Planning Department <planning@amadorgov.org>

TAC Referral: JVQ Expansion

AFPD Headquarters <afpdhdq@amadorgov.org> Wed, Nov 17, 2021 at 1:02 PM
To: Amador County Planning Department <planning@amadorgov.org>

CFD annexation condition applies to the quarry as well. I noticed it's an amended UP. If I missed the initial, I apologize.

Nicole Cook
Amador Fire Protection District
810 Court Street
Jackson, CA 95642
209-223-6391-phone
209-223-6646-fax

[Quoted text hidden]

Planning Department <planning@amadorgov.org>

AB52: Amended Use Permit (UP-06; 9-2) of Jackson Valley Quarry Use Permit

2 messages

Anna Starkey <astarkey@auburnrancheria.com> Tue, Nov 23, 2021 at 11:35 AM
To: Amador County Planning Department <planning@amadorgov.org>

Good morning,

On behalf of UAIC's Tribal Historic Preservation Department, thank you for the notification and opportunity to consult under AB52 for the project referenced above. Can you please clarify that the only changes are the increase in the hours of operation and not an increase in the quarry size? If this is only for the increase in hours, then UAIC respectfully declines to consult.

Thank you,

Anna Starkey

The United Auburn Indian Community is now accepting electronic consultation request, project notifications, and requests for information! Please fill out and submit through our website. Do not mail hard copy letters or documents. *https://auburnrancheria.com/programs-services/tribal-preservation* ***Bookmark this link!***

Anna M. Starkey, M.A., RPA
Cultural Regulatory Specialist
Tribal Historic Preservation Department| UAIC
10720 Indian Hill Road
Auburn, CA 95603
Direct line: (916) 251-1565 | Cell: (530) 863-6503
astarkey@auburnrancheria.com |www.auburnrancheria.com

Amador County Planning Department <planning@amadorgov.org> Tue, Nov 23, 2021 at 8:00 PM
To: Anna Starkey <astarkey@auburnrancheria.com>

Hi, Anna. The only requested change at Jackson Valley Quarry is expanded operating hours. There is no request to expand the quarry footprint beyond the currently permitted boundary. If you have questions, please let me know.
Thanks,
Chuck Beatty
Planning Director

Amador County Planning Department
810 Court Street
Jackson, CA 95642
(209) 223-6380
planning@amadorgov.org

[Quoted text hidden]

California Department of Transportation

OFFICE OF THE DISTRICT 10 PLANNING
P.O. BOX 2048 | STOCKTON, CA 95201
(209) 948-7325 | FAX (209) 948-7164 TTY 711
www.dot.ca.gov

December 15, 2021

Mr. Chuck Beatty
Planning Director
Amador County Planning Department
810 Court Street
Jackson, CA 95642

AMA-88- PM 3.615
Jackson Valley Quarry
Condition of Approval
(COA) Modification
#15 Use Permit (UP-06; 9-2)

Mr. Beatty,

The California Department of Transportation (Caltrans) appreciates the opportunity to comment on the Jackson Valley Quarry (JVQ) revised Condition of Approval (COA) #15 of the Use Permit. The project proponent is proposing to revise the use permit to allow operational / reclamation activities (e.g., excavation, processing, load-out, and hauling) to occur during extended hours of quarry operation (up to 24 hours per day) Monday through Friday.

The Project site is an existing hard rock quarry located on the south side of State Route (SR) 88, approximately ½ mile east of the most westerly junction of Jackson Valley Road and SR 88 in Ione in Amador County.

Caltrans has the following comments:
Caltrans suggests Amador County continue to coordinate and consult with Caltrans to identify and address potential cumulative transportation impacts from this project and other developments near this location. This will assist Caltrans in ensuring that traffic safety and quality standards are maintained for the traveling public on existing and future state transportation facilities.

Encroachment Permits If any future project activities encroach into Caltrans Right-of-Way (ROW), the project proponent must submit an application for an Encroachment Permit to the Caltrans District 10 Encroachment Permit Office. Appropriate environmental studies must be submitted with this application. These studies will analyze potential impacts to any cultural sites, biological resources, hazardous waste locations, and/or other resources within Caltrans ROW at the project site(s). For more information, please visit the Caltrans Website at: https://dot.ca.gov/programs/traffic-operations/ep/applications

Please contact Paul Bauldry at (209) 670-9488 (email: paul.bauldry@dot.ca.gov) or me at (209) 483-7234 (email: Gregoria.Ponce@dot.ca.gov) if you have any questions or concerns.

Sincerely,

Gregoria Ponce'

Gregoria Ponce', Chief
Office of Rural Planning

Planning Department <planning@amadorgov.org>

TAC: Jackson Valley Quarry

2 messages

George Lambert <george.lambert@icloud.com> Wed, Feb 2, 2022 at 9:37 AM
To: planning@amadorgov.org
Cc: Richard Forster <rforster@amadorgov.org>, Bill May <wandsmay@hughes.net>

I read the environmental review packet and staff report. The environmental review is not adequate. It does not adequately address the different impacts associated with nighttime operations as compared to daytime operations other than to state incorrectly that there are no differences other than more hours of operation. This is an incredibly naive conclusion. There are homeowners in all sides of the quarry who are presently exposed to the noise and dust during daytime hours and seeing lights only in the hour or so after 6 am in the winter when days are short. Now all the neighbors will be impacted 24 hours all day and all night. The 2013 approvals did not contemplate this and the 2022 review does not address the change in any meaningful way.

The environmental review overstates the baseline volume of truck traffic while incorrectly stating nothing will change regarding the scale of operations. The TAC should demand the exact truck counts every day over the past year, at least. I think it will show a completely different picture; current operations don't approach 45 trucks per hour and 385 per 24 hours as stated in the environmental review. If I am correct, this gives JVQ the green light to expand exponentially from the current volume to the inflated numbers cited.

Finally, I believe it is major blunder for the County to permanently change the hours of operation without first demanding proof that the change is necessary and a temporary modification of hours won't suffice. What is being requested by JVQ is a big deal for residents of upper and lower Jackson Valley Road and for those that live on Highway 88. However, it is being falsely characterized as a very small and insignificant change by JVQ. The requested change should either be withdrawn or a more serious review of environmental impacts to the neighborhood should be demanded.

Sent from my iPhone

William May <billshrc@gmail.com> Wed, Feb 2, 2022 at 1:03 PM
To: George Lambert <george.lambert@icloud.com>
Cc: Amador County Planning Department <planning@amadorgov.org>, Richard Forster <rforster@amadorgov.org>, Bill May <wandsmay@hughes.net>

Looks good to me.
Bill
[Quoted text hidden]

Chuck Beatty <cbeatty@amadorgov.org>

Fwd:

1 message

Chuck Iley <ciley@amadorgov.org> Wed, Feb 2, 2022 at 2:46 PM
To: Chuck Beatty <CBeatty@amadorgov.org>

---------- Forwarded message ---------
From: **William May** <billshrc@gmail.com>
Date: Wed, Feb 2, 2022 at 2:30 PM
Subject:
To: Chuck Iley <ciley@amadorgov.org>

Chuck
I'm sure Heather told you that the Quarry was not watering down the dust as required . Quarry continues to be a rotten neighbor ,
Bill

--
Chuck Iley
County Administrative Officer
Amador County, California
810 Court Street
Jackson, CA 95642
voice: (209) 223-6470
fax: (209) 257-0619
www.co.Amador.ca.us

Planning Department <planning@amadorgov.org>

(no subject)

1 message

William May <billshrc@gmail.com> Thu, Feb 3, 2022 at 9:26 AM
To: Amador County Planning Department <planning@amadorgov.org>

Chuck
My property gets more than its share of noise and other impacts from Quarry operations .Inside my home is often covered by a fine layer of dust from Quarry operations . Blasts have caused cracks to develop in my home and garage .Operations are so close to my house creating the impression that they are occurring in my home . Reed's request to operate 24 hours is an insult and TAC should simply tell Reed NO . The Quarry is thoroughly disliked by all of us in the Valley .

I will see you at 1 p.m. today.
Bill May

Planning Department <planning@amadorgov.org>

George Reed 24 hour proposal

Matt Gibson <mgibby_2001@yahoo.com> Thu, Feb 3, 2022 at 7:44 AM
Reply-To: Matt Gibson <mgibby_2001@yahoo.com>
To: "planning@amadorgov.org" <planning@amadorgov.org>

To: Amador County Technical Advisory Committee

From: Matt and Kim Gibson 6110 Martin Lane, Ione, CA

Date: February 3, 2022

Re: George Redd request to operate 24 hours a day.

Dear Chairman:

My name is Matt Gibson. My wife, Kim Gibson, and I would like to voice out objection to the proposal of letting the George Reed plant on Jackson Valley Road run for a 24-hour period. I would have liked to attend the meeting, but I have a prior court appearance that prevents me from participation. Thus, this email have will have to suffice.

Our objections are based on the sound nuisance that will take place with the plant running 24 hours a day. To best explain this, it is necessary to explain the history of the plant. Many years ago, we never heard any noise or had issues with the George Reed plant (we live about 2 miles away), other than an occasional siren and then a blast. As they have expanded in incremental fashion, the mountain that once blocked most of the noise is now gone. Today, the noise is constant and flows through the entire Jackson Valley. Just yesterday, I was home and was gifted with the constant beeping of large trucks going in reverse, sounds of gravel hitting metal beds, general road travel noises, and an explosion or two. I understand that the gravel must come from somewhere, but to let them operate in a 24-hour fashion raises both the issue of a tort nuisance and seemingly goes against your own sound ordnance contained in Chapter 9.44, Public Nuisance Noise Requirements.

For example, let's assume that for whatever reason I decided I like to play loud music 24 hours a day with speakers located outside. If I continue to play this loud music after 10:00 pm, I am in violation of the County Noise Ordinance. This begs the question; how can you allow an outdoor gravel operation to make such noise disturbances after 10:00 p.m. and not be in violation of Chapter 9.44? I can understand these 24 permissions if this was a manufacture type plant, where all the work is done within confined walls. But here, the work by its very nature is conducted outdoors and the sound will travel through the Jackson Valley 24 hours per day. I am not looking forward to having my windows open at night and hearing the constant beep, beep, beep of trucks back up and the general traffic associated with mining operation. To allow such an operation to commence for 24 hours is perplexing and it seemingly goes against your own ordnance.

I sincerely hope you put some serious though into your decision. The sound issue created by such activity may rise to such a level that other actions may naturally flow therefrom.

Matthew S. Gibson, Esq. and Kim Gibson

6110 Martin Lane, Ione, CA 95640

Email: mgibby_2001@yahoo.com

209 274-6154

Chuck Beatty <cbeatty@amadorgov.org>

Fwd:

2 messages

William May <billshrc@gmail.com> Fri, Feb 4, 2022 at 10:29 AM
To: Chuck Beatty <cbeatty@amadorgov.org>

Chuck
Will my comments and those of George Lambert and Matt Gibson be forwarded to the Planning Commission for the March 8th Meeting ?
Bill

---------- Forwarded message ---------
From: **William May** <billshrc@gmail.com>
Date: Thu, Feb 3, 2022 at 9:26 AM
Subject:
To: Amador County Planning Department <planning@amadorgov.org>

Chuck
My property gets more than its share of noise and other impacts from Quarry operations .Inside my home is often covered by a fine layer of dust from Quarry operations . Blasts have caused cracks to develop in my home and garage .Operations are so close to my house creating the impression that they are occurring in my home . Reed's request to operate 24 hours is an insult and TAC should simply tell Reed NO . The Quarry is thoroughly disliked by all of us in the Valley .

I will see you at 1 p.m. today.
Bill May

Chuck Beatty <CBeatty@amadorgov.org> Fri, Feb 4, 2022 at 11:23 AM
To: William May <billshrc@gmail.com>

Absolutely.
[Quoted text hidden]
--

Chuck Beatty, AICP
Planning Director
Amador County
209-223-6380

Planning Department <planning@amadorgov.org>

Gorge Reed plant

1 message

Jake Herfel <jakeherfel@yahoo.com> Sun, Feb 6, 2022 at 4:05 PM
To: "planning@amadorgov.org" <planning@amadorgov.org>, Richard Forster <rforster@amadorgov.org>

I live close to the plant! We hear the blast and have our our windows shake every time they blast,also in the summer we get a lot of dust! At night when the plant runs the noise of rocks being dumped in the metal hopper it sounds like it is in our front yard. I understand that when there is a emergency. this is necessary but 365 days 24 hours is not exceptional!

I am one of many persons in Jackson Valley that oppose this!

Hugh Herfel 6370 Martin Ln

Planning Department <planning@amadorgov.org>

Jackson Valley Quarry Environmental Certification

George Lambert <george.lambert@icloud.com> Tue, Feb 8, 2022 at 11:53 AM
To: planning@amadorgov.org
Cc: Richard Forster <rforster@amadorgov.org>

I object to the certification of a Mitigated Negative Declaration for the Amended Use Permit (UP-06;9-2) which will be considered by the Planning Commission on March 8, 2022. Further, it is my opinion that a full EIR should be prepared for the project due to foreseeable impacts on residents of Lower Jackson Valley Road, Highway 88, Jackson Valley Road east of Highway 88 and Martin Lane.

I have enclosed the EIR that was prepared in 2011 by ESA on behalf of the County of San Joaquin for the Munn & Perkins Quarry Excavation Permit, also a project owned by George Reed, Inc. That project was to extend hours of operation of the quarry and asphalt batch plant from 5am to 9pm to 9pm to 5am. The first environmental document prepared for that project had recommended a Mitigated Negative Declaration. When neighbors objected, the Mitigated Negative Declaration was withdrawn and a full EIR was prepared. The final project was revised to limit the nighttime hours to projects that contain specifications that limit construction work to nighttime hours. Also, the number of extended hours was limited to 125 per year.

In the San Joaquin County project there is only one home immediately adjacent to the quarry and others in the area were buffered by almond orchards which blocked the view into the quarry. By comparison, the number of homes that can see the JVQ and the existing lighting in the early morning hours is at least 20 to 25. In my opinion, there is more than enough concern that neighbors will be impacted that a full EIR is justified.

The Mitigated Negative Declaration was dated August 2021. George Reed, Inc. had to be fully aware of the issues surrounding their project near Riverbank that resulted in a full EIR being required. Reed made a choice in pursuing a Mitigated Negative Declaration for this project. The further time required to complete a full EIR should not be an argument not to require it now.

Sent from my iPhone

handouts-planning_211086-munn-perkins~vised.pdf
10417K

Planning Department <planning@amadorgov.org>

Request from George Reed Inc./Jackson Valley Quarry

1 message

chad johnstone <chadjohnstone53@gmail.com> Mon, Feb 14, 2022 at 2:38 PM
To: planning@amadorgov.org

To whom it may concern,
This letter is in regards to the Reed Leasing companies request
to expand their hours of operation to 24 hours a day, 5 days a week.
My wife and I reside on property directly next door to the quarry on
parcel #005-240-002, On an average day, we can hear the mine operation,
the backing of trucks, and heavy equipment noise. It is both loud and annoying.
An increase in hours would mean that we would hear the mining operation
all night long. This is unacceptable.
We have been good neighbors to the mine but believe that expanded hours
would have a negative impact on our quality of life. Additionally, we believe
that our property value has decreased with the expansion of the mine and
will continue to do so.
Is there any chance that the mine owners would/could offer some solution in the form of an earthen berm to mitigate noise? That would be a solution that would be satisfactory to us.
Realistically, we are not expecting any big changes to happen as a result of this letter. We feel that it is important to voice our concerns nonetheless.
Sincerely,
Chad Johnstone and Ruth Kowalski

Planning Department <planning@amadorgov.org>

RE The Jackson Valley Quarry

1 message

Jordan Larson <jordan@larsonperformancehorses.com> Wed, Feb 23, 2022 at 12:15 PM
To: planning@amadorgov.org
Cc: Taylor Larson <taylor@larsonph.com>

Hello,
I am writing on behalf of our family and business regarding the request for 24hr operations at the Jackson Valley Quarry. Our property is the Horse ranch located behind the quarry. Our address is 6363 Martin Lane Ione.
We are fully against this proposal and strongly hope that it is not approved.
We work and reside on our ranch, and as it is now, during the quarry's day operations, there is a lot of noise disturbance and regular blasting that occurs. When the blasting happens, it shakes our home, rattling the windows and doors. In our horse barns and arena is shakes and rattles as well and terrifies the animals. Our dogs have ran away on multiple occasions when the blasting occurs.
Our concern if this is all going on at night, is for us to be able to sleep. We can hear the trucks from our home going in and out very early in the morning. Having trucks going in and out at all hours is not what our neighborhood prefers.
Another huge concern is what this could potentially do to our property values. I believe it could definitely have a negative impact.

Please do not approve this application for a 24hr permit.

Thank you for your time.

Sincerely,

Jordan and Taylor Larson
Larson Performance Horses
taylor@larsonph.com

Chuck Beatty <cbeatty@amadorgov.org>

Planning Meeting of 3/8/22

William May <billshrc@gmail.com> Fri, Feb 25, 2022 at 4:20 PM
To: Chuck Beatty <cbeatty@amadorgov.org>

To: Amador County Planning Commission

From: Matthew S. Gibson, Esq. &
Kim Gibson,
6110 Martin Lane, Ione California 95640
Date: February 24, 2022
Re: George Reed 24-hour work expansion, meeting on 03-08-2022, 7:00 p.m.

Dear Planning Commission:

I wish to formally object to the proposal to allow the Jackson Valley Quarry, Amended Use Permit (UP-06;9-2), to operate for a 24-hour period. This objection is based on many factors, including but not limited to, noise, dust, vibration, and the overall unknown damages to the environment and surrounding areas that would result from such activity. All these factors are serious, and prudence mandates a full environmental impact report ("EIR"). The Mitigated Negative Declaration adopted on February 9, 2022 (your file number SCH # 2007042002.) is accordingly seemingly insufficient.

Concerning the noise issues, many years ago the Jackson Valley Quarry was of no concern. It was a small quarry with a small footprint. Over the years however, the quarry has taken an incremental growth approach and is now a very large operation. The mountain that was once there to shield most of the noise is gone. Accordingly, the sound from this open mining operation reverberates through the entire Jackson Valley. We live approximately 2 mile away and every day we are subject to the "beep beep beep" of mining trucks backing up, the sound of large rocks hitting metal dump truck beds, the sound of large industrial jack hammers crushing rock, blast explosions, and sirens indicating a blast is imminent. While I am not enthusiastic to hear these sounds, at least there is peace at night. Like many Jackson Valley residents, we open our windows at night to let in the fresh air and enjoy the peace. If the quarry can operate 24-hours a day this will be an impossibility. Not only is this a noise nuisance, but it seemingly goes against your own Public Nuisance Noise ordinance contained in Chapter 9.44.

Concerning the issue of dust, this is a very serious matter. I am not talking about dust and dust control measures such as water or track out such as PM 10. I am talking about fine air born dust containing silica or other particulates. For example, dust generated by quarrying can contain silica. This is naturally found in certain types of stone, rock, sand, and clay. Many of these are present at the Jackson Valley Quarry. This material can create a very fine dust that can be easily inhaled in the lungs. This causes silicosis, a disease that can take years to develop. It causes swelling and scarring in the lungs. People with silicosis may become bed-bound and in rare instances die. Silicosis can also lead to other serious lung diseases such as COPD and lung cancer.

I find it ironic that companies who operate quarries where silica is likely present are usually required by law to provide their employees with protective equipment. There is no such protection for people who live near

the quarries. Those with existing respiratory conditions such as asthma, the elderly, and young children are particularly vulnerable to airborne silica entering their lungs. The risk of harm to health is higher where the prevailing winds carry dust from quarries towards residential areas, like the Jackson Valley. To wit, my neighbor Judy Finch, died from lung cancer no less than 5 years ago. She was non-smoker who lived in the Jackson Valley for 50 plus years.

My concern about the quarry is that by allowing them to operate 24 hours per day you are increasing the amount of airborne dust into the atmosphere exponentially. In my prior legal career, I specialized in environmental law. I was also a state certified opacity reader. There any many days that I look across the Jackson Valley and wonder in amazement how the opacity dust level is approaching, even sometimes surpassing, 20%. This unto itself raises not only medical issues but also the Clean Air Act. Simply put, there are severe environmental issues associated with dust that makes a full EIR not only prudent, but possibly mandated.

Concerning the vibration, this concern is self-evidence. The extraction of hard rock by explosion, large machinery, crushing, and movement all have the potential to significantly affect the environment. By allowing this activity to continue non-stop 24 hours a day, this is not only problematic but alone should trigger CEQA and a full EIR.

Lastly, there are whole host of other issues that are seemingly being glossed over and demand a full EIR. For example, this area is rife with underground streams and water sources. Has anyone addressed the issue of hydraulics? In addition, what about the wildlife issues? By not having a break in the work activity are certain species driven or affected by the activity? What about dust control by conventional means? Water to the most common means to control duct. If we allow the quarry to operate 24 hours per day, this will mean that more water to suppress the dust. Seeing that we are once again in the midst of a drought, how does this affect the water supply in the Jackson Valley? What about truck noise on the roadways? If the quarry is to operate 24 hours per day, I assume that this means the public roadways will be used 24 hours per day. Have any of the issues been explored in length? To the best of my knowledge, they have not. At a minimum a full EIR is needed. Simply put, how can one issue a Negative Declaration or even a Mitigated Negative Declaration with these issues outstanding?

In summation, my wife and I highly oppose the request of the quarry to operate 24 hours a day. The noise, dust, vibration, health, and many other issues remain unsolved or pose a danger. If such were allowed, the benefits of one (quarry) would outweigh the damages to the many who live in the Jackson Valley.

Respectful submitted.

Matthew S. Gibson, Esq.
6110 Martin Lane
Ione, CA 95640
209 274-6154
Email: mgibby_2001@yahoo.com

Chuck Beatty <cbeatty@amadorgov.org>

Planning meeting on 3/8/22

1 message

William May <billshrc@gmail.com> Fri, Feb 25, 2022 at 4:11 PM
To: Chuck Beatty <cbeatty@amadorgov.org>

February 25, 2022

To: John Gonsalves, Chairman, and members of the Planning Commission

Re: Planning Commission denies request by La Mesa Vineyards

At the Planning Commission meeting of February 8, 2022 the Planning Commission rejected the request by La Mesa Vineyard for expanded hours and more events to be held at the vineyard. The winery request was denied because of negative sound and lighting impacts identified by nearby residents.

Amador County residents have sent protests to the Commission regarding the proposed increase to expand JVQ to 24 hour operations Monday through Friday. So how can the Commission justify denying the La Mesa Vineyards request and approve the JVQ request to expand hours of operations from 12 to 24 hours per day?

24 hour operations will have a severe negative impact on the quality of life and home values caused by sound and lighting issues.

Sincerely,

William and Sharon May

February 25, 2022

To: John Gonsalves, Chairman, and members of the Planning Commission

Re: Planning Commission Hearing of March 8, 2022

The Technical Advisory Committee (TAC) met on February 3, 2022 to review the Jackson Valley Quarry (JVQ) 24 hour proposal. The stated goal of TAC was to review the project's draft Initial Study/Mitigated Negative Declaration and discuss proposed mitigation measures and conditions.

TAC had already determined the results it intended to forward to the Planning Commission. TAC members did not consider the written objections received from George Lambert and Matt Gibson. Mr. Lambert has since provided additional objections to the proposal to the Commission. Mr. Gibson will be doing the same.

We attended the meeting and raised our concerns. The representative from JVQ spoke in favor of the proposal. The meeting concluded within 30 to 35 minutes.

The sound ordinance was based on operation of the quarry 12 hours per day, Monday through Friday, not 24 hours per day. It is difficult to understand the TAC conclusion that there is no difference between 12 hour and 24 hour operations.

Lighting will also be a huge problem and have a negative impact on residents of Jackson Valley and surrounding areas.

The sound and lighting issues, if implemented, would have an incredibly negative impact on the lives and home values of residents in Jackson Valley and surrounding area.

We bring to the Commission's attention the public hearing that was held on August 11, 2020. The Planning Commission proposed a "Dark Sky Protection Ordinance". Unfortunately, the Board of Supervisors on a 2/3 vote rejected the proposed ordinance. That action does not change the fact that the Commission supports a Dark Sky Protection Ordinance. 24 hour operations by JVQ would obviously impact lighting requirements.

The quality of life of Jackson Valley residents and the impact on their property values should not be trampled by the financial greed of George Reed, Inc. and JVQ.

The Planning commission well be asked to approve the request from George Reed. That would be a huge mistake. At a minimum the Commission should require a full Environmental Impact Report (EIR).

Thank you,

William and Sharon May

April 19th, 2022

Amador County Planning Department
Public Hearing

RE: Request from George Reed, Inc./ Jackson Valley Quarry

We are the owners of 2 parcels directly connected to the property in question and we are highly against this Amended Use Permit for the following reasons:

1) We live on the property and do not want the noise from trucks and equipment running 24 hours a day. We can clearly hear them now during the day and do not want the night disturbance also.
2) If they are not mining any additional product or levels or materials mined or equipment type, then there is no need to do it during the night hours.
3) As they mine the property, they are coming closer and closer to our property on Martin Lane and the noise and dust will continue to get louder and more dusty.
4) If approved their 24 hour work will adversely affect the value of the property along Martin Lane.
5) Their original Permit is based on "Conditions of Approval" and they should not be able to expand on that, affecting the property rights of those that own adjacent parcels.

Thank you in Advance,

Michael and Barbara Boyle
7105 Martin Lane
Ione, Ca 95640

209-610-3860

Chuck Beatty <cbeatty@amadorgov.org>

Fwd:

Chuck Iley <ciley@amadorgov.org> Tue, Jun 21, 2022 at 10:16 AM
To: Chuck Beatty <CBeatty@amadorgov.org>

---------- Forwarded message ---------
From: **William May** <billshrc@gmail.com>
Date: Tue, Jun 21, 2022 at 8:47 AM
Subject:
To: Chuck Iley <ciley@amadorgov.org>

Quarry hours of Operation

Morning Chuck
The Quarry hours of Operations are supposed to be 6 a.m.to 6 p.m. , Monday through Friday .
They have been pushing the envelope recently and this morning started operations closer to 5:30 a.m.
Bill

--
Chuck Iley
County Administrative Officer
Amador County, California
810 Court Street
Jackson, CA 95642
voice: (209) 223-6470
fax: (209) 257-0619
www.co.Amador.ca.us

Planning Department <planning@amadorgov.org>

TAC Project Referral - Amendment to UP-06;9-2 Jackson Valley Quarry Amended Use Permit

Hoag, Jeff@CALFIRE <jeff.hoag@fire.ca.gov> Mon, Jun 19, 2023 at 12:59 PM
To: Amador County Planning Department <planning@amadorgov.org>

Good Afternoon,

CAL FIRE has no comments on the above application.

Thank you,

Jeff Hoag

Battalion Chief - Amador El Dorado Unit

Wildfire Resiliency Program

2840 Mt. Danaher Rd Camino 95709

Cell: (530) 708-2725

From: rbratan@amadorgov.org <rbratan@amadorgov.org> **On Behalf Of** Amador County Planning Department
Sent: Tuesday, June 13, 2023 3:24 PM
Subject: TAC Project Referral - Amendment to UP-06;9-2 Jackson Valley Quarry Amended Use Permit

[Quoted text hidden]

Chuck Beatty <cbeatty@amadorgov.org>

G.Reed petition to expand quarry hours

1 message

Pamela Bennetts <bennettsp@yahoo.com> Mon, Jun 26, 2023 at 2:34 PM
To: CBeatty@amadorgov.org

Mr. Beatty:
I am writing in opposition to G. Reed's petition to expand hours at the quarry in Jackson Valley. The lights, noise and explosions would be very detrimental to those living in the area and would probably affect those in the City of Ione as sound travels through the hills. I feel an expansion of hours would hurt the quality of life in western Amador County.
Sincerely,
Pamela Bennetts
472 Eagle Drive
Ione, CA

Sent from my iPhone

From: Jane Fowler <janddfowler@att.net>

Date: June 26, 2023 at 2:40:47 PM PDT

To: CBeatty@amadorcounty.org

Subject: Reese Quarry operating hours

I wish to express my disapproval for the expansion of the Reese Quarry hours of operation. The quarry currently operates 12 hours daily Monday through Friday from 6-6. During this time the small, two lane road of Jackson is plagued by trucks entering and leaving the quarry and by noises from the operations. The trucks entering traffic on Highway 88 are a nuisance to those of us who need to use that road. Sometimes two or three trucks in sequence enter at the same time. They do try to be considerate and pull over, but that isn't always possible. The residents of that once peaceful area are hurt enough by these long daily work schedules. To continue the noisy traffic until 10:00 each weekday night and on Saturday's from 7-3 is an assault on the lifestyle of that area. Can there really be such a need for that much more gravel? I was a business owner across from this quarry for 16 years from 1980 - 1996 when the expansions were just starting. Though they tried to be good neighbors this type of business was often disruptive to our customers. Please consider the people who make there home in Jackson Valley. It's not financial gain for them. It's a loss of quiet time and the peacefulness they came to Amador County to find.

Thank you. Jane Fowler

Sent from my iPhone

Chuck Beatty <cbeatty@amadorgov.org>

George Reed Expansion

1 message

Alan & Marianne Pantle <1pantle@sbcglobal.net> Tue, Jun 27, 2023 at 8:47 AM
To: "cbeatty@amadorgov.org" <cbeatty@amadorgov.org>

Dear Chairman of the Planning Commission, I want to express my desire for the George Reed Rock Facility on Highway 88 not be allowed to extend their hours of operation. Our county is blessed with a rural, quiet atmosphere and I'd like it to remain this way. People who live in the Jackson Valley do so for its rustic charm. They already have had to adjust to dirty, noisy operations around them. It is not fair to ask them to now put up with additional hours of this noise. Besides the noise, we are being asked to deal with more air pollution and more large trucks on the highway that would result from more operating hours. Please do not extend hours of operation for the George Reed plant on Hwy 88 and Jackson Valley Road. Sincerely, Marianne Pantle

June 30, 2023

Attn: Amador County Technical Advisory Committee

Re: George Reed additional plant operations

To Whom It May Concern,

We are unequivocally opposed to George Reed Gravel Plant extending their hours of operation.

