Memorandum

October 15, 2015

To	Don Barrella, County of Napa		
Copy to	Brian Bordona, County of Napa		
From	Misha Schwarz	Tel	707-443-8326
Subject	Appendix C to Final EIR, Syar Napa Quarry Response to August 2015 Comments	Job no.	84/10445/09

Dear Mr. Barrella,

As requested by the County of Napa, the following are responses to the "Stop Syar Expansion" comment letter packet dated August 11, 2015, received by GHD from the County of Napa on August 13, 2015. The "Stop Syar Expansion" packet also includes the following technical studies:

1) Autumn Wind Associates, Inc. (AWA). Syar Napa Quarry Expansion Final EIR; State Clearinghouse #2009062054; Air Quality Review and Comments. August 10, 2015.

2) Dale La Forest & Associates (DLF). Syar Napa Quarry Expansion Project – Napa County Comments on Environmental Impact Report. August 11, 2015 (and a second letter submitted separately dated September 1, 2015).

3) Parker Groundwater. Review of Syar Napa Quarry Expansion Project Draft and Final Environmental Impact Report (DEIR, FEIR) Specific to Hydrology and Groundwater Analysis. May 31, 2015.

4) Minagar & Associates, Inc. Review of the Syar Napa Quarry Expansion Project. July 14, 2015.

The Stop Syar Expansion August 11, 2015 comment packet and documents referenced herein (including referenced attachments) can be accessed at http://www.countyofnapa.org/Syar/

Timeline

The August 2013 Draft EIR was circulated for public comment from September 5 through December 5, 2013. The Final EIR was issued in November 2014. At the January 7, 2015 Planning Commission meeting, additional comments were received from the public. These comments were responded to and appended as Appendix B to the Final EIR in March 2015, and were issued prior to the April 01, 2015 Planning Commission meeting (item was subsequently dropped from meeting). The comments responded to herein were submitted to the County on behalf of the Stop Syar Expansion citizens group on August 11, 2015, one day prior to the August 12, 2015, Planning Commission meeting. This response document constitutes the third round of response to comments on the Draft EIR and will be appended to the Final EIR as Appendix C.

As a point of clarification, the comments made in the Stop Syar Expansion letter packet are on the Project described in Chapter 3, Project Description, of the Draft EIR. However, staff will be recommending approval

of the Reduced Project Alternative as described in Chapter 5, Alternatives, of the Draft EIR and further revised to include a reduced footprint and increased buffers in a letter from Syar Industries to Napa County, dated March 17, 2015. The Reduced Project Alternative would limit production to an average of 1.3 million tons per year, instead of 2.0 million, a significant reduction from that analyzed in the Draft EIR.

The following responses are grouped by resource category with a notation as to which part of the Stop Syar Expansion packet the comments originate. This generally follows the numbering and heading system used in the Stop Syar Expansion packet.

1 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

This section summarizes responses to air quality and greenhouse gas comments in the August 11, 2015 letter from Stop Syar Expansion (SSE) and the letter focused on air quality by Autumn Wind Associates (AWA) dated August 10, 2015 that was attached to the SSE letter.

Cover Letter

The following are responses to the comments in the SSE cover letter that are relevant to air quality and greenhouse gas emissions.

SSE 5 – Impact and mitigation of greenhouse gas emissions are unknown

Although the Napa County Climate Action Plan, called for in the 2008 General Plan for Napa County, had not yet been adopted at the time of preparation of the Syar Napa Quarry Expansion Surface Mining Draft EIR, the Final Draft Climate Action Plan was publicly available and referenced in Section 4.17 Greenhouse Gas Emissions, of the Draft EIR. In addition, it is worthy to note that In January 2012, Napa County received a letter from the BAAQMD, stating that the Air District believed the draft Napa County CAP met the minimum standard elements of a Qualified GHG Reduction Strategy.

The General Plan does not require Project-specific climate action plans. However, the County is requiring this Project to prepare a climate action plan in the form of a Greenhouse Gas Reduction Plan (GHGRP). The Project GHGRP will incorporate one or more of the measures listed in Mitigation Measure 4.17-2 which have been demonstrated as feasible and would reduce the GHG impact to less than significant levels. Specifically, the GHGRP will cap future increase in land use-related GHG emissions at the BAAQMD recommended land use GHG significance threshold of 1,100 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/year). This threshold is the annual amount that is cumulatively considerable and emissions above this threshold would result in a cumulative impact.

Having demonstrated that mitigation is feasible, providing the options for doing so, and requiring enforcement mechanisms (e.g., GHGRP), the EIR ensures that the County will know the quantity of GHG emissions from the facility and can take action if necessary. Accordingly, the EIR could have determined that this impact will be less than significant. However, because specific measures to be included in the GHGRP are not known at this time, and therefore the reduction in GHG emissions from the measures cannot be quantified, the impact was conservatively left as significant and unavoidable (DEIR, Page 4.17-11).

The reality is that under any reasonably foreseeable future scenario, sufficient GHG emissions offsets will be available for purchase when/if the Project needs them. The Reduced Production Alternative would have lower GHG emissions impacts than the originally proposed project analysed in the Draft EIR. The comment does not warrant any changes to the EIR.

SSE 6 – Nature and efficacy of GHG mitigation measures are unknown.

As discussed above in response to Comment SSE 5, Mitigation Measure 4.17-2 caps GHG emissions increase at 1,100 $MTCO_2e$/year and provides enforcement mechanisms to ensure that the measure is implemented. There are GHG emissions credit trading markets in California and elsewhere that are based upon accounting principles which are defined in great detail to ensure high quality credits tied to actual emissions reductions are traded in the market. There is a process and minimum quality standard for tracking GHG emissions that this Project would follow in claiming direct emissions reductions (solar and higher tier engines are each listed in Mitigation Measure 4.17-2 as options) or the Project would purchase credits created by others to offset emissions increases above 1,100 $MTCO_2e$/year. This is not deferred mitigation. All the necessary elements are present to ensure that emissions reductions occur when necessary and the mitigation measure is adequate.

SSE 20 – Deferred mitigation of GHG emissions.

As discussed in Response to Comment SSE 6 above, the GHG mitigation is not deferred. The 1,100 $MTCO_2e$/year cap on emission increase is quantitative and enforceable using standard GHG emissions accounting methods relied upon by the State Air Resources Board and carbon trading market. Mitigation Measure 4.17-2 has been designed to monitor and begin mitigating emissions as they approach or exceed the threshold. Any emissions over the threshold will be mitigated. Even if the emissions had already occurred and the mitigation is implemented retroactively.

Autumn Wind Associates Letter

The following section was prepared in response to comments contained in a second comment letter prepared by Autumn Wind Associates (AWA) and dated August 10, 2015

AWA I – Introduction

This section contains information that is repeated in more detail in later sections. Responding to the comments in other sections addresses the comments in the introduction.

AWA II – The EIR Has Impermissibly Chosen To Ignore Critical BAAQMD CEQA Thresholds of Significance Used to Evaluate Project Emissions

The implementation of significance thresholds is reasonable in the context used.

The commenter believes that the daily average significance thresholds were inappropriately applied and takes issue with the statement that 10 tons/year is equivalent to 54.8 lb/day “daily average” threshold. If one assumes that operations are conducted every day of the year (365 days), then 10 tons/year is equivalent to

54.8 lb/day and there is BAAQMD documentation showing this fact. However, the commenter asserts the "daily average" includes only work days and should be calculated by dividing annual emissions by 250 days/year which is the normal operating schedule (DEIR Page 3-14). Dividing by fewer days would increase the daily average emissions estimate by 46% (i.e., 365 ÷ 250 = 1.46). Using the commenter's approach, impacts that are currently determined at 10 tons/year or 54.8 lb/day using 365 days/year would be reflective of 80 lb/day using 250 days/year which also happens to be the current BAAQMD threshold of significance but exceeds the 54 lb/day threshold used in the Project EIR (i.e., the December 1999 CEQA Guidelines were re-instated following a lawsuit that required BAAQMD to set aside the 2011 CEQA Guidelines and May 2012 update).

However, the baseline annual production level (i.e. 810,363 tons/year) and corresponding baseline emissions levels reported in the DEIR are the average over five years. The Project daily average emissions, as calculated using annual emissions in the DEIR, would not be reflective of the daily average in the maximum year which would be the proper comparison to make. Thus, comparing the average day in the average of five years to an average day in a 365 day maximum year is a reasonable approach. During the baseline period, the maximum calendar year production was 17% higher than the average production over the five years. If daily or monthly production data were available to calculate annual production on a rolling basis, then a greater annual production could be substantiated. Nevertheless, this increase in the baseline average day would decrease the Project average day by a corresponding amount.

Furthermore, at the time that the Air Quality and Health Risk Impact Assessment (AQHRIA) was prepared it was standard practice to use 365 days to determine the average daily emissions. The Project AQHRIA used the CalEEMod model methods in place at the time (i.e., Version 1.x). The average annual daily trips (AADT) used in CalEEMod are by definition the annual trips divided by 365. Thus, the Project AQIA was prepared in a manner consistent with the default method for analyzing development project air quality impacts.

In addition to the normal operating schedule cited by the commenter, DEIR Page 3-14 also states:

> *"due to work on public transportation infrastructure projects, which are increasingly and typically conducted at night, in addition to off-peak operations necessitated by Syar's PG&E energy saving contracts, Syar could conduct all of the above activities up to 7 days a week and 24 hours a day, depending on customer requirements and market conditions…."*

Activities that routinely and increasingly occur during non-peak hours have diminished effect on the frequency and severity of air quality standard exceedances. This is particularly true for ozone precursors (i.e., NOx and ROG) because ozone relies on sunlight to form in the atmosphere resulting in exceedances during "peak" hours. The BAAQMD 2010 Clean Air Plan states:

> *"As air temperatures rise, the formation of ground-level ozone increases at an accelerated pace. Ozone levels are usually highest on hot, windless afternoons, especially in inland valleys…Ozone formation in the Bay Area is strongly influenced by the location and strength of the Eastern Pacific High Pressure System. During the summer months, this system normally develops over the Pacific Ocean and travels towards the east. From time to time,*

depending upon its strength and route of travel, it blocks westerly airflow exiting the Bay Area into the Central Valley and develops meteorological conditions conducive to ozone production: light winds, high temperatures, sunny and clear sky conditions, and a shallow mixing layer. When these conditions occur in mid - summer, typically airflow from the core Bay Area penetrates into the Livermore Valley through the I - 680 corridor from the north and various gaps along the East Bay ridge from the west, carrying polluted air and causing ozone exceedances. At other times, especially in early or late summer, airflow with a weaker westerly push that is unable to cross the East Bay ridge flows southward, causing ozone exceedances in the Santa Clara Valley. San Martin is frequently the exceedance site in the Santa Clara Valley under these conditions." (Pages 2-13 to 2-14)

The BAAQMD provided comments on the Notice of Preparation in a letter dated July 30, 2009 and received the Draft EIR in 2013 including the related technical studies. BAAQMD did not take issue with how the Project emissions were evaluated in relation to their CEQA thresholds of significance. Review of the historical BAAQMD CEQA Guidelines does not reveal that "daily average" means average working day. The commenter's account of a telephone conversation with a staff person at BAAQMD does not provide substantiated evidence to support the commenter's claim.

For all of the above reasons, using annual emissions significance determination in the DEIR as a surrogate for the average daily emissions significance determination is appropriate and reflective of the potential Project air quality impacts. However, to demonstrate that even if the comment is valid the analysis is conservative, the potential impact associated with 250 operating days per year is considered as follows. Using the baseline for daily average conditions and ratio of 365 to 250 discussed above, the results would increase by 29% (i.e., 46% increase minus 17% decrease = 29%). Thus, the daily average Project emissions at 9.8 ton per year emissions level for NOx presented in Table 4.3-11 of the DEIR (Page 4.3-37) would be equivalent to 69.3 pounds per day which is greater than the 54 pounds per day threshold requiring a reduction of 22% to be less than significant on the daily average basis. This would equate to 2.2 tons per year of reduction.

