastal..... | ④—Locality 159. |
| | ⑨—Locality 161. |
| Outer Coast Ranges and Valleys..... | ①—Localities 150,151,152,153,154. |
| | ②—Locality 158. |
| Inner Coast Ranges and Valleys..... | ③—Localities 162, 163. |
| | ⑤—Locality 160. |
| | ⑥—Localities 155, 156, 157. |
| Great Valley..... | ⑧—Locality 164. |
| Interior Ranges..... | ⑦—Locality 165. |

STRATIGRAPHIC OCCURRENCE OF THE FLORAS

Table 1, based mainly on Clark's recent correlation table¹ and accompanying text, indicates the stratigraphic occurrence of the plant-bearing horizons in the Pliocene formations of California. The column for the Sonoma formation, which is not shown in Clark's table, is based on recent reports by Dickerson² and Lawson.³ The Alturas formation, concerning which very little has been published, is placed in the upper Pliocene on the basis of its stratigraphic relations and its vertebrate fauna.⁴

6 12 3 TABLE 1 5 8 9 7 I # →

GEOLOGICAL TIME SCALE	COUNTIES								
	HUMBOLDT	SONOMA AND NAPA	CONTRA COSTA	SAN MATEO	SANTA CLARA	KING	VENTURA	MODOC	
PLEISTOCENE							LOS POSAS		
UPPER PLIOCENE			BERKELEY GROUP		SANTA CLARA	TULARE	SANTA BARBARA	ALTURAS	
MIDDLE PLIOCENE	WILDCAT	SONOMA	ORINDA	MERCED	PURISSIMA	ETCHEGOIN	PICO		
LOWER PLIOCENE		MERCED	PINOLE			JACALITOS			

==== PLANT-BEARING HORIZON



It is evident that most of the formations are of lower to middle Pliocene age. While it is impossible to prove that any one of the floras is strictly contemporaneous with any of the others, the later consideration of the individual floras clearly reflects the general uniformity of conditions during each of the various portions of the Pliocene epoch and is in general accord with the age relations as indicated.

In the discussion which follows, the occurrence of the plant-bearing horizons within each of the various formations is treated in detail. The formations are considered in the order of (1) their age-relations, *i. e.* lower Pliocene to upper Pliocene; (2) their importance, based on size of collections and number of localities in each; (3) their geographic location.

¹ Clark, *Stratigraphy and Faunal Horizons of the Coast Ranges of California*, 1929.
² Dickerson, *Cal. Acad. Sci.*, 4th ser., vol. XI, No. 19, 527, 1922.
³ Lawson, *U. S. Geol. Surv., San Francisco Folio*, 13, 1914.
⁴ Stock, Oral communication, Dec. 14, 1929.

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Map of California, indicating location of Pliocene localities from which fossil plants have been collected.

SONOMA FORMATION

Five leaf localities have been discovered in the Sonoma tuffs in the vicinity of Santa Rosa. These will be discussed separately below.

The Sonoma tuffs constitute one phase of the Sonoma group¹ of basalts, rhyolites and tuffs, which extends over a large portion of Napa County, overlapping into the eastern portion of Sonoma County, and the southern portion of Lake County. At their western border both the basalts and tuffs of the Sonoma group are intercalated in the lower portion of the Merced sandstones.² Although generally regarded as of middle Pliocene age, the lower portion of the Merced is probably the correlative of the Jacalitos formation of lower Pliocene age.³ Lower Merced invertebrates have been found by Dickerson in both the sandy and tuffaceous portions of the intercalated series. It is significant that three leaf localities, two in the tuffs and one in the sandstones, occur along the line of the interfingering of the continental and marine sediments which evidently took place along the shoreline of the Merced embayment.

Both the Sonoma volcanics and the Merced sandstones overlie unconformably the Franciscan series of Jurassic age and, more locally, the Petaluma lake beds of upper Miocene age.

The Sonoma tuffs are areally connected with the Pinole tuffs of the Berkeley Hills and have been found intercalated with the Orinda formation of the same region.⁴ It may thus be seen that in addition to its correlation with the lower Merced, the Sonoma group may also be regarded as the stratigraphic equivalent of the Pinole-Orinda series, which is likewise referred to the lower Pliocene.