We have lived at 4351 Jackson Valley Road since 1976, 53 years. At that time, the gravel plant was very small and had little impact to the surrounding area. In the last few years, George Reed has purchased the property adjacent to his original gravel plant and the production has increased exponentially. The plant, at its current operational hours, has had a tremendous impact to the Jackson Valley and surrounding areas.

We must contend with dust, which settles in our homes, autos and lungs. We have made numerous calls to Amador County Air Quality Board with complaints of dust created at the plant, only to be told that there really isn't that much dust, but rather that angle of the sun making it look as if there is dust. We contend with dynamite blasts, which literally rock our windows, shake our foundations, and rattle every inch of our homes. Equipment noise from conveyor belts, rock crushers, backup hazard warning from vehicles and equipment. Heavy truck traffic on small county roads that are rated at a 10-ton weight limits. The semi-trucks that are leaving George Reeds plant at present, are ALL over the county road weight limit! We feel extending the operational hours of the George Reed Plant would be detrimental to

the Jackson Valley and the surrounding areas and only exacerbate the conditions I have noted.

I would also like to know the date of the environmental impact report that George Reed is currently operating under with possible consideration for a new/updated environmental impact report being conducted.

Again, we are opposed to any increase in operational hours at the George Reed Plant on Jackson Valley Road.

Frank & Virginia Costa
4351 Jackson Valley Road
Ione, CA 95640
(209) 274-4200 HM
(209) 304-1660 CELL

From: Matthew and Kimberly Gibson
6110 Martin Lane, Ione, CA 95640

To: Chuck Beatty, Planning Director, Amador County.

Date: June 30, 2023

Re: UP-06;9-2 Jackson Valley Quarry Amended Permit

My name is Matthew S. Gibson. My wife and I object to the amended permit proposal for the Jackson Valley rock quarry (UP-06;9-2). We moved here about 17 years ago as we were taken aback by this valley's peace, beauty, and amazing neighbors. At this time, the George Reed rock quarry was nothing but a small speck near Hwy 88 and it effectively had little impact for us. As the years progressed however, this small speck used incremental creep to become the behemoth it is today, bringing with it a whole host of other problems.

Today, we are subject to blasts, beep beep beep sounds from trucks, rocks hitting metal beds, and the overall sounds emitting from the hard rock quarry. We are about 2 miles away and according to George Reed, we are essentially not in the immediate sphere of influence. I can tell you this is not the case. Daily we are subject to the excessive noise from the quarry, and it has impacted (some might say destroyed) our peace, use, and enjoyment of our property.

I realize that rock/gravel must come from somewhere. However, the way quarry has conducted itself is seemingly outside the bounds of normal activity. Over the years the quarry has pushed inch by inch to expand their operations. In doing so, they have taken away some of the rights of their neighbors. For example, the mountain that was once there (to protect the emitting sound) is now gone. In its place we are treated to large piles of baren dirt and overburden that run the property line. Located therein are multiple towers, rock crushing facilities and a plethora quarry machinery and trucks. The end results that they have created an amphitheater for the sound to travel throughout the entire valley. I have looked at their sound data, I find it highly suspect. Simply put, how is it that years ago we barley heard any quarry operations. Today, it is non-stop. We are told to not believe a lying ears.

George Reed now proposes to have weekday hours from 6:00 a.m. to 10 p.m., and weekend hours from 7:00 a.m. to 3:00 p.m. This is the last straw. We must act before they destroy the last remnants of the peace and quiet for which the Jackson Valley is known.

For example, the extension to 10:00 pm during weekday is not only wrong, but it is also offensive. Like many, we sleep with the windows open at night to save on electricity and to enjoy the sounds of nature in the valley. We have a 3-story house. Our bedroom is on the second story. The quarry sounds hit directly into the second and third stories. Imagine trying to go to bed early so you can get up at 4:30 a.m. to travel to work (or work on your farm). Instead of hearing the peaceful sounds of nature, you are subject to the sounds of heavy haul trucks, rock crushing activities, and all the sounds associated with a hard rock quarry. Not only is this

annoying, but it also borders on noise pollution. One of the very basic rights of all property owners is to use and enjoy their property without outside influence. The sounds emitting from the quarry greatly affects this right. This is not trivial.

Moreover, the very fact they are proposing this extension gives us valuable insight into their motivations and the seeming lack of respect for their neighbors. For example, we have a small family winery on the property. If we take George Reed's position, we should be able to conduct weddings on the property until 10:00 pm. In my opinion, this would be very selfish and I would not do this to my neighbors. Can you imagine the constant noise from the cars, music, dancing, and other matters associated with a wedding venue. Now substitute George Reed in this equation. This is effectively what they are doing. The only difference is that they are conducting hard rock mining; something much worse.

Concerning the proposed Saturday hours of operation, this also gives us some valuable insight into their motivations. Presently, despite the weekday rock quarry noises, we at lease have the weekends to enjoy the peace and quiet of our properties. It is common to have family and friends over on the weekend to all share in valuable fellowship and comradery. George Reed's proposed operations on a Saturday would effectively destroy one of these two days. If you allow them to operate from 7:00 am to 3:00 pm on Saturdays, this only leaves Sunday for one day without rock quarry noise emitting throughout the valley. If this takes place, this is essentially the last nail in the coffin for the Jackson Valley.

Simply put, if these proposals are approved, it would greatly affect the entire Jackson Valley. As I mentioned before, this incremental creep has resulted in a once tiny operation transmuting itself into a huge sound and environmental impact belching behemoth that has become a nuisance. If this continues, we will have no option but to use all legal remedies available to stop this one-sided activity.

I hereby formally request you please turn down this proposal. To do to otherwise puts the rights of one against those of the many. Please do the right thing. It is time.

Respectfully submitted.

Matthew S. Gibson, Esq.
6110 Martin Lane,
Ione, CA 95640.

June 30, 2023

Chuck Beatty, Planning Director, Amador County, CA

Subject: Opposition to Amendment to Use Permit (UP-06;9-2) to allow for modified hours of operation.

The primary emphasis for the Reed Quarry, Inc. modified hours of operation appear to be to enable the Quarry to compete with a competitor. That is George Reed's problem, not the residents of Jackson Valley and Amador County. The simple solution to save everyone's time and energies is for Reed to withdraw the modified hours of operation and continue to operate 6 a.m. to 6 p.m. Monday through Friday with weekend operations, if State or Federal Agencies declare an emergency.

George Reed Quarry, Inc. will propose to the Technical Advisory Committee (TAC) on July 6, 2023 an Amendment to Use Permit (UP-06;9-2) to allow for modified hours of operation. Currently the Quarry can operate six a.m. to six p.m. Monday through Friday with weekend operations, if State or Federal Agencies declare an emergency. Reed is proposing that the Quarry be allowed to operate from 6 a.m. to 10 p.m. Monday through Friday, and 7 a.m. to 3 p.m. on Saturday, with the caveat that they still be allowed to operate outside the amended hours to meet project demands or maximize power supply management.

We have obtained and reviewed all documents submitted in conjunction with the Proposal, including the Project Description and Application Supplement, the 2013 CEQA Initial Study and Supplemental Mitigated Negative Declaration, the Environmental Noise and Vibration Assessment, and the Early Consultation Review. All of these documents point to the intent of George Reed Quarry, Inc. to have TAC approve the Project Proposal and issue a negative declaration.

We believe that TAC will rubber stamp the proposed project and issue a negative declaration despite any objections that might be raised by opponents of the Project in person or by ZOOM. While lip service may be given to opposition points raised, TAC will then forward its recommendations to the Planning Commission. We have little hope that the Planning Commission will intervene and require a full environmental analysis and report under CEQA. Regrettably we and our neighbors in Jackson Valley and surrounding area will have to convince the Board of Supervisors' to reject the proposed project.

Approval of the Project will have a significant and permanent negative effect on the quality of life and property values for all of us who live in the valley and surrounding areas. There will be significant negative impacts to traffic, roads, noise, air quality, pollution, lighting and the biological environment. Lighting will be a major cause of negative impacts on nocturnal animals and nesting and flying birds. There will be negative impacts on creatures living on/in any current wetlands and those created by heavy rainfalls. Flora and fauna will also be negatively impacted.

Virtually all of the mitigation measures required under the 2013 CEQA Initial Study and Supplemental Mitigated Negative Declaration, the Project Description and Application Supplement, the Environmental Noise and Vibration Assessment, and the Early Consultation Review suggest that the vast majority of mitigation measures show that there is no impact on the

environment. A few show that there is less than significant impact. We call your attention to the statement on page 43, item C of the Early Consultation Review. Item C says "Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?" According to the checked box, there would be less than significant impact. We beg to differ. It would have significant adverse impact on us and all residents of Jackson Valley and surrounding area, and a negative impact on home and property values. This is another instance where the Project should be terminated immediately. If not terminated, a new complete environmental impact report and analysis under CEQA should be conducted by an independent consulting firm to be free of bias.

We look forward to pursuing our concerns at the TAC on July 6th, the Planning Commission and ultimately the Board of Supervisors.

Sincerely,

William "Bill" May

Sharon May

Chuck Beatty <cbeatty@amadorgov.org>

Rock quarry

2 messages

Jake Herfel <jakeherfel@yahoo.com> Wed, Jul 5, 2023 at 4:40 PM
To: "cbeatty@amadorgov.org" <cbeatty@amadorgov.org>

I live on Martin lane! Sometimes the noise is very loud and the dust is very bad! I am replacing my front window for the third time and they say it if from the basting! From what I have heard the quarry pays very little to the county so I feel that that we should not be giving up any more of our quality of life! Please keep things as they are!
Hugh Herfel 6370 Martin Lane Ione

Chuck Beatty <CBeatty@amadorgov.org> Wed, Jul 5, 2023 at 5:00 PM
To: Planning Department <planning@amadorgov.org>

[Quoted text hidden]
--

Chuck Beatty, AICP
Planning Director
Amador County
209-223-6380

California Department of Transportation

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July 6, 2023

Mr. Chuck Beatty
Planning Director
Amador County Planning Department
810 Court Street
Jackson, CA 95642

AMA-88- PM 3.615
Jackson Valley Quarry
Use Permit (UP-06; 9-2)
SCH 2007042002

Dear Mr. Beatty:

Caltrans appreciates the opportunity to review and respond to the Jackson Valley Quarry Use Permit that proposes to modify Condition of Approval ("COA") #15 of the Jackson Valley Quarry (JVQ) Use Permit (UP-06; 9-2) to allow operational / reclamation activities (e.g., excavation, processing, load-out, and hauling) to occur during extended hours of Quarry operation from 6:00 a.m. to 6:00 p.m. Monday through Friday to: 1) 6:00 a.m. to 10 p.m. Monday through Friday; and 2) 7:00 a.m. to 3:00 p.m. Saturdays (load-out and hauling only), and 3) Operations outside of these hours allowed to meet project / contract demands or to maximize power supply management("Project"). No change to the approved hours of operation for site preparation activities or blasting is requested. The Project will not modify the existing production levels, materials to be mined, area of disturbance, equipment types or mining methods, the number of employees, or otherwise expand or intensify the existing use. The Project site is an existing hard rock quarry located on the south side of State Route (SR) 88, approximately ½ mile east of the most westerly junction of Jackson Valley Road and SR 88 in the community of Jackson.

Activities were thoroughly analyzed in the 2013 environmental impact report (EIR), and mitigation measures were adopted as conditions of approval by the County Board of Supervisors to adequately mitigate potential impacts from site activities. Relevant to the proposed Project, the existing Use Permit (UP-06; 9-2) contains conditions of approval for noise (COAs #44-#49), lighting (COA #23), and biological resources (COAs #50-#53) that will be maintained and adhered to. To analyze the proposed Project's potential impacts, updated technical analyses related to noise and vibration, nighttime lighting, and biological effects were prepared as part of an Initial Study prepared in March of 2022. New avoidance, minimization, and mitigation measures have been integrated into the proposed Project.

Caltrans at this time has the following comments:
Caltrans' response letter addressing JVQ's revised Conditional of Approval (COA) #15 of the Use Permit dated 12/15/2021, "Caltrans suggests Amador County Planning Department continue to consult with Caltrans to identify and address potential cumulative transportation impacts that may occur from this project and other developments on or near this location. This will assist Caltrans in ensuring that traffic safety and quality standards are maintained for the traveling public on existing and future state transportation facilities" still applies.

Environmental
If extending the operational hours will result in new/additional activities in Caltrans Right of Way (ROW), the project proponent must apply for an Encroachment Permit to the Caltrans District 10 Encroachment Permit Office. All California Environmental Quality Act (CEQA) documentation, with supporting technical studies, must be submitted with the Encroachment Permit Application. These studies will include an analysis of potential impacts to any cultural sites, historic properties, biological resources, hazardous waste locations, scenic highways, and/or other environmental resources within Caltrans Right of Way, at the project site(s). The Initial Study (IS) describes the nesting bird season as March to October. However, if there is any construction related activities in Caltrans ROW as a result of this proposal, that work is subjected to a nesting bird season of February 1 - September 30 to meet Caltrans standards. There are mature trees within and/or near Caltrans ROW that could provide suitable nesting habitat. If work will occur between February 1 and September 30 of any year, a pre-construction bird survey must be conducted by a qualified biologist prior to the start of any construction related activities in Caltrans ROW. If an active nest is observed, a protective buffer must be established around the nest per CDFW guidelines. No work is allowed within the protective buffer limits until the young have fledged and until authorized by the Caltrans District 10 Environmental Office. Results of the pre-construction bird survey(s) must be provided to the Caltrans District 10 Environmental Office prior to the start of construction.

Outdoor Advertising:
It is important to note that any advertising structure visible to the National Highway System (NHS) is subject to the provisions of the California Outdoor Advertising Act outlined in Business and Professions Code Section 5200 et seq. Any advertising structure that displays off-premise commercial copy visible from the NHS will require a permit from the Office of Outdoor Advertising (ODA).

Any advertising structure that only advertises goods and services available on-premise will not require a permit from ODA, provided it adheres to the provisions of Business and Professions Code Section 5272 and 5274 and California Code of Regulations 2243 and 2246. Each of the proposed advertising structures should refrain from operating in any of the conditions outlined in Business and Professions Code Section 5403. For questions related to the ODA permit application process please visit our website at: http://www.dot.ca.gov/trafficops/oda/.

If any future project activities encroach into Caltrans Right-of-Way (ROW), the project proponent must submit an application for an Encroachment Permit to the Caltrans District 10 Encroachment Permit Office. Appropriate environmental studies must be submitted with this application. These studies will include an analysis of potential impacts to any cultural sites, biological resources, hazardous waste locations, and/or other resources within Caltrans ROW at the project site(s). For more information, please visit the Caltrans Website at: https://dot.ca.gov/programs/traffic-operations/ep/applications

If you have any question or would like to discuss these comments, please contact Paul Bauldry at (209) 670-9488 (email: paul.bauldry@dot.ca.gov) or me at (209) 483-7234 (email: Gregoria.Ponce@dot.ca.gov).

Sincerely,

Gregoria Ponce'

Gregoria Ponce', Chief
Office of Rural Planning

Planning Department <planning@amadorgov.org>

George read plant, Jackson, Valley Road, July 3, 2023

Circle Ranch <circleranch@volcano.net> Thu, Jul 6, 2023 at 12:38 PM
To: planning@amadorgov.org

Sent from my iPhone

IMG_4413.MOV
13490K


Media Player
0:00:00
0:00:07
IMG_4413

Chuck Beatty <cbeatty@amadorgov.org>

RE: Two Questions

2 messages

Tom Ferrell <tom.ferrell@reed.net> Thu, Jul 6, 2023 at 9:38 AM
To: William May <billshrc@gmail.com>
Cc: Chuck Beatty <CBeatty@amadorgov.org>, Cory Turney <cory.turney@georgereed.com>

Bill,

The reason the blast was so loud was due to a hard toe remaining from a previous blast. This hard knob of material had to be drilled separately and since it was small in volume there is very little room to put in the typical amount of stemming material in the collar of the drill hole. Stemming material is rock/soil placed in the collar of the drill blast hole to contain the blast energy inside the rock and increases fracture. For instance, a typical 40 foot high blast will have the top 8-10 feet of the blast holes filled with stemming.

The remaining hard toe was only 6 feet in depth making the stemming material only 1-2 feet in depth which did increase the sound level for this very small amount of rock. These remaining hard toes are not common; however, they do occasionally remain after a blast and have to be drilled and blasted again.

GRI takes steps to decrease the impacts of these rare “hard toes” to neighbors. The first step is combining the smaller shot with the blast from the bench directly above. This does make mining difficult because we have to mine around this unbroken material and leave material in place impacting our mining sequence. However, we do not want to disturb you with another blast that could be even louder than our typical blast.

I hope this answers your questions regarding the louder than normal blast.

Tom Ferrell

(209) 681-3726

From: William May <billshrc@gmail.com>
Sent: Wednesday, July 5, 2023 1:16 PM
To: Tom Ferrell <tom.ferrell@reed.net>
Subject: Re: Two Questions

Tom

Interesting response . The number of non administrative and staff services Quarry Employees is probably a public document and should not be a secret . I am not asking where any employees specifically live just if any reside in Jackson

Valley or Ione . Again , I can probably obtain the information if I pursue it . I will make sure that your refusal to answer simple questions gets published, further enforcing the public perception that Reed is a terrible neighbor . When might I expect a response to the blast question ?

Bill

On Wed, Jul 5, 2023 at 12:59 PM Tom Ferrell <tom.ferrell@reed.net> wrote:

> Since you are opposing our project I cannot answer specific questions related to our organization that would be used to negatively impact GRI projects. However, we are working on answering your questions regarding the loud blast the other day. We are pulling the seismic readings and interviewing the blast company to see why this particular blast was so large.
>
> Tom
>
> ---
>
> **From:** William May <billshrc@gmail.com>
> **Sent:** Wednesday, July 5, 2023 11:13 AM
> **To:** Tom Ferrell <tom.ferrell@reed.net>
> **Subject:** Fwd: Two Questions
>
> **[EXTERNAL EMAIL]**
>
> Tom
>
> Do you have an answer to my questions ?
>
> Bill
>
> ---------- Forwarded message ---------
> From: **William May** <billshrc@gmail.com>
> Date: Fri, Jun 30, 2023 at 11:26 AM
> Subject: Two Questions
> To: Tom Ferrell <tom.ferrell@reed.net>
>
> Tom
>
> Two Questions :
>
> 1)How many employees excluding Administration and support staff work at the Quarry ?
>
> 2) How many Quarry Workers live in Jackson Valley or Ione ?
>
> Bill May
>
>

> CONFIDENTIALITY NOTICE: This communication and any accompanying document(s) are confidential and privileged. They are intended for the sole use of the addressee. If you are not the intended recipient, you are hereby notified that any use or disclosure of this information is strictly prohibited. If you have received this message in error, please notify the sender immediately by reply e-mail and permanently delete the original message and any attachments. Your compliance is appreciated.

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William May <billshrc@gmail.com> Thu, Jul 6, 2023 at 11:23 AM
To: Chuck Beatty <cbeatty@amadorgov.org>

Chuck
Please forward my exchange of emails with Tom to TAC Members , TAC Attorney and the Press . Tom refused to answer two simple questions on the grounds that we opposed the proposed Project . Not a good sign and clearly another reason why Reed is considered a terrible neighbor to folk in Jackson Valley , Ione and surrounding areas .
Will the meeting be recorded ?
Thanks
Bill

---------- Forwarded message ---------
From: **William May** <billshrc@gmail.com>
Date: Thu, Jul 6, 2023 at 10:57 AM
Subject: Re: Two Questions
To: Tom Ferrell <tom.ferrell@reed.net>

Tom
Thanks for the information .
Bill
[Quoted text hidden]

California Department of Transportation

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September 6, 2023

Mr. Chuck Beatty
Planning Director
Amador County Planning Department
810 Court Street
Jackson, CA 95642

AMA-88- PM 3.615
Jackson Valley Quarry
Use Permit (UP-06; 9-2)
SCH 2007042002

Dear Mr. Beatty:

Caltrans appreciates the opportunity to review and respond to the Jackson Valley Quarry amendment to Use Permit # UP-06;9-2 to modify Condition of Approval (COA) #15 of the Jackson Valley Quarry (JVQ) Use Permit to amend the hours of operation for operational / reclamation activities (e.g., excavation, processing/crushing, load-out, and hauling) shown below. Proposed additional text is underlined and proposed deleted text is shown in ~~strikeout~~.

"Hours of operation," other than maintenance and repair work, shall be limited to the hours of 6:00 a.m. and ~~6:00 p.m~~. 10:00 p.m. Days of operation, other than maintenance and repair work, shall be limited to Monday through Friday. Maintenance and repair work of a low noise level may be made outside the foregoing working hours and days of operations. The noise level for maintenance and repair work conducted outside regular working hours and days shall not exceed 45 dBA at the property line. The above limitations on working hours and days may, in case of emergency, be temporarily waived by the Chairman of the Board of Supervisors or their designee until the matter is heard by the Board of Supervisors for a final determination. Notwithstanding the above, the following limitations to hours of operation apply unless temporarily waived by the County Planning Department.

1. Mining of the outer areas of the quarry are limited to the hours of 6:00 am – 6:00 pm, Mon – Fri, until mining has progressed to a depth of at least one bench height (~20 ft.) as delineated in the noise report (Bollard; May 2023).
2. Use of excavator-mounted hydraulic rock breakers are limited to the hours of 6:00 am –6:00 pm, Mon – Fri.
3. Load out of rip-rap is limited to the hours of 6:00 am – 6:00 pm, Mon – Fri."

No change to the approved hours of operation for site preparation activities or blasting are requested. The Project will not modify the existing production levels, materials to be mined, area of disturbance, equipment types or mining methods, number of employees, or otherwise expand or intensify the existing use.

Caltrans at this time has the following comments:

Environmental

If extending the operational hours will result in new/additional activities in Caltrans Right of Way (ROW), the project proponent must apply for an Encroachment Permit to the Caltrans District 10 Encroachment Permit Office. All California Environmental Quality Act (CEQA) documentation, with supporting technical studies, must be submitted with the Encroachment Permit Application. These studies will include an analysis of potential impacts to any cultural sites, historic properties, biological resources, hazardous waste locations, scenic highways, and/or other environmental resources within Caltrans Right of Way at the project site(s). The Initial Study (IS) describes the nesting bird season as March to October. However, if there are any construction-related activities in Caltrans ROW as a result of this proposal, that work is subjected to a nesting bird season of February 1 - September 30 to meet Caltrans standards. There are mature trees within and/or near Caltrans ROW that could provide a suitable nesting habitat. If work will occur between February 1 and September 30 of any year, a pre-construction bird survey must be conducted by a qualified biologist prior to the start of any construction-related activities in Caltrans ROW. If an active nest is observed, a protective buffer must be established around the nest per CDFW guidelines. No work is allowed within the protective buffer limits until the young have fledged and until authorized by the Caltrans District 10 Environmental Office. Results of the pre-construction bird survey(s) must be provided to the Caltrans District 10 Environmental Office before the start of construction.

Outdoor Advertising:

It is important to note that any advertising structure visible to the National Highway System (NHS) is subject to the provisions of the California Outdoor Advertising Act outlined in Business and Professions Code Section 5200 et seq. Any advertising structure that displays off-premise commercial copy visible from the NHS will require a permit from the Office of Outdoor Advertising (ODA). Any advertising structure that only advertises goods and services available on-premise will not require a permit from ODA, provided it adheres to the provisions of Business and Professions Code Section 5272 and 5274 and California Code of Regulations 2243 and 2246. Each of the proposed advertising structures should refrain from operating in any of the conditions outlined in Business and Professions Code Section 5403. For questions related to the ODA permit application process please visit our website at: http://www.dot.ca.gov/trafficops/oda/.

Caltrans suggests Amador County Planning Department continue to consult with Caltrans to identify and address potential cumulative transportation impacts that may occur from this project and other developments on or near this location. This will assist Caltrans in ensuring that traffic safety and quality standards are maintained for the traveling public on existing and future state transportation facilities.

Encroachment Permits
If any future project activities encroach into Caltrans Right-of-Way (ROW), the project proponent must submit an application for an Encroachment Permit to the Caltrans District 10 Encroachment Permit Office. Appropriate environmental studies must be submitted with this application. These studies will include an analysis of potential impacts to any cultural sites, biological resources, hazardous waste locations, and/or other resources within Caltrans ROW at the project site(s). For more information, please visit the Caltrans Website at: https://dot.ca.gov/programs/traffic-operations/ep/applications

If you have any question or would like to discuss these comments, please contact Paul Bauldry at (209) 670-9488 (email: paul.bauldry@dot.ca.gov) or me at (209) 483-7234 (email: Gregoria.Ponce@dot.ca.gov).

Sincerely,

Gregoria Ponce'

Gregoria Ponce', Chief
Office of Rural Planning

MUNN & PERKINS QUARRY EXCAVATION PERMIT

Draft Environmental Impact Report

Prepared for
County of San Joaquin

May 2011

ESA

MUNN & PERKINS QUARRY EXCAVATION PERMIT

Draft Environmental Impact Report

Prepared for
County of San Joaquin

May 2011

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EXECUTIVE SUMMARY

Introduction

The Proposed Project would allow George Reed, Inc. (the applicant) to extend the regular operating hours at the Munn & Perkins Quarry to accommodate night time road paving projects. George Reed, Inc. has submitted a Revisions of Approved Actions Application to amend San Joaquin County Ordinance Requirement No. 4 of a previously approved Quarry Excavation Permit (QX-89-0002). San Joaquin County Ordinance Requirement No. 4 states: "The hours of operation with the exception of periods of declared National, State, or County emergency, daily operations will be restricted to the period between 5:00 a.m. and 9:00 p.m." Approvals for nighttime operation have been granted on a case by case basis the last 11 years.

The Revisions of Approved Actions request is to extend the hours of operation from 9:00 p.m. to 5:00 a.m. for projects that contain specifications that limit work to nighttime hours. The number of extended nights will not exceed 125 nights per year provided there are no unexpected delays in construction work. Nighttime work will be limited to the asphalt batch plant, loaders, trucks including a water truck, and scale house. Excavation activities and the crushing of rock will not be permitted during the expanded nighttime hours of 9:00 p.m. to 5:00 a.m. The Revisions of Approved Actions request will not remove any of the existing other previously approved conditions of approval including the Reclamation Plan.

Issues of Concern

An Initial Study/Mitigated Negative Declaration (IS/MND) was originally prepared for the Proposed Project; however the applicant voluntarily pulled the MND from consideration when numerous comments were received from neighboring properties expressing concern over the potential for noise from night time operations, odor from the asphalt batch plant, and dust generation from existing operations. Due to the issues raised after release of the MND, it was determined that an Environmental Impact Report (EIR) should be prepared for the proposed Munn & Perkins Quarry Project.

Pursuant to CEQA Guidelines Section 15082(a), the County circulated a Notice of Preparation (NOP) for this EIR on January 26, 2011, for a 30-day public review period that concluded on February 27, 2011. The NOP was circulated to the public, interested parties, and local, state, and federal agencies. Its purpose was to inform the interested parties that the Proposed Project could have significant effects on the environment and to solicit their comments. The NOP is included as

Appendix A of the EIR. One comment letter from Caltrans was received during the NOP comment period (see **Appendix B**). As noted above, the following issues were identified through this process:

- Air Quality impacts including odor from the asphalt batch plant and dust from project operations.
- Noise impacts from nighttime operations, including noise from haul trucks.
- Transportation Impacts, including operational impacts to local roadways and intersections.
- Visual impacts from nighttime lighting.

Issues Considered and Found Not To Be Significant

An EIR shall focus on the significant impacts to the environment (Guidelines §15143). Issues identified during the scoping process as not being significant are discussed below. The following issues were identified by the County during the scoping process as not significant and; therefore, were not evaluated further in this DEIR, as discussed in more detail below.

- Agriculture and Forestry
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use Planning
- Mineral Resources
- Population and Housing (see Section 5.1.2 for a discussion of Growth Inducement)
- Public Services
- Recreation
- Utilities and Public Facilities

Alternatives to the Proposed Project

The purpose of the alternatives analysis in an EIR is to describe a range of reasonable alternatives to the project that could feasibly attain the objectives of the project, and to evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6(a)).

The following alternatives are discussed in Chapter 4, Alternatives:

- Alternative 1 – No Project Alternative
- Alternative 2 – West Only Haul Route Alternative
- Alternative 3 – East Only Haul Route Alternative

Alternative 2 (West Only Haul Route) is designated in the EIR as the environmentally superior alternative.

Summary of Environmental Impacts

Table ES-1 presents a summary of project impacts and proposed mitigation measures that would further avoid or minimize potential impacts. It also indicates the level of significance of each environmental impact both before and after the application of the recommended mitigation measure(s).

For detailed discussions of all project impacts and mitigation measures, see Chapter 3, Environmental Setting, Impacts, and Mitigation Measures.