As shown below, NOx emissions from haul trucks are overestimated by greater than 2.2 tons/year and the rail emissions increase under the Reduced Production Alternative would be eliminated. Thus, no additional changes are necessary. Even if the overestimations discussed below are omitted from consideration, the Project could alter Mitigation Measure 4.3-2A to be more restrictive and accomplish the 2.2 tons/year reduction.

Mitigation Measure 4.3-2A contains the information presented in Table 1 below. Mitigation needed to achieve greater levels of production than those needed for the Reduced Production Alternative (i.e., 1.3 million tons per year) are excluded from Table 1 below for simplicity.

Table 1. NOx Mitigation Measure in DEIR

Scenario	Production (tons/year)	Increase in Production Allowed Using Specified Engines	Mitigated NOx Emissions (tons/year)	Engine Activity (Percentage of Horsepower-Hours per Year)
Baseline	810,363	134,637	0	12% Tier 2 or better
1	945,000	155,000	9.8	12% Tier 2 or better
2	1,100,000	200,000	9.8	44% Tier 2 or better
3	1,300,000	250,000	9.8	5% Tier 3 or better and 72% Tier 2 or better

Source: DEIR Table 4.3-11 on Page 4.3-37.

Table 2 presents updated NOx mitigation that would be protective of the average daily threshold of significance. NOx is mitigated to 6.75 tons/year which would equate to an average day of 54 lb/day for a 250 day operating schedule. Note that the reductions discussed later in this memo are omitted and, if considered, would eliminate the need to change Mitigation Measure 4.3-2A. Table 2 is provided for informational purposes and to facilitate a "belt and suspenders" approach, if desired.

Table 2. NOx Mitigation Measure Adjusted to 250 days/year Operating Schedule

Scenario	Production (tons/year)	Increase in Production Allowed Using Specified Engines	Mitigated NOx Emissions (tons/year)	Mitigated NOx Emissions (lb./day)	Engine Activity (Percentage of Horsepower-Hours per Year)
Baseline	810,363	105,017	0	0	12% Tier 2 or better
1	915,380	120,900	6.75	< 54	12% Tier 2 or better
2	1,036,280	156,000	6.75	< 54	44% Tier 2 or better
3	1,192,280	107,720	6.75	< 54	2.75% Tier 3 or better and 60% Tier 2 or better
4	1,300,000	n/a	6.75	< 54	n/a

In summary, although the potential difference in methodology suggested by the commenter is a matter of opinion and offset by overestimates discussed later in this memo, Mitigation Measure 4.3-2A could be adjusted as shown in Table 2 and the impact will remain less than significant.

AWA III – The EIR's Health Risk Analysis Impermissibly Dismisses Use of BAAQMD CEQA $PM_{2.5}$ Thresholds of Significance

As noted on page 4.3-14 of the Draft EIR, and Response to Comment G-15 in the Final EIR, County staff chose to retain the BAAQMD thresholds of significance even though BAAQMD was forced to rescind them following a lawsuit.

As indicated in further detail on page 4.3-44 of the Draft EIR, the overall impact associated with $PM_{2.5}$ is less than significant for the following reasons:

- $PM_{2.5}$ is not increasing locally by an amount greater than the cumulative threshold and regional $PM_{2.5}$ emissions impacts are beneficial under the project as mitigated.
- The BAAQMD significance threshold value was intended to assess risk from particles in engine exhaust. Road dust is excluded from BAAQMD assessment of this impact and thus could have been excluded from the Project impact assessment but was not. The cumulative $PM_{2.5}$ concentration is only slightly greater than the threshold and would likely be less than the threshold if road dust were not assessed.
- Particles in engine exhaust are more toxic than fugitive dust particles. Regardless, the toxicity of both the engine exhaust and the fugitive dust were incorporated into the health risk assessment which reports the combined risk associated with both as well as from other constituents that are emitted on-site (e.g., combustion and organic emissions from asphalt plants). Because the HRA assess health risk from each toxic constituent rather than broadly address a size of particle without regard to its composition (e.g., $PM_{2.5}$), the HRA results are more precise. Moreover, the $PM_{2.5}$ ambient air quality standard is based on the $PM_{2.5}$ in urban areas which has a large combustion component that is not representative of the $PM_{2.5}$ emissions from the Project.

In summary, cumulative health risk from $PM_{2.5}$ and other air pollutants was determined through health risk assessment which considered the constituents in $PM_{2.5}$ from this Project rather than assuming all constituents represent the same level of health risk. Health risk assessment is a more precise method than the $PM_{2.5}$ method and is preferred method for evaluating health effects from the project. The cumulative $PM_{2.5}$ analysis provides duplicative and less precise results that are not reflective of risk from this specific project because the threshold is based on risk from urban particulates of which a large component is from combustion. Combustion pollutants are more toxic than dust particles and so the comparison to the $PM_{2.5}$ standard is not the best approach. The best approach is to evaluate health risk directly and this was done for the Project.

AWA IV – The EIR's Air Quality Element and Appendices Reflect Confused and Missing Information

It is true that Table 18 in the AQHRA does not contain a significance determination as the text after it claims. However, to add clarity this was corrected in DEIR Table 4.3-10. That the commenter was confused by the fact existence of an Appendix I within the AQHRA report which itself is located in Appendix I of the DEIR is understandable but not really a comment that addresses the adequacy of the EIR. It is true that an EIR should convey information in understandable terms for the general public; however, the technical appendices are provided to support the EIR as part of the administrative record and not necessarily written for the average reader. The information provided in the technical appendices is presented in the EIR in a more user friendly format.

AWA V – CEQA Air Quality Thresholds of significance Have Not Been Adopted by the Lead Agency

The commenter's concern does not address the adequacy of the EIR. There are many jurisdictions that have not adopted thresholds of significance and rely on the local air district thresholds.

AWA VI – The EIR Provides Discrepant Information on Tons of Syar Product per Truck

The commenter states that the AQHRA report uses 16.2 tons of aggregate per load which is the value that was provided by Syar/GHD. Forty tons full and 15 tons empty was used to assess road dust from truck travel. Although these values are higher than the 16.2 ton load, they result in overestimation of road dust impacts because heavier vehicles cause more dust to be emitted, which is conservative.

As noted on page 11 of the Napa Quarry Expansion EIR Traffic Impact Study, the 16.2 tons of material in each truck leaving the Quarry is an approximate that was calculated based on a 5-year average. Note that the "100,000 one-way truck trips" are one way, not round trips. In other words, one truck entering the quarry is one trip and one truck leaving the quarry is a second trip. Therefore, the commenter has correctly calculated, on page 12 of the comment letter, the average tonnage to be 8.1 per one-way trip, which also equates to 16.2 per round trip. The tonnage was not increased per load as insinuated by the commenter; it was simply shown in two different formats (one-way truck trips and round trips). As for the 18.1, which was not used in the analysis, but appears in an appendix to the AQHRA, this appears to be a typo and should read 8.1.

AWA VII – EIR Truck Trip Distance Values are Contradictory; Use of In-County Commercial Trip Distance Average Is Inappropriate for EIR and leads to Underestimated Emissions

The trip distance is correct in the context used.

The off-site haul truck emissions were determined based on forecasted growth in demand for the entire region. One hundred percent (100%) of future market growth in the Production-Consumption Region was assumed to be satisfied by increased Project production. In other words, this approach assessed the average distance of all aggregates trips in the region regardless of whether or not they were truck trips leaving the Syar Napa Quarry. This is a very conservative assumption and more than accounts for the potential vehicle miles travelled (VMT) if truck trips did extend, on average, beyond the 14.7 mile distance identified in the Draft EIR.

Alternatively, the emissions calculations could have attributed to the Project its fair share of market growth which is a fraction of the total market and not 100% of the market as was assumed in the Draft EIR. For instance, the 2015 forecasted demand in the P-C Region is 8,689,228 tons/year (as shown in Appendix H of the AQHRA). Under the Reduced Production Alternative (1.3 million tons per year), the facility could satisfy up to 15% of the total demand in the region. Thus, 15% would be the facility's overall fair share and the Project's fair share is arguably even less. Distances to various cities within the P-C Region were measured using Google Maps. Urban areas within the PC- Region located north of Santa Rosa are assumed to be served by mines in that area. Based on that assumption, the most distant urban areas that may receive Project materials are: Sausalito is 44.6 miles, Santa Rosa is 41.8 miles, Oakland is 38.2 miles, Davis is 42.6 miles, and Calistoga is 29.6 miles. Based on an average of these distances, the maximum distance for Project trucks is estimated to be 40 miles. A conservative estimate of the average Project truck trip distance would be estimated to be 30 miles. If the average trip is 30 miles rather than 14.7 miles and the Project is attributed 15% of the growth in aggregates production rather than 100%, then the emissions would be 2.5

times less than those presented in the DEIR. Specifically, 7.2 tons NOx/year is reported in the DEIR (i.e., 100% of growth, 14.7 VMT/trip). The fair share emissions using a 30 mile haul would be 2.9 tons/year.

Furthermore, on road emissions factors were updated in EMFAC2014 and are reportedly lower than those in EMFAC2011 which was used in the DEIR. Also, the Project has been delayed and so the start year which was 2012 in the AQHRA is now 2016 which will have lower emissions due to implementation of diesel engine regulations. Applying EMFAC2014 and start year changes to the DEIR calculations (i.e., 100% of growth attributed to the Project and 14.7 VMT/trip) reduces the off-site truck travel NOx emissions from 7.2 tons/year to 5.2 tons/year. For the Reduced Production Alternative the NOx emissions are 4.75 tons/year. The slight difference between the Project and the 1.3 million tons per year alternative is because in both cases the regional growth in aggregates consumption is the same but the Reduced Production Alternative achieves the total incremental increase (i.e., 489,637 tons per year) in Year 2021 whereas the Project would achieve the total increase (i.e., 1,189,637 tons per year) in Year 2029. As time progresses, the truck fleet exhaust becomes cleaner and so even though the tons transported increases between 2021 and 2029, the emissions factors are decreasing which causes the difference in emissions between the two alternatives to be disproportionately small as compared to the difference in tons transported.

Lastly, incorporating the fair share, 30 VMT/trip, EMFAC2014 emissions factors, and later start date results in Project emissions of 2.15 tons NOx/year and Reduced Production Alternative would have emissions of 0.89 tons NOx/year.

In summary, the 14.7 VMT/trip assumption is appropriate and yields conservative results. Emissions from off-site truck trips reported in the DEIR were 7.2 tons NOx/year. Updating the method to use a longer trip distance and attribute to the Project its fair share of new trips within the region results in emissions estimates that are 2.5 times less (i.e., 2.9 tons NOx/year). Using the more recent EMFAC2014 emissions factors and a 2016 start date further reduces the emissions to 2.15 tons NOx/year and the Reduced Production Alternative would have emissions of 0.89 tons NOx/year. Applying this methodology to other pollutants also yields lower results for those pollutants. Thus, the truck trip distance and use of EMFAC2011 in the DEIR conservatively overestimated the NOx emissions by approximately 5 tons per year.