Based on the discovery of the horse remains, *Neohipparion gidleyi* Merriam,⁵ in beds intimately associated with the basalts and tuffs of Sonoma Mountain⁶ the Sonoma group has been correlated with the Orinda of the Berkeley Hills and the Jacalitos of the San Joaquin Valley.

Two of the plant localities occur in the vicinity of "The Petrified Forest," situated five miles west of Calistoga and about ten miles northeast of Santa Rosa. The numerous petrified trunks at this location have for many years attracted scientific as well as popular interest. As far back as 1870 the region was visited by Professor O. C. Marsh of Yale, who in the succeeding year published a short

¹ Osmont, Univ. Calif. Dept. Geol. Bull., vol. 4, No. 3, 58, 1904.

² Dickerson, Cal. Acad. Sci., 4th ser., vol. 11, No. 19, 556, 1922.

³ Clark, Oral communication, Sept. 12, 1929.

⁴ Lawson, Oral communication, Sept. 1927.

⁵ Merriam, Univ. Calif. Dept. Geol. Bull., vol. 9, No. 1, 1, 1915.

⁶ Dickerson, Cal. Acad. Sci., 4th ser., vol. 11, No. 19, 553, 1922.

account¹ of the occurrence in which he ascribes its discovery to Charles E. Denison, who had previously written a short article concerning it for the San Francisco Bulletin. Extensive excavation of the prostrate logs was begun in 1871 by Mr. C. Evans and later continued by Mr. and Mrs. D. G. Bockée, resulting in the exposure of a great number of beautifully preserved logs. A more detailed description of the occurrence was subsequently published by Dickerson.²

The presence of fossil leaves in the tuffs was noted only recently by Mrs. D. G. Bockée, the present owner and operator of "The Petrified Forest," in the excavation of one of the larger trunks. The writer's attention was called to the occurrence by Dr. R. W. Chaney, resulting in the discovery of an additional number of leaf horizons in the near vicinity.

The observed section in the region consists of a basement of highly metamorphosed Franciscan rocks overlain unconformably by the alternating series of basalts, rhyolites and tuffs of the Sonoma group, dipping at an angle of 12° to 30° toward the north and striking approximately east and west. The Franciscan rocks are exposed in the ridge a half mile south of the Bockée residence, and are apparently highly metamorphosed basalts. In all of the region north of this Franciscan core the country rock consists of the Sonoma group of massive, conglomeratic, sandy tuffs and tuff breccias interbedded with thinner layers of basaltic and rhyolitic extrusives, which form the capping of several of the numerous ridges.

LOCALITY 150

This is the principal locality near "The Petrified Forest," having furnished the largest number of species as well as of individual leaf specimens. It is situated along the fire trail which runs along the southern slope of a ridge a third of a mile slightly north of west from the Bockée residence. The best material was collected from a two-foot ledge of fine-grained volcanic ash directly in the trail and 100 yards from where it begins at the base of the slope. This same horizon, followed laterally up the trail, yielded a smaller collection at a point 200 feet from the first location. Bedding planes are lacking in the rock and the leaves are irregularly scattered and variously curled and twisted, suggesting subaerial deposition.

The matrix in which the leaves occur is a white or grayish-white volcanic ash, made up wholly of volcanic material in which are intermingled numerous fragments of pumice. It has been examined petrographically by Dr. A. F. Buddington of Princeton University and is seen to be a silicified volcanic, vitro-clastic dust containing typical

¹Marsh, Amer. Jour. Sci. and Arts., 3d ser., vol. 1, 286, 1871.

²Dickerson, Cal. Acad. Sci., 4th ser., vol. 11, No. 19, 555, 1922.



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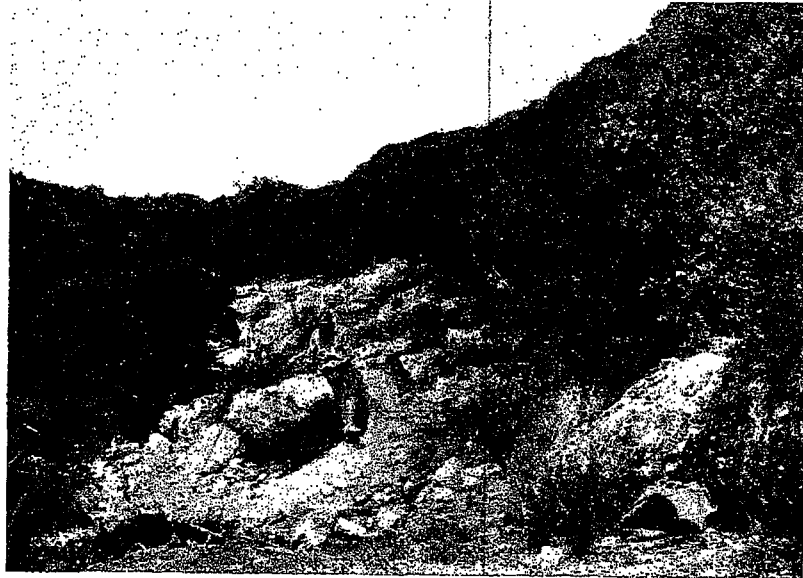