TABLE ES-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
3.1. Visual and Lighting			
3.1.1: Implementation of the project has the potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Potentially Significant	**Measure 3.1.1:** All outdoor lighting will be required to be fully shielded and shall adhere to Section 9-1025.6 of the Development Code in order to minimize any impacts resulting from outdoor lighting on adjacent properties.	Less than significant
3.2. Traffic and Circulation			
3.2.1: The Project would increase traffic volumes on area roadways.	Less than significant	None required	Less than significant
3.3. Air Quality and Climate Change			
3.3.1: The project could create objectionable odors affecting a substantial number of people.	Potentially Significant	None required	Less than significant
3.4. Noise			
3.4.1: Project asphalt plant operations would add to the noise environment in the project vicinity.	Less than significant	None required	Less than significant
3.4.2: Off-site project haul truck traffic would add to the noise environment in the project vicinity.	Potentially Significant	**Measure 3.4.1:** All project trucks shall be operated using noise-mitigating operating parameters when entering or leaving the plant on East River Road. Based on testing conducted by Bollard Acoustical Consultant, Inc., the quietest haul truck operating parameters were as follows. • Empty Trucks: Travel speed at 38-43 mph with engines in 8th gear at 700-800 rpm. • Loaded Trucks: Travel speed of 33-35 mph with engines in 6th or 7th gear at 1,400-1,600 rpm. Furthermore, truck parking anywhere along River Road and the use of jake breaks at the McHenry Ave/River road intersection is prohibited.	Significant and Unavoidable

CHAPTER 1
Introduction

1.1 Purpose of this Environmental Impact Report

San Joaquin County, as the Lead Agency, has prepared this Draft Environmental Impact Report (DEIR) to provide the public and responsible and trustee agencies with information about the potential environmental effects of the proposed Munn & Perkins Quarry Project (generally referred to in this DEIR as the "Proposed Project").

This DEIR was prepared in compliance with the California Environmental Quality Act (CEQA), and the CEQA Guidelines (California Code of Regulations, Title 14). As described in CEQA Guidelines Section 15121(a), an EIR is a public informational document that assesses the potential environmental impacts of a proposed project and identifies mitigation measures and alternatives to the Proposed Project that could minimize or avoid significant adverse environmental impacts. CEQA requires that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority. The EIR is an informational document used in the planning and decision-making process. It is not the purpose or intent of an EIR to recommend either approval or denial of a project.

CEQA requires that a lead agency neither approve nor carry out a project as proposed if there are feasible alternatives or mitigation measures that would avoid or substantially lessen the significant environmental effects of the project (CEQA Guidelines Sections 15021, 15091, and 15092). If the mitigation measures or project alternatives are determined to be infeasible, the lead agency must make findings describing the economic, legal, social, technological, or other reasons. CEQA also requires that decision-makers balance the benefits of a proposed project against its unavoidable environmental risks. If environmental impacts are identified as significant and unavoidable, the project may still be approved if it is demonstrated that social, economic, or other benefits outweigh the unavoidable impacts. The lead agency would then be required to state in writing the specific reasons for approving the project based on information presented in the EIR, as well as other information in the record. This process is defined as a "Statement of Overriding Considerations" by CEQA Guidelines Section 15093.

1.2 Project Overview

The applicant, George Reed LLC, has submitted a Revisions of Approved Actions Application to amend San Joaquin County Ordinance Requirement No. 4 of a previously approved Quarry Excavation Permit (QX-89-0002). San Joaquin County Ordinance Requirement No. 4 states: "The hours of

operation with the exception of periods of declared National, State, or County emergency, daily operations will be restricted to the period between 5:00 a.m. and 9:00 p.m."

The Revisions of Approved Actions request is to extend the hours of operation from 9:00 p.m. to 5:00 a.m. for projects that contain specifications that limit work to nighttime hours. The number of extended nights will not exceed 125 nights per year provided there are no unexpected delays in construction work. Nighttime work will be limited to the asphalt batch plant, loaders, trucks including a water truck, and scale house. Excavation activities and the crushing of rock will not be permitted during the expanded nighttime hours of 9:00 p.m. to 5:00 a.m. The Revisions of Approved Actions request will not remove any of the existing other previously approved conditions of approval including the Reclamation Plan.

An Initial Study/Mitigated Negative Declaration (IS/MND) was originally prepared for the Proposed Project; however the applicant voluntarily pulled the MND from consideration when numerous comments were received from neighboring properties expressing concern over the potential for noise from night time operations, odor from the asphalt batch plant, and dust generation from existing operations. Due to the issues raised after release of the MND, it was determined that an Environmental Impact Report (EIR) should be prepared for the proposed Munn & Perkins Quarry Project.

1.3 Type of Environmental Impact Report

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR is prepared as a project-level EIR pursuant to CEQA Guidelines Section 15161. This type of EIR focuses primarily on the changes in the environment that would occur as a result of project development, and examines all phases of a particular project (i.e., planning, construction, operation). Therefore, this EIR focuses on the direct and reasonably foreseeable indirect changes in the environment resulting from a change in operational hours.

1.4 Use of this Environmental Impact Report

The EIR will be used by San Joaquin County as a tool to evaluate the Proposed Project's environmental impacts. The EIR will be reviewed and considered by the decision making body, in this instance the County Planning Commission, in its decision to approve or deny the Proposed Project.

A Responsible Agency complies with CEQA by considering the EIR or Negative Declaration prepared by the Lead Agency and by reaching its own conclusions on whether and how to approve the project involved.

1.5 CEQA Environmental Impact Report Process

1.5.1 Notice of Preparation

In accordance with CEQA Guidelines Section 15082, the County circulated a Notice of Preparation (NOP) for this EIR on January 26, 2011, for a 30-day public review period that concluded on February 27, 2011. The NOP was circulated to the public, interested parties, and local, state, and

federal agencies. Its purpose was to inform the interested parties that the Proposed Project could have significant effects on the environment and to solicit their comments. The NOP is included as **Appendix A** of the EIR.

One comment letter from Caltrans was received during the NOP comment period (see **Appendix B**). Caltrans requested an analysis to determine the effects of the project on state highway facilities.

1.5.2 Scope of the EIR

Per Public Resources Code Section 21002.1, to provide more meaningful public disclosure, reduce the time and cost required to prepare an environmental impact report, and focus on potentially significant effects on the environment of a proposed project, lead agencies shall, in accordance with Section 21100, focus the discussion in the environmental impact report on those potential effects on the environment of a proposed project which the lead agency has determined are or may be significant.

Based on early consultation, the initial study first prepared for the project, the NOP, and comments received on both the NOP and the proposed IS/MND, the lead agency has determined that the EIR will focus on the following environmental effects:

- Lighting (Section 3.1, Visual and Lighting)
- Traffic (Section 3.2, Traffic and Circulation)
- Odor (Section 3.3, Air Quality, Climate Change and Odor)
- Truck Noise (Section 3.4, Noise)

The following issues were determined to have a less than significant impact and will not be the subject of further analysis. The rationale for limiting the analysis of these issues is discussed in Chapter 5, Other CEQA Considerations.

- Agriculture and Forestry
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Public Facilities

1.5.3 Draft Environmental Impact Report

This document constitutes the DEIR. The DEIR contains a description of the project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives.

1.5.4 Final EIR and EIR Certification

Written comments received in response to the DEIR will be addressed in a Response to Comments document which, together with DEIR (including any additions/revisions), will constitute the Final EIR. The County Planning Commission will then review the project, the Final EIR, the Community Development Department's recommendations, and public testimony, and make a decision at a public hearing whether to certify the EIR and approve or deny the Proposed Project.

1.5.5 Mitigation Monitoring and Report Program

Section 21081.6 of the Public Resources Code requires lead agencies to "adopt a reporting and mitigation monitoring program for the changes to the project which it has adopted or made conditions of project approval in order to mitigate or avoid significant effects on the environment." The mitigation measures presented in this EIR have been clearly identified and presented in language that will facilitate establishment of an adequate mitigation monitoring and reporting program (MMRP). Mitigation measures must be fully enforceable, and will be included as conditions of project approval. The MMRP will be prepared and circulated with the Final EIR.

1.6 Public Participation

The CEQA Statutes and Guidelines and San Joaquin County encourage public participation in the planning and environmental review processes. As described in Section 1.6.1, above, the County conducted a scoping process prior to the preparation of the DEIR (the NOP comment period).

The public will have an opportunity to provide comments regarding the adequacy of the DEIR during a public review period. Written public comments may be submitted to the County at any time during the public review and comment period. Please refer to the Notice of Availability (NOA) for the comment deadline. Comments on this DEIR can be submitted in writing to:

San Joaquin County Community Development Department
Attn: Kevin Swanson
1810 East Hazelton Avenue
Stockton, CA 95205

Comments can also be submitted via electronic mail at: kswanson@sjgov.org

1.7 Organization of this Environmental Impact Report

This DEIR is organized into ten chapters as described below.

Executive Summary: Provides a summary of the Proposed Project, the significant effects and proposed mitigation measures and alternatives to address those effects, areas of controversy, and issues to be resolved by the lead agency.

Chapter 1, Introduction: Provides an introduction and overview that describes the purpose of the DEIR, summarizes the EIR review and certification process, and briefly describes the County and State responsibilities regarding the project under the Surface Mining and Reclamation Act (SMARA).

Chapter 2, Project Description: Provides a description of the project site and its location, the project goals and objectives, the project setting, the project components, and a list of the necessary permits and approvals (pursuant to CEQA Guidelines Section 15124).

Chapter 3, Environmental Setting, Impacts, and Mitigation Measures: Describes the existing setting, discusses the environmental impacts of the project, and identifies mitigation measures for the environmental impacts examined in this DEIR (pursuant to CEQA Guidelines Sections 15125 and 15126). The issue areas addressed in the EIR are Visual and Lighting, Traffic and Circulation, Air Quality and Odor, and Noise.

Chapter 4, Alternatives Analysis: Presents an analysis of a reasonable range of alternatives to the Proposed Project, presents the environmental impacts associated with each alternative, and compares the relative impacts of each alternative to those of the Proposed Project (pursuant to CEQA Guidelines Sections 15126(f) and 15126.6).

Chapter 5, Other CEQA Considerations: Presents discussions of growth inducing effects (pursuant to CEQA Guidelines Section 15126(d), cumulative impacts (pursuant to CEQA Guidelines Section 15130), and significant unavoidable impacts.

Chapter 6, Report Preparation and Public Participation: Lists report preparers and identifies persons and organizations consulted during report preparation (pursuant to CEQA Guidelines Section 15129).

Chapter 7, Glossary and Acronyms: Defines terms and acronyms used in this DEIR.

Appendices: The appendices include technical information and correspondence relied upon in the preparation of the DEIR.

CHAPTER 2
Project Description

2.1 Introduction

George Reed, Inc. (applicant) proposes to expand the hours of operation at the Munn & Perkins sand and aggregate facility on E. River Road near the City of Escalon to include nighttime activities between the hours of 9:00 p.m. to 5:00 a.m. George Reed, Inc. has submitted a Revisions of Approved Actions Application to amend San Joaquin County Ordinance Requirement No. 4 of a previously approved Quarry Excavation Permit (QX-89-0002). San Joaquin County Ordinance Development Requirement No. 4 states: "The hours of operation with the exception of periods of declared National, State, or County emergency, daily operations will be restricted to the period between 5:00 a.m. and 9:00 p.m."

The Revisions of Approved Actions request is to extend the hours of operation from 9:00 p.m. to 5:00 a.m. for projects that contain specifications that limit work to nighttime hours. The number of extended nights will not exceed 125 nights per year provided there are no unexpected delays in construction work. Nighttime work will be limited to the asphalt batch plant, loaders, trucks including a water truck, and scale house. Excavation activities and the crushing of rock will not be permitted during the expanded nighttime hours of 9:00 p.m. to 5:00 a.m. The Revisions of Approved Actions request will not remove any of the existing other previously approved conditions of approval including the Reclamation Plan.

2.2 Project Location

San Joaquin County (County) has a population of approximately 685,000 persons and encompasses over 900,000 acres (about 1,425 square miles). The County is bordered by Sacramento County to the north, Stanislaus County to the south, Amador and Calaveras counties to the east, and Contra Costa and Alameda counties to the west. Incorporated areas within the County include the cities of Stockton, Lodi, Manteca, Tracy, Ripon, Lathrop, and Escalon. The City of Stockton is the county seat for San Joaquin County. State Route 99 (SR 99) and Interstate 5 (I-5), two of the State's major north-south roadways, pass through the County. Interstate 205 (I-205) and Interstate 580 (I-580) provide the County direct connections to the San Francisco Bay Area to the west. Major land uses present in the County include agriculture, urban residential, rural residential, commercial, industrial, rangeland, and open space/natural habitat. Major landforms in the County include the foothills of the Diablo Range in the southwest, the foothills of the Sierra Nevada in the east, and the Delta in the northwest. San Joaquin County is one of California's leading agricultural centers; the County typically ranks in the top 10 of California's 58 counties for gross value of agricultural production.

The project site is located on the south side of East River Road approximately 1,000 feet west of Harold Avenue in southeastern San Joaquin County approximately 2 miles southeast of the City of Escalon (see **Figure 2-1**). The Stanislaus River and Stanislaus County line is located within a few hundred feet of the southwest border of the project site. State Route (SR) 120 is located approximately 2 ½ miles north of the project site and SR 99 is located approximately 12 miles to the west.

2.3 Existing Operations

The existing 142 acre Munn & Perkins Quarry has been producing construction aggregate onsite since 1957. An approved Quarry Excavation Permit was adopted for the site in 1989 and was extended by the County on March 4, 1999 allowing for the extraction of approximately 3 million tons of aggregate material and processing of import material over a 30 year period extending until the year 2029.

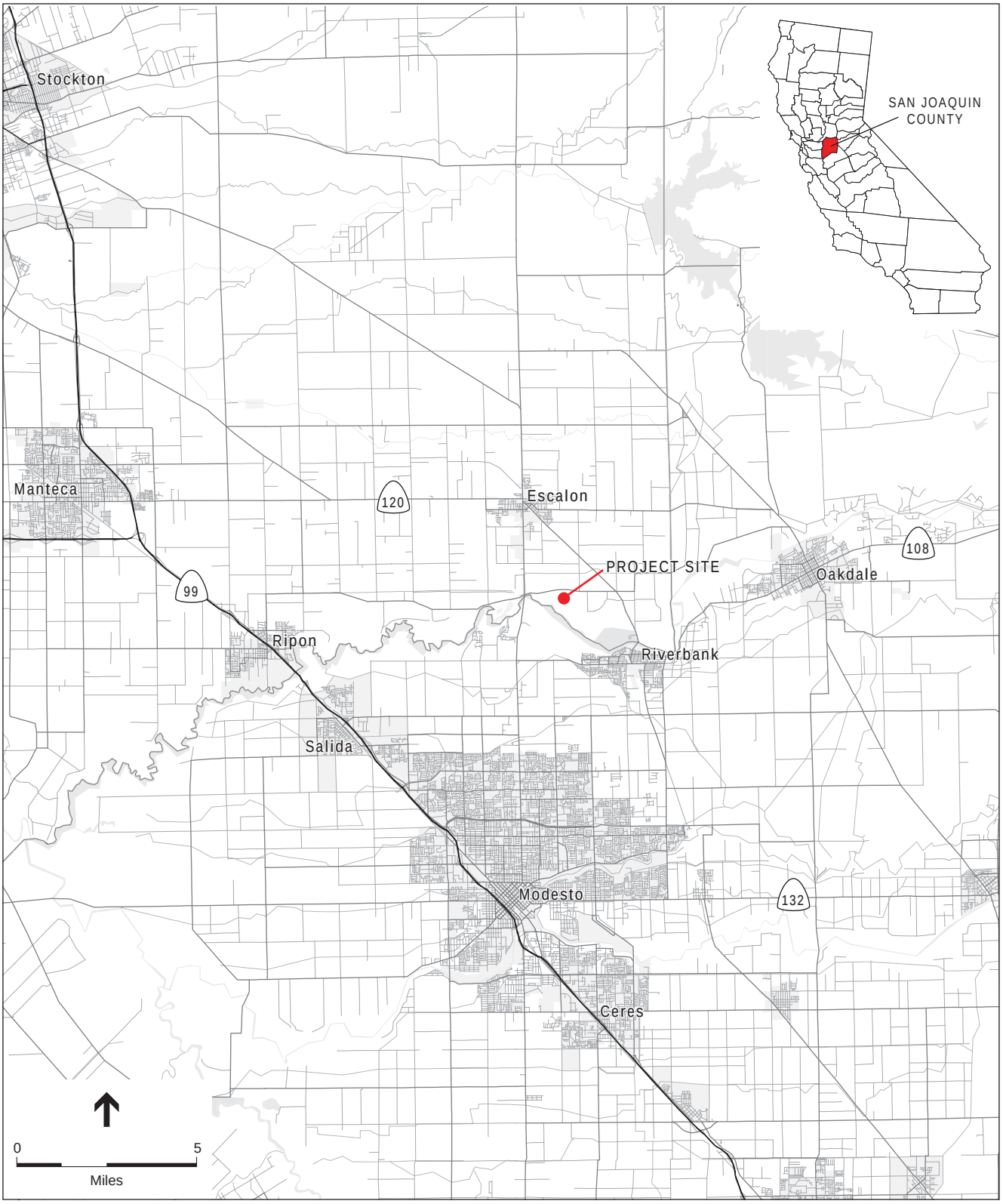
The existing site consists of reclaimed areas, reserve areas, wash ponds, production facilities, administrative offices, and access roads. The reclaimed and reserve areas are mostly planted in orchards. These orchards are farmed by independent contractors. Production facilities include screening and crushing equipment, an asphalt concrete hot mix batch plant ("AC plant"), two storage silos for asphalt concrete, and a scale house. The Main access to the site is by way of a private driveway off E. River Road.

Existing activities consist of processing of aggregate materials (sand and gravel). Aggregate is trucked to the site from source pits, washed, screened and crushed. Additional sand is excavated from the quarry located northeast of the project site and transported via conveyer belts underneath E. River Road to the processing facilities. The processed aggregate is either directly hauled to the construction site, or is used for the onsite AC plant.

AC production is limited to 5,200 tons/day and 896,350 tons/year by permits issued by the San Joaquin Valley Air Pollution Control District. The plant can produce up to 325 tons/hour (which would equal 16 hours of continuous operation before reaching the maximum permitted daily limit). The storage silos can hold 250 tons each of asphalt concrete, for a total storage capacity of 500 tons.

2.4 General Plan and Zoning Designations

The project site consists of a single 142-acre parcel zoned AG-40 (40 acre minimum), with a General Plan Designation of General Agriculture (AG). The General Agriculture Designation was established to preserve agricultural lands for the continuation of commercial agricultural enterprises. Surface mining operations are permitted within the AG-40 zone under Title 9 of the Development Title of San Joaquin County (9-600) with an approved Quarry Excavation Permit. As described in Section 2.3, a permit was issued in 1989 and amended in 1999. The Proposed Project would revise the existing permit.



SOURCE: DeLorme Street Atlas USA, 2000; and ESA, 2011

Munn-Perkins Quarry Project . 211086

Figure 2-1

Regional Location Map

2.5 Adjacent Land Uses

The project site is bounded by agricultural land use designations and uses (existing almond and walnut orchards) on all sides. Other land uses in the area include existing rural residences on agriculturally zoned land, the nearest of which is approximately 75 feet north of the northern project boundary, however an existing orchard separates the residence from active mining operations by approximately 800 feet (see **Figure 2-2**). Like the project site, all the parcels surrounding the site are zoned AG-40 (40 acre minimum) with a General Plan Designation of General Agriculture (AG). The project applicant also owns and operates a sand processing quarry northeast of the project site on the north side of E. River Road.

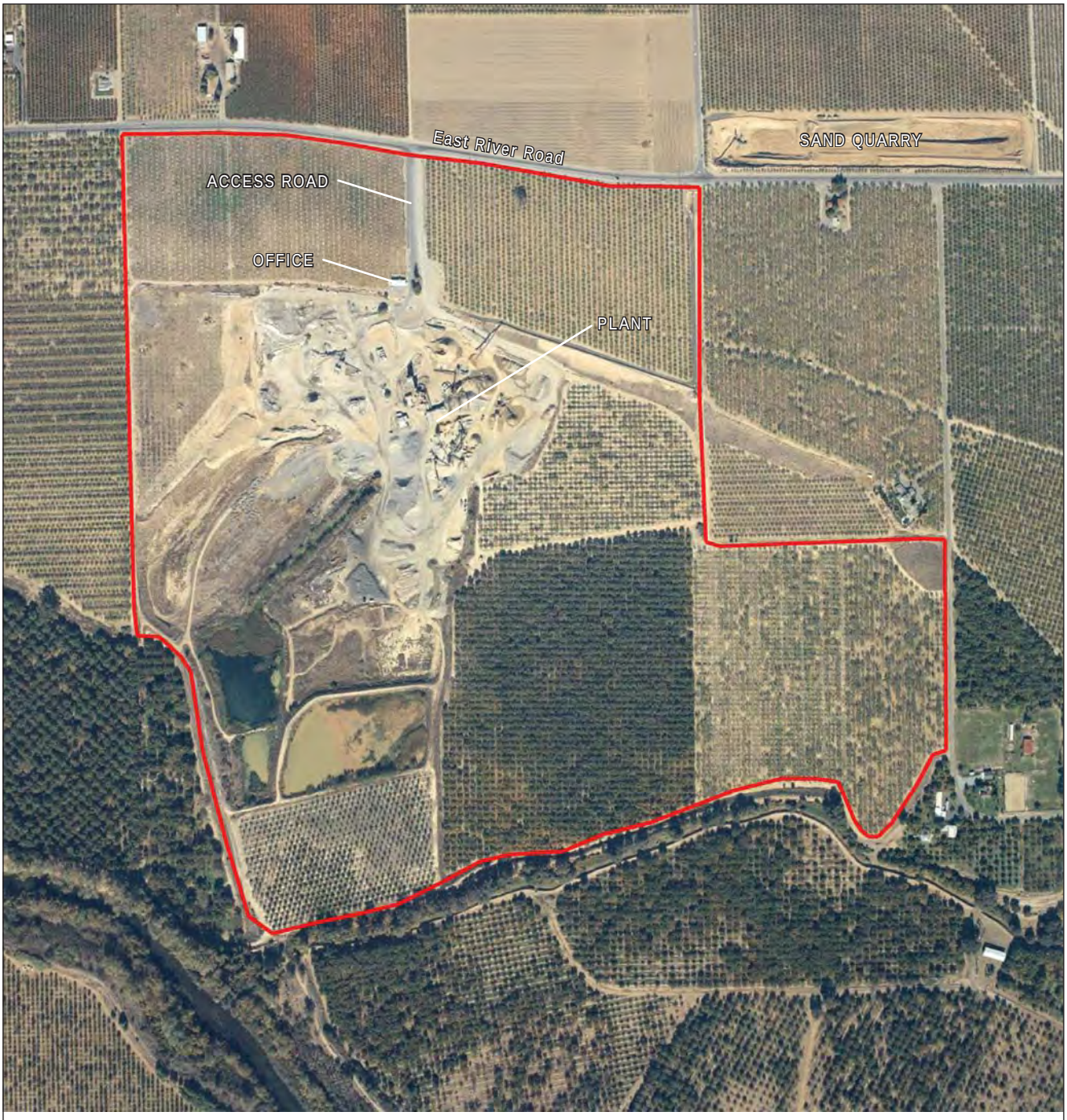
2.6 Project Objectives

CEQA Guidelines Section 15124(b) requires that the project description contain a clearly written statement of objectives, including the underlying purpose of the project. The statement of project objectives is an important determinant for the lead agency when it develops a reasonable range of alternatives to evaluate in the EIR. The objectives for the Proposed Project include the following:

- Produce asphalt during nighttime hours within the Munn & Perkins market to allow for competitive bidding of projects within that market.
- Allow hours of operation to include the hours of 9:00 p.m. to 5:00 a.m. to provide for projects that contain specifications that limit work to nighttime hours.
- Minimize noise effects on nearby receptors.
- Limit nighttime operations to the minimum time necessary to serve identified roadway projects requiring night work.
- Produce asphalt concrete as necessary to meet local, state, and federal highway project specifications.

2.7 Proposed Project Components

The project consists of extending the existing Munn & Perkins Quarry's hours of operation to include the hours of 9:00 p.m. to 5:00 a.m. for a maximum of 125 nights per year. Other than extending the hours of operation, existing quarry operations will not be expanded or otherwise modified. The intention of the project is to provide asphalt paving materials for projects that contain specific requirements that limit work to nighttime hours. The project will entail the use of the asphalt batch plant, loaders, trucks (including a water truck), and a scale house. These uses are currently permitted during daytime hours as accessory uses to the existing approved quarry excavation permit. Excavation activities and rock crushing will not be permitted during the extended nighttime hours. Extending quarry operating hours will not increase the quarries footprint, depth of excavation, or maximum daily production limits. Furthermore, extending the quarries operating hours will not alter or otherwise change the approved reclamation plan.



SOURCE: ESA, 2011

Munn-Perkins Quarry Project . 211086

Figure 2-2
Project Site

Dust control would be accomplished through the use of a water truck in compliance with existing County and air district permit conditions.

The asphalt concrete would be hauled offsite in 25-ton capacity trucks. Site access would be limited to the existing private drive on E. River Road. The proposed haul routes are shown in **Figure 2-3**. As the destination of the material would depend on the particular project, it is assumed that 100% of the material could use any of these routes.

The County Public Works Department has requested additional lighting at the driveway and E. River Road for nighttime traffic safety.

2.8 List of Permits and Approvals

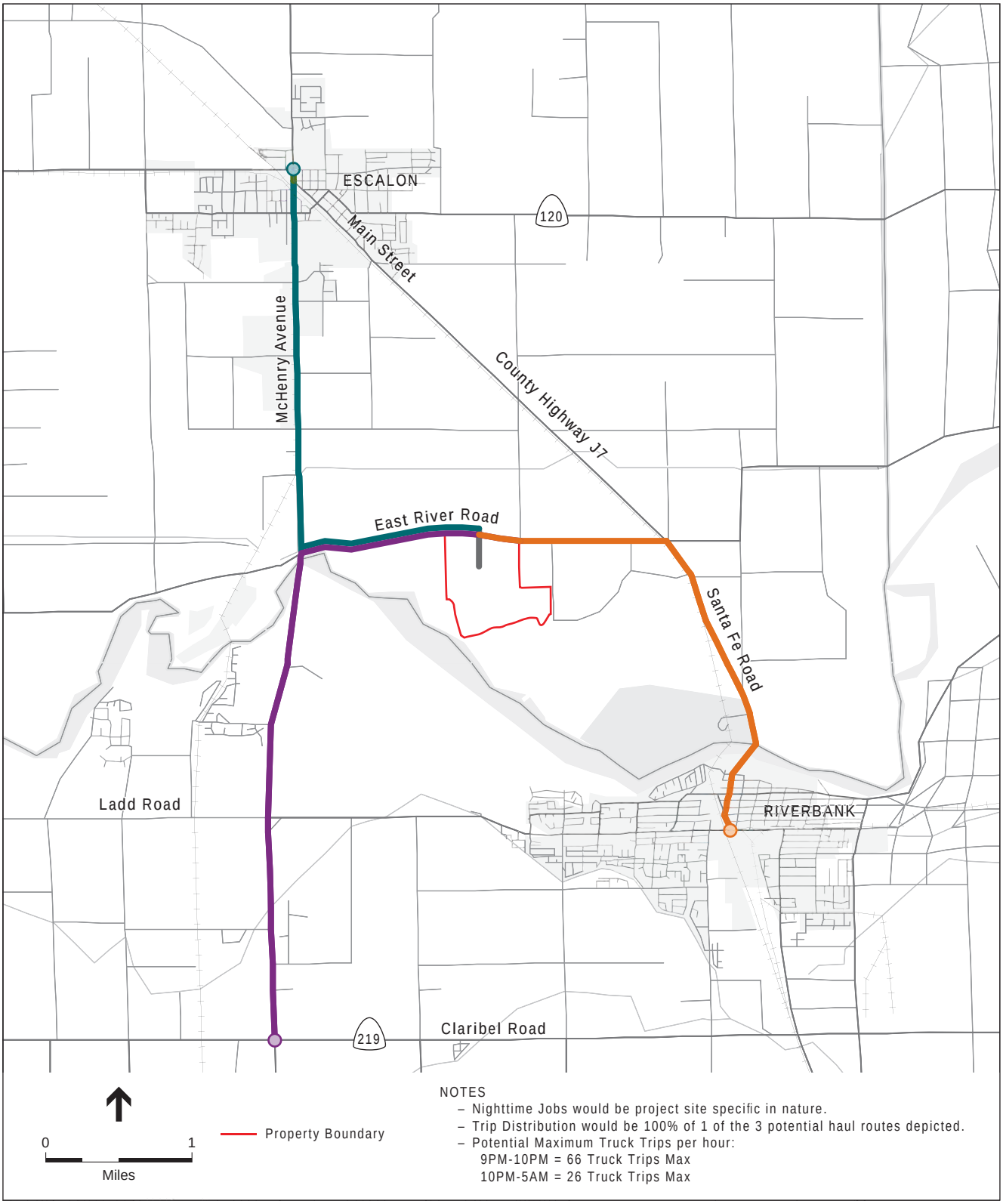
Pending Approvals

The discretionary agency approvals for the project are listed below:

- San Joaquin County – approval of a Revisions of Approved Actions Application to amend San Joaquin County Ordinance Requirement No. 4 of previously approved Quarry Excavation Permit (QX-89-0002).

No responsible agency actions have been identified to implement the Proposed Project. The existing air district permits, including daily production limits on asphalt concrete production, would remain unchanged.

The County will ensure compliance and implementation of the conditions and EIR mitigation measures through annual inspections of the project site. Annual inspections of the site are already required per state and local surface mining and reclamation regulations. As part of the conditions of approval, the applicant will be required to demonstrate to the County (in the form of contracts, specifications, or other written evidence), that night work is necessary. Night work will not exceed 125 days in a calendar year.



SOURCE: DeLorme Street Atlas USA, 2000; and ESA, 2011

Munn-Perkins Quarry Project . 211086

Figure 2-3

Proposed Haul Routes for Nighttime Operations

CHAPTER 3
Environmental Setting, Impacts, and Mitigation Measures

Introduction to Environmental Analysis

The following sections (Sections 3.1 through 3.4) of this DEIR provide a discussion of the environmental setting, potential environmental impacts, and proposed mitigation measures for the project. The potential effects of implementing the project are identified, along with mitigation measures recommended to lessen or avoid identified impacts. In cases where no mitigation is feasible, this fact is noted. The potential cumulative effects of implementing the project are further discussed in Chapter 4, "Other CEQA Considerations."