AWA VIII – EIR Lacks Important $PM_{2.5}$ Information

It is true that the federal $PM_{2.5}$ ambient air quality standard was updated in 2012 to 12 $\mu g/m^3$. However, the commenter is incorrect that BAAQMD is in non-attainment. Review of the BAAQMD website shows that the designation is “unclassifiable/attainment” with footnotes that read:

> [BAAQMD Footnote] *10. On January 9, 2013, EPA issued a final rule to determine that the Bay Area attains the 24-hour PM2.5 national standard. This EPA rule suspends key SIP requirements as long as monitoring data continues to show that the Bay Area attains the standard. Despite this EPA action, the Bay Area will continue to be designated as “non-attainment” for the national 24-hour PM2.5 standard until such time as the Air District submits a “redesignation request” and a “maintenance plan” to EPA, and EPA approves the proposed redesignation.*

…

[BAAQMD Footnote] *15. In December 2012, EPA strengthened the annual $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS) from 15.0 to 12.0 micrograms per cubic meter (µg/m3). In December 2014, EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ NAAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.* (http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status; see also PDF of website on September 17, 2015 in Attachment 1)

Thus, the 2012 standard did not apply at the time of the environmental analysis in 2013 and the attainment status could not have been known at that time because the determination was not made until January 15, 2015. The omission of discussion on the 2012 standard in the 2013 AQHRA is a slight oversight that is now clarified and disclosed with this response to comment.

Omission from the commenter's letter dated August 10, 2015 of the fact that the region is in attainment for both the 2012 and 2006 annual $PM_{2.5}$ standards (see also Federal Register Vol. 80: 2222, January 15, 2015) and the 24-hour $PM_{2.5}$ standard (pending redesignation request to EPA) is more egregious given the other claims that are made by the commenter based on the false assertion that the region is in non-attainment. Presenting the region as being in non-attainment with the 2006 24-hour $PM_{2.5}$ standard in the DEIR is a more conservative view of the $PM_{2.5}$ levels in the basin than actually exist today as discussed above.

The number of days exceeding the federal $PM_{2.5}$ 24-hour standard (which did not change in 2012) is correctly listed in DEIR Table 4.3-5. The commenter's statement that the DEIR fails to explain "significant numbers" of exceedance days is false. There are not a significant number of exceedance days which is why BAAQMD is in a position to request redesignation to attainment status.

The commenter statement that "Syar's proposed mitigation… will substantially reduce the project's estimated $PM_{2.5}$ emissions, but the project will nonetheless add incrementally to the region's air pollution non-attainment is false on two counts. First, the Project will reduce $PM_{2.5}$ from existing levels so it will not add incrementally. Second, the region is in attainment.

The commenter's cites two court cases:

1) Bakersfield Citizens for Local Control v. City of Bakersfield (http://resources.ca.gov/ceqa/cases/2004/Bakersfield_Citizens_for_Local_Control-F044943.htm); and

2) Sierra Club v. County of Fresno (http://www.courts.ca.gov/opinions/revpub/F066798.PDF).

The projects and legal issues considered in each case can be distinguished from the circumstances of this project primarily based on the fact that those projects had significant and unavoidable air quality impacts that required overriding considerations. In order to make the findings necessary for override, the decision-makers needed to be able to weigh the potential health effects with the benefits of the projects. However, the impact analyses did not describe the potential health effects. Instead, the impact analyses calculated a mass of

emissions and showed that the result was greater than the threshold of significance. Discussion of the meaning of the numerical results in relation to health effects was lacking and so, the courts reasoned; the decision-makers were not informed enough to make the findings needed to override the significant air quality impacts. Conversely, the Syar Napa Quarry Mine Expansion Project as proposed (2 million tons per year) and mitigated does not have any significant air quality impacts that require an override. The Reduced Production Alternative (1.3 million tons per year), after mitigation, would have even less air quality impact. Thus, there is no need to make any such findings and no clear need to relate the numerical results to health effects. Moreover, the health risk assessment that was prepared in support of the DEIR far exceeds what was done for the projects in the two court cases and describes health risk in a quantitative way that can be compared to other projects and arguably enables such a finding (though unnecessary in this case) to be made for receptors near the Project site. On a regional basis, the contribution of the entire Syar facility (i.e., not just the Project) to criteria pollutant emissions in the air basin is a small fraction of pollutant emissions. Facility related emissions of $PM_{2.5}$ are 20.5 tons/year while the emissions of $PM_{2.5}$ in the air basin are 16,425 tons/year. $PM_{2.5}$ emissions in Napa County are 730 tons/year. (http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Emission%20Inventory/BY2011_CAPSummary.ashx?la=en). Regionally, the potential for health effects related to criteria pollutant emissions from a facility like the Syar Napa Quarry is a fraction of the total.

The Bakersfield Citizens case involves the bifurcation of two related projects and failure to perform adequate analysis of cumulative impacts. However, the Project DEIR clearly assesses cumulative impacts by using thresholds that are expressly provided for that purpose.

Appendix E of the AQHRA provides information on health effects of pollutants including particulate matter of which $PM_{2.5}$ is a subset. Appendix F of the AQHRA contains a copy of the *Community Air Risk Evaluation (CARE) Program Phase I Findings and Policy Recommendations Related to Toxic Air Contaminants in the San Francisco Bay Area* (BAAQMD, 9/2006). The purpose of including the CARE document was to expand on the information provided in Appendix E. Particulate matter health risk and effects are specifically addressed. Additional information from the American Thoracic Society (ATS) and Office of Environmental Health Hazard Assessment describing the principles and metrics used to establish particulate matter ambient air quality standards are attached to this memo (Attachments 2 and 3).

AWA IX – Rail Trip Distances Are Underestimated Through Inappropriate Use of Onroad Vehicle Average Trip Distance

The rail trip distance is reasonable in the context used.

The rail trip distances in the past were reported to be between five and ten miles. The DEIR increased the distance to 14.7 miles to be conservative. The rail haul distances from the quarry to air district boundary range between 25.9 miles heading east towards Vacaville to 66.5 miles heading north towards Healdsburg. The distance to Gilroy is greater but trips are unlikely to occur because the Monterey Bay PC-Region is reported in Map Sheet 52 (CGS, 2012) to have enough permitted reserves to last at least four decades whereas other neighboring regions have between one and two decades of permitted aggregate reserves.

The most likely trip to outside the air district is east to Sacramento which has less than a decade of permitted reserves remaining (CGS, 2012).

The distance to San Francisco is 70.2 miles and Fremont is 77 miles. Assuming a quarter of the trips travel 70 miles (i.e., Healdsburg, San Francisco, or Freemont) and three quarters head east 26 miles towards Vacaville would make the average trip length within the air district 37 miles.

The emissions calculations in the DEIR used the 2012 emissions factor for "small railroad" because the factor was the highest and most conservative emissions factor presented in the reference document (http://www.epa.gov/nonroad/locomotv/420f09025.pdf). However, further review of the definition of "small railroad" below indicates that a railroad moving aggregates greater than the distances assumed, is unlikely to be small.

> 40 CFR 1033.901
>
> *Small railroad means a railroad meeting the criterion of paragraph (1) of this definition, but not either of the criteria of paragraphs (2) and (3) of this definition.*
>
> *(1) To be considered a small railroad, a railroad must qualify as a small business under the Small Business Administration's regulations in 13 CFR part 121.*
>
> *(2) Class I and Class II railroads (and their subsidiaries) are not small railroads.*
>
> *(3) Intercity passenger and commuter railroads are excluded from this definition of small railroad. Note that this paragraph (3) does not exclude tourist railroads*.

It is more appropriate to use the 2016 large line-haul emissions factors for the type of company that would haul aggregates large distances. The effect of this change is to reduce the NOx emissions from 242 grams per gallon (g/gal) to 121 g/gal. PM_{10} emissions are similarly reduced from 5.7 g/gal to 3.1 g/gal and hydrocarbon emissions are reduced from 11.7 g/gal to 5.1 g/gal. In addition, the large line haul locomotives are more efficient converting less fuel into greater horsepower. Specifically, the large line haul locomotive achieves 20.8 hp-hr/gal while the small railroad achieves only 18.2 hp-hr/gal. Tables 3 through 5 present the emissions factors and a comparison of emissions.

Table 3. Small Railroad Emissions Factors Used in DEIR

	HC	CO	NOx	CO2	PM10	SOx
2012 Calendar Year (g/gal)	11.7	nd	242	10150	5.7	nd
Conversion (bhp-hr/gal)	18.2	nd	18.2	18.2	18.2	nd
2012 (g/bhp-hr)	0.64	1.28	13.3	557.7	0.31	0.93

Table 4. Large Line Haul Emissions Factors

	HC	CO	NOx	CO2	PM10	SOx
2016 Calendar Year (g/gal)	5.1	nd	121	10150	3.1	nd
Conversion (bhp-hr/gal)	20.8	nd	20.8	20.8	20.8	nd
2016 (g/bhp-hr)	0.25	1.28	5.8	488.0	0.15	0.93

Table 5. Comparison of Small Railroad and Large Line Haul Emissions Factors

	HC	CO	NOx	CO2	PM10	SOx
2016 Large Line Haul (g/bhp-hr)	0.25	1.28	5.8	488.0	0.15	0.93
DEIR 2012 Small Railroad (g/bhp-hr)	0.64	1.28	13.3	557.7	0.31	0.93
Ratio of Emissions Factors	2.6	1.0	2.3	1.1	2.1	1.0

As discussed above, the rail trip distance within the air district could be greater than 14.7 miles and is estimated to average 37 miles, a 2.5-fold increase. The NOx, hydrocarbon, and PM_{10} emissions factors for the large line haul railroad are between 2.1 and 2.6 times less than the small railroad factor that was used in the DEIR. Thus, depending on pollutant, there may be a slight increase from the rail haul emissions using the increased rail haul distance.

However, the 100,000 tons that may be shipped by rail was also included in the off-site truck emissions calculation. Thus, the emissions are double-counted. Moreover, as discussed above, the off-site truck emissions were overestimated by at least 5 tons/year. Thus, the total emissions reported in the DEIR are conservatively estimated and no changes are warranted.

2 HYDROLOGY AND WATER QUALITY

Introduction

This section summarizes our review and responses to additional comments on the Draft Environmental Impact Report (DEIR) and associated evaluation of hydrology for the above referenced Project. Detailed comments on the hydrology evaluation were provided in a report prepared by Parker Groundwater dated May 31, 2015, which was included as part of the Stop Syar Expansion citizens group comments. The comments pertinent to the hydrology analysis are contained in the 15 page cover letter and in the Parker Groundwater (PG) report. In addition, there is a Technical Memorandum Addendum dated August 10, 2015. This addendum repeats similar concerns as raised in the May 31, 2015 letter and therefore the repsonses to the addendum can be found in the responses to the May 31, 2015 letter.

The Project impacts are those impacts related to an expanded quarry footprint and higher annual production volumes described in the Project Description of the Draft EIR. Many of the comments do not distinguish between the baseline environmental impacts of the existing quarry operations and the impacts of the proposed Project. It is the portion of the operation beyond existing conditions (baseline) that is evaluated under the California Environmental Quality Act (CEQA). Under CEQA the impacts of the ongoing existing operations are not considered in the impact analysis. In addition, the comments often refer to the impacts of the Project as it is described in the Project Description rather than incorporate the mitigation imposed on the Project to reduce the impacts to less than significant.

Many of the key mitigation measures imposed by the County are designed to restrict implementation of the Project such that the environmental impacts are kept at existing condition levels. These mitigation measures are likely to significantly restrict the depth of mining by preventing excavation below groundwater and encourages water conservation by limiting total annual groundwater withdrawal to the baseline year of 2009.

Cover Letter

The following are responses to the comments in the cover letter that are relevant to the Project hydrology.

SSE 3 - Syar's current and future water use is unknown

This section includes a comment that the water supply providing the quarry has not historically been metered and that the EIR did not evaluate the effect of the Project on neighboring properties.