FIG. 1—Plant Locality 150, near "The Petrified Forest," California, showing exposure of Sonoma tuffs on chaparral covered slope. Plant horizon occurs in cut in lower left center of picture.



FIG. 2—Another view of Locality 150, showing occurrence of petrified logs along slope of hill. Tuff in lower left-hand corner contains leaf impressions.

glass shards or "bows," numerous crystals of clear plagioclase and scattering fragments of micro-crystalline lava. No trace of quartz or orthoclase was seen in the sections. The unbroken condition of the "bows" suggests deposition on land or in standing water. The latter, however, would hardly result in the preservation of the leaves in such a curled and twisted condition, rather giving rise to flat preservation along bedding planes. The evidence of both the condition of the leaves and the nature of the tuff therefore suggests sub-aerial conditions of deposition with little or no transportation by water.

A small collection of leaves, mostly of conifers, and of excellent cone material was made from a lense of slightly coarser ash 50 feet higher than and slightly to the east of the above locality. The ash is exposed at the base of a four-foot ledge and lies directly below a lenticular mass of conglomerate. It is probable that at least the ash in which the plant material is entombed was deposited subaerially, as a number of open fir cones were encountered, which would undoubtedly have closed tightly, as do their living counterparts, when immersed in water.

Petrified wood is common along the slopes of the ridge and occasionally may be represented by complete trunks protruding from the surface of the hill. Four of such trunks are exposed 2 feet stratigraphically above and 10 feet east of the first locality mentioned. The lowermost is 5 feet in diameter, runs approximately east and west, and is exposed for a horizontal distance of 25 feet; the remaining three are somewhat smaller in diameter, point in a north-south direction, and are exposed for only a foot or so directly above the first trunk.

In spite of the fact that over 600 individual leaf specimens have been examined at this locality, the number of species is rather small. In the following lists, the species are arranged according to their order of dominance in each of the horizons.

Lower horizon:

Quercus bockéi
Ilex sonomensis
Umbellularia oregonensis
Sequoia langsdorffii
Pseudotsuga sonomensis
Odostemon hollicki
Heteromeles sp.
Smilax sp.

Upper horizon:

Sequoia langsdorffii
Pseudotsuga sonomensis
Quercus lakevillensis
Umbellularia oregonensis

LOCALITY 151

Two leaf horizons occur within the actual limits of "The Petrified Forest," which is situated on the slope just north of the Bockée residence. The first is in the east wall of the tunnel running into the hill along the "Monarch," or "Tunnel Tree," and is about 15 feet

The leaf impressions occur in a shattered, buff-colored, unaltered ash in both walls of the ditch, 1.5 feet below the surface.

The number of beautifully preserved petrified trunks on this slope is in striking contrast to the paucity of leaf impressions. Most of the larger trunks have been uncovered of their overburden of ash and exposed more or less completely to view by the present owners of the property. All of the trunks are prostrate and dip uniformly with the beds at an angle of 5° to 13° northward. Most of the trunks are oriented in the same general northeast-southwest direction, with the tops toward the southwest. The average seems to lie between north 35° east and north 45° east, with a lesser number directly north-south or a few degrees west of north. Dickerson has postulated¹ that this uniform direction is evidence that the "volcanic mud and pumice came in a great volume from the northeast." It is possible that the natural fall of trees on a southwest-facing slope might produce the same effect, regardless of the actual direction from which the ash was derived. In this connection it is significant to note that at locality 150, trunks were observed whose direction was almost directly east-west, while others at the same locality pointed north and south, perhaps indicating conditions in which the slope was more gentle and had, as a consequence, less influence on the direction of tree fall.