As described in Chapter 2, "Project Description," the environmental changes analyzed in this EIR pertain only to the proposed change in operating hours for no more than 125 days in a calendar year. All other operating parameters of the existing facility will remain unchanged.

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3.1 Visual and Lighting

3.1.1 Introduction

This section of the EIR describes existing visual conditions at the project site, with an emphasis on visibility from nearby residents and public roadways. The existing visual character of the region and project site is addressed, along with the sensitive visual receptors and sensitive visual resources known to be present. Applicable County policies related to visual resources are presented. Potential changes in light and glare are the primary concern, but information related to scenic resources and changes in visual quality are also discussed.

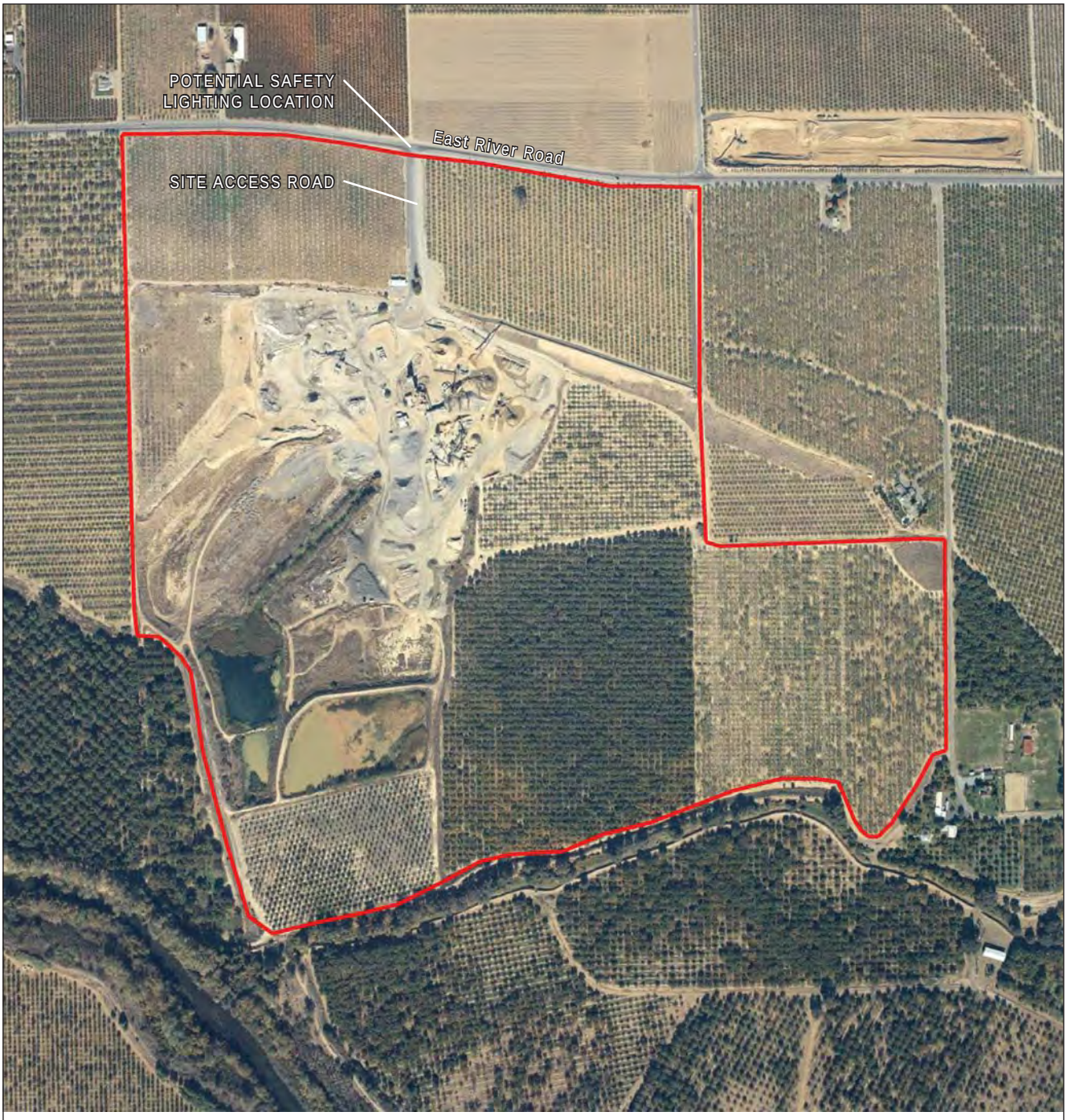
3.1.2 Setting

Visual Character of the Region

San Joaquin County is one of California's leading agricultural centers; the County typically ranks in the top 10 of California's 58 counties for gross value of agricultural production, therefore, agricultural landscapes are a dominate feature of the County. The primary scenic resources within San Joaquin County are the natural, rural, and agricultural landscapes of non-urbanized areas of the County, and the agricultural and natural landscapes of the Delta. These natural scenic resources include rural agricultural landscapes; the Delta, marshes, wetlands, river corridors, rangelands, and scenic panoramas. Major landforms in the County include the foothills of the Diablo Range in the southwest, the foothills of the Sierra Nevada in the east, and the Delta in the northwest. However, because of often poor air quality within the County, views of the scenic panoramas of the Diablo Range and the Sierra Nevada are often obscured, with views of the Sierra Nevada being limited many days annually. Furthermore, because of the flatness of most of the County's terrain and often poor air quality views are limited many days throughout the year. Most scenic views are limited to the near- and medium-range from viewpoints such as public recreation areas and roadways.

Visual Character and Views of the Project Site

The existing 142 acre Munn & Perkins Facility is located on the south side of East River Road approximately 1,000 feet west of Harold Avenue in southeastern San Joaquin County approximately 2 miles southeast of the City of Escalon (**Figure 3.1-1**). The site is characterized by typical quarry operations including a sand and gravel processing plant, an asphalt/concrete recycling plant, an asphalt plant, storage silos, various material stockpiles, truck scales, and an office. The project site contains large orchard areas (almonds and walnuts), which include both reserve areas and prior quarry areas in various stages of reclamation back to agriculture. The visual character of the project area is predominantly agricultural with almond orchards dominating the landscape. George Reed, Inc. also operates a sand quarry on the north side of East River Road northeast of the project site. Views of the sand quarry are obscured by a landscaped berm.



SOURCE: ESA, 2011

Munn-Perkins Quarry Project . 211086

Figure 3.1-1

Visual Context of Project Area

Most of the project site is blocked from outside view by existing landscaping and agricultural operations. The visual quality of the site is described as average to below average, due to existing quarry operations which include processing facilities and disturbed areas. Ground-level views into the project site are blocked on all sides due to surrounding almond orchards. However, motorists traveling along East River Road have obstructed views of the site entrance and one rural residence to the east has a partially obstructed view of the project site due to its elevated location.

Plans and Policies

California Scenic Highway Program

Many state highways are located in areas of outstanding natural beauty. California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code.

According to the Caltrans list of designated scenic highways under the California Scenic Highway Program, only Interstate 580 from Interstate 5 to the Alameda County line in southwestern San Joaquin County has been officially designated as a state scenic highway (Caltrans, 2011). The project site is not in the vicinity of Interstate 580. The San Joaquin County General Plan 2010 identifies River Road and Austin Road as scenic routes; however, these roads are not officially designated county scenic roadways (San Joaquin County, 1992).

San Joaquin County General Plan 2010

The following objectives and policies in the 2010 General Plan relate to the Proposed Project:

VI. Resources

Objective 1. To preserve open space land for the continuation of the commercial agricultural and productive uses, the enjoyment of scenic beauty and recreation, the protection and use of natural resources, and for protection from natural hazards.

Policy 10: Views of waterways, hilltops, and oak groves from public land and public roadways shall be protected.

Policy 11: Outstanding scenic vistas shall be preserved and public access provided to them whenever possible.

Policy 12: The County should recognize the roads shown in Figure VI-2 as scenic routes and as valuable in enhancing the recreational experience for County residents and non-residents. Criteria for selection of additional routes should specify that the route:

a) leads to a recreational area;

b) provides a representative sampling of the scenic diversity within the County;

c) exhibits unusual natural or man-made features of interest;

d) provides opportunities to view activities outside the normal routine of most people;

e) provides a route for people to view the Delta waterways, and

f) links two scenic routes or connects with scenic routes of cities or other counties.

Policy 13: Development proposals along scenic routes shall not detract from the visual and recreational experience.

River Road is identified on Figure VI-2 in the San Joaquin County General Plan 2010 as a recognized scenic route.

San Joaquin County Development Title 9 (Zoning)

Title 9 of the San Joaquin County Development Title is intended to serve as the basis for all land use regulations adopted by the County. The one applicable regulation for the project related to aesthetics is in the Landscaping, Fencing, and Screening standards, Section 9-1020 (San Joaquin County, 2010). For industrial projects, all areas of the site not used for buildings, parking, driveways, walkways, approved outdoor storage areas, or other permanent facilities are to be landscaped. At a minimum, a 10-foot wide planting strip is required along adjacent streets.

3.1.3 Impacts and Mitigation Measures

Significance Criteria

Based on the CEQA *Guidelines, Appendix G*, the project would be considered to have a significant adverse visual impact if it would result in physical changes, which would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The project site currently consists of the existing 142 acre Munn & Perkins Facility that has been producing construction aggregate onsite since 1957. As discussed above, views to and from the site are limited, although the nearest residence to the east has some views of the property. The Proposed Project consists of extending the hours of operation of the existing facility to include the hours of 9 p.m. to 5 a.m.; no physical modifications or additions will be made to existing quarry operations; therefore there will be no visual changes on the project site or in the project area. Because no physical changes are being made to the existing facility; there will be no adverse impact on any scenic vistas and the existing visual character of the site and its surrounding will not be degraded. As

described above, the project site is not visible from a state designated scenic highway, nor does it lie within a scenic vista. River Road is recognized by the County as a scenic route; however no physical modifications or additions will occur to the existing facility and there will be no adverse effect on existing views. Therefore, there is no impact related to the first three items, and they are not discussed further.

Impacts and Mitigation Measures

Impact 3.1.1: Implementation of the project has the potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. This impact is considered potentially significant.

Existing lighting at the plant consists of safety lighting at the processing area. The San Joaquin County Department of Public Works has expressed the need for additional traffic safety lighting at the plant entrance. Additional safety lighting at the plant entrance on East River Road would be the only additional lighting on the project site. Residential land uses are particularly sensitive to new light sources, however, there are no residences or other sensitive receptors near the project entrance that would be substantially affected by the addition of safety lighting. One rural residence to the east has a partially obstructed view of the project site, however new safety lighting will not be directly visible to this residence. Furthermore, because the project site is surrounded by almond orchards on all sides and because there is a long private driveway connecting the project site to East River Road, motorists traveling along East River Road and other rural residences in the area do not have direct views of the project site. Although the lighting would not be directly visible from identified sensitive receptors, there is a potential to create a source of glare on a public street (E. River Road). River Road is a public road and recognized by the County as a scenic route; therefore, this impact is considered potentially significant.

Mitigation Measures

> **Measure 3.1.1:** All outdoor lighting will be required to be fully shielded and shall adhere to Section 9-1025.6 of the Development Code in order to minimize any impacts resulting from outdoor lighting on adjacent properties**.**

Significance After Mitigation: The use of shielding and compliance with County standards for outdoor lighting would reduce the potential impact to **less than significant**.

3.1.4 References

California Department of Transportation (Caltrans), 2011. California Scenic Highway Program, http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm; accessed March 17, 2011.

Federal Highway Administration (FHWA), 1981. "Visual Impact Assessment for Highway Projects." March 1981.

San Joaquin County, 1992. San Joaquin County General Plan, Volume 1, VI. Resources; July 1992.

San Joaquin County, 2010. Title 9, Development Title of San Joaquin County available at: http://www.co.san-joaquin.ca.us/commdev/cgi-bin/cdyn.exe/handouts-planning_ca_sjc_dev_T09-D10?grp=handouts-planning&obj=ca_sjc_dev_T09-D10

3.2 Transportation and Traffic

This section identifies and evaluates issues related to Transportation and Traffic in the context of the proposal to expand the hours of operation at the Munn & Perkins Facility (herein referred to as the "Project") to include nighttime activities between 9:00 PM and 5:00 AM. Discussed below are the physical and regulatory setting; the baseline for determining environmental impacts; the criteria used for determining the significance of environmental impacts; potential impacts associated with proposed Project; and mitigation measures to reduce or avoid environmental impacts determined to be significant.

3.2.1 Setting

Regional and Local Setting

Section 2.1.1, *Project Location*, provides general information about the regional and local setting. This Section 3.12.1.1 provides setting information specific to Transportation and Traffic conditions.

Regional Roadways

State Route 99 (SR 99) is a six-lane freeway that generally runs in a northwest-southeast alignment. SR 99 provides access to SR 108, SR 120, and SR 219 in the Project vicinity, and to multiple communities throughout Stanislaus and San Joaquin counties. The most recent data published by Caltrans indicates the Annual Average Daily Traffic (AADT) on the roadway is about 110,000 vehicles (Caltrans, 2010). The roadway is included in the San Joaquin County Congestion Management Program (CMP) Roadway Network (San Joaquin Council of Governments, 2007).

State Route 108 (SR 108) is a two-lane major road that connects Modesto to the Sierra foothills and beyond. It runs north-south from Modesto to Ladd Road / Patterson Road, where it turns to an east-west alignment. SR 108 provides access to SR 99, SR 120, SR 219, and to multiple communities, including Riverbank and Oakdale. The most recent data published by Caltrans indicates the AADT on the roadway is about 16,100 vehicles (Caltrans, 2010). The roadway is included in the Stanislaus County CMP Roadway Network (Stanislaus Council of Governments, 2010).

State Route 120 (SR 120) is a two-lane major road (called Yosemite Avenue / Jackson Avenue in the City of Escalon) that runs in an east-west alignment. SR 120 provides access to SR 99 and to several north-south arterials throughout San Joaquin and Stanislaus counties. The most recent data published by Caltrans indicates the AADT on the roadway is about 10,800 vehicles (Caltrans, 2010). The roadway is included in the San Joaquin County CMP Roadway Network (San Joaquin Council of Governments, 2007).

State Route 219 (SR 219) is a two-lane highway that runs in an east-west alignment. SR 219 runs along Kiernan Avenue from McHenry Avenue (SR 108) to the east and its junction at SR 99 to the west. The highway generally serves the communities of Salida and McHenry. The most recent data published by Caltrans indicates the AADT on the roadway is about 14,500 vehicles (Caltrans,

2010). The roadway is included in the Stanislaus County CMP Roadway Network (Stanislaus Council of Governments, 2010).

Local Roadways

East River Road is a two-lane, east-west roadway that is designated as a Major County road (San Joaquin County, 1992). The roadway provides access to other major roadways, including SR 99, McHenry Avenue, Santa Fe Avenue, and to the Project site access roadway.

McHenry Avenue is a two-lane, north-south roadway that is designated as a Major road in the Stanislaus County General Plan (Stanislaus County, 2006) and is designated as a Major County road in the San Joaquin County General Plan (San Joaquin County, 1992). The roadway serves as SR 108 south of Patterson Road, providing vehicular access to SR 219 within Stanislaus County, and becomes Escalon-Bellota Road at its junction at SR 120 in Escalon. The roadway provides access to several communities in Stanislaus and San Joaquin counties.

Patterson Road is a two-lane, east-west roadway that is designated as a Major road east of McHenry Road and as a Collector Road west of McHenry Road (Stanislaus County, 2006). The roadway serves as SR 108 between First St. to the east and its junction at McHenry Avenue to the west; it becomes Ladd Road west of McHenry Avenue. The roadway generally serves as a main corridor throughout the Riverbank area.

Santa Fe Road is a two-lane roadway that generally runs in a northwest-southeast alignment and extends (as Main Street) from McHenry Avenue / SR 120 to the north (in the City of Escalon) and SR 108 (as County Highway J7) to the south (in the City of Riverbank). Santa Fe Road is a designated truck route within the City of Escalon (City of Escalon, 2010). Santa Fe Road turns into First Street between the Stanislaus County line and Highway 108. First Street is also identified as a truck route in the Riverbank General Plan (Policy CIRC-4.6).

The Project site is located at the existing Quarry facility, whose access road on the south side of East River Road is approximately 1.25 mile east of McHenry Avenue. Currently, there are no traffic control devices (e.g., traffic signal, stop sign, or yield sign) at the access road intersection at East River Road, though the rules of the road dictate that vehicles exiting the quarry site must, at a minimum, yield to cross traffic on East River Road.

Traffic Conditions

Existing traffic conditions along roadways near the Quarry site were analyzed based on current traffic count data and applying the 2000 *Highway Capacity Manual* (HCM) methodology to identify roadway level of service (LOS).

In order to identify existing traffic volumes on roadways that connect the Quarry site to state highways (which are used by trucks hauling aggregate material to construction sites), automatic machine (tube) counts were conducted during a seven-day period at six locations (on McHenry

Avenue, East River Road, Santa Fe Road and the site access roadway).[1] Consistent with standard practice for traffic analyses, midweek (Tuesday through Thursday) traffic volumes were used for the analysis because those days of the week best represent typical traffic conditions. The Project would extend hours of operation at the Quarry and allow Quarry-generated traffic on area roads between 9:00 PM and 5:00 AM. Because the highest traffic volumes on the affected roads during the eight-hour nighttime period currently occur between 9:00 and 10:00 PM, and the proposed Project would generate the most nighttime vehicle trips during that same hour, the focus of the analysis was that 9:00 to 10:00 PM period.

Traffic operating conditions are evaluated using methodologies in the 2000 *Highway Capacity Manual* (HCM) (Transportation Research Board, 2000). The HCM defines Level of Service (LOS) as a quantitative measure which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. There are six levels of service, LOS A through LOS F, which relate to traffic congestion from best to worst, respectively. The Highway Capacity Software was used as the analysis tool in this study, using the HCM analysis procedures, and various roadway characteristics (e.g., traffic volumes, lane geometry, heavy vehicle percentage).

Table 3.2-1 summarizes the existing traffic volumes and LOS conditions on the study roadway segments. As shown, during the peak nighttime traffic period between 9:00 and 10:00 PM, all of the study segments are currently operating at acceptable service levels (LOS C or better). Detailed traffic level of service calculation sheets is located in **Appendix C.**

TABLE 3.2-1
EXISTING TRAFFIC VOLUMES ON AREA ROADWAYS [a]

Roadway Segment	Total Daily Traffic [b]	Average Hourly Traffic Volume [c] (9:00 PM –5:00 AM)	Maximum Hourly Traffic Volume [d] (9:00 PM –10:00 PM)	Level of Service (LOS)[e]
East River Road				
West of Quarry Access Road	365	46	95	B
East of Quarry Access Road	336	42	94	B
McHenry Avenue				
North of East River Road	586	73	222	B
South of East River Road	827	103	299	C
Santa Fe Road				
South of East River Road	607	76	157	B

a. All traffic count data represents bi-directional volumes on midweek days (Tuesday – Thursday) along each roadway.
b. Average daily traffic over three days (Tuesday – Thursday) of continuous counting.
c. Average traffic volume per hour between 9:00 PM and 5:00 AM.
d. Maximum hourly traffic represents highest traffic hour observed along the roadway (9:00 to 10:00 PM).
e. LOS based on the maximum hourly traffic (9:00 to 10:00 PM).

SOURCES: Southland Car Counters (2008 Counts); Marks Traffic Data (2011 Counts); ESA (LOS Calculations).

[1] Tube counts were conducted on East River Road west and east of the Quarry access road, and on the Quarry access road for the seven days from September 26 to October 2, 2008. Tube counts were conducted on McHenry Avenue north and south of East River Road, and on Santa Fe Road for the seven days from February 28 to March 6, 2011.

Transit Facilities

The San Joaquin Regional Transit District (RTD) provides fixed-route, deviated fixed-route, and curb-to-curb, dial-a-ride bus transportation services throughout San Joaquin County. The bus service provides connectivity to several other transit providers and transfer locations to several communities, including Stockton, Tracy, Manteca, Lodi, and Ripon. However, there is no RTD bus service or other transit facilities (e.g., bus stops) located near the Project site.

Bicycle and Pedestrian Facilities

Bicycle facilities are generally classified as Class I (bicycle paths separated from roads), Class II (striped bicycle lanes within the paved areas of roadways), or Class III (signed bike routes that allow cyclists to share streets with vehicles). Pedestrian facilities include sidewalks, crosswalks, curb ramps, pedestrian signals, and streetscape amenities. However, there are no bicycle or pedestrian facilities in proximity of, or adjacent to, the Project site.

Regulatory Setting

Federal

There are no federal regulations applicable to the Project.

State

California Department of Transportation (Caltrans)

Caltrans manages interregional transportation, including management and construction of the California highway system. In addition, Caltrans is responsible for permitting and regulation of the use of state highways. Caltrans' facilities in the Project area include: SR 99, SR 108, SR 120, and SR 219.

County

San Joaquin Council of Governments Regional Transportation Plan

As defined in the San Joaquin County General Plan, the San Joaquin Council of Governments (COG) is responsible for preparing and updating the countywide regional transportation plan (RTP). As such, many of the goals, policies, and objectives contained in the COG's RTP are reflected in the General Plan, as the RTP contains a planning framework with current policies and practices at the countywide level and addresses the needs of the entire transportation system. The RTP, in conjunction with the General Plan established a level of service standard of LOS D for roadways throughout the network, and the RTP stipulates the need to reduce the annual percentage rate of deterioration of the regional roadway system's average LOS to less than two percent per year by 2035 (San Joaquin Council of Governments, 2010).

San Joaquin County Congestion Management Program

The San Joaquin COG serves as the Congestion Management Agency (CMA) of San Joaquin County. As the County's CMA, COG is authorized to set state and federal funding priorities for

transportation improvements affecting the San Joaquin County Congestion Management Program (CMP) transportation system. SR 99 and SR 120 are roadways within the Project area that are designated as a part of the CMP roadway system.

The CMP specifies a system of highways and roadways for which traffic level of service standards are established. The San Joaquin County system includes all freeways, state highways, and principal arterials in the county. The program sets LOS standards for all CMP roadway segments and intersections – LOS D for roadways within the CMP network, and the LOS standards also represent the goal set in the Caltrans Concept Level of Service for state highways in all urban and some rural areas of the county (San Joaquin Council of Governments, 2007).

Stanislaus County Congestion Management Program

The Stanislaus Council of Governments (StanCOG) serves as the CMA of Stanislaus County. As the CMA, StanCOG is responsible for evaluating transportation conditions and prioritizing transportation improvements to the designated Stanislaus County CMP roadway network. Due the location of the Project, Project-generated vehicles would use roadways that are designated within the StanCOG CMP network, which include SR 99, SR 108, and SR 219. Therefore, StanCOG policies and standards were considered in the Project analysis.

The CMP sets level of service standards for roadway within the designated system, which includes freeways, state highways, and principle arterials in the county. These standards include LOS C for roadways in rural areas and LOS D for roadways in urban areas. StanCOG requires local jurisdictions to analyze impacts of new developments or land use policy changes on CMP facilities (Stanislaus Council of Governments, 2010).

3.2.2 Significance Criteria

Based on CEQA Guidelines Appendix G, a project would cause a significant impact on transportation and traffic if it would:

a. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

e. Result in inadequate emergency access.

f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

In addition to the above-listed criteria, the following criterion is derived from common engineering practice to apply to the project-specific analysis presented herein:

g. Cause substantial damage or wear of public roadways by increased movement of heavy vehicles.

3.2.3 Discussion of Criteria with No Transportation/Traffic Impacts

Analysis of the setting and Project characteristics relative to the significance criteria shows that the Project would have no impact on Transportation/Traffic with respect to criteria c), d), e), f) or g). The reasoning supporting this conclusion is as follows:

c) The Project would not result in a change in air traffic patterns.

The Project is not located close to any airport, and would not place any object within the flight path for airplanes in the area. The Project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; therefore, no impact would occur.

d) The Project would not result in an increase in traffic hazards due to a design feature.

The proposed nighttime operations of the Project would not involve redesign or reconfiguration of roadways. There would be no incompatible uses nor would there be roadway design changes. Therefore, the Project would have no impact on road hazards.

e) The Project would not result in inadequate emergency access.

Vehicle access to and from the Quarry site is via an ingress/egress access roadway that intersects East River Road; there are no other auxiliary roadways that provide access to the site. The Project would neither change this condition, nor contribute to any adverse consequences of the lack of secondary (emergency) access. Therefore, the Project would not result in inadequate emergency access.

f) The Project would not conflict with adopted policies, plans, or programs supporting alternative transportation.

The Project would not directly or indirectly eliminate alternative transportation corridors or facilities (e.g., bike paths, lanes, bus turnouts, etc.). In addition, the Project would not include changes in policies or programs that support alternative transportation. Therefore, the Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

g) The Project would not cause substantial damage or wear of public roadways by increased movement of heavy vehicles.

The degradation of roadway pavement occurs when the amount of heavy truck traffic per day exceeds the structural design capacity of the roadway. Because the Project would not increase either the daily maximum or annual maximum production levels, the number of heavy trucks generated by the Quarry per day would not change, even though the hourly distribution of those heavy trucks could change. That is, during periods of night work, nighttime truck traffic would increase, while daytime traffic would likely decrease. Therefore the Project would not have an effect on roadway pavement condition.

3.2.4 Discussion of Impacts and Mitigation Measures

Approach to Analysis

A transportation analysis was conducted to determine the extent to which the proposed extension of operating hours to include nighttime activities at the Project site would adversely affect traffic flow conditions on area roadways, on the basis of estimated hourly trip generation during the nighttime hours of 9:00 PM to 5:00 AM, and the evaluation of level of service conditions with and without the Project.

Impacts and Mitigation Measures

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Impact 3.2.1: The Project would increase traffic volumes on area roadways. *Less than Significant.*

As presented in Chapter 2.0, *Project Description*, the Project would extend existing operating hours to include the period between 9:00 PM and 5:00 AM for a maximum of 125 nights per year. By implementing extended hours, the Project could provide asphalt paving materials for construction projects (e.g., Caltrans projects) that contain specific requirements that limit work to nighttime hours. As stated, the objective of the analysis is to identify and evaluate how extending the hours of operations at the Facility and Project-generated traffic during the nighttime hours would affect the surrounding transportation network.

Travel Patterns

Travel patterns (within and external to the site) would not be affected by extending operating hours at the Project site, as off-site Project-related vehicles would use the current site access road to enter and exit the Quarry property, and onsite vehicles and heavy equipment would continue to move along roadways within the confines of the Quarry property boundaries.

Trip Generation

The intensity and nature of the Project activities associated with extending operating hours would vary, and the number of vehicle trips generated by that activity would similarly vary. As noted in Chapter 2.0, *Project Description*, the Project is expected to generate a maximum of 33 loaded truck trips (66 one-way truck trips) during the first extended hour (9:00 to 10:00 PM) and about 13 loaded truck trips (26 one-way truck trips) per hour between 10:00 PM and 5:00 AM, resulting in approximately 248 one-way truck trips between 9:00 PM and 5:00 AM. A loaded truck trip is considered a round trip (loaded truck leaves facility, travels to job site, and returns empty), and is comprised of two one-way trips.

Transportation Conditions with Project Activities

The nighttime truck trips would travel on different roads, depending on the location of the construction needing the facility's asphalt material. Given the road network serving the Project site, it is assumed that Project-generated trips could use the following travel routes, as depicted on **Figure 2-3**: (1) from the Modesto area (and points south on SR 99 and west on SR 132), trucks would travel north along McHenry Avenue and turn right (east) onto East River Road to the Project site; (2) from the Escalon area (and points north of Escalon, and east or west on SR 120), trucks would travel south along McHenry Avenue and turn left (east) onto East River Road to the Project site; and (3) from the Riverbank area (and points east on SR 108 and southeast on SR 132), trucks would travel north along Santa Fe Road and turn left (west) onto East River Road to the Project site.

Because the nighttime trucks could utilize any of the above-described haul routes, the analysis evaluated the effect of 100 percent of the Project-generated trips on each roadway individually. Because the highest Project-generated traffic would occur between 9:00 and 10:00 PM, and the highest existing hourly traffic volume on the study roadway between 9:00 PM and 5:00 AM occurs between 9:00 and 10:00 PM, analysis of Project impacts during that hour ensures that potential impacts are not underestimated.

As shown in **Table 3.2-2,** the increase in traffic associated with the nighttime activities at the Quarry site would change the existing service level during the peak nighttime traffic period (9:00 to 10:00 PM) from LOS B to LOS C on four of the five study roadway segments, but all road segments would continue to operate at an acceptable level of service. Detailed traffic level of service calculation sheets are located in **Appendix C.**

TABLE 3.2-2
EXISTING PLUS PROJECT LEVELS OF SERVICE ON AREA ROADWAYS [a]

	Existing Conditions		Existing plus Project Conditions	
Roadway	**Maximum Hourly Traffic [b]**	**LOS**	**Maximum Hourly Traffic [c]**	**LOS**
East River Road				
West of Quarry Access Road	95	B	161	C
East of Quarry Access Road	94	B	160	C
McHenry Avenue				
North of East River Road	222	B	288	C
South of East River Road	299	C	365	C
Santa Fe Road				
South of East River Road	157	B	223	C

a. All traffic count data represents bi-directional volumes.
b. Maximum hourly traffic represents highest traffic hour observed along the roadway (9:00 to 10:00 PM).
c. Includes the added 66 truck trips to the roadway segment.

SOURCE: ESA.

Project-generated trips during subsequent hours (from 10:00 PM to 5:00 AM) would have less of an effect on traffic flow conditions than during the above-described peak nighttime hour, as Project trips would be lower, and background traffic volumes during those later hours are lower. Thus, the proposed Project would neither conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, nor conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Project-generated trips during subsequent hours (from 10:00 PM to 5:00 AM) would have less of an effect on traffic flow conditions than during the above-described peak nighttime hour, as Project trips would be lower, and background traffic volumes during those later hours are lower. Thus, the proposed Project would neither conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, nor conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Mitigation: None required.