The commenter is correct in that metering of groundwater use has not been historically performed by the Syar Napa Quarry. It is important to note that metering of groundwater has not been a government requirement of groundwater users in the Napa Valley, or for that matter, much of California. The lack of groundwater extraction metering data is not unique to the Syar Napa Quarry and in fact the vast majority of groundwater extraction in California is not metered. With recent legislation at the local and state levels this will change in the future, but it should not be inferred that the Napa Syar Quarry has been remise in quantifying groundwater use.

CEQA guidelines require that all Project impacts be compared against the baseline year of 2009 when the Notice of Preparation (NOP) was filed. Groundwater metering was not in effect during 2009 when the NOP was filed. Metering was conducted as part of the studies for the Project during 2011 and this data was used to calculate the groundwater used during the baseline year of 2009 by adjusting for differing production volumes between 2009 and 2011. Under CEQA guidelines the Project evaluation process does not have the option of selecting a different year for baseline. To address the projected water demands of the Project the Water Supply Assessment provided calculations for the water volume required to produce the higher gravel production volumes described in the Project Description. However, the County has imposed a fixed limit to the groundwater available for the Project and these projected higher water demands (for higher gravel production) are no longer relevant for evaluating groundwater impacts because no additional groundwater is allowed, even if this limits the output of the quarry.

The County has imposed the significant mitigation measure of not allowing any additional withdrawals above the 2009 baseline volume regardless of desired production goals that Syar may set. Therefore, the Project does not represent an increase in withdrawal from the groundwater supply and will have a less than significant effect on the volume of groundwater extracted.

SSE 10 - The cumulative impacts of an expansion of Syar Napa Quarry is unknown

This section includes a comment that the cumulative impacts are particularly important relative to groundwater.

The mitigation measures imposed by the County limits groundwater use to that of 2009. Because there is no project impact, as groundwater use will not increase with the project, there is no project contribution to a cumulative impact.

SSE 11 - Monitoring and enforcement mechanisms: unknown

This section includes a comment that procedures for monitoring and enforcement are not provided.

The mitigation measures imposed by the County require monitoring and public reporting of groundwater use and elevations annually. This is a requirement not usually imposed on industrial users of groundwater in the County and it is not required under the current permit. The County requires self-reporting under the professional stamp of a State licensed Engineer or Geologist. Self-reporting under a professional registration is the standard for environmental compliance reports in California.

Parker Groundwater Letter

Responses to comments provided in the Parker Groundwater report (dated May 31, 2015) are generally organized based on the Summary Statements indicated in five numbered points on page 1 of the report. These Summary Statements have been paraphrased in the discussion below.

PG 1 – The Project area hydrogeology is very complex requiring additional studies

The commenter states that the hydrogeology of the quarry site is complex, has small groundwater storage volumes and fast groundwater travel times. GHD's hydrology analysis concurs with these findings. However, GHD does not concur with the commenter's suggestion that additional hydrogeologic evaluation is required. As described in the Project Description rainfall landing on the quarry will be maintained within the existing watershed boundaries. All watersheds drain surface water and groundwater to the Milliken-Sarco-Tulocay (MST) and this will not change under the Project.

The commenter suggests that the EIR should provide details on how to monitor and measure re-infiltration mechanisms. These methods are standard engineering practices used for control of storm water and grading design. The specific techniques for surface water control are adapted to the specific goals of each infiltration basin and will change over time as the slope of the ground and size of the individual catchments are modified during quarry activities. The environmental documents are not appropriate for providing detailed

engineering practices. The overall goal of the grading as described in the environmental documents is to maintain similar infiltration capacity of the quarry within each watershed and protect the infiltration volumes that terminate in the MST.

The commenter states that the Latour Court Well not be included in groundwater evaluation. It is correct that water elevation in the Latour Court Well was not monitored during the 2011 studies because elevation information from other wells located closer to the quarry were available. The Latour Court Well is far outside the working area of the Quarry working area of the proposed Project. The effect on the Latour Court Well and wells nearby will be less than significant because mitigation restricts the withdrawal to 2009 baseline levels.

The commenter suggests that multiple years of monitoring are required including wet and dry years. To monitor actual demand of the project. The mitigation imposed by the County to restrict the groundwater withdrawal to 2009 levels makes projections of demand irrelevant. No additional groundwater beyond 2009 baseline volumes is allowed regardless of desired production volumes.

PG 2 - The water supply assessment is inadequate and is missing substantial evidence, and the Proposed Project water demand is riddled with uncertainty

The commenter suggests that the method of calculating future demand under represents the actual increased demand of the project. While GHD disagrees with this assertion this aspect of the Water Supply Assessment, the method of calculating future demand is irrelevant because the County has imposed mitigation that limits the annual withdrawal of groundwater to the 2009 baseline levels.

The commenter suggests that recycled water be included in the water supply available for the Project. While access to recycled water is desired by the Syar Napa Quarry the allocation of recycled water cannot be assured by the Napa Sanitation District. Access to recycled water is highly competitive because it is also used for agriculture and may not be available to the Syar Napa Quarry.

PG 3 – Syar track record of not meeting benchmarks for pollutant discharges

It is correct that Syar Napa Quarry performed required sampling and self-reported exceeding benchmark sediment discharges as required by the Regional Water Quality Control Board. The County imposed mitigation for the Project also requires sampling and self-reporting. The proposed mitigation provides additional details to the monitoring and oversight by the County. Syar Napa Quarry has continued to reliably perform required sampling and self-reporting as directed by the various government agencies.

PG 4 - Infiltration from ponds is relatively large raising concerns about potential groundwater quality impacts and increasing infiltration increases risk:

The commenter states that the Project proposes to increase surface water infiltration through the use of sedimentation ponds and that this is a risk to the groundwater quality. The surface water infiltration goals of the Project are to mimic the baseline infiltration conditions within each watershed. This infiltration will occur in

engineered structures such as sedimentation ponds, constructed wetlands, French drains, and other engineering means developed on a site specific basis. The proposed surface water infiltration structures are common engineering solutions to the problem of sediment discharge to surface water. Mitigation imposed by the County also prevents further excavation within 10 feet of groundwater. This prevents evaporation losses due the creation of open bodies of water and prevents further expansion of existing water bodies such as State Blue Pit.

PG 5 – Consideration of new Sustainable Groundwater Management Act

The commenter suggests that the proposed Project should be evaluated under the newly adopted Sustainable Groundwater Management Act (SGMA). This recently adopted legislation is designed to provide enforceable groundwater management at the local level by the formation of a Groundwater Sustainability Agency (GSA). SGMA does not apply to any single project. However, it is foreseeable that a future Napa Valley GSA or similarly authorized agency such as Napa County will likely require metering of groundwater extraction and measuring of groundwater elevations from all groundwater users of a certain size. The proposed mitigation measures meet these objectives with annual reporting of groundwater use and groundwater elevations to Napa County in the form of a formal report certified by a professional engineer or geologist.

3 NOISE AND VIBRATION

Dale La Forest & Associates Letter #1, August 11, 2015

The following section was prepared in response to comments contained in Attachment 6 of the Stop Syar Expansion Letter, a letter dated August 11, 2015 and prepared by Dale La Forest & Associates (DLF). This letter did not use a numbering scheme, but did use bold statements which are presented below to organize the responses. In addition, the EIR Authors have added numbers to the statements to facilitate cross referencing the responses. For example, DLF #1-1, refers to the first comment in the first letter submitted by Dale La Forest dated August 11.

DLF #1-1 - EIR is inadequate because it fails to disclose noise testing data, analysis and Illingworth & Rodkin's noise report upon which EIR's conclusions are based

I&R was a subconsultant to Winzler & Kelly (now GHD, Inc.) and prepared the noise and vibration chapter of the DEIR (see DEIR Chapter 7.0, Report Preparation). A separate technical report was not prepared. The chapter was prepared to inform the public and decision-makers about potential noise and vibration impacts attributable to the project. A complete description of the noise survey location and results, and blasting survey locations and results, is presented in the setting section of the DEIR. This discussion summarizes the noise and vibration data collected during the surveys (see Attachment 4 of this document for datasheets, raw noise and vibration data, and traffic noise modelling input and output). Section 4.11.1.5 discusses the noise monitoring survey and results. As noted on Page 4.11-6 of the DEIR, "Long-term noise measurements were

made at five locations surrounding the quarry between Tuesday, October 6, 2009 and Monday, October 12, 2009. Measurements made at night and over the weekend were representative of existing conditions. Weather conditions during the survey were favorable for noise monitoring purposes, generally consisting of clear to partly cloudy skies and calm to light winds." DEIR Draft EIR Figure 4.11-1 shows the approximate locations of long-term and short-term noise measurements made in areas surrounding the quarry that were determined to adequately represent the various noise environments in the project vicinity. Draft EIR Table 4.11-4 summarizes the long-term noise data. These data are also summarized graphically, by long-term measurement location, on Draft EIR Figures 4.11-2 through 4.11-33. Additional details regarding the locations of each of the noise monitoring sites, the predominant noise sources measured at each site, and the range of noise levels measured at each site are presented. A description of the activities occurring within the Quarry during the noise monitoring period is contained in Section 4.1 of the Master Response to Comments. Similarly, Section 4.11.1.6 discusses the blasting survey and results. Draft EIR Table 4.11-5 summarizes the vibration data collected by I&R and Syar. A complete description of the monitoring sites and measured vibration velocity and air-blast levels is presented. Substantial evidence, of credible and solid value, is presented in the DEIR to support conclusions made when establishing the environmental baseline in terms of noise and vibration.

DLF #1-2 - EIR is inadequate for not adequately revealing conditions during noise level measurements and data obtained at such locations

Please see response to comment DLF #1-1, above, and the technical data attached as Attachment 4.

Noise measurements were made with Larson Davis Model 820 Integrating Sound Level Meters (Type I SLMs) set at "slow" response. The sound level meters were equipped with G.R.A.S. Type 40AQ ½-inch random incidence microphones fitted with windscreens. The sound level meters were calibrated prior to the noise measurements using a Larson Davis Model CAL200 or Model CA250 acoustical calibrator. The response of the system was checked after each measurement session and was always found to be within 0.2 dBA. No calibration adjustments were made to the measured sound levels. At the completion of each monitoring event, the measured interval noise level data were obtained from the SLM using the Larson Davis SLM utility software program. Weather conditions during the survey were favorable for noise monitoring purposes, generally consisting of clear to partly cloudy skies and calm to light winds from the south and southwest. The data collected in 2009 continue to represent existing noise conditions at receptors in the project vicinity as major operations at the Syar Napa Quarry or other ambient noise sources in the project vicinity have not changed substantially since the time of the survey.

Noise contours were developed to graphically illustrate the potential worst-case noise levels from the removal of overburden during the short-term step back process and when aggregate mining activities occur in unshielded areas. The calculated noise levels assumed a source noise level of 80 dBA L_{50} at a distance of 100 feet from the mining activity (see Attachment 4 for the I&R file datasheet containing the source noise level data) and that receptors had direct line-of-sight to the mining equipment. The purpose of these graphics was to display the potential worst case noise levels that would be expected at receptors in the project vicinity when these short-term activities would occur. The calculated noise levels assume hemispherical spreading

losses over a hard ground plane and the excess attenuation due to atmospheric absorption. The calculations represent a credible worst-case scenario because they do not account for intervening terrain, which will subsequently reduce noise levels as the mining progresses downward to the quarry floor.