It was noted that the trunks at "The Petrified Forest" do not occur at the same elevation, but are separated by as much as 20 feet of vertical distance. It is possible that minor fault displacements may have separated horizons once contiguous. Another explanation might be that the trees of successively higher levels on a slope were entombed by a succession of different outbursts of volcanic material. This seems to be substantiated by the heterogeneity of the matrix surrounding the different petrified trunks, which would tend toward a more uniform lithology if the trees had all been covered by a single volcanic outburst.

¹Dickerson, Cal. Acad. Sci., 4th ser., vol. 11, No. 19, 556, 1922.



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View of "The Giant," one of the better preserved petrified trunks at "The Petrified Forest," near Locality 151. Removal of enclosing tuff has exposed trunk to a length of about 80 feet and diameter of 7 feet. (Photo through courtesy of Mrs. D. G. Boekée, present owner of property.)

One of the largest and most perfect trunks on the slope is the "Monarch" or "Tunnel Tree" mentioned above. A tunnel has been dug along its eastern side in order to expose as much as possible of the tree. About 125 feet have already been exposed, of which 30 feet are outside the entrance to the tunnel, and it is estimated that it may run at least 100 feet farther into the hill. It dips from 5° to 8° northward and lies north 45° east, with the top toward the southwest. The diameter, including the well-preserved bark, is about 5 feet at the top to 8 feet at the basal portion. The enclosing matrix is a rather coarse, gray to buff-colored ash, overlain by 20 to 25 feet, to the top of the slope, of finer, more firmly cemented ash. The entire length of the trunk is marked by uniformly spaced transverse cracks, though these are less distinct in this specimen than in most of the smaller trunks. These were undoubtedly produced by local movements or regional tilting of the beds subsequent to the silicification of the trunks. A microscopic examination of the wood has been made by Mrs. Irma Webber, of the University of California, who has referred it to the living *Sequoia sempervirens*, in which there is considerable variation in diagnostic characteristics.

It is to be regretted that leaf horizons are not more common at "The Petrified Forest" and that those which do occur are not well exposed; nor are the leaf impressions well preserved or numerous. The following species, which are of the same character at both horizons, indicate a rather pure growth of *Sequoia* and a few of its associates. The species are, as above, listed in their order of dominance: *Sequoia langsdorffi*, *Umbellularia oregonensis*, *Quercus lakevillensis*.

A comparison of the species encountered here with those found at locality 150 indicates a close resemblance to the association found at the upper horizon at that locality.

In view of the small number of leaf species represented in the Sonoma tuffs at this locality, mention should be made of previously recorded species based on wood determinations. The genus *Sequoia* was already reported in 1871 by M. C. White.¹ Besides *Sequoia*, Platen subsequently described two new species of oak (*Quercinium abromeiti* Plat. and *Q. lesquereuxi* Plat.), one pine (*Pityoxylon annulatum* Plat.), and an elm (*Ulmoxylon simrothi* Plat.).² The *Sequoia* and both of the oaks have equivalent leaf species in the Sonoma tuffs in the vicinity of "The Petrified Forest." No cones or leaf impressions referable to pine or elm have been discovered, although elm leaves occur in the Oriunda formation of approximately the same age in the hills east of Berkeley, and pine cones have been found in the Merced sandstone of the same age a few miles south

¹ Marsh. Amer. Jour. Sci. and Arts, 3d ser., vol. 1, 268, 1871.

² Platen, Natur-Forsch. Gesell. zu Leipzig, vol. 34, 4, 1907.

of San Francisco. It is possible that remains of both these genera would have been encountered in the Sonoma tuffs if more extensive collecting had been possible.

LOCALITY 152

A number of leaf impressions have been collected by Dr. R. W. Chaney from the Sonoma tuffs exposed in the walls of Matanzas Creek, three miles southeast of Santa Rosa and 0.375 of a mile northeast of the Santa Rosa School, which is situated near the head of Bennett Valley. The locality is on the ranch of Mr. C. Bruggemann and lies in the south-central portion of Section 29, Range 7 west, Township 7 north, exactly 4.25 miles southeast of locality 154.

This locality has been visited during two successive summers by the writer, but only a few fragmentary leaf impressions were collected to add to the better impressions previously collected by Dr. Chaney. The observed section consists of the normal alternating layers of tuffs, sandstones, basalts and volcanic agglomerates of the Sonoma and Merced formations. The floor of the creek is made up of a basaltic conglomerate containing numerous scoriaceous pebbles, which is overlain by a white to cream-colored, sandy tuff, containing abundant plant remains, including both leaf impressions and a layer of petrified roots and stems.