3.2.5 References

California Department of Transportation (Caltrans), 2010. *2009 Traffic Volumes on California State Highways*, available online at http://traffic-counts.dot.ca.gov/index.htm.

City of Escalon, 2010. *City of Escalon General Plan Update*, adopted 2010.

San Joaquin County, 1992. *San Joaquin County General Plan 2010*, adopted July 1992.

San Joaquin Council of Governments (COG), 2007. *Regional Congestion Management Plan*, adopted December 2007.

San Joaquin Council of Governments (COG), 2010. *2011 San Joaquin Council of Governments' Regional Transportation Plan*, adopted 2010.

Stanislaus County, 2006. *Stanislaus County General Plan Circulation Element*, adopted April 2006.

Stanislaus Council of Governments (COG), 2010. *2009 Regional Congestion Management Process for the Stanislaus County Region*, adopted January 2010.

3.3 Air Quality and Climate Change

3.3.1 Introduction

This section provides an overview of existing air quality in the project area, the air quality regulatory framework to which the project is subject, and an analysis of potential air quality impacts, including odor, that could result from the Proposed Project. It is noted that the Proposed Project would not increase the current maximum allowed daily or annual production levels.

3.3.2 Setting

Existing Air Quality Conditions

General Meteorology and Topography

The primary factors that determine air quality are the locations of air pollutant sources and the amounts of pollutants emitted. Meteorological and topographical conditions, however, also are important. Factors such as wind speed and direction, and air temperature gradients interact with physical landscape features to determine the movement and dispersal of criteria air pollutants.

The project lies within the San Joaquin Valley Air Basin (SJVAB), basically a flat area bordered on the east by the Sierra Nevada Mountains; on the west by the Coast Ranges; and to the south by the Tehachapi Mountains. Airflow in the SJVAB is primarily influenced by marine air that enters through the Carquinez Straits where the San Joaquin-Sacramento Delta empties into the San Francisco Bay (SJVAPCD, 2002). The region's topographic features restrict air movement through and out of the basin. As a result, the SJVAB is highly susceptible to pollutant accumulation over time (SJVAPCD, 2002). Frequent transport of pollutants into the SJVAB from upwind sources also contributes to poor air quality.

Wind speed and direction play an important role in dispersion and transport of air pollutants. During summer periods, winds usually originate from the north end of the San Joaquin Valley and flow in a south-southeasterly direction through the valley, through the Tehachapi pass and into the neighboring Southeast Desert Air Basin. During winter months, winds occasionally originate from the south end of the valley and flow in a north-northwesterly direction. Also, during winter months, the valley experiences light, variable winds, less than 10 miles per hour (mph). Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high concentrations of certain air pollutants.

The SJVAB has an inland Mediterranean climate that is characterized by warm, dry summers and cooler winters. Summer high temperatures often exceed 100 degrees Fahrenheit (°F), averaging from the low 90s in the northern part of the valley to the high 90s in the south. The daily summer temperature variation can be as high as 30°F. Winters are for the most part mild and humid. Average high temperatures during the winter are in the 50s, while the average daily low temperature is approximately 45 degrees °F.

The vertical dispersion of air pollutants in the valley is limited by the presence of persistent temperature inversions. Air temperatures usually decrease with an increase in altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Air above and below an inversion does not mix because of differences in air density thereby restricting air pollutant dispersal.

Existing Air Quality in the Study Area Vicinity

The San Joaquin Valley Air Pollution Control District (SJVAPCD) regional air quality monitoring network provides information on existing ambient concentrations of criteria air pollutants. Monitored ambient air pollutant concentrations reflect the number and strength of emissions sources and the influence of topographical and meteorological factors. **Table 3.3-1** presents a three-year summary of air pollutant (concentration) data collected at the monitoring station in the vicinity of the project area on 14th Street in Modesto, approximately 8 miles south of the project. The Modesto station measures concentrations of several air pollutants, including the three for which the SJVAB remains "nonattainment", ozone, PM10, and PM2.5. Pollutant concentrations measured at this station are considered to be generally representative of background air pollutant concentrations at the project site. In **Table 3.3-1**, these measured air pollutant concentrations are compared with state and national ambient air quality standard.

TABLE 3.3-1
AIR QUALITY DATA SUMMARY (2007-2009) FOR THE PROJECT AREA – 14TH STREET, MODESTO STATION

	Monitoring Data by Year		
Pollutant	**2007**	**2008**	**2009**
Ozone			
Highest 1 Hour Average (ppm)[b]	**0.100**	**0.127**	**0.112**
Days over State Standard (0.09 ppm)[a]	1	10	1
Highest 8 Hour Average (ppm)[b]	**0.081**	**0.107**	**0.098**
Days over National Standard (0.075 ppm)[a]	4	18	7
Days over State Standard (0.07 ppm)[a]	10	24	14
Particulate Matter (PM10)			
Highest 24 Hour Average – State/National ($\mu g/m^3$)[b]	**87.0**/83.0	**110.6**/111.1	**68.2**/65.6
Estimated Days over National Standard (150 $\mu g/m^3$)[a,c]	0	0	0
Estimated Days over State Standard (50 $\mu g/m^3$)[a,c]	37.7	NA	36.4
State Annual Average (State Standard 20 $\mu g/m^3$)[a,b]	**27.7**	NA	**26.6**
Particulate Matter (PM2.5)			
Highest 24 Hour Average ($\mu g/m3$)[b] – National Measurement	**64.0**	**88.3**	**59.3**
Estimated Days over National Standard (35 $\mu g/m^3$)[a,c]	49.1	39.4	24.7
State Annual Average (12 $\mu g/m3$)[b]	**16.0**	**16.0**	**13.0**

a Generally, state standards and national standards are not to be exceeded more than once per year.
b ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.
c PM10 and PM2.5 is not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.

NA = Not Available. Values in **Bold** exceed the respective air quality standard.

SOURCE: California Air Resources Board (ARB), 2010a. *Summaries of Air Quality Data*, 2007-2009; http://www.arb.ca.gov/adam/topfour/topfour1.php

Sensitive Receptors

Land uses such as schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because infants and children, the elderly, and people with health afflictions, especially respiratory ailments, are more susceptible than the general public. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Industrial and commercial districts are less sensitive to poor air quality because exposure periods are shorter and workers in these districts are, in general, the healthier segment of the public. The nearest sensitive receptors in the area are residences located approximately the following distances from the asphalt plant: 1,600 feet to the north, 2,000 feet to the northeast, 2,000 feet to the northwest, 2,200 feet to the east, and 3,000 feet to the southeast.

Criteria Air Pollutants

These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria set forth in the Federal Clean Air Act (FCAA). California has adopted more stringent ambient air quality standards for the criteria air pollutants (referred to as State Ambient Air Quality Standards, or state standards) and has adopted air quality standards for some pollutants for which there is no corresponding national standard.

Ozone. Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NOx). ROG and NOx are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NOx under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

Carbon Monoxide. Ambient carbon monoxide concentrations normally are considered a local effect and typically correspond closely to the spatial and temporal distributions of vehicular traffic. Wind speed and atmospheric mixing also influence carbon monoxide concentrations. Under inversion conditions, carbon monoxide concentrations may be distributed more uniformly over an area that may extend some distance from vehicular sources. When inhaled at high concentrations, carbon monoxide combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses.

Carbon monoxide concentrations have declined dramatically in California due to existing controls and programs and most areas of the state including the project region have no problem meeting

the carbon monoxide state and federal standards. CO measurements and modeling were important in the early 1980's when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, less emissions from new vehicles and improvements in fuels. The clear success in reducing CO levels is evident in the first paragraph of the executive summary of the California Air Resources Board *2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas* (ARB, 2004), shown below:

> "The dramatic reduction in carbon monoxide (CO) levels across California is one of the biggest success stories in air pollution control. Air Resources Board (ARB or Board) requirements for cleaner vehicles, equipment and fuels have cut peak CO levels in half since 1980, despite growth. All areas of the State designated as non-attainment for the federal 8-hour CO standard in 1991 now attain the standard, including the Los Angeles urbanized area. Even the Calexico area of Imperial County on the congested Mexican border had no violations of the federal CO standard in 2003. Only the South Coast and Calexico continue to violate the more protective State 8-hour CO standard, with declining levels beginning to approach that standard."

Respirable Particulate Matter (PM10 and PM2.5). PM10 and PM2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. (A micron is one-millionth of a meter). PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Some sources of particulate matter, such as wood burning in fireplaces, demolition, and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility. Large dust particles (diameter greater than 10 microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance rather than a health hazard. The remaining fraction, PM10 and PM2.5, are a health concern particularly at levels above the federal and state ambient air quality standards. PM2.5 (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus, are able to penetrate to the deepest parts of the lungs. Scientific studies have suggested links between fine particulate matter and numerous health problems including asthma, bronchitis, acute and chronic respiratory symptoms such as shortness of breath and painful breathing. Recent studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Children are more susceptible to the health risks of PM10 and PM2.5 because their immune and respiratory systems are still developing.

Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate

air pollution has adverse effects on cardiopulmonary health (Dockery and Pope, 2006). The ARB has estimated that achieving the ambient air quality standards for PM10 could reduce premature mortality rates by 6,480 cases per year (ARB, 2002).

Nitrogen Dioxide (NO_2). NO_2 is a reddish brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

Nitrogen dioxide is an air quality concern because it acts a respiratory irritant and is a precursor of ozone. Nitrogen dioxide is a major component of the group of gaseous nitrogen compounds commonly referred to as nitrogen oxides (NOx). Nitrogen oxides are produced by fuel combustion in motor vehicles, industrial stationary sources (such as industrial activities), ships, aircraft, and rail transit. Typically, nitrogen oxides emitted from fuel combustion are in the form of nitric oxide (NO) and nitrogen dioxide (NO_2). NO is often converted to NO_2 when it reacts with ozone or undergoes photochemical reactions in the atmosphere. Therefore, emissions of NO_2 from combustion sources are typically evaluated based on the amount of NOx emitted from the source.

Sulfur dioxide (SO_2). SO_2 is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO_2 is also a precursor to the formation of atmospheric sulfate, particulate matter and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain.

Lead. Ambient lead concentrations meet both the federal and state standards in the project area. Lead has a range of adverse neurotoxin health effects, and was formerly released into the atmosphere primarily via leaded gasoline products. The phase-out of leaded gasoline in California resulted in decreasing levels of atmospheric lead. The project would not introduce any new sources of lead emissions; consequently, lead emissions are not required to be quantified and are not further evaluated in this analysis.

Toxic Air Contaminants (TACs)

TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs are substances for which Federal or State criteria air pollutant standards have not been adopted. Thus, for TACs, there is no Federal or State ambient air quality standard against which to measure a project's air quality impacts. For this reason, TACs are analyzed by performing a health risk assessment.

TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds, including particulate emissions from diesel-fueled engines.

Odorous Emissions

Though offensive odors from stationary sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency and intensity of the source; wind speed and direction; and the sensitivity of receptors. Generally, increasing the distance between the receptor and the source will mitigate odor impacts.

Greenhouse Gases

Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). The accumulation of GHGs in the atmosphere has been linked to global climate change. Global climate change is a change in the average weather conditions on earth that can be measured by wind patterns, storms, precipitation, and temperature. GHGs include all of the following naturally-occurring and anthropogenic (man-made) gases: carbon dioxide (CO_2), methane, nitrous oxide (N_2O), sulfur hexafluoride, perfluorocarbons, hydrofluorocarbons, and nitrogen trifluoride (NF_3) (California Health and Safety Code §38505(g)). CO_2 is the reference gas for climate change. To account for the warming potential of GHGs, and to combine emissions of gases with differing properties, GHG emissions are typically quantified and reported as CO_2 equivalents (CO_2e).

Potential global warming impacts in California could include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Regulatory Setting and Applicable Air Quality Regulations

Federal

The Federal Clean Air Act (FCAA) requires the U.S. Environmental Protection Agency (USEPA) to identify National Ambient Air Quality Standards (NAAQS or national standards) to protect public health and welfare. National standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM10, PM2.5, and lead. **Table 3.3-2** shows current national and state ambient air quality standards and provides a brief discussion of the related health effects and principal sources for each pollutant.

TABLE 3.3-2
STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NOx) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.070 ppm	0.075 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide	1 hour	0.18 ppm	100 ppb	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030 ppm	53 ppb		
Sulfur Dioxide	1 hour	0.25 ppm	75 ppb	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.5 ppm		
	24 hours	0.04 ppm	---		
Respirable Particulate Matter (PM10)	24 hours	50 $\mu g/m^3$	150 $\mu g/m^3$	May irritate eyes and respiratory tract, decreases in lung capacity, can cause cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 $\mu g/m^3$	---		
Fine Particulate Matter (PM2.5)	24 hours	---	35 $\mu g/m^3$	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.
	Annual Avg.	12 $\mu g/m^3$	15.0 $\mu g/m^3$		
Lead	Monthly Ave.	1.5 $\mu g/m^3$	---	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 $\mu g/m^3$		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)	Geothermal power plants, petroleum production and refining.
Sulfates	24 hour	25 $\mu g/m^3$	No National Standard	Breathing difficulties, aggravates asthma, reduced visibility	Produced by the reaction in the air of SO_2.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, discourages tourism.	See PM2.5.

ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

SOURCES: California Air Resources Board (ARB), 2010b. *Ambient Air Quality Standards,* available at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf Standards last updated September 8, 2010; and ARB, 2009a. *ARB Fact Sheet: Air Pollution Sources, Effects and Control,* http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm, page last updated December 2009.

Pursuant to the 1990 Federal Clean Air Act Amendments (FCAAA), the USEPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutants, based on whether or not the NAAQS had been achieved. **Table 3.3-3** shows the current attainment status of the Proposed Project area.

TABLE 3.3-3
SAN JOAQUIN VALLEY ATTAINMENT STATUS

	Designation/Classification	
Pollutant	**Federal Standards**	**State Standards**
Ozone – one hour	No Federal Standard[a]	Nonattainment/Severe[b]
Ozone – eight hour	Nonattainment/Extreme[c]	Nonattainment[d]
PM10	Attainment[e]	Nonattainment
PM2.5	Nonattainment[f]	Nonattainment
CO	Unclassified/Attainment	Unclassified/Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified/Attainment	Attainment
Lead	No Designation	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Vinyl Chloride	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

a. Federal One Hour Ozone National Ambient Air Quality Standard was revoked on June 15, 2005.
b. On October 16, 2008, EPA proposed to approve the District's 2004 Extreme Ozone Attainment Demonstration Plan for 1-hour Ozone.
c. Though the San Joaquin Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
d. The State 8-hour ozone standard was approved by the ARB on April 28, 2005, and became effective May 17, 2006.
e. On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 NAAQS and approved the PM10 Maintenance Plan.
f. The San Joaquin Valley is designated nonattainment for the 1997 PM2.5 federal standards. EPA designated the San Joaquin Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

SOURCE: SJVAPCD, 2010, *Ambient Air Quality Standards and Valley Attainment Status*, available at http://www.valleyair.org/aqinfo/attainment.htm; accessed March 15, 2011.

The FCAA requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAAA added requirements for states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has responsibility to review all state SIPs to determine if they conform to the mandates of the FCAAA and will achieve air quality goals when implemented. If the USEPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the nonattainment area and may impose additional control measures. Failure to submit an approvable SIP or to implement the plan within mandated timeframes can result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Regulation of TACs, termed Hazardous Air Pollutants (HAPs) under federal regulations, is achieved through federal, State and local controls on individual sources. The 1977 Clean Air Act Amendments required the U.S. EPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare. These substances include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. There is uncertainty in the precise degree of hazard.

State

The ARB manages air quality, regulates mobile emissions sources, and oversees the activities of county Air Pollution Control Districts and regional Air Quality Management Districts. ARB establishes state ambient air quality standards and vehicle emissions standards.

Criteria Air Pollutants

California has adopted ambient standards that are more stringent than the federal standards for the criteria air pollutants. These are shown in **Table 3.3-2**. Under the California Clean Air Act (CCAA) patterned after the FCAA, areas have been designated as attainment or nonattainment with respect to the state standards. **Table 3.3-3** summarizes the attainment status with California standards in the project area. As mentioned above, existing air quality in Lake County is cleaner than most areas of the state and nation, as evidenced by the attainment of all state standards.

Toxic Air Contaminants

The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). A total of 243 substances have been designated TACs under California law; they include the 189 (federal) hazardous air pollutants (HAPs) adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. Toxic air contaminant emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment and, if specific thresholds are violated, are required to communicate the results to the public in the form of notices and public meetings.

In August of 1998, ARB identified particulate emissions from diesel-fueled engines (diesel particulate matter, or DPM) as TACs. ARB subsequently developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (ARB, 2000). The document represents proposals to reduce diesel particulate emissions, with the goal of reducing emissions and associated health risks by 75 percent in 2010 and by 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra low sulfur diesel fuel on diesel-fueled engines.

In 2005, ARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (ARB, 2005). The primary goal in developing the handbook was to provide information that will help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution. The handbook highlights recent studies that have shown that public exposure to air pollution can be substantially elevated near freeways and certain other

facilities. The health risk is greatly reduced with distance. For that reason, ARB provides some general recommendations aimed at keeping appropriate distances between sources of air pollution and sensitive land uses, such as residences.

Climate Change and Greenhouse Gases

Executive Order S-3-05

Notwithstanding the current lack of Federal regulation of greenhouse gas emissions, Executive Order S-3-05, signed by Governor Arnold Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80-percent reduction in GHG emissions below 1990 levels by 2050 in California. The Secretary of the California Environmental Protection Agency (CalEPA) has been charged with coordination of efforts to meet these targets and formed the Climate Action Team to implement the Order. The Climate Action Team also provided strategies and input to the California Air Resources Board Scoping Plan discussed below.

Assembly Bill 32

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. In adopting this legislation (commonly known as "AB 32"), the State Legislature declared that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." Further, the Legislature found that "the potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious disease, asthma, and other human health-related problems." The Legislature added that "[g]lobal warming will have detrimental effects on some of California's largest industries" and "increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state."

AB 32 initiated a long-term program for "the development of [GHG] emissions reduction measures."[1] It "creates a comprehensive, multi-year program to reduce greenhouse gas (GHG) emissions in California, with the overall goal of restoring emissions to 1990 levels by the year 2020."[2] AB 32 recognizes that such an ambitious effort requires careful planning and a well thought out set of strategies. Accordingly, AB 32 delegated the authority for its implementation to the California Air Resources Board (CARB) and directs CARB to enforce the statewide cap that would begin phasing in by 2012. Among other requirements, AB 32 required CARB to (1) identify the statewide level of greenhouse gas emissions in 1990 to serve as the emissions limit to be achieved by 2020, and (2) develop and implement a Scoping Plan to be implemented by January 1, 2012.

1 As defined under AB 32, greenhouse gas emissions include the following: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride.

2 Written on a public notice prepared by the staff of the California Air Resources Board (CARB) in connection with a meeting to consider "early discrete actions" related to AB 32 on October 25, 2007.

In November 2007, CARB completed its estimates of 1990 GHG levels. Net emission 1990 levels were estimated at 427 MMTs (emission sources by sector were: transportation – 35 percent; electricity generation – 26 percent; industrial – 24 percent; residential – 7 percent; agriculture – 5 percent; and commercial – 3 percent)[3]. Accordingly, 427 MMTs of CO_2 equivalent was established as the emissions limit for 2020. For comparison, CARB's estimate for 2000 baseline GHG emissions was 473 MMT for 2000 and 532 MMT for 2010. "Business as usual" conditions for 2020 were projected to be 596 MMTs. Therefore to comply with AB 32's mandate, GHG emission would need to be reduced from 596 MMTs (i.e., 2020 "business as usual") to 427 MMTs (the 1990 level), which is a reduction of 30 percent. This latter forecast did not take any credit for reductions from measures included in the AB 32 Scoping Plan, including the Pavley GHG emissions standards for vehicles, full implementation of the Renewables Portfolio Standard beyond current levels of renewable energy, or the solar measures.

Under AB 32, CARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. CARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are deemed discrete early action measures in that they are regulatory and enforceable by January 1, 2010. CARB estimates that the 44 recommendations will result in reductions of at least 42 MMTs by 2020, representing approximately 25 percent of the 2020 target.

In December 2007, CARB approved a regulation for mandatory reporting and verification of GHG emissions for major sources. This regulation covered major stationary sources such as cement plans, oil refineries, electric generating facilities/providers, and co-generation facilities, which comprise 94 percent of the point source CO_2 emissions in the State.

On December 11, 2008, CARB adopted a *Climate Change Scoping Plan* to reduce GHG emissions to 1990 levels. The Scoping Plan's recommendations for reducing GHG emissions to 1990 levels by 2020 include emission reduction measures, including a cap-and-trade program linked to Western Climate Initiative partner jurisdictions, green building strategies, recycling and waste-related measures, as well as Voluntary Early Actions and Reductions. These measures, shown below in **Table 3.3-4** by sector, also put the state on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels. CARB has until January 1, 2011, to adopt the necessary regulations to implement that plan. Implementation of individual measures must begin no later than January 1, 2012, so that the emissions reduction target can be fully achieved by 2020. CARB is currently drafting regulations to implement the plan. The status of the Scoping Plan is uncertain; in January 2011, a superior court issued a tentative ruling that CARB's environmental analysis for the Scoping Plan did not comply with CEQA in various respects. At this time, it is unknown whether the Court will direct CARB to rescind its approval of the Scoping Plan, whether CARB will appeal such a ruling, or whether the Court will adopt a final ruling that is consistent with its tentative ruling. Nevertheless, the measures set forth in **Table 3.3-4** provide useful information for purposes of identifying measures to comply with the targets in AB 32.

[3] On a national level, the EPA's Endangerment Finding stated that electricity generation is the largest emitting sector (34%), followed by transportation (28%), and industry (19%).

Renewable Portfolio Standard (RPS)

In 2002, SB 1078 required electric utilities to increase procurement of power generated by eligible renewable energy sources to 20 percent of total generation by 2017. In 2006, SB 107 accelerated the timetable to require 20 percent renewable energy by 2010. Then, in 2008, the Governor signed Executive Order S-14-08 which increased the required renewables content to 33 percent by 2020. In September 2009, the Governor signed Executive Order S-21-09 which directed the Air Resources Board to adopt regulations consistent with the 33 percent renewable energy target in Executive Order S-14-08 by July 31, 2010.

Title 24

Although not originally intended to reduce greenhouse gases, California Code of Regulations (CCR) Title 24 Party 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. Since then, Title 24 has been amended with a recognition that energy-efficient buildings that require less electricity and reduce fuel consumption, which in turn decreases GHG emissions.

SB 1368

Passed in 2006, SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 reduces carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as combined cycle natural gas plants. Overall, SB 1368 will dramatically lower GHG emissions associated with California's energy demand as it will effectively prohibit California utilities from purchasing power from out-of-state producers that cannot satisfy the required performance standard.

SB 375

In September of 2008, the California legislature adopted SB 375, legislation which: (1) relaxes CEQA requirements for some housing projects that meet goals for reducing GHG emissions and (2) requires the regional governing bodies in each of the state's major metropolitan areas to adopt, as part of their regional transportation plan, "sustainable community strategies" that will meet the region's target for reducing GHG emissions. SB 375 creates incentives for implementing the sustainable community strategies by allocating federal transportation funds only to projects that are consistent with the emissions reductions.

SB 375 also directs CARB to develop regional GHG emission reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035. CARB will determine the level of emissions produced by cars and light trucks, including S.U.V.'s, in each of California's 17 metropolitan planning areas. Emissions-reduction goals for 2020 and 2035 would be assigned to each area. CARB appointed a Regional Targets Advisory Committee (RTAC) on January 23, 2009 to provide recommendations on factors to consider and methodologies to use in this target setting process and CARB must propose draft targets by June 10, 2010 and adopt final targets by September 30, 2010.

Local governments would then devise strategies for housing development, road-building and other land uses to shorten travel distances, reduce vehicular travel time and meet the new targets. If regions develop these integrated land use, housing, and transportation plans, residential projects that conform to the sustainable community strategy (and therefore contribute to GHG reduction) can have a more streamlined environmental review process.

CEQA Guideline Amendments on Greenhouse Gases

On April 13, 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the state CEQA Guidelines for GHG emissions, as required by Public Resources Code §21083.05 (Senate Bill 97) (OPR, 2009) to provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The Natural Resources Agency adopted the CEQA Guidelines Amendments with minor, non-substantial changes on December 31, 2009 and transmitted the Adopted Amendments and the entire rulemaking file to the Office of Administrative Law (OAL). The adopted guidelines became effective on March 18, 2010.

The adopted amendments incorporated relatively modest changes to various portions of the existing CEQA Guidelines. Modifications address those issues where analysis of GHG emissions may differ in some respects from more traditional CEQA analysis.

Adopted amendments include a new section (15064.4) to assist lead agencies in determining the significance of the GHG impacts. This section urges lead agencies to quantify, where possible, the GHG emissions of projects. In addition to quantification, this section recommends consideration of several other qualitative factors that may be used in determination of significance including:

1. the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. whether the GHG emissions exceed a threshold of significance that the lead agency determines applies to the project; and
3. the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

The amendments include a new subdivision 15064.7(c) to clarify that in developing thresholds of significance, a lead agency may appropriately review thresholds developed by other public agencies, including the CARB's recommended CEQA Thresholds, or suggested by other experts, so long as any threshold chosen is supported by substantial evidence.

In addition, the adopted amendments add a new set of environmental checklist questions (VII. Greenhouse Gas Emissions) to the CEQA Guidelines Appendix G. The new set includes the following two questions:

a. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHG?

TABLE 3.3-4
LIST OF RECOMMENDED ACTIONS BY SECTOR

Measure No.	Measure Description	GHG Reductions (Annual Million Metric Tons CO_2e)
Transportation		
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15
T-3[1]	Regional Transportation-Related Greenhouse Gas Targets	5
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2
T-6	Goods Movement Efficiency Measures. • Ship Electrification at Ports • System-Wide Efficiency Improvements	3.5
T-7	Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	0.93
T-8	Medium- and Heavy-Duty Vehicle Hybridization	0.5
T-9	High Speed Rail	1
Electricity and Natural Gas		
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) • Increased Utility Energy Efficiency Programs • More Stringent Building & Appliance Standards Additional Efficiency and Conservation Programs	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewables Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) • Target of 3000 MW Total Installation by 2020	2.1
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) • Utility Energy Efficiency Programs • Building and Appliance Standards • Additional Efficiency and Conservation Programs	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
Green Buildings		
GB-1	Green Buildings	26
Water		
W-1	Water Use Efficiency	1.4†
W-2	Water Recycling	0.3†
W-3	Water System Energy Efficiency	2.0†
W-4	Reuse Urban Runoff	0.2†
W-5	Increase Renewable Energy Production	0.9†
W-6	Public Goods Charge (Water)	TBD†
Industry		
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	TBD
I-2	Oil and Gas Extraction GHG Emission Reduction	0.2
I-3	GHG Leak Reduction from Oil and Gas Transmission	0.9
I-4	Refinery Flare Recovery Process Improvements	0.3
I-5	Removal of Methane Exemption from Existing Refinery Regulations	0.01

Measure No.	Measure Description	GHG Reductions (Annual Million Metric Tons CO_2e)
Recycling and Water Management		
RW-1	Landfill Methane Control (Discrete Early Action)	1
RW-2	Additional Reductions in Landfill Methane • Increase the Efficiency of Landfill Methane Capture	TBD†
RW-3	High Recycling/Zero Waste • Commercial Recycling • Increase Production and Markets for Compost • Anaerobic Digestion • Extended Producer Responsibility • Environmentally Preferable Purchasing	9†
Forests		
F-1	Sustainable Forest Target	5
High Global Warming Potential (GWP) Gases		
H-1	Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Services (Discrete Early Action)	0.26
H-2	SF_6 Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)	0.3
H-3	Reduction of Perfuorocarbons in Semiconductor Manufacturing (Discrete Early Action)	0.15
H-4	Limit High GWP Use in Consumer Products Discrete Early Action (Adopted June 2008)	0.25
H-5	High GWP Reductions from Mobile Sources • Low GWP Refrigerants for New Motor Vehicle Air Conditioning Systems • Air Conditioner Refrigerant Leak Test During Vehicle Smog Check • Refrigerant Recovery from Decommissioned Refrigerated Shipping Containers • Enforcement of Federal Ban on Refrigerant Release during Servicing or Dismantling of Motor Vehicle Air Conditioning Systems	3.3
H-6	High GWP Reductions from Stationary Sources • High GWP Stationary Equipment Refrigerant Management Program: - Refrigerant Tracking/Reporting/Repair Deposit Program - Specifications for Commercial and Industrial Refrigeration Systems • Foam Recovery and Destruction Program • SF Leak Reduction and Recycling in Electrical Applications • Alternative Suppressants in Fire Protection Systems • Residential Refrigeration Early Retirement Program	10.9
H-7	Mitigation Fee on High GWP Gases	5
Agriculture		
A-1	Methane Capture at Large Dairies	1.0†

1 This is not the SB 375 regional target. ARB will establish regional targets for each Metropolitan Planning Organization (MPO) region following the input of the regional targets advisory committee and a consultation process with MPO's and other stakeholders per SB 375

† GHG emission reduction estimates are not included in calculating the total reductions needed to meet the 2020 target

Local Regulations

San Joaquin Valley Air Pollution Control District

The SJVAPCD is the primary local agency responsible for protecting human health and property from the harmful effects of air pollution in the SJVAB, and has jurisdiction over most stationary source air quality matters in the SJVAB, including the NSPS program. The SJVAPCD includes all of Merced, San Joaquin, Stanislaus, Madera, Fresno, Kings and Tulare counties, and the Valley portion of Kern County.