DLF #1-3 - EIR's noise study is lacking any verifiable expertise

As discussed in the first response to comment, I&R was a subconsultant to Winzler & Kelly/GHD and prepared the noise and vibration chapter of the DEIR. The commenter's claim that the credibility of the noise measurements or calculations is lacking because there is no separate technical report is unfounded. I&R routinely prepares noise and vibration chapters directly for its clients with whom they have long-standing working relationships (i.e. Winzler & Kelly/GHD). I&R reviewed all comments and proposed edits to the draft noise and vibration chapter prior to publication of the final noise and vibration chapter found within the August 2013 EIR.

DLF #1-4 - DEIR fails to disclose significant noise impacts on nearby homes which will be impacted by quarry noise

Section 4.11.1.4 of the DEIR identifies Napa State Hospital as a sensitive receptor that bounds Syar Napa Quarry to the north. Section 4.11.1.5 describes long-term noise measurement LT-3, which was selected to represent, "…the noise environment experienced at the nearest residences within the grounds of Napa State Hospital." A review of the noise data collected during quarry operational hours at Site LT-3 (as summarized in DEIR Table 4.11-4 and DEIR Figures 4.11-16 through 4.11-22) showed little variation in noise levels whether or not quarry operations were occurring in the nearby State Grey pit. In fact, the highest ambient noise levels were measured on Sunday when no operations were occurring at Syar Napa Quarry. These noise data indicate that the quarry is not the predominant source of ambient noise levels at the nearest residences within the grounds of Napa State Hospital. A review of DEIR Figure 3-6, Cross-Section E, shows that the nearest residences within the grounds of Napa State Hospital are completely shielded from quarry activities by an intervening ridgeline, which is approximately 75 to 100 feet high with respect to the elevations of these residential receptors and existing quarrying activities. This same ridgeline would continue to shield future quarrying activities within the State Grey pit. No mining would occur within the view of the nearest residential structures within the grounds of Napa State Hospital.

All comments regarding potential sleep disturbance are addressed below under response to comment DLF #1-12.

DLF #1-5 - EIR fails to analyze noise impacts on these nearest homes due to expanded quarry activities

The worst-case noise from the quarry expansion in the State Grey pit will not occur at the top of the ridgeline, as was conservatively assumed for the most-affected land uses at other locations near the quarry boundary (e.g., Imola Avenue, Madrone Avenue, and Skyline Wilderness Park receptors). As shown on DEIR Figure 3-6, Cross-Section E, the step back process and uppermost benches have already been mined. Quarry

expansion activities proposed in the State Grey pit will over time progress downward toward the quarry floor. The acoustical shielding provided by the intervening terrain will only increase over time as quarry activities move to elevations further down into the quarry pit resulting in lower noise levels at the five nearest residences as compared to existing conditions. Noise increases would not occur at the nearest residences within the grounds of Napa State Hospital due to quarrying within the State Grey pit. No significant impacts would occur at the closest, but least affected receptors because of the presence of intervening terrain.

All comments regarding potential reflected noise are addressed below under response to comment DLF #1-9.

DLF #1-6 - DEIR fails to evaluate quarry project's noise impact on adjacent jail project's inmates and employees

The County Jail project was not a reasonably foreseeable project at the time the Syar EIR began (i.e., at the time of the NOP), and the County Jail project was not analyzed when the noise and vibration analysis for the quarry project was conducted because pertinent details regarding the County Jail project were not available. The DEIR notes that the, "…potential location of a new County jail adjacent to the Project site was not considered in this analysis. The Jail EIR will consider whether impacts relative to inmate or employee exposure would be potentially significant." The Jail EIR concluded that proposed sensitive land uses would not be exposed to excessive noise or vibration levels due to activities at Syar Napa Quarry whether the Jail is located on the Boca Parcel (nearest Syar Quarry) or on the Pacific Coast parcel (nearest to State Route 221). It should be further noted that the County preference for the Jail Project would be at the location of the Pacific Coast parcel, which is about 500 feet further west, as compared to the distances referenced by the commenter, and nearer to SR 221, which is a major source of environmental noise.

Noise measurement data of all the significant noise-generating equipment operating at the major processing areas (both stationary and mobile equipment) are discussed on Page 4.11-7 of the DEIR. Noise measurements were made to document the cumulative operational noise levels produced by actual operations at the processing areas. These data were reported as a noise level of 79 to 81 dBA L_{50} at a distance of 150 feet, which when adjusted for distance from the noise source equates to 83 to 85 dBA L_{50} at a reference distance of 100 feet. In our professional opinion, based on observations of actual conditions and previous experience at numerous quarries and mines, the operational noise levels measured at Syar Napa Quarry accurately reflect the source noise level used later to calculate operational noise levels at receptors in the project vicinity. Operational noise levels produced by the major processing areas at Syar Napa Quarry will not change with the quarry expansion project because these facilities will not be relocated with the project.

The commenter then creates a theoretical scenario relying upon data from many different sources, none of which were collected by the commenter. The results of this theoretical scenario dramatically overstate noise levels as compared to the measured noise data. The commenter's method for predicting noise levels, as compared to actual noise measurements made while observing quarry activities, is a much less reliable method of quantifying noise levels from operations at a quarry.

DLF #1-7 - Processing area operational noise as measured at jail site would exceed County noise standards

Please see response to comment DLF #1-6, above.

DLF #1-8 - DEIR fails to evaluate quarry project's noise impact on adjacent Napa State Hospital

Please see response to comment DLF #1-6, above. The commenter's theoretical scenario used to predict quarry processing noise levels is incorrect. When utilizing the cumulative operational noise levels produced by actual operations at the processing areas, as measured at the quarry and reported in the DEIR, the calculated noise level at a distance of 1,900 feet is 55 to 57 dBA L_{50}. This calculation assumes the effects of atmospheric absorption, but does not account for additional attenuation provided by barriers or intervening terrain. Receptors within the Napa State Hospital are shielded from quarry noise by 10-foot high masonry barriers that enclose the primary outdoor activity areas at the hospital and provide for security purposes. These receptors are also shielded by intervening terrain located along the northwest portion of the processing area. There is no direct line-of-sight from receptor positions within Napa State Hospital to quarry processing areas. A minimum of 13 dBA of attenuation was assumed for the 10-foot high masonry walls and the intervening terrain that shield receptors within Napa State Hospital. Therefore, processing noise levels were calculated to range from 42 to 44 dBA L_{50} at the nearest primary outdoor activity areas at the hospital. Noise levels would be below both the daytime and nighttime noise standards for suburban multi-family residential land uses (55 dBA L_{50} daytime, 50 dBA L_{50} nighttime) and below the daily average noise level limit of 60 dBA Ldn. Where exterior noise levels meet the exterior noise standards, which are set sufficiently low to protect interiors of buildings, there would be no potential for interior noise levels to exceed the noise standards applicable to the interior rooms. As such, there is no potential for activity interference or sleep disturbance indoors.

The commenter's predictions of aggregate mining noise levels are also incorrect. In this instance, the commenter accepts the DEIR's noise data (80 dBA L_{50} and 85 dBA L_{max} at a distance of 100 feet) and then uses these data to predict aggregate mining activities. However, the commenter fails to account for several important factors when predicting noise levels received at receptors within Napa State Hospital. These factors include the 10-foot masonry barriers that surround the primary outdoor use areas and excess attenuation due to atmospheric absorption. The calculated noise level at receptors within Napa State Hospital is 47 dBA L_{50} during the short period of time where the westernmost section of the State Grey pit is mined assuming a minimum of 5 dBA of acoustical shielding provided by the 10-foot masonry barriers and 2 dBA of attenuation due to atmospheric absorption. Calculated noise levels from aggregate mining on the western lip of the State Grey pit would be below both the daytime and nighttime noise standards for suburban multi-family residential land uses and below the daily average noise level limit of 60 dBA Ldn.

When combined, the overall noise level assuming a worst-case condition of aggregate mining along the western lip of the State Grey pit and processing noise would range from 48 to 49 dBA L_{50}, below the daytime noise ordinance limit of 55 dBA L_{50}. Nighttime aggregate mining is not proposed in unshielded areas. The proposed project would not result in a significant noise impact to receptors within the Napa State Hospital as

credible-worst case calculations show that noise levels would be consistent with the Napa County noise standards.

DLF #1-9 - DEIR fails to disclose that Imola Avenue homes may be exposed to excessive noise levels from quarry operations

The first portion of this response addresses concerns regarding the effect of atmospherics and reflections. The noise analysis assumed regularly occurring atmospheric conditions. During the noise surveys, clam to light winds were noted from the south (see datasheets contained in Attachment 4). The effect of a south wind was accounted for through the noise measurements. Temperature inversions do not occur regularly. When temperature inversions do occur, these atmospheric conditions can contribute to fluctuations in noise levels as noted on Page 4.11-21 of the DEIR. The effect of the temperature inversion is to reduce excess attenuation of the noise due to ground absorption and acoustical shielding provided by intervening terrain. Because the distant receptors, which may be affected by atmospherics, are exposed to noise levels substantially below the noise standards, the minor fluctuation in noise levels would not result in noise levels that exceed the standards. The measurement of the source noise levels from quarry operations, used in the DEIR noise analysis, included the effects of reflections from the ground plane.

The second portion of this response addresses concerns regarding DEIR Mitigation Measure 4.11-1. DEIR Mitigation Measure 4.11-1 sets noise performance standards to be achieved during aggregate mining activities and includes feasible methods for achieving the noise limits at the nearest sensitive receptors. The nearest sensitive receptors would be the most affected receptors because there would at times be direct line-of-sight to activities that are calculated to exceed the noise limits.

DLF #1-10 - The DEIR inadequately predicts noise impact on Imola Avenue homes by ignoring how prevailing winds actually increase noise levels to the north of the quarry

Please see response to comment DLF #1-9, above. The calculated noise levels summarized in Table 4.11-8 of the DEIR assume hemispherical spreading losses over a hard ground plane and the excess attenuation due to atmospheric absorption. The factors that could potentially be affected by wind conditions, including excess ground absorption and acoustical shielding provided by intervening terrain, were not included in the calculations of noise levels produced by aggregate mining activities in order to represent a credible worst-case scenario. Since excess ground absorption and acoustical shielding provided by intervening terrain were not included in the calculations, there is no reason to adjust the noise levels assuming a south wind.

Please see Attachment 4 for the datasheets documenting the source noise levels used in the calculations of noise levels attributable to aggregate mining activities: this source data was collected by I&R at the Placerville Industries Slate Mine on August 8, 2005. The noise data was collected at distances ranging from 80 to 100 feet from a Caterpillar D9H dozer, which was being used to cut a bench at the mine. The dozer worked the quarry bench and pushed the quarried material over the edge of the bench onto a slope below. The quarried material that fell to the quarry floor was being worked by a Caterpillar 950 F front-end loader. The front-end loader moved the quarried material into a power screen which sorted the material by size.

Because of the back and forth nature of the work, the sounds of backup alarms were prevalent and contributed to the measured noise data. The noise levels resulting from the operating equipment were 87 dBA L_{max} and 79 dBA L_{50}. The L_{max} of the measurement occurred when the dozer was at a distance of 80 feet from the sound level meter. The L_{max} used in the analysis was consistent with the measured data because it was adjusted to 85 dBA at a reference distance of 100 feet. The median noise level was 79 dBA L_{50} for operations occurring at distances ranging from 80 to 100 feet from the sound level meter. A 1 dBA safety factor was added to the measured L_{50} noise level and was conservatively assumed to be 80 dBA L_{50} at a distance of 100 feet in the DEIR. The L_{max} from the aggregate mining at a distance of 100 feet was only 5 dBA higher than the L_{50} noise level. The Napa County Noise Ordinance allows L_{max} noise levels to be up to 20 dBA higher than the L_{50} noise level. Therefore, the L_{50} remains the most-conservative threshold to be applied to the analysis of fairly steady-state noise.