Although the section is obscured by vegetal and soil covering it seems apparent that we are here concerned with the alternation of marine sandstones and continental volcanics as is observed elsewhere along the line of the Merced shore. The presence of ash, conglomerates and tufaceous mud-balls in the sandy sediments suggests deposition of the volcanic material along coastal streams or their debouchures into shallow marine embayments.

Seven species have been collected from this locality, arranged here according to their order of dominance:

<i>Platanus paucidentata</i>	<i>Quercus declinata</i>
<i>Populus alexanderi</i>	<i>Castanopsis chrysophylloides</i>
<i>Populus fremontii</i>	<i>Garrya masoni</i>
<i>Alnus merriami</i>	

LOCALITY 153

A very limited collection of plant remains from the Sonoma tuffs of Taylor Mountain, east of Bennett Valley, has been made by Dr. Chaney. The tuffs are exposed below a basalt flow on both the western and eastern flanks of the mountain. Plant impressions and scattered petrified wood occur in the ravines near the summit, exactly 1.75 miles west 50° south of locality 152 on Matanzas Creek.

Only three specimens, representing three species, have been collected from this locality: *Sequoia langsdorffii*, *Quercus lakevillensis* and *Woodwardia bennetti*.

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LOCALITY 154

A good collection of fossil leaves was obtained from a rock quarry situated on the southern side of Neer's Hill, two miles north of Santa Rosa. The locality is less than a half mile east of the state highway and 200 yards northeast of the dirt road which runs eastward from the highway. Neer's Hill lies in the south-central portion of Section 11, Range 8 west, Township 7 north.

The exposure is about 50 feet high and consists of two layers of massive, tufaceous sandstones separated by a thinner layer of extremely fine, pure, volcanic ash containing the leaf impressions. The structure in the cut seems to be that of a small anticlinal fold, with its steepest dip about 35° toward the east, probably a result of movement along the line of the Hayward fault, whose surficial expression is shown in the abrupt rise of the hills out of the level Santa Rosa Valley, less than a half mile west of the locality.

The intercalation of sandstones and tuffs has already been noted in this vicinity by Dickerson,¹ who refers the sandstones to the Merced and the tuffs to the Sonoma group. Such interfingering of sandstones containing marine invertebrates and volcanic ash containing terrestrial plants is significant of the strand-line conditions under which they were deposited and extremely helpful in the correlation of plant materials from other localities where the stratigraphic and paleontologic relations are not so apparent. The position of the leaf impressions, flat-lying along the bedding planes, and the purity and fineness of the ash suggest rapid accumulation in the quiet water of a shallow marine embayment in which the tufaceous sandstones were accumulating, affected in their lithological continuity only by periodic showers of fine ash which was deposited more quickly, enclosing the leaves and other plant materials derived from the nearby shores.

Most of the leaves at this locality were collected from the heap of rock fragments lying at the base of the cut, as it was impossible to ascend the steep escarpment to the outcrop of the ash. No leaf impressions were discovered in the sandstones, which make up the greater part of the exposure, the ash layer being only about 3 feet thick. Ten species are recorded from this locality arranged here as in the above lists, according to their order of dominance:

<i>Quercus declinata</i>	<i>Castanopsis chrysoophylloides</i>
<i>Platanus paucidentata</i>	<i>Salix coalingensis</i>
<i>Quercus orindensis</i>	<i>Sequoia langsdorffii</i>
<i>Pseudotsuga sonomensis</i>	<i>Fraxinus caudata</i>
<i>Populus alexanderi</i>	<i>Nex sonomensis</i>

WILDCAT FORMATION

Two fossil leaf localities were discovered during the summer of 1928 in the upper portion of the Wildcat formation² of Humboldt

¹ Dickerson, Cal. Acad. Sci., 4th ser., vol. 11, No. 19, 544, 1922.

² Lawson, Univ. Calif. Dept. Geol. Bull., vol. 1, No. 8, 255, 1893-96.

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EXHIBIT B



4100 Petrified Forest Rd
Calistoga, CA 94515
P: 707-942-6667
F: 707-942-0815
pforest@sonic.net
www.petrifiedforest.org

Barbara Angell
Janet Angell
Principals

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