The SJVAPCD is responsible for developing attainment plans for the SJVAB, for inclusion in California's SIP, as well as establishing and enforcing air pollution control rules and regulations. The attainment plans must demonstrate compliance with federal and state ambient air quality standards, and must first be approved by ARB before inclusion into the SIP. The SJVAPCD regulates, permits, and inspects stationary sources of air pollution. Among these sources are industrial facilities, gasoline stations, auto body shops, MSW landfills and dry cleaners to name a few. While the state is responsible for emission standards and controlling actual tailpipe emissions from motor vehicles, the SJVAPCD is required to regulate emissions associated with stationary sources such as agricultural burning and industrial operations. The SJVAPCD also works with eight local transportation planning agencies to implement transportation control measures, and to recommend mitigation measures for new growth and development designed to reduce the number of cars on the road. The SJVAPCD promotes the use of cleaner fuels, and funds a number of public and private agency projects that provide innovative approaches to reducing air pollution from motor vehicles.

While all criteria pollutants are a concern of the SJVAPCD, a project's air quality impacts are considered significant if they would violate any of the state air quality standards. Ozone precursors, PM10 emissions and toxic air contaminants are emphasized in the review of applications for an Authority to Construct / Permit to Operate. Federal and state air quality regulations also require regions designated as nonattainment to prepare plans that either demonstrate how the region will attain the standard or that demonstrate reasonable improvement in air quality conditions. As noted, the SJVAPCD is responsible for developing attainment plans for the SJVAB for inclusion in California's SIP.

The SJVAPCD's primary means of implementing air quality plans is by adopting and enforcing rules and regulations. Stationary sources within the jurisdiction are regulated by the District's permit authority over such sources and through its review and planning activities. In 2001, the SJVAPCD revised its Regulation VIII-Fugitive PM Prohibitions, in response to commitments made in the 1997 PM10 Attainment Plan to incorporate best available control measures (BACM). Regulation VIII consists of a series of dust control rules that emphasize reducing fugitive dust as a means of achieving attainment of the federal standards for PM10.

Several Air districts, including the SJVAPCD have adopted published guidance on how to analyze GHG emissions. SJVAPCD published the *Final Staff Report: Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act* (SJVAPCD, 2009) to streamline the process of determining if project specific GHG emissions would have a significant effect.

San Joaquin County General Plan

The San Joaquin General Plan Resources Element (San Joaquin County, 2010) contains an objective and policies, which are provided below:

Objective. To protect public health, agricultural crops, scenic resources, and the built and natural environments from air pollution.

Policy 1: San Joaquin County shall meet and maintain all State and national standards for air quality.

Policy 2: Motor vehicle emissions shall be minimized through land use and transportation strategies, as well as by promotion of alternative fuels.

Policy 3: Projects shall be designed to minimize concentrations of carbon monoxide (hot spots).

3.3.3 Impacts and Mitigation Measures

Significance Criteria

According to Appendix G of the CEQA *Guidelines*, a project would have a significant effect on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any nonattainment pollutant (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people;
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

Approach to Analysis

Criteria Pollutants, Toxic Air Contaminants, and Greenhouse Gases

Significance criteria one through four, six, and seven regarding criteria air pollutants, TACs, and GHGs will not be analyzed further since the project (extending quarry operating hours) would not increase the geographic footprint of the operation, and would not increase the maximum daily or annual production limits. Thus, since the overall output of operations would not change under the project, the associated emissions would be the same as the existing operations.

Odors

Regarding significance criteria five above, odorous emissions would be generated by the on-site asphalt plant, which may result in nuisance impacts during the extended nighttime hours. The SJVAPCD has determined minimal buffer distances for some common types of facilities that have been known to produce odors. For an asphalt batch plant, this distance is one mile. However, the asphalt plant at the project site is located less than one mile from many residences, the closest of which is about 0.3 miles (1,600 feet) north of the plant. Thus, dispersion modeling was conducted to evaluate concentrations of H_2S and potential odor impacts at the nearest sensitive residential

receptors. This section presents the methodology used for the dispersion modeling analysis of the odoriferous pollutant H_2S. The methodology is consistent with procedures documented in the EPA *Guideline on Air Quality Models* and SJVAPCD's *Guide for Air Dispersion Modeling*. Emissions are based on a production level of 325 tons per hour for the hot mix batch plant and 250 tons per hour (maximum capacity) for each storage silo. The H_2S emission factors (0.005 lbs/ton of material for asphalt processing and 0.0049 lb/ton of material for asphalt silo) were based on information contained in a North Carolina Department of Environmental Quality report entitled *Salisbury Air Quality Monitoring Study*. Analysis done by the Bay Area Air Quality Management District concluded that emissions from the production of rubberized asphalt are not significantly different than those from the production of conventional asphalt (BAAQMD, 2002). The rubber additives in rubberized asphalt are not processed at a temperature high enough to cause the rubber to smoke or burn.

The AERMOD dispersion model (Version 6.1.0) was used for the modeling analysis. AERMOD is the USEPA and SJVAPCD preferred dispersion model. It predicts both short- and long-term average concentrations. The model was executed using the regulatory default options (stack-tip downwash, buoyancy-induced dispersion, final plume rise), default wind speed profile categories, default potential temperature gradients, and no pollutant decay. Based on observation of the area surrounding the project site, rural dispersion coefficients were applied in the analysis. Hourly emission scalars were applied accounting to the source operational schedule (i.e., 9 pm through 5 am) to account for the night-time emissions. Receptors were placed at locations within all residential uses surrounding the project site. Receptors were positioned as flagpole receptors at a height of 1.8 meters above the ground (typical breathing height). Surface meteorological data and upper air meteorological data from the Stockton station were obtained from the SJVAPCD and were used for the modeling analysis. The 5-year data set from 2005 to 2009 was used. The asphalt plant was treated as a point source with a release height of 42 feet, an average exhaust temperature of 101 degrees F, an exhaust flow rate of 27,104 dry standard cubic feet per minute, and a stack diameter of 77 inches. The asphalt silos were treated as volume sources with a release height of 65.6 feet and a horizontal dimension of 13 feet.

In addition to emissions modeling, the analysis also considered complaints received regarding nuisance odors, consistent with SJVAPCD guidance. Nine complaints were received over a period from August 2008 to October 2009. These complaints, although unconfirmed by air district staff, were attributed to the Munn and Perkins asphalt concrete plant.

Impacts and Mitigation Measures

Impact 3.3.1: The project could create objectionable odors affecting a substantial number of people. This impact would be *potentially significant.*

Dispersion modeling was conducted to evaluate concentrations of H_2S and potential odor impacts at the nearest sensitive residential receptors. Dispersion modeling analysis shows a potential maximum 1-Hour H_2S concentration of 20 $\mu g/m^3$. The California ambient air quality

standard for H_2S is 42 µg/m^3. Thus, the project is not expected to result in ground-level concentration known to produce odor impacts[4].

However, a qualitative analysis was also done based on previous odor complaints attributed to the facility. The number of complaints (nine unconfirmed within three years) is considered potentially significant. While dispersion modeling does not show a potentially significant impact based on H_2S concentration, the record of previous odor complaints and the potential for increased sensitivity at night, would result in a potentially significant impact.

Mitigation Measures:

Measure 3.3.1. The operator shall incorporate additives to the rubberized asphalt mix in accordance with accepted industry standards. The objective of the additives shall be to reduce offensive odors associated with the production of rubberized asphalt.

Significance After Mitigation: Dispersion modeling shows that the California ambient air quality standard for H_2S would not be exceeded. The use of additives in the AC mix should reduce the odor associated with rubberized AC production. However, based on previous complaints, it cannot be demonstrated that all odor impacts to receptors within one mile would be reduced to the point where no future complaints would be received. Therefore, the impact is identified as significant and unavoidable.

3.3.4 References

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California Air Resources Board (ARB), 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005.

[4] According to the ARB, "breathing H_2S at levels above the standard will result in exposure to a very disagreeable odor. In 1984, an ARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance." (ARB, 2009b)

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3.4 Noise

3.4.1 Introduction

The project facility is the Munn and Perkins aggregate quarry and plant located just south of East River Road and west of Burwood Road, approximately 10 miles east of State Route 99 (SR 99), south of the community of Escalon in San Joaquin County, California. Please see **Figure 3.4-1** below.

The project proposes an amendment of Use Permit QX 89-2 to allow operation of the facility's asphalt plant, scale house, loaders, water trucks, and up to 125 haul truck operations during nighttime hours without authorization from the County. Currently, all facility operations are permitted to operate between the hours of 5 a.m. to 9 p.m. with operations outside of these hours permitted by County staff on a case-by-case basis. For the purposes of this analysis, daytime and nighttime hours will be considered 5 a.m. to 9 p.m. and 9 p.m. to 5 a.m., respectively.

Existing residences along East River Road and Burwood Road in the vicinity of the plant/quarry and haul routes (see Figure 3.4-1) may be affected by increased noise exposure associated with the proposed nighttime operations. The following is supported by the environmental noise assessments completed by Bollard Acoustical Consultants, Inc. (BAC) dated August 18, 2010, the peer review of the BAC report by J.C. Brennan & Associates dated October 13, 2010, and the peer review response memo by BAC dated October 22, 2010.

3.4.1 Setting

Fundamentals of Sound

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that human hearing can detect. Sound, traveling thru the air as waves, creates sound pressure level offsets relative to ambient air pressure.

The number of sound pressure peaks travelling past a given point in a single second is referred to as the frequency, expressed in cycles per second or Hertz (Hz). A given sound may consist of energy at a single frequency (pure tone) or in many frequencies over a broad frequency range. Human hearing is generally affected by sound frequencies between 20 Hz and 20,000 Hz. (20 kHz).

Another characteristic of sound is its amplitude. This refers to the magnitude of the sound pressure, intensity, or power. Sound pressure variation related to human hearing generally ranges from 20 micropascals (μPa) to 100 Pa (100,000,000 μPa). In this case 20 μPa represents the assumed threshold of human hearing and 100 Pa represent the threshold of pain in human hearing. The ratio of these extremes is 5,000,000 to 1. To address this large range of numbers, and to better account for the logarithmic response of human hearing, the logarithm of the sound pressure relative to the reference/threshold (20 μPa) pressure is used to derive the sound pressure level in decibels (dB). This application produces a decibel scale of 0 dB (20 μPa) to 130 dB (100 Pa).

SOURCE: Bing Maps, 2009; and ESA, 2011

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Figure 3.4-1

Project Vicinity and Residential Receptors

Figure 3.4-2 illustrates sound levels associated with common sound sources. The perceived loudness of sounds is dependent on many factors, including sound pressure level and frequency content. However, within the usual range of environmental sound levels, perception of loudness is relatively predictable, and can be approximated by frequency filtering using the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard descriptor for environmental noise assessment. All noise levels reported in this section are in terms of A-weighting.

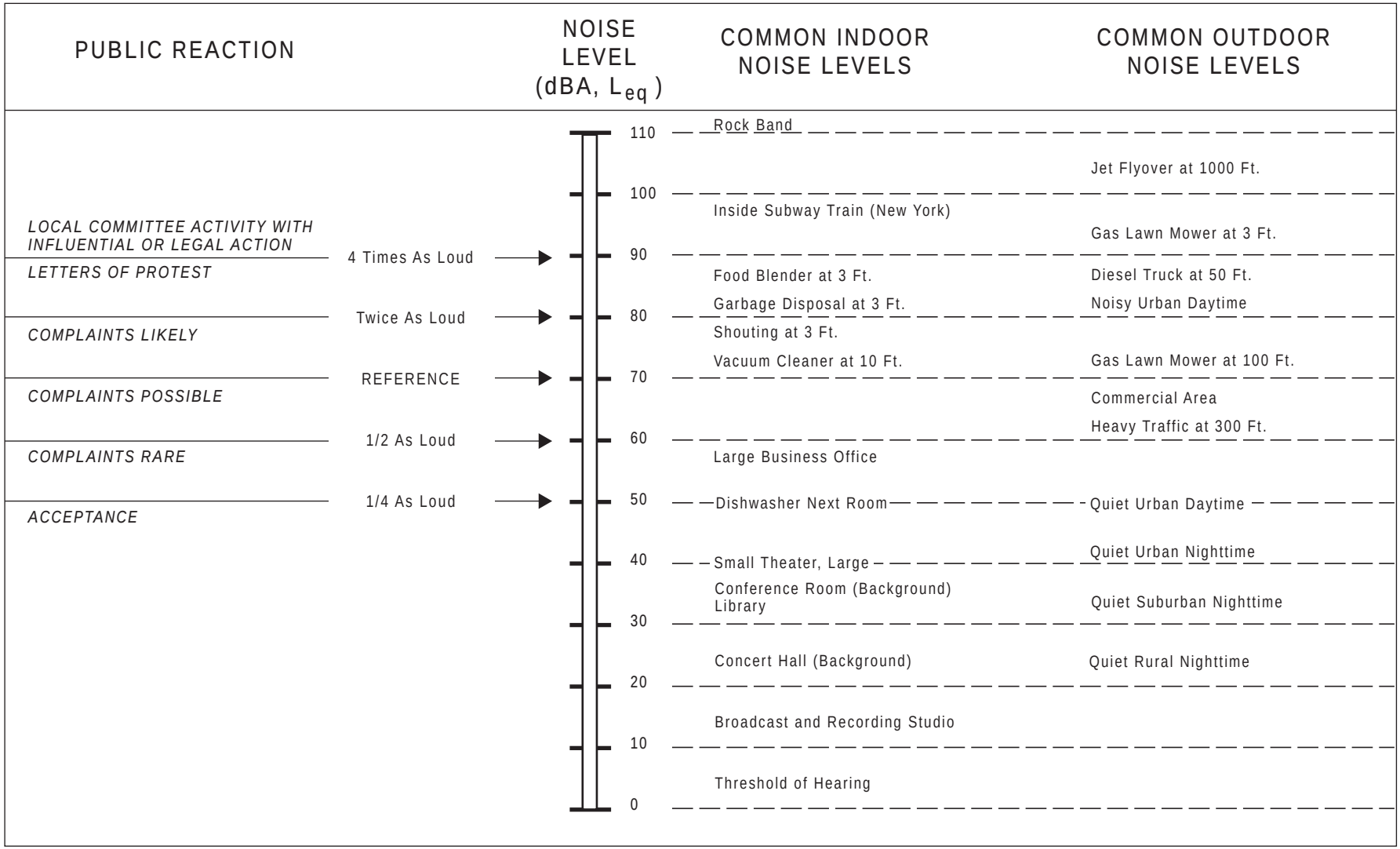
Generally speaking, noise from stationary (point) sources of sound, including stationary mobile sources such as idling vehicles, attenuates (lessens) at a rate of 6 dB for each doubling of distance from the source location. This represents the spherical spreading or divergence of sound over areas that are acoustical "hard," such as parking lots or large bodies of water. Acoustically "soft" sites including agricultural crops, grass, or dense shrubbery/trees generally provides additional sound attenuation with increased distance from the sound source; an additional 1.5 dB per doubling of distance is often assumed for such sites. Line sources such continuous traffic noise from vehicles generally attenuates at a rate of 3 dB per doubling of distance (cylindrical spreading/divergence) for hard sites and 4.5 dB per doubling of distance for soft sites.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent sound level (L_{eq}). The hourly L_{eq} (equivalent sound level over a 60 minute period) is the foundation of the day/night average sound level (L_{dn}) and shows very good correlation with community response to noise. The L_{dn} is based on the average sound level over a 24-hour day, with a +10 decibel weighting (penalty) applied to sounds during nighttime hours (10 p.m.-7 a.m.). The nighttime penalty is based on the assumption that people react to nighttime noise exposures as though they are twice as loud as daytime exposures.

Because the L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. For this reason, San Joaquin County and many other jurisdictions utilizes statistical noise level objectives for non-transportation noise sources. Specifically, standards in terms of L_{eq} and L_{max} are used to assess noise generated by the on-site project sources. Please refer to the following explanations and definitions of acoustical terminology used throughout this section.

Transportation Noise Sources

Transportation noise sources are commonly considered as traffic on public roadways, main-line train operations, or aircraft overflights. The San Joaquin County Development Title noise standards applicable to transportation noise sources are specified in terms of L_{dn}. As a general rule, in areas where the noise environment is dominated by traffic, the L_{eq} during the peak-hour is often equivalent (+/- 2 dBA) to the L_{dn} at that location (Caltrans, 1998).



SOURCE: ESA, 2007

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Figure 3.4-2
Effect of Noise on People

Non-Transportation Noise Sources

Non-transportation noise sources are commonly considered to be any source of noise on private property. San Joaquin County utilizes the performance standards of the Development Title to assess impacts associated with non-transportation noise sources, including all sources of noise originating from the project site (e.g., asphalt plant equipment, water trucks, loaders).

L_{eq}: the equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{max}: the instantaneous maximum noise level for a specified period of time.

L_{dn}/DNL: 24-hour day and night A-weighted noise exposure level which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise during nighttime hours (10:00 p.m. and 7:00 a.m.) is weighted (penalized) by adding 10 dB to take into account the greater annoyance of nighttime noises.

SEL: The equivalent sound level over a 1-second time interval for a discrete sound event (e.g., truck passby).

General Effects of Noise

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

For the average person, environmental noise typically produces effects in the first two categories. Workers in industrial plants or others exposed to high noise exposure for extended periods may also experience physiological effects. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those affected by it. With regard to increases in A-weighted noise level, the following relationships generally occur assuming that the introduced noise is of a similar character to sources composing the ambient noise environment:

- except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived;
- outside of the laboratory, a 3 dB change is considered a just-perceivable difference;
- a change in level of at least 5 dB is required before any noticeable change in human response would be expected; and
- a 10 dB change is subjectively heard as approximately a doubling in loudness, and can cause adverse response

These relationships occur in part due to the logarithmic nature of human hearing, as discussed previously. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, two noise sources of 50 dB combine to produce a total sound level of 53 dB, not 100 dB.

Single-Event Noise Effects

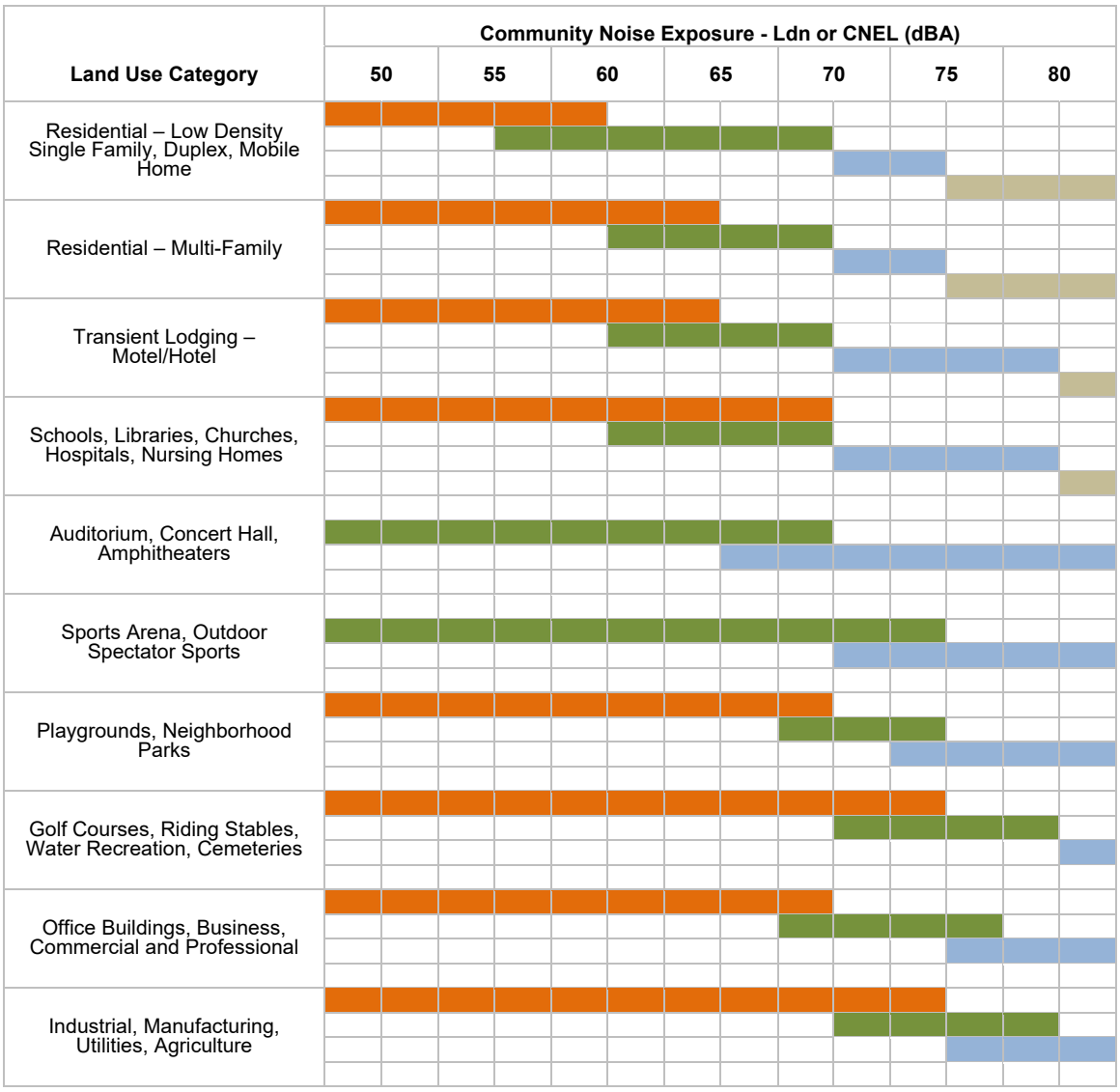
The following will address sleep disturbance or awakening of existing residents along East River Road by project asphalt haul trucks passbys (single events) during the project operating hours of 9 p.m. to 5 a.m. The project operating hours (9 p.m. to 5 a.m.) are considered nighttime hours for this project noise assessment; that is, it is expected that a majority of people could be sleeping during these hours.

Project-related sleep disturbance will be addressed in terms of the American National Standard Institute, Inc. (ANSI)/Acoustical Society of America (ASA) S12.9-2008 Part 6, Quantities and Procedures for Description and Measurement of Environmental Sound – Methods for Estimation of Awakenings Associated with Outdoor Noise Events Heard in Homes.

Regulatory Setting

State Regulations

The State of California has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure, as shown in **Figure 3.4-3**. The State of California also establishes noise exposure limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dB at a distance of 15 meters from the roadway centerline. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dB at 15 meters from the roadway centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.



	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
	Clearly Unacceptable	New construction or development generally should not be undertaken.

SOURCE: State of California, Governor's Office of Planning and Research, 2003. *General Plan Guidelines*.

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Figure 3.4-3
Land Use Compatibility for Community Noise Environment

The State of California has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dB L_{dn} in any habitable room. Where dwelling units are proposed in areas subject to noise levels greater than 60 dB L_{dn}, these standards require an acoustical analysis that demonstrates how such units have been designed to meet this interior standard. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

County Regulations

San Joaquin County Noise Element of the General Plan

The San Joaquin County Noise Element of the General Plan establishes specific policies to ensure acceptable noise environments for each land use. Applicable policies include the following:

Policy 1: The following exterior noise levels shall be considered acceptable:

(a) 65 dB L_{dn} or less for residential development.
(b) 60 dB L_{dn} or less for schools, group care facilities, and hospitals.

Policy 4: Development shall be planned and designed to minimize noise impacts on neighboring noise-sensitive areas and to minimize noise interference from outside noise sources.

Policy 6: The county shall seek to alleviate existing community noise problems.

San Joaquin County Development Title

San Joaquin County Code of Ordinances, Title 9-Development Title, Division 10-Development, Chapter 9-1025.9 Performance Standards includes maximum allowable noise exposure levels for transportation and stationary sources, as summarized in Table 3.4-1. The Code standards presented for transportation sources (Part I) are consistent with the General Plan standards presented above.

TABLE 3.4-1
MAXIMUM ALLOWABLE NOISE EXPOSURE

PART I: TRANSPORTATION NOISE SOURCES Noise Sensitive Land Use (Use Types)	Outdoor Activity Areas[1] dB L_{dn}	Interior Spaces dB L_{dn}
Residential	65	45

PART II: STATIONARY NOISE SOURCES	Outdoor Activity Areas[1]	
	Daytime[2] (7 a.m. to 10 p.m.)	Nighttime[2] (10 p.m. to 7 a.m.)
Hourly Equivalent Sound Level (L_{eq}), dB	50	45
Maximum Sound Level (L_{max}), dB	70	65

1. Where the location of outdoor activity areas is unknown or is not applicable, the noise standard shall be applied at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards shall be applied on the receiving side of noise barriers or other property line noise mitigation measures.
2. Each of the noise level standards specified shall be reduced by 5 dB for impulsive noise, single-tone noise, or noise consisting primarily of speech or music.

SOURCE: San Joaquin County Code of Ordinances, Title 9-Development Title, Division 10-Development, Chapter 9-1025.9 Performance Standards, 2002.

The San Joaquin County Code of Ordinances, Title 9-Development Title, Division 10-Development, Chapter 9-1025.9 Performance Standards also includes the following provisions, which are applicable to this project:

> (a)(2) Private development projects that include the development of new transportation facilities or the expansion of existing transportation facilities shall be required to mitigate the noise levels from these transportation facilities so that the resulting noise levels on noise-sensitive land uses within and adjacent to said development projects do not exceed the standards specified in Table 3.4-1, Part I.
>
> (b)(2) Proposed projects that will create new stationary noise sources or expand existing stationary noise sources shall be required to mitigate the noise levels from these stationary noise sources so as not to exceed the noise level standards specified in Table 3.4-1, Part II.
>
> (c)(3) Noise associated with construction, provided such activities do not take place before 6:00 a.m. or after 9:00 p.m. on any day, shall be exempt from the noise provisions in Table 3.4-1.
>
> (d) The Review Authority shall require the preparation of an acoustical study in instances where it has determined that a project may expose existing or proposed noise-sensitive land uses to noise levels exceeding the noise standards specified in Table 3.4-1. This determination shall be based on the existing or future 65 dB L_{dn} noise contour in the [San Joaquin County] General Plan, the proximity of new noise-sensitive land uses to known noise sources, or the knowledge that a potential for adverse noise impacts exists.
>
> (f) The outdoor operation of any industrial, commercial, or residential property maintenance tool or equipment powered by an internal combustion engine or electric motor including, but not limited to, leaf blower, chainsaw, lawn mower, hedger, and vacuum cleaner is prohibited within 500 feet of a residence located in a residential zone between the hours of 9:00 p.m. and 8:00 a.m.

Noise Level Increase Criteria

Based on studies of test subject's reactions to changes in environmental noise levels for similar noise sources, the Federal Interagency Commission on Noise (FICON) developed the following recommendations for thresholds to be used in assessing the significance of project-related noise level increases for transportation noise sources. Where background noise levels without the project would be less than 60 dB L_{dn}, a 5 dB or greater noise level increase due to the project would be considered significant. Where background noise levels without the project would be in the range of 60-65 dB L_{dn}, a 3 dB or greater noise level increase due to the project would be considered significant. Finally, where background noise levels without the project would exceed 65 dB L_{dn}, a 1.5 dB or greater noise level increase due to the project would be considered significant. This graduated scale is based on findings that people in quieter noise environments would tolerate larger increases in noise levels without adverse effects, whereas people already exposed to elevated noise levels exhibited adverse reactions to noise for smaller increases.

Existing Noise Environment

The noise environments in areas surrounding the project site are influenced primarily by agricultural-associated operations, truck and automobile traffic on local roadways, and existing project aggregate mining and transportation operations. During nighttime hours when the project facility is not in operation, noise exposure at many locations in the project area is dominated by natural sources (e.g., animals, wind).

The primary noise-sensitive receivers affected by the project are located along East River Road (north) and Burwood Road (east). Noise-sensitive, single-family residential receivers are located within 1,000 feet north and 1,900 feet east of the project site. Figure 3.4-1 shows the project vicinity.

Ambient Noise Level Measurement Results

The following information is provided based on the Environmental Noise Assessment completed by BAC on August 18, 2010. Long-term ambient noise level measurements were completed in the project vicinity near the closest noise-sensitive receivers to the project on September 27, 2010 thru October 2, 2010. Sites A and B represent the closest receivers on Burwood Road while Sites 1-5 represent the closest receivers on East River Road. Table 3.4-2 is a summary of the ambient noise level measurement results.

TABLE 3.4-2
SUMMARY OF AMBIENT NOISE LEVEL MEASUREMENTS

Measurement Site (Distance to C.L.)[1]	Average Hourly Noise Level, dB[2,3]				
	Daytime Hours (7 a.m.-10 p.m.)		Nighttime Hours (10 p.m.-7 a.m.)		
	L_{eq}	L_{max}	L_{eq}	L_{max}	L_{dn}, dB
A	43-51	62-70	42-46	67-70	49-53
B	48-56	67-88	45-47	70-72	52-56
1 (40 feet)	71-73	91-106	65-68	88-95	73-75
2 (350 feet)	55-58	75-85	53-56	70-85	60-62
3 (50 feet)	67-69	89-99	63-65	84-98	70-72
4 (60 feet)	64-67	86-96	59-62	82-86	67-69
5 (50 feet)	65-69	85-94	61-64	84-92	69-71

1. Distance from centerline of East River Road to noise level measurement site.
2. Daily noise level averages for September 27, 2010 thru October 2, 2010.
3. Does not include noise exposure from almond harvesting near Sites A and B on October 2, 2010.

SOURCE: Bollard Acoustical Consultants, Inc., August 18, 2010.

Since the project represents the addition of asphalt plant and associated operations during the hours of 9 p.m. to 5 a.m., it is of interest to compare project-related noise exposure to existing ambient noise exposure during these hours. A summary of the measure ambient noise exposure in the project vicinity during the hours of 9 p.m. to 5 a.m. on September 28, 2010 thru October 2, 2010 is presented in Table 3.4-3.