The commenter raises additional questions regarding the results of the measurements and calculations summarized in the DEIR noise analysis based on faulty predictive methods. In an apparent attempt to inflate a claim that source noise levels and calculations are incorrect, the commenter states that "…unshielded noise is actually 90 dBA L_{50} at 50 feet. (90 – 2 – 26 = 52 dBA L_{50} resultant noise level). The result of this simple arithmetic equation is actually 62 dBA L_{50} (90 – 2 – 26 = 62). The commenter's apparent underlying bias results in errors made when calculating the result of simple arithmetic equations in an attempt to support poorly conceived source noise level estimates made by selecting the loudest pieces of equipment that could be found through a simple internet search. The commenter's methodology for predicting source noise levels has no merit. The remaining comments regarding factors such as wind and reflections are responded to in response to comment DLF #1-9, above.

DLF #1-11 - DEIR fails to disclose that nearby schools and campground may be exposed to excessive noise levels

Please see responses to comments DLF #1-9 and 10, above, and additional responses to comments specific to Skyline Wilderness Park contained in Section 4.9. The commenter makes similar claims for nearby Imola Avenue residences and the same response applies. The commenter then overstates aggregate mining noise levels, predicted based on a faulty methodology, to argue that schools in the areas would be exposed to a 24-hour average noise level that would exceed the County's General Plan noise limit of 55 dBA CNEL. The CNEL is the average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am. The CNEL is a less restrictive standard than the hourly noise limits used in the DEIR analysis because it is noise level averaged over a 24-hour period.

DLF #1-12 - DEIR fails to analyze quarry's potential sleep-disturbance impacts

The previous responses to comments DLF#1-2, 6, and 10 detail the reasons as to why the methodology used in the DEIR noise analysis provides for credible worst-case noise level estimates of project operations. The noise level projections provided by the commenter are based on data from numerous other projects, rather than actual measured data at Syar Napa Quarry, which clearly overstate noise levels. Napa County

establishes exterior noise level limits that are adequately protective to prevent sleep disturbance indoors. The results of the DEIR noise analysis showed that the project, with mitigation, would not generate noise levels that would exceed the daytime or nighttime noise level limits established by the County. Since the exterior noise thresholds are adequately protective to prevent sleep disturbance, and the noise limits are met day and night with mitigation, noise impacts associated with potential sleep disturbance are not expected.

DLF #1-13 - DEIR fails to evaluate potentially significant noise impacts of on-site gun firing range where quarry modifications may increase gunshot noise impacts on residents and park users

The quarry expansion plans show that the area where the firing range exists would be quarried under the proposed project. The project description does not state that the firing range would be moved to another location within the quarry. Therefore, the noise analysis assumed that the firing range would no longer operate once the firing range area was mined. The Syar Napa Quarry would be gradually expanded over time from existing disturbed areas such as the firing range. Assuming the gradual expansion of the quarry from existing mined areas, the location of the firing range is such that this area will be mined before any mining occurs near the quarry boundaries, where changes to existing topographical shielding would potentially affect firing range noise levels in surrounding areas.

DLF #1-14 - DEIR does not analyze noise impacts of quarry backup warning beepers

Please see response to comment DLF #1-10. As noted in this response, the sounds of backup alarms were prevalent and contributed to the measured noise data used in the calculation of noise levels at off-site receptors. The L_{max} from the aggregate mining was 5 dBA higher than the L_{50} noise level. The Napa County Noise Ordinance allows L_{max} noise levels to be up to 20 dBA higher than the L_{50} noise level. The proposed mitigation would reduce average and maximum noise levels. Therefore, the L_{50} remains the most-conservative threshold to be applied to the analysis. Furthermore, proposed Condition of Approval #E5 would require the use of discriminating back-up alarms (or night silent back-up alarms) during any Quarry Operations conducted from 6 PM to 7 AM.

DLF #1-15 - County's attempt to supplement an inadequate DEIR by introducing its "Master Response – Noise and Vibration" is inconsistent with CEQA procedures for public review

In accordance with Section 15088.5 recirculation of an EIR Prior to Certification, a lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation includes, for example, a disclosure showing that:

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.

(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR. The additional information provided in the Master Response was merely a clarification and additional supporting information resulting in the same impact conclusions, with none of items 1 through 4 above, applying.

DLF #1-16 - Additional noise mitigation is feasible and should be considered.

The commenter provides a list of measures to be considered to reduce noise. The DEIR impact analysis found that, with the recommended mitigation, the noise impacts upon sensitive receptors in the vicinity of the project resulting from aggregate mining activities would be less-than-significant. Additional mitigation measures could be considered by the County, but are not required to mitigate the impact.

Dale La Forest & Associates Letter # 2, September 1, 2015

The following section was prepared in response to comments contained in a second comment letter prepared by Dale La Forest & Associates and dated September 1, 2015. Again, this letter did not include a number scheme, therefore the comment numbers have been added by the response to comment authors.

DLF #2-1 - Noise generated by mining activities on ridgelines in expansion areas will result in temporary and periodic noise levels that will be very much louder at campsites in Skyline Wilderness Park and will create significant noise impacts.

As noted on Page 4.11-11 of the DEIR, CEQA checklist questions (a), (b), and (c) are applicable to the proposed project. "A project will typically have a significant impact if it would:

a. Expose people to or generate noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies.

b. Expose people to or generate excessive groundborne vibration or groundborne noise levels.

c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project."

The DEIR then states, "Guidelines (d), (e), and (f) are not applicable.

d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

e. For projects within an area covered by an airport land use plan or within two miles of a public airport or public use airport when such an airport land use plan has not been adopted, or within the vicinity of a private airstrip, expose people residing or working in the project area to excessive aircraft noise levels.

f. For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels."

The issue is with respect to Checklist question (d) and specifically whether or not any activities at the quarry should be evaluated with respect to this question. Typically, this question is used to evaluate construction noise impacts for development projects. Before applying this standard, one must first determine how long the activity and elevated noise levels must last before a significant impact could occur regardless of the level of the noise and the increase that the short-term noise could cause. For example, a project that includes a minor construction activity lasting only a few days, weeks or months would not be considered to result in a significant environmental noise impact provided that the activity occurs during allowable hours. Otherwise, one day of construction on a street next to a residence would require a full EIR and findings of overriding considerations because the temporary or periodic increase in ambient noise levels attributable to construction activities on that one day cannot be mitigated to a less-than-significant level. Best management practices, such as regulating the allowable hours of construction, prohibiting unnecessary idling of equipment, utilizing quieter equipment, etc., are normally found to be adequate in minimizing the effects of the short-term noise lasting one year or less.

The DEIR noise analysis did not use CEQA's substantial temporary or periodic noise increase test to evaluate project-generated noise impacts. The only activities that are short-term in nature are the removal of overburden during the step back process and mining on the ridgetops when terrain shielding can longer be maintained. These same activities are also the only activities that would occur in unshielded locations and substantially elevate noise levels in surrounding areas. These activities would only last a few weeks at any given location and would only affect the nearest unshielded receptors. When these activities occur on the north boundary of the State Blue pit, only the nearest receptors to the north would receive the noise because of topographical shielding and distance from the noise source. Similarly, when these activities occur on the east boundary of the Snake pit, only receptors to the east would receive the noise. These activities would only affect the noise environment at any particular receptor for a few weeks and would not constitute a significant short-term impact.

Once the step back and unshielded mining activities are complete, the downward benching, and removal of material, would continue at a rate dependent upon the demand for the material, and it could take one year or many years to mine the "wedge" of material before another step back is necessary. Following the removal of overburden, the noise resulting from shielded mining activities as received at sensitive receptors would be the same as existing mining noise levels generated within the existing quarry pits. Therefore, project-

generated noise from these long-term operations were considered to be permanent and assessed with respect to the allowable noise level limits established by Napa County.

The commenter then questions the locations of the ambient noise measurement sites selected to quantify baseline noise levels at receptor locations in the project vicinity. The commenter incorrectly states that …"Only two measurements were studied for the DEIR that are pertinent to this Park: LT-2 and LT-4 as shown on the DEIR's Figure 4.11-1 (page 4.11-27)…" Figure 4.11-1 shows the four long-term noise measurement locations (LT-1, LT-2, LT-3, and LT-4) that were selected in order to establish ambient noise levels at representative positions in and around the quarry. The results of these measurements are discussed and summarized on Pages 4.11-6 through 4.11-8 of the DEIR. The ambient noise measurement locations were selected to establish the varying noise levels experienced at Skyline Wilderness Park including noise levels where quarrying noise levels were expected to be higher due to proximity to the quarry pit (LT-2) and where ambient noise levels were lower because of intervening topographical shielding and/or distance from major sources of noise (LT-1, LT-3, and LT-4). Site LT-1 was selected at a location near the Pasini Property in order to document noise levels near the furthest reaches of Skyline Wilderness Park and was representative of the quietest sections of Skyline Trail. Site LT-3 was selected to represent the ambient noise environment at the nearest residences within the grounds of Napa State Hospital and along a quiet section of the Buckeye Trail. Similar care was taken when selecting the location of LT-4. Site LT-4 was selected to represent the ambient noise environment at the horsemen tent camping area, tent camping area, and RV Park, while minimizing the effect of local campground noise levels (e.g., conversations, radios, RV generators, etc.) that could occur near the sound level meter if the meter were to be placed in the campground area itself. In low ambient noise environments, such as those measured at Sites LT-1, LT-2, LT-3, and LT-4, distant traffic would be expected to be the predominant noise source. This by no means invalidates the measured noise data, but supports the fact that there are a variety of sound sources that contribute to ambient noise levels at receptor locations in the project vicinity. Further, a review of the noise data shows that the measured noise levels at Sites LT-1, LT-2, LT-3, and LT-4 were internally consistent, which supports the fact that existing conditions were sufficiently characterized at multiple receptor positions in the vicinity of Syar Napa Quarry.

DLF #2-2 - DEIR has evidence pointing to significant periodic noise increases

Please see response to comment DLF #2-1, above, regarding temporary or periodic noise increases.

The commenter asserts that credible worst-case noise levels calculated in the DEIR are incorrect because the removal of overburden at the rim of the quarry expansion area and mining with the expanded quarry below, "…may occur simultaneously." The commenter does not understand the mining process, which is further demonstrated on Page 14 of the comment letter (Fig. 1 – At Quarry Rim). This figure indicates that multiple pieces of construction equipment would work at the edge of a large graded area, similar to what one may see during the site grading phase of a large construction project such as a shopping center. Aggregate mining on steep quarry benches is typically accomplished by a single dozer because these are the only pieces of heavy equipment that can build the roads necessary to get to the top of the quarry rim, remove the

overburden, and then push the overburden material into the quarry below. These benches are typically 25 feet wide, so there is little rooms for multiple pieces of construction equipment to work. Aggregate mining is a sequential process which relies on gravity to aid in the transportation of quarried materials. Activities occurring at the top rim of the quarry would not occur simultaneously with expanded mining activities below, because the mining progresses downward over time. Aggregate mining activities involve far less equipment than indicated on Page 14 of the comment letter. The commenter's noise level predictions are not based on facts, are dramatically overstated, and are incorrect.

DLF #2-3 - DEIR overestimates distance from quarry to tent camping area and undercalculates new quarry noise levels from exposed operations

Skyline Wilderness Park contains three camping areas. The horsemen camping area is the westernmost camping area located just south of the horse arena. The tent camping area is located just east of the horsemen camping area, and further east is the RV Park. Each of the camp spots within the horsemen camping area and the tent camping area would be located at distances ranging from about 1,000 feet to 1,500 feet from unshielded mining activities occurring at the northernmost portion of the expanded quarry pit. The receptor positon used in the analysis was located in the center of the horsemen camping area and the tent camping area, a distance of about 1,280 feet from unshielded mining activities occurring at the northernmost portion of the expanded quarry pit. The center of the Skyline Wilderness Park RV Park would also be located about 1,280 feet from the nearest unshielded mining activities occurring over short-periods of time at the northernmost portion of the expanded quarry pit. Both receptor locations characterize project-generated noise levels within the three camping areas at Skyline Wilderness Park. The results of the DEIR calculations indicated that unshielded mining activities would exceed the County's noise standards and a significant noise impact was identified for receptors at the camping areas. Mitigation measures were then identified to reduce noise levels to meet the County's noise standards throughout the camping areas. The implementation of the recommended mitigation measures would ensure compliance with the County's noise standards. Because the removal of overburden and unshielded mining activities would only occur over short-periods of time, the substantial temporary or periodic increase test is not applicable in the assessment of the quarry expansion project.

DLF #2-4 - Noise generated by mining activities on ridgelines in expansion areas will be significant to campers in Skyline Wilderness Park

Please see response to comment DLF #2-1.

DLF #2-5 - Inadequate noise level mitigations

This same comment was raised in the August 11, 2015 letter prepared by Dale La Forest & Associates and addressed in the response to comment DLF #1-9. DEIR Mitigation Measure 4.11-1 sets noise performance standards to be achieved during aggregate mining activities and includes feasible methods for achieving the noise limits at the nearest sensitive receptors, who would be most affected because there would be direct line-of-sight to activities that are calculated to exceed the noise limits. The commenter states, "There is no

requirement in this mitigation that mining will be stopped if noise levels exceed 50 dBA L_{50}." The Mitigation Monitoring Plan is the document that will address the specifics of the monitoring protocols and procedures to implement if an exceedance occurs.

The intent of Mitigation Measure 4.11-1 is twofold; 1) to prohibit mining between the hours of 10:00 PM and 7:00 AM in mining expansion areas to the north and east of the State Blue Pit where there is direct line of sight to residences, and 2) to prohibit mining within 2,500 feet of the nearest sensitive receptors (residences or trails within Skyline Wilderness Park) unless it can be demonstrated that noise levels comply with the Napa County noise standards. The noise performance standard would be achieved through either the use of a 2,500 foot setback (distance required for unshielded aggregate mining activities to be reduced to 50 dBA L_{50} or less), or by maintaining topographical shielding, utilizing quieter equipment, and conducting noise monitoring to ensure compliance with the noise standards.

What may be confusing to the commenter is that the second bulleted item does not contain the phase "or" between items 1) and 2). To clarify the intent of the mitigation measure, the following edits (shown in bold ~~and strikethrough~~) should be made to DEIR Mitigation Measure 4.11-1. "…With the exception of blasting and the removal of overburden; 1) Not conduct daytime mining activities (between the hours of 7:00 AM and 10:00 PM) in unshielded areas to the north and east of the State Blue Pit or Snake Pit within 2,500 feet of the nearest sensitive receptors (residences or trails within Skyline Wilderness Park), **or** 2) ~~shall~~ ensure that noise levels at the nearest receptor locations north or east of the quarry shall not exceed 50 dBA L_{50} from 7:00 AM to 10:00 PM and 45 dBA L_{50} from 10:00 PM to 7:00 AM…"

The DEIR Mitigation Measure 4.11-1 was revised previously, as follows:

> **Mitigation Measure 4.11-1: Noise Restrictions in Expansion Area North and East of the State Blue Pit and Snake Pit (Pasini Parcel):** To reduce noise impacts of mining, quarrying, and associated operations the Permittee shall adhere to the following:
>
> 1. No aggregate mining ~~activities~~ operations shall occur between the hours of ~~10~~6:00 PM and 7:00 AM in mining expansion areas to the north and east of the State Blue Pit where there are residences not shielded by intervening terrain.
> 2. With the exception of blasting and the removal of overburden the Permittee ~~Applicant~~ shall: 1) ~~Not conduct~~ Limit daytime aggregate mining ~~activities~~ operations to ~~(~~between the hours of 7:00 AM and ~~10~~12:00 PM~~)~~ in unshielded areas to the north and east of the State Blue Pit or Snake Pit areas within 2,500 feet of the nearest sensitive receptors (residences, schools, or trails within Skyline Wilderness Park); or 2) Ensure that noise levels at the nearest receptor locations north or east of the quarry shall not exceed 50 dBA L_{50} from 7:00 AM to 10:00 PM and 45 dBA L_{50} from 10:00 PM to 7:00 AM.
> 3. The Permittee ~~Applicant~~ shall utilize the following measures or equivalent:
>
> a) Maintain acoustical shielding for receivers north or east of the quarry so that existing terrain features provide the maximum amount of shielding for the longest time possible.
> b) Use the quietest available equipment when removing topsoil and overburden (e.g., well-maintained, modern equipment such as higher Tier engines, having sufficient engine insulation and mufflers, electric or hydraulic powered equipment, or equipment operation settings at the lowest possible power levels).

c) Conduct noise monitoring and maintain noise monitoring reports to ensure that daytime noise levels from aggregate mining and operations ~~within the expansion areas to the north and east of the State Blue Pit~~ do not exceed 50 dBA L_{50} at the nearest receptor locations north ~~or~~ and east of the quarry (i.e. along the northern and eastern property lines in the vicinity of the State Blue Pit or Snake Pit areas), which are areas where monitoring sites should be located. Noise monitoring shall be conducted daily for the first five years of the Permit: thereafter the Planning Commission shall determine the extent of ongoing noise monitoring as part of their Project and Permit review required by Condition of Approval #1F. ~~Submit n~~ Noise monitoring reports shall be submitted monthly to the County Environmental Health and Engineering and Conservation Divisions, or upon request, to verify compliance. If and as necessary the County will either hire a consultant (at the Permittee's expense) to assess compliance or provide 3rd party independent noise monitoring of the Project.

d) Noise monitoring results shall also be submitted to the County in the Annual Compliance Report required by Condition of Approval #2L, or as necessary to demonstrate compliance. If the County finds during annual compliance review that noise levels of Quarry Operations are excessive, the Permittee shall modify Quarry Operations or the Mining and Reclamation Plan so that the noise limits identified herein are not exceeded..

With the clarifying edits made to Mitigation Measure 4.11-1, the applicant will be required to monitor the noise produced by the expansion of the quarry and make modifications to the mining plan, if necessary, to achieve compliance with the County noise standards. Noise monitoring reports will then be submitted to the County to demonstrate compliance with the County's noise standards.

DLF #2-6 - Later proposed mitigation will also be ineffective

The commenter continues to repeat many of the same comments on Pages 13 and 16 of the second letter that have been previously responded to in this memo. No new issues have been identified in this comment.

The commenter then introduces another comment that, "This Project's noise would exceed another County standard." A similar comment was made in the first letter dated August 11, 2015 with regard to L_{max}. As with L_{max}, the L_{08} noise level from the aggregate mining was only 3 dBA higher than the L_{50} noise level when interpolated between the L_{02} and L_{10} levels measured at the Placerville Slate Mine (see Attachment 4). The Napa County Noise Ordinance allows L_{08} noise levels to be 10 dBA higher than the L_{50} noise level, therefore, the L_{50} remains the most-conservative threshold to be applied to the analysis. Because noise from mining equipment is fairly steady, with the maximum instantaneous noise level (L_{max}) being only 5 dBA above the median noise level (L_{50}), it follows that when mining noise is mitigated to meet the most restrictive median noise level limit, that the operational noise levels would also meet the standards for sounds of shorter duration.

DLF #2-7 - Quarry project will have significant noise impacts on users of trails in Skyline Wilderness Park.

Please see Section 4.5 of the Final EIR for a complete description of mining noise at trails within Skyline Wilderness Park. The commenter, again, fails to acknowledge the presence of intervening topographic shielding as shown in Draft EIR Figure 3-5 and Draft EIR Figure 3-6. The information contained in the Draft

EIR Figure 3-6 Cross Sections A, B, C, E, F, and G show that park users, even at locations near the property line of the Skyline Wilderness Park, would not have direct line-of-sight to long-term mining activities once the step back process is complete. The commenter ignores the presence of intervening shielding resulting in overstated noise levels.

Following standard methods of calculating noise level attenuation with distance from a noise source and barrier attenuation, the noise level reduction due to distance is calculated to be 14 dBA, and the barrier attenuation is calculated to be 20 dBA. Assuming a source noise level of 80 dBA L50 at a distance of 100 feet, the resultant noise level at the receptor is calculated to be 46 dBA L50.

Reiterating what was stated in Section 4.5, there are some similar vantage points within Skyline Wilderness Park, or outside of the Park's boundaries on the Syar Napa Quarry property, where hikers or equestrians can go "off-trail" and observe existing aggregate mining operations. However, trail users are directed by Skyline Wilderness Park to stay on mapped trails. If a trail user chooses to ignore the guidance provided by the park to view the quarry, then there is a potential for elevated noise levels. This would not be a significant noise impact.

The commenter then addresses Mitigation Measure 4.11-1. As noted in an earlier response, the intent of Mitigation Measure 4.11-1 is to prohibit mining within 2,500 feet of the nearest sensitive receptors (residences, schools, or trails within Skyline Wilderness Park) unless it can be demonstrated that noise levels comply with the Napa County noise standards. The noise performance standard would be achieved through either the use of a 2,500 foot setback (distance required for unshielded aggregate mining activities to be reduced to 50 dBA L_{50} or less), or by maintaining topographical shielding, utilizing quieter equipment, and conducting noise monitoring and reporting to ensure compliance with the noise standards.

The commenter questions the FEIR with regard to noise levels calculated at shielded receptor positions along the trail. As stated above, standard methods of calculating noise level attenuation with distance from a noise source and barrier attenuation were followed. The noise level reduction due to distance is calculated to be 14 dBA, and the barrier attenuation is calculated to be 20 dBA. Assuming a source noise level of 80 dBA L_{50} at a distance of 100 feet, the resultant noise level at the receptor is calculated to be 46 dBA L_{50}.

The commenter questions the DEIR noise level calculations by comparing unshielded noise levels from overburden removal or unshielded aggregate mining to the noise levels calculated for shielded trail users. This is not a valid comparison because all quarry activities will be shielded by intervening terrain at established trail locations. Please refer to Draft EIR Figure 3-6 Cross Sections A, B, C, E, F, and G, and previous discussions of the topographical shielding afforded to trail users on mapped trails.

4 TRANSPORTATION

Introduction

This section summarizes our review and responses to additional comments on the DEIR and associated Traffic Impact Study (TIS). The DEIR and associated TIS are dated August 2013 and were circulated for

public comment from September 5 through December 5, 2013. Detailed comments on the TIS were provided in a brief report prepared by Minagar & Associates, Inc. dated July 14, 2015, which was included as part of the Stop Syar Expansion Citizens' Group comments. The comments pertinent to the traffic analysis are contained in the 15 page cover letter and in the Minagar & Associates, Inc. report.

It is noteworthy that the TIS analysis and results reflect an expansion of the Syar Napa Quarry annual production from the current 0.81 million tons to no more than 2.0 million tons. Syar has agreed to move forward with a project that produces no more than 1.3 million tons per year, however, the TIS reflects the original larger project.

Cover Letter

The following are responses to comments in the cover letter that are relevant to the TIS and DEIR Transportation chapter.

SSE 4 - Vehicle Trips are unknown

The TIS area, including study roadways and intersections, were confirmed by the agencies having jurisdiction over those roadways and intersections prior to beginning the analysis. Truck destinations are assumed to be outside of the TIS study area and roadway and intersection network analyzed. Trucks use the study roadways and intersections to access their final destinations. Knowing the destinations of the trucks leaving and returning to the Quarry and the distance they traveled beyond the study area does not affect the results of the TIS.