TABLE 3.4-3
SUMMARY OF AMBIENT NOISE LEVEL MEASUREMENT RESULTS – 9 P.M. TO 5 A.M.

Measurement Site (Distance to C.L.)[1]	Average Measured Noise Level, dB (Range)[2]	
	L_{eq}	L_{max}
A	43 (35-48)	57 (38-70)
B	44 (36-50)	61 (46-72)
1 (40 feet)	65 (57-68)	86 (81-95)
2 (350 feet)	53 (48-58)	69 (60-85)
3 (50 feet)	62 (54-67)	82 (75-98)
4 (60 feet)	59 (51-63)	79 (73-86)
5 (50 feet)	61 (53-66)	81 (74-94)

1 Distance from centerline of East River Road to noise level measurement site.
2 Noise level averages for the hours of 9 p.m. to 5 a.m., September 27, 2010 thru October 2, 2010.

SOURCE: Bollard Acoustical Consultants, Inc., August 18, 2010 (Appendix B).

Probability of Awakening Due to Existing Traffic Noise

For this project, the American National Standards Institute, Inc. (ANSI)/Acoustical Society of America (ASA) standard 12.9-2008 Part 6 (ANSI/ASA S12.9-2008 Part 6) was used to estimate the probability of awakenings of existing residents in the project area due to existing project-area traffic.

A total traffic volume of 250 vehicles was assumed to utilize East River Road in the project area during a typical 7-hour sleeping period (assumed to be 10 p.m. to 5 a.m.). A given vehicle passby was assumed to produce an average event noise exposure level of 50 dB SEL within a residence 60 feet from the centerline of the roadway (75 dB exterior SEL). The probability of the residents located 60 feet from East River Road awakening at least once from the existing traffic noise source was calculated to be approximately 92 percent. This result emphasizes the significant existing traffic noise exposure of residents near East River Road in the project area.

3.4.3 Impact and Mitigation Measures

Significance Criteria

Consistent with the CEQA *Guidelines* Appendix G, the Proposed Project would result in a significant impact on the environment if it would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels existing without the project.
- Exposure of people residing or working in the project area to excessive noise levels, for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.
- Expose people residing or working in the project area to excessive noise levels if the project is located in the vicinity of a private airstrip.

The Proposed Project does not include any new sources of ground vibration. Additionally, the project site is not located within an airport land use plan, is not located within two miles of a public airport or within the vicinity of a private airstrip. Consequently, no impacts associated with these elements would be expected to occur, and these issues are not discussed further in this section.

Applicable Project Significance Criteria

Project-related noise exposure would affect nearby residential receivers between the hours of 9 p.m. and 5 a.m. Project-related noise from the Munn & Perkins asphalt plant and associated water truck, loader, and haul truck movements (on- and off-site) would be expected. The following impact criteria are applied to noise from these sources at the closest residential receivers to the project site.

Significant project-related noise exposure would occur if the project stationary noise sources (e.g., asphalt plant) exceed the County's nighttime limit of 45 dB hourly L_{eq} or the nighttime maximum 65 dB L_{max} at off-site outdoor activity areas. Also, a significant impact would occur if noise from Proposed Project haul truck operations would exceed the applicable County noise exposure limits of 65 dB L_{dn} (exterior) or 45 dB L_{dn} (interior). Likewise, a significant impact would occur if noise exposure from project haul truck operations would produce noise exposure increases beyond the established FICON limits described above. Finally, a significant increase in nighttime awakenings of nearby residents due to project haul trucks on East River Road would be a significant noise impact. In this case, an increase in the probability of awakenings of 5 percent or more relative to the ambient condition (without the project) would be considered significant. The probability of nighttime awakenings was completed using the ANSI/ASA S12.6-2008 Part 6 recommendations/guidelines.

Analyses

Project-Related Noise Exposure from On-Site Sources

A detailed assessment of recorded noise exposure and operating hours of the project asphalt plant completed by Bollard Acoustical Consultants, Inc. (August 18, 2010) yielded noise exposure from the asphalt plant (and on-site ancillary sources) of approximately 40 dB L_{eq}/L_{max} at the closest residence to the east (Site A). Assuming standard spherical spreading loss (-6 dB per doubling of distance), and assuming that plant noise exposure is the same to the north as it is to the east, plant noise exposure at the closest residence to the north (near Site 3) would be approximately 43 dB L_{eq}/L_{max}. Alone, project-related noise exposure from on-site noise sources is not expected to exceed the applicable nighttime average of 45 dB hourly L_{eq} or nighttime maximum of 65 dB L_{max} noise exposure limits at off-site outdoor activity areas established by the County.

As shown in Table 3.4-3, average noise exposure at measurement site 4, which is assumed to adequately represent the closest residences to the north of the project site, is approximately 59 dB L_{eq} with an hourly noise exposure range of 51-63 dB L_{eq} during the 9 p.m. to 5 a.m. hours of the measurement survey. Likewise, average measured ambient noise exposure at measurement site A to the east was approximately 43 dB L_{eq} with a range of 35-48 dB L_{eq}. The anticipated project asphalt plant noise exposure at the closest residences to the north (43 dB L_{eq}) would, on average, be more than 10 dB below the existing ambient noise exposure, and would not be expected to contribute significantly to the existing noise environment at this receiver or other receivers along East River Road to the north of the project. At site A, project asphalt plant noise exposure (40 dB L_{eq}) would, on average, increase the noise environment by approximately 2 dB (from 43 dB L_{eq} to 45 dB L_{eq}). Given a significant increase threshold of +5 dB based on the relatively low existing ambient noise exposure, the anticipated increase in noise exposure from asphalt plant operations during the 9 p.m. to 5 a.m. hours would not be considered significant.

Project-Related Noise Exposure from Haul Trucks

A detailed assessment of expected project-related haul truck noise exposure at the closest residences along East River Road is provided within the Bollard Acoustical Consultants, Inc. report of August 18, 2010. The following utilizes reference noise level measurements and assumed truck operations from that report.

Regulatory Standards and Ambient Noise Level Increases

Standard Heavy Truck Operations (No Optimization of Operating Parameters)

Noise exposure at the closest residential properties along East River Road from Proposed Project haul truck trips was calculated using the measured average truck passby noise exposure (average SEL) and operational data presented in the BAC report of August 18, 2010. Haul truck noise exposure at the closest residences to East River Road were calculated from the following equation.

$$L_{dn} = SEL_{avg} + 10Log(N_{eq}) - T$$

In this case, SEL_{avg} is the average measured SEL, or 86 dB at 40 feet (approximately 83 dB at 60 feet); N_{eq} is the equivalent number of haul truck operations calculated by adding the number of daytime trips (between 9 p.m. and 10 p.m.) and 10 times the number of nighttime trips (between 10 p.m.-5 a.m.), or approximately 1,886 (248 total truck trips); and T is approximately 49.4 or 10Log (seconds in a 24-hour day).

Using the reference noise level data, operations, and the equation above, project-related haul trucks would be expected to produce noise exposure of approximately 66 dB L_{dn} at the closest residences to the project on East River Road (60 feet from centerline). This noise exposure exceeds the applicable noise exposure limit of 65 dB L_{dn} established by the County.

Optimized Heavy Truck Operations Parameters

The project developer has proposed to operate all project trucks using noise-mitigating operating parameters when entering or leaving the plant on East River Road. Based on testing conducted by Bollard Acoustical Consultant, Inc., the quietest haul truck operating parameters were as follows.

- Empty Trucks: Travel speed at 38-43 mph with engines in 8th gear at 700-800 rpm.
- Loaded Trucks: Travel speed of 33-35 mph with engines in 6th or 7th gear at 1,400-1,600 rpm.

Average resulting noise exposure from truck passbys using these "optimized" parameters was approximately 4 dB less than average noise exposure from passing trucks using unknown operating parameters. Therefore, it is expected that haul truck noise exposure may be reduced by approximately 4 dB given that all project trucks utilize the operating parameters described above. Resulting noise exposure at the closest residences to the project on East River Road (60 feet from centerline) would be approximately 62 dB L_{dn}. This noise exposure is below the County's noise exposure limit of 65 dB L_{dn}.

It is assumed that standard residential building construction in good condition will provide no less than 25 dB of exterior-to-interior noise level reduction when exterior doors and windows are closed. Therefore, exterior noise exposure would need to exceed 70 dB L_{dn} for interior noise exposure to possibly exceed the County 45 dB L_{dn} limit (i.e., 70 dB – 25 dB = 45 dB). Project-related traffic noise exposure due to haul trucks is not expected to exceed 66 dB L_{dn} at the closest residences on East River Road. Therefore, project-related traffic noise exposure is not expected to exceed the applicable 45 dB L_{dn} noise exposure criterion for the interior of these residences.

Noise Exposure Increase

Measured ambient noise exposure at the closest residences to the project site on East River Road was in the range of 67-69 dB L_{dn} (Site 4). The addition of project-related haul truck noise exposure at a level of 62 dB L_{dn} (with proposed optimized operating parameters) would be expected to increase the traffic-related noise exposure at this residence and others near this setback distance to approximately 68-70 dB L_{dn}. This increase of approximately 1 dB would not be considered significant based on the FICON guidelines presented above.

The addition of project-related haul truck noise exposure at a level of 66 dB L_{dn} (without proposed optimized operating parameters) would be expected to increase the traffic-related noise exposure at the closest residences on East River Road by approximately 2-3 dB, or 70-71 dB L_{dn}. This noise exposure increase would be significant based on the FICON guidelines presented above.

Sleep Disturbance/Probability of Awakening

The ANSI/ASA S12.9-2008 Part 6 was used to estimate the probability of awakenings of existing residents in the project area with current conditions and for future conditions due to project-related haul truck operations.

Current Conditions

A total traffic volume of 182 project haul trucks was assumed to traverse a given section of East River Road in the project area during a typical 7-hour sleeping period (assumed to be 10 p.m.-5 a.m.). A given truck passby was assumed to produce an average event noise exposure level of 58 dB SEL within a residence 60 feet from the centerline of the roadway (83 dB exterior SEL). The probability of the residents located 60 feet from East River Road awakening at least once during the night from project haul truck noise was calculated to be approximately 93 percent. This probability

is reduced to approximately 89 percent if the proposed haul truck noise exposure reduction parameters are applied; that is, if haul truck noise exposure is reduced by 4 dB using the proposed operating parameters presented above.

Project Conditions

Again, using ANSI/ASA S12.9-2008 Part 6 and the vehicle/haul truck operations assumption presented above, the probability of awakenings from combined operations of existing traffic and Proposed Project haul trucks on East River Road in the project area was calculated to be approximately 100 percent. This probability is reduced to approximately 99 percent given the application of the haul truck noise exposure reduction parameters.

Impacts and Mitigation Measures

Impact 3.4.1: Project asphalt plant operations would add to the noise environment in the project vicinity. This impact is less than significant.

As described above, asphalt plant operations (on-site noise sources) during the hours of 9 p.m. to 5 a.m. would not be expected to produce noise exposure in excess of 43 dB L_{eq}/L_{max} at the closest existing residential receivers to the north and east. This noise exposure level would not exceed the County's nighttime noise limits for outdoor activity areas of 45 dB hourly L_{eq} and 65 dB L_{max}.

Existing ambient noise exposure at the closest residences to the north of project site (represented by measurement site 4) was measured to be in the range of 51-63 dB hourly L_{eq}. Project asphalt plant operations would generally be more than 10 dB below the existing ambient noise exposure and would not be expected to add significantly to the noise environment at these receivers. Existing ambient noise exposure at the closest residences to the east of the project site (represented by measurement site A) was measured to be in the range of 35-48 dB hourly L_{eq}, with an average hourly L_{eq} of 43 dB during 9 p.m. to 5 a.m. hours. On average, project-related asphalt plant noise would be expected to add 2 dB to the noise environment at the closest residence to the east (site A). Given the relatively low ambient noise exposure at this location, a +5 dB threshold of significance is appropriate. Therefore, project-related noise exposure from on-site sources is not expected to add significantly to the noise environment at the closest receiver locations to the east of the project site.

Mitigation Measures: None required.

Impact 3.4.2: Off-site project haul truck traffic would add to the noise environment in the project vicinity. This impact is potentially significant.

Off-site project haul trucks would increase noise exposure as described by the 24-hour day-night A-weighted average (L_{dn}) and the single event noise level (SEL). The increase in noise exposure is potentially significant based on the increase in ambient noise and the potential for sleep disturbance associated with periodic noise.

As presented above, project haul truck noise would be expected to produce noise exposure of approximately 66 dB L_{dn} or 62 dB L_{dn} at the closest residences to the project site on East River Road (60 feet from the roadway centerline) when operated under typical parameters or proposed optimized parameters, respectively. Assuming the typical truck operating parameters, project haul truck noise exposure would be expected to exceed the applicable County noise exposure limit of 65 dB L_{dn}. With the proposed optimization of haul truck operations using specified parameters, project haul truck noise exposure would not be expected to exceed the County exterior noise exposure limit. Project haul truck noise exposure within the closest residences to the project would not be expected to exceed the applicable County interior noise exposure limit of 45 dB L_{dn}.

Assuming typical, not optimized operations of the project haul trucks, noise exposure from this source would be expected to add no less than 2 dB to the noise environments of residences on East River Road (60 feet from roadway centerline) closest to the project site. This noise exposure increase would be considered significant based on the applicable 1.5 dB increase criterion. Assuming the proposed operation of project haul trucks using the optimized parameters discussed above, noise exposure from this source would be expected to add less than 1 dB to the noise environments of receivers on East River Road near the project site. This noise exposure increase would be considered less than significant.

For single-event noise, the probability of awakenings due to project haul truck operations on East River Road was calculated to be approximately 89-93 percent for residences 60 feet from the centerline of the roadway. The lower probability (89 percent) is related to the application of proposed optimized truck operating parameters, with the upper probability (93 percent) assuming typical operations. The probability of awakenings was calculated to be 99-100 percent when the cumulative effects of existing vehicle traffic and project haul trucks on East River Road are combined. The increase in probability of awakenings due to the project haul trucks was calculated to be 7-8 percent. This level of increase is considered significant.

Mitigation:

Measure 3.4.1: All project trucks shall be operated using noise-mitigating operating parameters when entering or leaving the plant on East River Road. Based on testing conducted by Bollard Acoustical Consultant, Inc., the quietest haul truck operating parameters were as follows.

- Empty Trucks: Travel speed at 38-43 mph with engines in 8th gear at 700-800 rpm.
- Loaded Trucks: Travel speed of 33-35 mph with engines in 6th or 7th gear at 1,400-1,600 rpm.

Furthermore, truck parking anywhere along River Road and the use of jake breaks at the McHenry Ave/River road intersection is prohibited.

Significance After Mitigation: Application of the proposed optimized haul truck operating parameters in Mitigation Measure 3.4.1 would be expected to effectively mitigate project-related noise exposure from the perspective of the applicable County noise exposure level criteria and noise exposure level increase criteria (as described by the L_{dn}). However, application of the optimized haul truck operating parameters would not appreciably mitigate the significant

increase in probability of residential awakenings due to project haul truck operations (single-event noise). Due to the significant increase in probability of residential awakenings in the project area due to project haul truck passbys, this impact is considered significant and unavoidable.

3.4.4 References

Environmental Noise Assessment, Bollard Acoustical Consultants, Inc. *Munn & Perkins Increased Nighttime Operations*, August 18, 2010.

Review of Environmental Noise Assessment, j.c. brennan & associates, October 13, 2010

Memo Response to j.c. brennan & associates' Review of Environmental Noise Assessment, Bollard Acoustical Consultants, Inc., October 22, 2010.

San Joaquin County, 1992. *San Joaquin County General Plan 2010 (Noise Element)*, adopted July 1992.

San Joaquin County Code of Ordinances, Title 9-Development Title, Division 10-Development, Chapter 9-1025.9 Performance Standards

American National Standards Institute, Inc./Acoustical Society of America (ANSI/ASA), *ANSI/ASA S12.9-2008 Part 6*, approved July 3, 2008.

CHAPTER 4
Alternatives

4.1 Introduction

An EIR shall describe a range of reasonable alternatives to the project or to the project location that could feasibly attain most of the project's objectives, but would avoid or substantially lessen any of the significant effects of the project, and to evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6(a)).

Additionally, CEQA Guidelines Section 15126.6(b) requires consideration of alternatives that could avoid or substantially lessen any significant environmental effects of the Proposed Project, including alternatives that may be more costly or could otherwise impede to some degree the attainment of the project's objectives. The range of alternatives considered in the EIR is governed by a "rule of reason" that limits the analysis to potentially feasible alternatives that allow the lead agency to make a reasoned choice (CEQA Guidelines Section 15126.6(f).

4.1.1 Factors in Selection of Alternatives

The lead agency should briefly describe the rationale for selecting the alternatives to be discussed, identify any alternatives that were considered by the lead agency but were rejected as infeasible, and explain the reasons underlying the lead agency's determination (CEQA Guidelines Section 15126.6(a) and (c)).

The alternatives addressed in this EIR were selected in consideration of one or more of the following factors:

- The extent to which the alternative would avoid or substantially lessen any of the identified significant environmental effects of the project;
- The extent to which the alternative would accomplish most of the basic objectives of the project (See Chapter 2, "Project Description");
- The feasibility of accomplishing the project objectives, taking into site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent);
- The appropriateness of the alternative in contributing to a "reasonable range" of alternatives necessary to permit a reasoned choice; and

- The requirement of the CEQA Guidelines to consider a "no project" alternative and to identify an "environmentally superior" alternative in addition to the no project alternative (CEQA Guidelines Section 15126.6(e)).

In consideration of the factors presented above, the following alternatives were selected for evaluation in this EIR:

- Alternative 1 – No Project Alternative
- Alternative 2 – West Only Haul Route Alternative
- Alternative 3 – East Only Haul Route Alternative

4.1.2. Alternatives Identified but Rejected as Infeasible

A lead agency may make an initial determination as to which alternatives are feasible and merit in-depth consideration and which do not. Alternatives that are remote or speculative or the effects of which cannot be reasonably predicted need not be considered. However, alternatives may not be rejected merely because they are beyond an agency's authority, would require new implementing legislation, or would be too costly (CEQA Guidelines Section 15126(f)(2)). The following alternatives were considered by the Lead Agency but rejected as infeasible.

Offsite Alternatives

In the process of identifying feasible alternatives, alternative locations were considered. CEQA Guidelines Section 15126.6(f)(2) specifically addresses the requirements for consideration of alternate locations. The offsite analysis should consider two key issues. First, would a different location avoid or substantially lessen a potentially significant impact? Second, is an alternative location feasible, based on the project objectives and the factors discussed in Section 4.1.1?

The applicant currently owns and operates three facilities that were considered as potential off-site alternatives to the Proposed Project, including facilities in Marysville, Clements, and Table Mountain. However, each of these offsite alternatives was found to be infeasible for the reasons described below.

The applicant could theoretically provide material from their asphalt plant in Marysville as it is the only other plant controlled by the applicant that is equipped with the Caltrans approved Recycled Asphalt Pavement technology, which is typically mandated for Caltrans projects. However, the resulting haul costs and increased criteria pollutants and greenhouse gas emissions from hauling material such a long distance make this alternative infeasible. The applicant also owns and operates asphalt plants in Clements and Table Mountain, which are 48 miles and 35 miles away from the Munn & Perkins facility respectively. One of the project's objectives is to compete for roadway project work within the region of the Munn & Perkins facility; however, like the facility in Marysville, the facilities in Clements and Table Mountain are at too great a distance to make hauling material into the area economically feasible. Hauling material from these facilities into the project area would also result in increased criteria pollutants and greenhouse gas emissions due to their distance from the region. In addition, the applicant's facilities in Clements and Table Mountain are not equipped with Recycled Asphalt technology that meets Caltrans requirements, which increases waste from

the job when the grindings cannot be reincorporated into the new asphalt. The Munn & Perkins facility is equipped with this technology which makes it possible for the applicant to compete for jobs within the region that require the use of recycled asphalt technology whereas the facilities in Clements and Table Mountain do not.

It is also unclear if these alternatives would avoid or substantially lessen any significant impacts, or just move those impacts to a different location. Certain impacts—notably air quality and greenhouse gas emissions, that are less than significant under the Proposed Project, may actually become significant at an alternative location. For the reasons mentioned above, off-site alternatives have been rejected as infeasible.

4.2 Alternatives Evaluated in this EIR

4.2.1 Alternative 1 – No Project Alternative

Description

The No Project Alternative is defined as the continuation of the existing condition (baseline) and trends in the project area. This alternative would involve no action on the part of San Joaquin County or the project applicant. Under this alternative, mining and processing operations would continue to occur during the hours of 5 a.m. to 9 p.m., and the project site would remain in its existing condition as described in Chapter 2, "Project Description," and in the setting sections of Chapter 3, "Environmental Setting, Impacts, and Mitigation Measures of this EIR."

The existing 142 acre project site has been used for producing construction grade aggregate since 1957. Existing processing of aggregate materials (sand and gravel) occurs between the hours of 5 a.m. and 9 p.m. Aggregate is washed, screened and crushed. Additional sand is excavated from the quarry located northeast of the project site and transported via conveyer belts underneath E. River Road to the processing facilities. The processed aggregate is either directly hauled to the construction site, or is used for the onsite asphalt concrete hot mix batch plant. Under the No Project Alternative, these uses are assumed to continue on the project site between the hours of 5 a.m. and 9 p.m.

Basis for Selection

CEQA Guidelines Section 15126.6(e)(1) requires that an EIR evaluate a "no project" alternative along with its impact in order to provide a comparison of the impacts of approving the Proposed Project with the impacts of not approving the Proposed Project. Pursuant to CEQA Guidelines Section 15126.6(e)(3)(b), the No Project Alternative discusses "the property remaining in its existing state."

Distinctive Environmental Characteristics

The following summarizes potential impacts of the "No Project" alternative and compares them to the impacts of the Proposed Project:

Visual and Lighting

Under the No Project Alternative, no physical change would occur at the project site and potential visual impacts related to additional safety lighting would be avoided.

Traffic and Circulation

Under the No Project Alternative, local traffic conditions would remain the same to those experienced at the current time. Project related truck traffic would be limited to the hours of 5 a.m. to 9 p.m. and traffic from 9 p.m. to 5 a.m. would be avoided.

Air Quality and Climate Change

Under the No Project Alternative, air emissions from the existing operation, including haul trucks, would be the same as those experienced at the current time. Nighttime concerns regarding potential odor effects would be avoided, but normal operations including production of rubberized and non-rubberized asphalt would continue during the day.

Noise

Under the No Project Alternative, there would be no new nighttime noise sources in the vicinity of the project site. Existing on-site and off-site noise sources during the hours of 5 a.m. to 9 p.m. would continue.

4.2.2 Alternative 2 – West Only Haul Route Alternative

Description

This alternative would require all nighttime truck traffic to enter and exit the facility via westbound E. River Road. Trucks would be required to utilize McHenry Avenue in order to reach E. River Road. This haul route reduces the significance of noise related impacts to sensitive residential receptors located east of the project site entrance along E. River Road. However, residences west of the project site entrance along E. River Road would still experience noise related impacts during nighttime operations.

Distinctive Environmental Characteristics

The following summarizes potential impacts of the west only haul route alternative and compares them to the impacts of the Proposed Project:

Visual and Lighting

The west only haul route alternative would result in the same impacts (less than significant) to visual resources as the Proposed Project.

Traffic and Circulation

As noted above, under this alternative all nighttime truck traffic would be required to enter and exit the Munn & Perkins facility via westbound E. River Road. As the traffic analysis in the EIR assumes that all project traffic could potentially use either the east or west haul route, the potential traffic impacts of the West Only Haul Route would be the same as the Proposed Project for E. River Road and McHenry Avenue. However, in order to serve projects located east of the plant, haul trucks would need to use an easterly connector such as Highway 219/Claribel Road. This increase would not necessarily be significant, given the lower traffic levels experienced at night in the area.

Air Quality and Climate Change

Impacts to air quality may occur under this alternative due to potentially increased haul distances to serve easterly projects (see traffic discussion above). Delivering material to the east would require increased haul distances, resulting in increased criteria pollutants and greenhouse gas emissions. These increases are not necessarily significant, but would represent an increase over the Proposed Project.

Noise

As noted above, this alternative would reduce noise related impacts to sensitive residential receptors located east of the project site entrance along E. River Road. However, residences west of the project site entrance along E. River Road would still experience noise related impacts during nighttime operations. Therefore, the overall number of receptors would be reduced, but the remaining westerly receptors will still be impacted. Additionally, the westerly receptors could experience an increase in the number of nights with extended operating hours, as haul trucks headed to the east would still have to pass by on their way to McHenry Avenue.

4.2.3 Alternative 3 – East Only Haul Route Alternative

Description

This alternative would require all nighttime truck traffic to enter and exit the facility via eastbound E. River Road. Trucks would be required to utilize Santa Fe Road in order to reach E. River Road. This haul route reduces the significance of noise related impacts to sensitive residential receptors located west of the project site entrance along E. River Road. However, residences east of the project site entrance along E. River Road would still experience noise related impacts during nighttime operations.

Distinctive Environmental Characteristics

The following summarizes potential impacts of the east only haul route alternative and compares them to the impacts of the Proposed Project:

Visual and Lighting

The east only haul route alternative would result in the same impacts (less than significant) to visual resources as the Proposed Project.

Traffic and Circulation

As noted above, under this alternative all nighttime truck traffic would be required to enter and exit the Munn & Perkins facility via eastbound E. River Road. As the traffic analysis in the EIR assumes that all project traffic could potentially use either the east or west haul route, the potential traffic impacts of the West Only Haul Route would be the same as the Proposed Project for E. River Road and Santa Fe Road. However, in order to serve projects located east of the plant, haul trucks would need to use a westerly connector such as Highway 219/Claribel Road or County Highway J7/Main Street. This increase would not necessarily be significant, given the lower traffic levels experienced at night in the area

Air Quality and Climate Change

Impacts to air quality may occur under this alternative due to potentially increased haul distances to serve easterly projects (see traffic discussion above). Delivering material to the west would require increased haul distances, resulting in increased criteria pollutants and greenhouse gas emissions. These increases are not necessarily significant, but would represent an increase over the Proposed Project.

Noise

As noted above, this alternative would reduce noise related impacts to sensitive residential receptors located west of the project site entrance along E. River Road. However, residences east of the project site entrance along E. River Road would still experience noise related impacts during nighttime operations. Therefore, the overall number of receptors would be reduced, but the remaining westerly receptors will still be impacted. Additionally, the easterly receptors could experience an increase in the number of nights with extended operating hours, as haul trucks headed to the west would still have to pass by on their way to McHenry Avenue.

4.3 Environmentally Superior Alternative

Table 4-1 provides a summary of the evaluation of the alternatives compared to the Proposed Project. As shown in **Table 4-1**, the No Project Alternative would result in the reduction of all potentially significant impacts. Although the No Project Alternative would be considered the environmentally superior alternative, it does not fulfill the objectives of the project. Moreover, CEQA Guidelines Section 15126.6(e)(2) states that if the environmentally superior alternative is the no project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Both Alternatives 2 and 3 would reduce the number of residential noise receptors impacted, but increase the frequency for those particular receptors. However, it is likely that Alternative 3 would generate more additional effects, by increasing haul distances and potentially exposing additional receptors, including residents of Riverbank, to increased truck haul noise. Therefore, the West Only Haul Route Alternative (Alt. 2), is the environmentally superior alternative. However, it should be noted that for the individual receptors located west of the project site, the noise impacts experienced would be equal or greater than the Proposed Projects.

TABLE 4-1
COMPARISON OF ALTERNATIVES

Environmental Impact (Prior to Mitigation)	Proposed Project	Alternative 1: No Project	Alternative 2: West Haul Route Alt.	Alternative 3: East Haul Route Alt.
3.1. Visual and Lighting				
3.1.1: Implementation of the project has the potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	PS	NI-	PS	PS
3.2. Traffic and Circulation				
3.2.1: The Project would increase traffic volumes on area roadways.	LS	NI-	LS	LS
3.3. Air Quality and Climate Change				
3.3.3: The project could create objectionable odors affecting a substantial number of people.	PS	NI-	PS	PS
3.4. Noise				
3.4.1: Project asphalt plant operations will add to the noise environment in the project vicinity.	LS	NI-	PS	PS
3.4.2: Off-site project haul truck traffic will add to the noise environment in the project vicinity.	PS	NI-	PS-	PS-

PS Potentially significant
LS Less than significant
- Impacts less than proposed project
+ Impacts greater than proposed project

CHAPTER 5
Other CEQA Considerations

5.1 Growth-Inducing Impacts

5.1.1 Introduction

CEQA Guidelines (Section 15126.2(d)) require that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as an impact that fosters economic or population growth, or the construction of additional housing, either directly or indirectly. Direct growth inducement would result, for example, if a project involved the construction of new housing. Indirect growth inducement would result if a project established substantial new permanent employment opportunities (e.g., new commercial, industrial, or governmental enterprises) or if it would remove obstacles to population growth (e.g., an expansion of public services that could allow more construction in the service area).

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide development patterns and growth policies that guide orderly urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer services, and solid waste services. A project that would induce "disorderly" growth (i.e., conflict with the local land use plans) could directly or indirectly cause additional adverse environmental impacts and other public services impacts. An example of this would be the redesignation of property planned for agricultural uses to urban uses, possibly resulting in the development of services and facilities that encourage the transition of additional land in the vicinity to more intense urban uses. Another example would be the extension of urban services to a non-urban site, thereby encouraging conversion of non-urban lands to urban lands.

5.1.2 Growth-Inducing Setting and Impacts

The project site is located in an area of San Joaquin County that is not heavily populated or near dense residential districts. The project site is bounded by agricultural land use designations and uses (existing almond and walnut orchards) on all sides. Other land uses in the area include existing rural residences on agriculturally zoned land, the nearest of which is approximately 75 feet north of the northern project boundary, however an existing orchard separates the residence from active mining operations by approximately 800 feet (see **Figure 2-2**). Like the project site, all the parcels surrounding the site are zoned AG-40 (40 acre minimum) with a General Plan

Designation of General Agriculture (AG). The project applicant also owns and operates a sand processing quarry northeast of the project site on the north side of E. River Road.