The truck trip distribution percentages used in the analysis were developed based on discussions with Syar Inc. at the time of preparation of the TIS. Trip distributions can change over time and are primarily influenced by the locations of projects requiring aggregate products produced by the Quarry. It is understood that the majority of the truck trips leaving the Quarry travel south on SR 221 through Intersection No. 6 (SR 221 / SR 12/29) on the way to destinations north and south.

Reference to this statement in the DEIR could not be found. With regard to truck trips, each truck is counted as a trip regardless of the length or type of trailer.

SSE 19 Stale Data

The traffic data and TIS, and AQHRIA reflect the baseline conditions at the time of preparation and circulation of the DEIR.

Minagar & Associates, Inc. Letter

The following responses to the comments in the Minagar & Associates Inc. report, dated July 14, 2015, are generally organized based on the "pivotal issues" indicated in bullet point on page 5 of the report.

MA – The Commenter indicates the TIS uses outdated traffic volumes

The commenter states that the traffic data used in the TIS analyses is currently out of date and unacceptable for use. The commenter references the Caltrans "Guide for the Preparation of Traffic Impact Studies" (December 2002).

It is acknowledged that the traffic volumes used in the analysis are now approximately six years old. Traffic volumes can vary considerably over hours, seasons and years. The traffic volumes used in the analysis are representative of the baseline conditions at the time the DEIR and TIS were prepared. During the public comment period, the TIS was reviewed by all agencies having jurisdiction over the study roadways and intersections, including Caltrans. No comments or concerns were raised regarding the dates of the traffic volumes used in the analysis.

MA - The commenter provides a comparison of selected traffic volumes obtained in 2015 with those used in the TIS to show that volumes are different today than they were at the time the TIS was prepared.

It is acknowledged that the traffic volumes used in the analysis are now approximately six years old, and that traffic volumes for individual intersection movements may be different now when compared with the baseline conditions at the time the DEIR and TIS were prepared. Traffic volumes and patterns can vary considerably over hours, seasons and years.

MA - The commenter states that the existing traffic volumes used in the analysis do not match the traffic volumes collected for the study, assumes that a growth factor or extrapolation method was used to estimate the traffic volumes, and that the details of which were not included in the TIS.

The commenter is referred to Section 4.6 "Existing Traffic Volumes" of the TIS for an explanation of the method used to normalize the existing traffic volumes for the analysis.

MA - The commenter presumes that truck counts were not collected with the traffic data used in the analysis.

The commenter is referred to Section 4.6 "Existing Traffic Volumes" of the TIS. The second sentence of the first paragraph states: "Turning movement counts distinguished between vehicle classes (passenger vehicles and heavy vehicles), bicycles, and pedestrians." A review of the traffic volume data used in the analysis, which includes heavy vehicle volumes, showed that at the majority of the intersections and lane groups heavy vehicles are less than 2% of the total intersection traffic volume during the peak periods analyzed. Therefore, as stated in Section 2.4.2 of the TIS the analysis assumes heavy vehicles are 2% of the total traffic volume at all study intersections. The percent heavy vehicles used is inclusive of the existing heavy vehicle traffic associated with the Quarry and is applied to all analysis scenarios.

MA - Passenger Car Equivalency (PCE): The commenter states that PCE conversion factors were not used in determining project trips and should have been.

Based on the traffic volume data collected, the analysis assumes existing heavy vehicles are 2% of the total traffic volume, as stated in Section 2.4.2 of the TIS. The assumption of 2% heavy vehicles at all intersections is inclusive of existing truck traffic associated with the Quarry, and is applied to all analysis scenarios. In the future conditions scenarios the amount of heavy vehicle traffic increases as total future volumes increased based on future volume projections used from Solano Transportation Authority (STA) Napa-Solano Travel Demand Model. Project generated trips are then added to these volumes. Heavy vehicles associated with Quarry traffic are included in the analysis volumes for all scenarios as part of the percent heavy vehicle factor, to which a PCE of 2.0 is applied per HCM 2000 methodology.

During the development of the TIS, and in light of the 70% reduction in the size of the project, it was decided that applying a PCE to new project truck trips would overstate the estimated traffic associated with the project. The truck trip generation associated with the reduced project is 16 AM peak hour truck trips instead of the 51 truck trips used in the analysis. Applying a standard PCE of 2.0 to the truck trips results in only 32 trips. A PCE of 3.0, which the commenter asserts should have been used, results in 48 trips, still less than what is expected to trigger a significant impact and less than the trip generation thresholds for determining when a TIS is needed, as listed by Caltrans in the “Guide for the Preparation of Traffic Impact Studies.”

MA - Current truck traffic distribution patterns are different from the patterns used in the TIS

It is acknowledged that the truck traffic distribution patterns used in the analysis may be different when compared with current truck traffic patterns. Traffic volumes and patterns can vary considerably over hours, seasons and years. The truck traffic distribution patterns used in the analysis are based on truck traffic patterns at the time the analysis was conducted with input and review by representatives of Syar familiar with Quarry truck destinations. It is understood that at the time of the analysis the majority of Quarry truck traffic travels south on the designated truck route of SR 221 to the intersection of SR 221 / SR 12/29 where it continues to destinations either north or south on SR 29. At the time the study was prepared it was indicated that a majority of trucks traveling south onto SR 221 would be leaving the County, however as stated above trucks traveling south were following a designated truck route to the intersection of SR 221 / SR 12/29 to access destinations either to the north or south on SR29. It was confirmed with representatives of Syar that most truck traffic travels south onto SR 221 to follow designated truck routes located south of the project site, which was expected to continue. Truck trip distribution patterns used in the study are representative of the baseline conditions at the time the DEIR and TIS were prepared.

MA - Commenter asserts that the HCM 2010 edition must be used for the analysis

At the time the analysis was prepared in 2009 and subsequently updated, the HCM 2000 edition was the industry standard traffic analysis methodology. The HCM 2010 methodology was implemented after the initial release as industry standard analysis software was updated and the newer methodology became

industry standard. Because the original traffic study was prepared when the HCM 2000 was still the standard methodology, it was maintained through the completion and subsequent revisions of the study.

MA - Commenter states that LOS tables should report actual vehicular delays rather than state that delays exceed those qualifying LOS "F"

When an intersection level of service reaches failure or LOS "F," traffic conditions are in a state of severe congestion and break-down. Delays experienced by individual drivers waiting to proceed through an impacted intersection are significant. Delays calculated using HCM methodologies are most accurate within the ranges provided in the Highway Capacity Manual. When calculating the reported delay associated with this condition, especially when the delay exceeds the amounts associated with LOS "F," the calculation results become less accurate and potentially less representative of the actual delay experienced by drivers under the congested conditions. The results become inaccurate because of the empirical factors and associated sensitivities inherent in the calculations. Therefore, rather than reporting a theoretical delay associated with a LOS "F" condition that may not represent an anticipated delay associated with the study condition, the minimum delay associated with the worst case LOS "F" is reported. The calculated delays are included in the analysis calculation sheets included in Appendix C of the Traffic Study, which is Appendix G of the DEIR.

MA - Commenter asserts that the City of Napa's significance criteria should be interpreted differently

The City of Napa reviewed the methodology used and took no exception. The City of Napa General Plan makes no distinction between vehicle trip type in the significance criteria.

MA - Mitigation recommendations were not included in the TIS

The study determined that under existing and future baseline conditions, most of the study intersections operate at unacceptable levels without the addition of project generated traffic. A significant impact to Intersection No. 3 (SR 221 / Basalt Road) was identified in the TIS based on significance criteria developed collaboratively by the City of Napa and Caltrans. Mitigation Measure 4.15-1 proposes to limit the number of new trips at this intersection to less than 50 during the AM peak hour to bring the impact to less than significant. All truck trips are currently monitored and recorded by Syar. This monitoring information would be provided to the County for verification that the mitigation measure is implemented. Also, as stated in Section 3.1.4 of the TIS, the Quarry does not generally send trucks loaded with material out of the site during the PM peak traffic period because contractors do not place orders for aggregate deliveries at the end of a typical work day. Contractors also generally avoid ordering aggregate materials during the PM peak hour due to potential congestion-related delivery delays. Exceedance of truck trip maximums or non-compliance with any other condition of approval or mitigation measure is subject to, at a minimum, enforcement and penalization pursuant to Napa County Code. It was also understood by the preparers of the TIS that additional details of the Quarry operations and any associated transportation demand management program to be implemented by the Quarry as a part of Mitigation Measure 4.15-1 were to be developed and negotiated with the agencies having jurisdiction over the impacted facilities to their satisfaction. However, as a result of the reduced

production level of 1.3 million tons per year that Syar has agreed to implement the significant impact to Intersect 3 has been reduced to a less than significant level and implementation of Mitigation Measure 4.15-1 is no longer necessary.

Since the Napa Quarry Expansion DEIR and TIS were completed, the Napa County Jail Project EIR was also completed. That EIR identified a significant impact to Jail Main Access intersection at SR 221, which is also the Quarry main entrance (Intersection No. 3). Napa County Jail Project EIR Mitigation Measure 3.9-1b is summarized from that EIR below:

> "The County will fund and signalize the intersection of SR 221/Main Access, including providing protected left-turn phasing on southbound SR 221. To eliminate conflicts between the protected southbound left-turn movement and northbound right turns, the free right-turn lane shall be converted to a standard right-turn lane. Similarly, the westbound right-turn lane shall be converted to a standard turn lane to bring this movement under signal control. Right-turn overlap phasing shall be provided between the southbound left turn and westbound right turn. Adequate right-of-way is available to accommodate this improvement and adequate spacing (i.e., more than 2,000 feet) is available between this signal and the nearest signal."

It is anticipated that this measure will have a positive effect on the expected operations at this intersection as it relates to Quarry traffic.

MA - Project fair-share calculations for project impacts were not included in the TIS

There is no fair share contribution for Mitigation Measure 4.15-1. Implementation of the mitigation measure is the sole responsibility of Syar.

5 References

Bay Area Air Quality Management District (BAAQMD), 2006, *Community Air Risk Evaluation Program Phase I Findings and Policy Recommendations Related to Toxic Air Contaminants in the San Francisco Bay Area*, September.

California Geological Survey (CGS), 2012, *MAP SHEET 52 (UPDATED 2012) AGGREGATE SUSTAINABILITY IN CALIFORNIA*, by John P. Clinkenbeard (PG #4731).

Environmental Protection Agency, 2013, *Determination of Attainment for the San Francisco Bay Area Nonattainment Area for the 2006 Fine Particle Standard; California; Determination Regarding Applicability of Clean Air Act Requirements*, accessed at: https://www.federalregister.gov/articles/2013/01/09/2013-00170/determination-of-attainment-for-the-san-francisco-bay-area-nonattainment-area-for-the-2006-fine, January 9.

6 List of Attachments

Attachment 1: BAAQMD Ambient Air Quality Attainment Status Table

Attachment 2: What Constitutes an Adverse Health Effect of Air Pollution? (American Thoracic Society, 7/99)

Attachment 3: Excerpt from "Staff Report: Public Hearing to Consider Amendments to the Ambient Air Quality Standards for Particulate Matter and Sulfates (CARB, May 3, 2002)

Attachment 4: Syar Napa Quarry Environmental Noise Data Sheets

Please note the above referenced attachments are not included with this document: the above referenced attachments can be accessed at http://www.countyofnapa.org/Syar/ the permanent file located at the County Administrative Offices (1195 Third Street, Suite 210), or a disk containing this information can be requested from the County.