The availability of sand and gravel aggregate resources does not, in itself, induce or encourage growth. The demand for construction materials is based primarily on market conditions, specifically for infrastructure and development projects, and these activities are controlled by a variety of other factors including the restriction of work to nighttime hours. Production at the Munn & Perkins Quarry and other quarries varies with market conditions. In addition, the California Department of Transportation notified local agencies in February 2006 that California's permitted supplies of aggregate would be insufficient to meet the state's future infrastructure needs.

Allowing for a limited number of nighttime operations at the existing Munn & Perkins Quarry would supply aggregate for nighttime roadwork in the region. Maintenance and reconstruction of state highways is often performed at night to minimize congestion impacts. Supplying aggregate for this work does not remove existing barriers to growth or induce growth that would not otherwise occur. The Proposed Project would not create additional production capacity, but would allow for a shift in operating hours when needed. Therefore, the project is not growth inducing.

5.2 Cumulative Impacts

5.2.1 Introduction

CEQA Guidelines Section 15130(a) requires that an EIR discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. However, when the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR must briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. The document must identify facts and analysis supporting the conclusion that the cumulative impact is less than significant (CEQA Guidelines Section 15130(a)(2)). A consideration of actions included as part of a cumulative impact scenario can vary by geographic extent, timeframe, and scale. They are defined according to environmental resource issue and the specific significance level associated with potential impacts. CEQA Guidelines 15130(b) requires that discussions of cumulative impacts reflect the severity of the impacts and their likelihood of occurrence. The CEQA Guidelines note that the cumulative impacts discussion does not need to provide as much detail as is provided in the analysis of project-only impacts and should be guided by the standards of practicality and reasonableness and focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impacts.

5.2.2 Cumulative Setting

Due to the nature of this project, the potential change to the environment is related to the change in operating hours, rather than a change in land use or a physical change to the project site. Therefore, a cumulative effect would result from interaction with other projects that would affect the same

environmental resources during the same time period. The "cumulative setting" includes other projects either with night-time operations or 24 hour operations. Such uses could include industrial, 24-hour retail, or large residential projects that could be expected to create night time activity.

The project area consists of agricultural land uses (primarily orchards). Other land uses in the area include existing rural residences on agriculturally zoned land. Like the project site, all the parcels surrounding the site are zoned AG-40 (40 acre minimum) with a General Plan Designation of General Agriculture (AG). The project applicant also owns and operates a sand quarry northeast of the project site on the north side of E. River Road. This sand quarry would not be involved in the proposed nighttime operations.

There are no proposed or approved development projects in the area. In addition, there are no past projects which would create additional night time effects that have not been accounted for in the existing project setting.

5.2.3 Cumulative Impacts

Based on the information in Section 5.2.2, Cumulative Setting, there are no significant cumulative effects associated with the Proposed Project.

5.3 Significant Unavoidable Adverse Impacts

5.3.1 Introduction

CEQA Guidelines 21100(b)(2) and 15126.2(b) require that any significant and unavoidable effect on the environment must be identified. In addition, CEQA Guidelines 15093(a) allows the decision-making agency to determine if the benefits of a proposed project outweigh the unavoidable adverse environmental impacts of implementing the project. The County can approve a project with unavoidable adverse impacts if it prepares and adopts a "Statement of Overriding Considerations" setting forth the specific reasons for making such a judgment. A list of unavoidable adverse impacts identified in this EIR is provided below. For each of the unavoidable adverse impacts, the County must prepare and adopt a Statement of Overriding Considerations if the County approves the project.

5.3.2 Unavoidable Adverse Impacts

Air Quality (Odor)

Dispersion modeling shows that the California ambient air quality standard for H_2S would not be exceeded. The use of additives in the AC mix should reduce the odor associated with rubberized AC production. However, based on previous complaints, it cannot be demonstrated that all odor impacts to receptors within one mile would be reduced to the point where no future complaints would be received. Therefore, the impact is identified as ***significant and unavoidable***.

Noise

Application of the proposed optimized haul truck operating parameters in Mitigation Measure 3.4.1 would be expected to effectively mitigate project-related noise exposure from the perspective of the applicable County noise exposure level criteria and noise exposure level increase criteria. However, application of the optimized haul truck operating parameters would not appreciably mitigate the significant increase in probability of residential awakenings due to project haul truck operations. Due to the significant increase in probability of residential awakenings in the project area due to project haul truck passbys, Impact 3.4.2 is considered ***significant and unavoidable***.

5.4 Significant Irreversible Environmental Changes

5.4.1 Requirements

CEQA Section 21100(b)(2) and Guidelines 15126.2(c) require that any significant effect on the environment that would be irreversible if the project is implemented must be identified. Significant irreversible environmental changes include the Proposed Project's direct and indirect effects that will commit nonrenewable resources to uses that future generations would most likely be unable to reverse.

5.4.2 Limitations

Per CEQA Section 21100.1 and Guidelines 15127, the analysis of significant irreversible environmental changes to the following three types of activities:

a) The adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency;

b) The adoption by a Local Agency Formation Commission of a resolution making determinations; or

c) A project which will be subject to the requirement for preparing an environmental impact statement pursuant to the requirements of the National Environmental Policy Act of 1969, 42 U.S.C. 4321-4347.

The Proposed Project does not involve any of these three activities, and therefore the additional analysis of irreversible changes is not required in this EIR.

5.5 Effects Not Found To Be Significant

As required by CEQA, this EIR focuses on expected significant or potentially significant environmental effects (CEQA Guidelines §15143). Comments received on the NOP and the previously prepared IS/MND were used in order to identify issues to be evaluated in this EIR.

Impacts related to Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, Utilities and Public Facilities were eliminated from further consideration during the scoping process.

5.6 References

California Department of Finance (DOF), 2009. Population Projections for California and Its Counties 2000-2050, Sacramento, California; August 10, 2009.

California Department of Transportation (Caltrans), 2006. Letter to Local Agencies from Will Kempton, Director regarding aggregate supplies; February 27, 2006.

CHAPTER 6
List of Preparers

6.1 Lead Agency

San Joaquin County Community Development Department

Kevin Swanson, Senior Planner
Kerry Sullivan, Director

6.2 Consultants

Environmental Science Associates

Ray Weiss – Project Director
Brian Grattidge – Project Manager
Aaron Hecock – Deputy Project Manager

Technical Sections

Visual and Lighting:	Aaron Hecock
Traffic and Circulation:	Jack Hutchison, Peter Costa
Air Quality and Climate Change:	Matt Morales, Poonam Boparai
Noise:	Jason Mirise, Ben Frese
Alternatives:	Brian Grattidge, Aaron Hecock
GIS:	David Beecroft

CHAPTER 7
List of Acronyms

AB	Assembly Bill
AC	asphalt concrete
AADT	annual average daily traffic
AG	Agricultural General (zoning)
ANSI	American National Standard Institute, Inc.
ARB	Air Resources Board
ASA	Acoustical Society of America
BAC	Bollard Acoustical Consultants, Inc.
bgs	below ground surface
BAT	best available technology
BMP	best management practices
CaCO3	calcium bicarbonate
Cal/EPA	California Environmental Protection Agency
Cal Fire	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CHP	California Highway Patrol
CMA	Congestion Management Agency

CMP	Congestion Management Program
COG	Council of Governments
County	San Joaquin County
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibels
DHS	California Department of Health Services
DOC	California Department of Conservation
DOT	Department of Transportation
DEIR	Draft Environmental Impact Report
DTSC	Department of Toxic Substance Control
EIR	Environmental Impact Report
EMS	emergency medical services
EOP	Emergency Operations Plan
ESA	*Environmental Science Associates*
FCAA	Federal Clean Air Act
Fed/OSHA	Federal Occupational Safety and Health Administration
FEMA	Federal Emergency Management Agency
FICON	Federal Interagency Commission on Noise
FIRMS	Flood Insurance Rate Maps
GHG	greenhouse gas(es)
gpm	gallons per minute
GWh	Gigawatt hour
HAP	Hazardous Air Pollutant
HCDA	Housing and Community Development Act
HCM	*Highway Capacity Manual*
HCP	Habitat Conservation Plan
HMMP	Hazardous Materials Management Plan
HSWA	Hazardous and Solid Waste Act
HWCL	Hazardous Waste Control Law
HWMP	Hazardous Waste Management Plan
Hz	Hertz

I	Interstate (e.g. I-5)
ICS	Incident Command System
LBPPA	Lead-Based Paint Poisoning Prevention Act
L_{dn}	day/night average sound level
L_{eq}	equivalent sound level
L_{max}	Maximum Sound Level
LOS	Level of service
MCL	maximum contaminant level
SJVAPCD	San Joaquin Valley Air Pollution Control District
µPa	micropascals
mph	miles per hour
MRZ	Mineral Resource Zones
msl	mean sea level
MSHA	Mine Safety and Health Administration
MUD	Municipal Utilities Department
M_w	(moment) magnitudes
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NCP	National Contingency Plan
ND	not detectable
NESHAP	National Emissions Standard for Hazardous Air Pollutants
NIH	National Institute of Health
NIMS	National Incident Management System
NOA	Naturally Occurring Asbestos
NOI	Notice of Intent
NOP	Notice of Preparation
NOx	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
OES	Office of Emergency Services
OMR	Office of Mine Reclamation

OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PG&E	Pacific Gas and Electric Company
PM	Particulate matter
ppm	Parts per million
RACM	regulated asbestos-containing material
RCRA	Resource Conservation and Recovery Act
ROG	Reactive organic gases
RTD	Regional Transit District
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SEL	Single Event Noise Exposure Level
SEMS	Standardized Emergency Management System
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMARA	California Surface Mining and Reclamation Act
SMGB	State Mining and Geology Board
SPCCP	Spill Prevention Control and Countermeasure Plan
SR	State Route (e.g. SR 99)
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminant
TDS	total dissolved solids
TMDL	total maximum daily load
TSCA	Toxic Substances Control Act
U.S. EPA	U.S. Environmental Protection Agency
UBC	Uniform Building Code
UST	underground storage tank
WDR	Waste Discharge Requirements

Appendix A
Notice of Preparation

SAN JOAQUIN COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT

1810 E. HAZELTON AVE., STOCKTON, CA 95205-6232
PHONE: 209/468-3121 FAX: 209/468-3163

NOTICE OF PREPARATION

The Environmental Review Officer has determined that the project may have a significant impact on the environment and thereby gives notice that an Environmental Impact Report is to be prepared in accordance with the provisions of the California Environmental Quality Act (CEQA) as amended.

Application:

The applicant, Munn & Perkins, has submitted a Revisions of Approved Actions Application to amend San Joaquin County Ordinance Requirement No. 4 of a previously approved Quarry Excavation Permit (QX-89-0002). San Joaquin County Ordinance Requirement No. 4 states: "The hours of operation with the exception of periods of declared National, State, or County emergency, daily operations will be restricted to the period between 5:00 a.m. and 9:00 p.m."

The Revisions of Approved Actions request is to extend the hours of operation from 9:00 p.m. to 5:00 a.m. for projects that contain specifications that limit work to nighttime hours. The number of extended nights will not exceed 125 nights per year provided there are no unexpected delays in construction work. It will be limited to the asphalt batch plant, loaders; trucks including a water truck and scale house. Excavation activities and the crushing of rock will not be permitted between the hours of 9:00 p.m. and 5:00 a.m. The Revisions of Approved Actions request will not remove any of the existing other previously approved conditions of approval.

Project:

Quarry Operation

The project is to provide asphalt paving materials for projects that contain specifications that limit work to nighttime hours. The project will entail the use of the asphalt batch plant, loaders; trucks including a water truck and scale house. These uses are currently permitted as accessory uses to the existing approved quarry excavation permit that allowed the extraction of approximately 3 million tons of aggregate material over a 30 year period on a 142 acre project site extending to 2029 by the County with a Revisions of Approved Actions approved March 4, 1999. The approved quarry excavation permit permits the continued operation of accessory uses such as an asphalt plant, storage silos, sand and gravel processing plant, an asphalt/concrete recycling plant, truck scales, and accompanying stockpiles, storage, offices and shop. The proposed Revisions of Approved Actions application will not increase the footprint or depth of excavation or maximum allowable daily production limits. This request is for extended hours of operation of the asphalt batch plant, loaders, and water truck and scale house for projects that require nighttime hours only.

Reclamation Plan

The proposed Revisions of Approved Actions is for the extended hours of operation to utilize the asphalt batch plant, loaders, water truck and scale house only. No additional excavation or quarry operations that consist of crushing rock will occur. The proposed revisions request will not alter or change the approved reclamation plan of returning the site back to agriculture as stated in the reclamation plan for this quarry excavation permit.

Project Location:
The project site is located on the south side of East River Road, 1,000 feet west of Harrold Avenue, southeast of Escalon. A copy of the map showing the location of the project site is attached.

"Probable Environmental Effects of the Project"

Air Quality:

The project will at times and as specifications require utilize Rubberized Asphalt Concrete generated by the asphalt batch plant for mainline portions of work as required by Caltrans or other project sponsors. This process may generate an odor such as a burning smell in some areas near the plant. The applicant has indicated it is aware of this and is willing to work with the supplier to include a masking agent. The project was referred to the San Joaquin Valley Air Pollution Control District (SJVAPCD) for review. In a letter dated March 29, 2010 the SJVAPCD stated the project is not expected to exceed the District's significance thresholds of 10 tons/year NOX, 10 tons/year ROG, and 15 tons/year PM10. The District concluded that the project specific criteria pollutant emissions would have no significant adverse impact on air quality.

Noise:

There are number of residences located near the quarry site. The nearest residences to the quarry site are located generally east and southeast of the plant equipment, approximately 2,200 to 3,000 feet southeast of the asphalt plant equipment. The applicant is proposing to extend operating hours from 9:00 p.m. to 5:00 a.m. for a limited number of nights specific nighttime projects only. During the extended hours, the nighttime operations will consists of only the asphalt batch plant, loaders, trucks including a water truck and the scale house. The project site is located outside of the 65 db exterior noise level standard for outdoor activity areas as indicated in the San Joaquin County Development Title Section 9-1025.9. An Environmental Noise Assessment was prepared on behalf of Munn and Perkins Inc, by Bollard Acoustical Consultants on August 23, 2010. The summary conclusion states that noise produced by the specific nighttime operations at the Munn and Perkins quarry site in San Joaquin County is predicted to be within acceptable limits as defined by applicable San Joaquin County Standards. In, addition, there are no noise sensitive land uses in the immediate project vicinity. A separate review of the noise study was conducted by j.c. brennan & associates on behalf of an attorney representing some of the neighbors within the projects vicinity. The consultant raised a number of questions regarding the noise study, therefore the noise study will need to be reviewed in the EIR and additional information gathered.

Traffic:

The applicant is proposing ingress and egress from East River Road. The existing approved quarry excavation permit and the proposed extended hours of operation have been reviewed by the Public Works Department and Caltrans. The Department of Public Works in a letter dated March 24, 2010 and September 26, 2008 stated that during the extended hours truck traffic and "No Parking" along the River Road public right-of-way shall be monitored full time by the applicant beginning one-half hour prior to any approved extended hour operations. The traffic study will need to be reviewed in the EIR.

Probable Environmental Effects of the Project

The preliminary analysis of this project has identified several areas where the proposed project may generate potential environmental impacts. These impacts include air quality, noise & traffic. Based upon this, the project may adversely impact the environment and an Environmental Impact Report shall be prepared.

The San Joaquin County Community Development Department will be the Lead Agency and will prepare a Draft Environmental Impact Report for the project identified above. Please submit the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project.

Project Title: Munn & Perkins Revisions of Approved Actions

Project Applicant: Munn & Perkins

Contact Person: Jeff Welch, Project Manager, Munn & Perkins

Address: P.O. Box 3191 Modesto, CA 95353

Review and Comment Period

Review Begins: January 26 , 2011

Review Ends: February 27 , 2011

Due to the time limits mandated by State law, your response must be sent at the earliest date, but no later than 30 days after receipt of this notice.

Please direct any responses and comments to:

Kevin Swanson, Senior Planner
San Joaquin County Community Development Department
1810 East Hazelton Avenue
Stockton, CA 95205

Telephone No.: (209) 468-9653
Fax No.: (209) 468-3163

Appendix B
Correspondence

DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048 STOCKTON, CA 95201
(1976 E. CHARTER WAY/1976 E. DR. MARTIN
LUTHER KING JR. BLVD. 95205)
TTY: California Relay Service (800) 735-2929
PHONE (209) 941-1921
FAX (209) 948-7194

Flex your power!
Be energy efficient!

February 23, 2011

10-SJ-120, PM 18.69
Munn & Perkins
SCH #2005082001

Kevin Swanson
San Joaquin County
Community Development Department
1810 E. Hazelton Ave.
Stockton, CA 95205

Dear Mr. Swanson,

The California Department of Transportation (Department) appreciates the opportunity to comment on the Notice of Preparation for the **Munn & Perkins** Draft Environmental Impact Report. The project, located south of East River Road and west of Harrold Avenue southeast of Escalon, provides asphalt paving materials for projects that contain specifications that limit work to nighttime hours.

Upon review of the project, the Department has the following comments:

The Department is requesting a Traffic Impact Study (TIS) to determine this proposed project's near-term and long-term impacts to State facilities – both existing and proposed – and to propose appropriate mitigation measures. The Department recommends that the study be prepared in accordance with the *Caltrans Guide for the Preparation of Traffic Impact Studies*, dated December 2002 (Guide) or the latest version.

The following intersections must be included in the TIS:

- SR-108 / McHenry Avenue
- SR-108 / Santa Fe Road
- SR-120 / McHenry Avenue
- SR-120 / Main Street
- SR-120 / S. Harrold Avenue
- SR-120 / Van Allen Road

Please submit the scope of work to the Department for review and comment prior to start of work on the TIS. The Department is available to discuss assumptions, data requirements, study scenarios, and analysis methodologies. This will help ensure that a quality TIS is prepared.

Upon completion of the TIS, please provide three (3) paper copies along with a disk containing the complete electronic data files (Synchro 6, SimTraffic, Traffix 7.9, HCS, etc.) for our review and comment. This will help expedite the Department's review.

If you have any questions, please contact Sinarath Pheng at (209) 942-6092 (e-mail: Sinarath_Pheng@dot.ca.gov) or myself at (209) 941-1921.

Sincerely,

for TOM DUMAS, CHIEF
OFFICE OF METROPOLITAN PLANNING

SAN JOAQUIN COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT

1810 E. HAZELTON AVE., STOCKTON, CA 95205-6232
PHONE: 209/468-3121 FAX: 209/468-3163

October 15, 2010

MEMORANDUM

TO: Planning Commission

FROM: Chandler Martin, Deputy Director

SUBJECT: Revisions of Approved Actions for approved Quarry Excavation permit No. QX-89-0002 of George Reed, Inc. (c/o Jeff Welch)
Item No. 1

The Community Development Department is recommending that this item be continued indefinitely. Tom Terpstra, attorney representing neighboring residents, submitted a review by the noise consulting firm j.c. brennan & associates of the noise study prepared by Bollard Acoustical Consultants that was used to support a Negative Declaration for this project. The review by Jim Brennan concluded that the Bollard study was flawed and did not provide mitigation measures that would reduce noise impacts to less than significant. The Brennan report therefore raises substantial evidence that the project might have a significant impact on the environment. The continuance will allow the Community Development Depart time to review the Brennan report and determine if a revised recommendation is necessary. Unless the issues raised in the Brennan report can be resolved, the project cannot proceed without an Environmental Impact Report.

***

Zimbra kswanson@sjgov.org

± Font size -

RE: Nighttime Truck Operations at Munn & Perkins Project

From : Paul Bollard <paulb@bacnoise.com> Tue, Sep 07, 2010 11:16 AM

Subject : RE: Nighttime Truck Operations at Munn & Perkins Project

To : 'Paul Bollard' <paulb@bacnoise.com>, Kevin Swanson <kswanson@sjgov.org>

Cc : Mike' 'McGrew <mmcgrew@neumiller.com>, 'Jeff Welch {BRI - Agency Compliance}' <jeff.welch@reed.net>, christines@bacnoise.com, christines@bacnoise.com

Good morning Kevin,

As a follow-up to our recent communications, I am providing this e-mail to provide additional explanation pertaining to why there are different numbers of trucks required to satisfy the 65 dB Ldn County noise standard for the 9 pm hour and hours after 10 pm.

The differences in numbers of trucks has to do with the method in which Ldn is calculated. Specifically, Ldn represents a 24-hour average of noise with any noise events occurring during nighttime hours (10 pm to 7 am), penalized by a factor of 10 prior to averaging. As a result, each truck passby after 10 pm and before 7 am counts the same as 10 truck passbys during daytime hours (7 am – 10 pm). In other words, 3 nighttime trucks are equivalent to 30 daytime trucks in the calculation of Ldn.

Because the applicant is requesting permission to extend operations when necessary to 9 pm to 5 am, the extended hours include one daytime hour (9-10 pm), and 7 nighttime hours (10 pm – 5 am). As a result, the Ldn computed from those operations depends on the number of truck trips generated during the 9-10 pm hour, and the number of trucks generated between 10 pm and 5 am.

Since each daytime truck load counts the same at 10 nighttime loads, the 33 loads evaluated below for the 9 pm hour would result in the same approximate computation of Ldn as 3.3 nighttime loads. This is why more truck trips could occur if night paving projects begin during the 9 pm hour than if they begin after 10 pm.

I recognize that these computations are not intuitive, but I hope this additional explanation helps. If, however, I have not fully clarified why I provided two sets of truck numbers in my earlier e-mail, please let me know and I'll try to provide additional explanation.

Sincerely,

Paul Bollard

Paul Bollard, President
Institute of Noise Control Engineers (INCE), Board Certified Member
Bollard Acoustical Consultants, Inc. (BAC)
455 Main Street, Suite 3
Newcastle, CA 95658
Office (916) 663-0500
Fax (916) 663-0501
Cell (916) 765-4113

Please visit **BACNOISE.COM** to view or download BAC Qualifications, Insurance Information, Rate Sheet, Representative Project Experience, and Staff Photos.

From: Paul Bollard [mailto:paulb@bacnoise.com]
Sent: Tuesday, August 31, 2010 1:39 PM
To: 'Kevin Swanson'
Cc: 'McGrew, Mike'; 'Jeff Welch {BRI - Agency Compliance}'; 'christines@bacnoise.com'
Subject: Nighttime Truck Operations at Munn & Perkins Project

Good afternoon, Kevin

Pursuant to your request, I have computed the numbers of Munn & Perkins heavy truck trips which could occur between the hours of 9 pm and 5 am (outside currently permitted hours), without exceeding 65 dB Ldn at the nearest residences to East River Road. Because the computation of Ldn includes a 10 dB penalty for trucks operating during nighttime hours, the total number of truck trips Munn & Perkins can generate without exceeding 65 Ldn depends on whether the night paving project starts at 9 pm or after 10 pm. I have worked out the numbers both ways.

Scenario 1: Night paving project begins at 9 pm

9 – 10 pm:	66 truck trips (33 loads)
10 pm – 5 am:	140 truck trips (70 loads)

Scenario 2: Night paving project begins after 10 pm

10 pm – 5 am:	145 total truck trips (72.5 loads)

So to summarize, Munn & Perkins can generate a total of 103 truck loads without exceeding 65 dB Ldn at the nearest residences on East River Road, provided that 33 of those loads occur between 9 and 10 pm.

If, however, the night paving project does not begin until after 10 pm, Munn & Perkins could generate 72.5 loads without exceeding 65 Ldn at those same residences.

I hope this information makes sense, but if not please do not hesitate to call me.

Paul

Paul Bollard, President
Institute of Noise Control Engineers (INCE), Board Certified Member
Bollard Acoustical Consultants, Inc. (BAC)
455 Main Street, Suite 3
Newcastle, CA 95658
Office (916) 663-0500
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Cell (916) 765-4113

THOMAS H. TERPSTRA

ATTORNEY AT LAW
A PROFESSIONAL CORPORATION

tterpstra@thtlaw.com
578 N. WILMA AVENUE
SUITE A
RIPON, CA 95366
209.599.5003
F209.599.5008

October 14, 2010

Chandler Martin, Deputy Director
San Joaquin County Community Development Department
1810 East Hazelton Avenue
Stockton, California 95205

Re: Revision of Approved Actions/QX-89-0002/Munn & Perkins

Dear Mr. Martin:

As you know, my office represents a number of residents near the proposed Munn and Perkins plant on River Road. It is my understanding that Munn and Perkins' proposed Revision of Approved Actions application, along with a Negative Declaration, will be reviewed by the Planning Commission in a public hearing scheduled for Thursday night, October 21, 2010.

My clients continue to have concerns about the proposed project, and they, along with many of their neighbors, will be present Thursday night to speak in opposition to this project. I have enclosed numerous letters from neighbors who are concerned about this dramatic expansion of the existing Munn and Perkins operation.

First, I want to make it clear that the neighbors consider the proposed night time operations to be not merely an extension of hours, but rather, a **significant expansion** of the proposed use. With no limit on overall permitted gross tonnage from this facility, it is not as if the same amount of material will be processed and exported from the site, only at different hours; rather, the allowance of night time operations opens up an entirely new (and rapidly expanding) market to Munn and Perkins. This expansion into a new market deserves close scrutiny, not only as to noise impacts, but also in the areas of traffic and air quality.

In terms of traffic, let us assume that the environmental "baseline" is represented by the existing maximum traffic which can be generated during existing approved operating hours. This is, incidentally, acknowledged in Munn and Perkins' March 2, 1999 letter to the undersigned, in which Project Coordinator Carol Vierra stated: **"The plant design limits operations and allow a maximum hourly production. Once capacity is met, we simply cannot produce anymore."** Ms. Vierra was correct on that point. But if the County now allows that same maximum hourly production to occur during both daytime and nighttime hours, the cumulative traffic is increased dramatically. This increase in traffic, which may or may not be

greater than daytime peak hour levels, is nevertheless worthy of study in an Environmental Impact Report.

Most important, in terms of environmental effect, is the increased noise impacts of the project. I am aware of the County's ongoing efforts to require an adequate noise study for this project, one which recognizes that noise receptors (residents near the plant and along the initial haul route) will be more affected by noise at night than they are during the daytime. For more than two years, I have been requesting that if the applicant's noise consultant were allowed to prepare the noise study, that it be independently peer-reviewed. Having worked on many mining projects over the past twenty years, and having reviewed countless noise studies, I know that they are highly technical, and the conclusions can vary widely depending on whether the appropriate methodologies were used. Here, while staff has used its best efforts to review and critique the "Environmental Noise Analysis" prepared by Munn and Perkins' consultant, and has requested numerous revisions, the unfortunate fact is that a full peer-review was never done.

When we reviewed the Environmental Noise Analysis ("ENA"), my clients were incredulous to find that, among other things, the ENA (a) found that there was a small (less than 10%) possibility of sleep awakenings during night operations, and (b) there appeared to be only a few weak and largely unenforceable mitigation measures available. This lack of meaningful analysis prompted my clients to retain the services of J.C. Brennan and Associates to conduct the rigorous peer-review which was missing from staff's analysis. As you will see from the attached report, Mr. Brennan has identified many significant deficiencies in the ENA, which call into serious doubt its adequacy as an informational document. Most notably, Mr. Brennan concludes that by using the proper analytical model for predicting sleep disturbance, there is in fact a 97% probability of awakening during night operations. This, not coincidentally, comports more closely with the neighbors' personal and documented experiences with Munn and Perkins' previously approved occasional night operations. Clearly, this is a significant impact which must be mitigated. It also bears upon the Planning Commission's ability to make the required finding that the Revision would not be "significantly detrimental to the public health, safety or welfare, or be injurious to the property or improvements in the vicinity." There are numerous other flaws in the ENA, as outlined in the Brennan Report.

While the neighborhood can, and has, put up with the noise, dust and odors from plant operations and truck traffic during the daytime hours for more than 50 years, this application will allow those same operations to continue unabated, AND allow those same operations to continue into the nighttime hours. With more and more public agencies seeking to conduct road paving projects at night, there is an entirely new construction market and opportunity for operators like Munn and Perkins. *But the fact that these jobs are now available does not mean that every facility previously approved for daytime operations is appropriately situated to operate at night. An operation like Munn and Perkins' River Road site, with its long history of nuisance complaints and unauthorized construction, as well as its close proximity to long-established residences, is not an appropriate facility to serve night construction jobs.*

Fortunately, the applicant has a number of other permitted sites in adjacent locations which can provide material for night paving jobs. These sites are much more efficient in that the

raw material is produced onsite, rather than trucking it in for processing, as is the case for the vast majority of the asphalt products produced at the Munn and Perkins plant.

On behalf of my clients, I would urge staff to seriously reconsider its recommendation of approval for the proposed Revision. I would also request that staff require an Environmental Impact Report for this project.

Very truly yours,

Law Office of Thomas H. Terpstra

Thomas H. Terpstra
Attorney-at-Law

THT:rr

Enclosures

Rosie Ruppel

Subject: FW: qx-89-0002

From: eekbm@aol.com [mailto:eekbm@aol.com]
Sent: Friday, October 08, 2010 5:43 PM
To: tterpstra@thtlaw.com
Subject: qx-89-0002

To Whom It May Concern:

As a business owner I find no fault with growth. However it seems that this project will negatively impact the farming nature of our area. I am not sure if Munn and Perkins is zoned AG40 or Commercial. But the fact remains that this area is predominately farming; and the initial intent for M & P was to "farm" gravel, with a current project to be returned to an almond orchard. The commodities now being considered for this new project are not endemic to this area and are being shipped in for the expansion.

I am limited in altering my 32 acre farm due to the AG40 zoning, yet they seem to be able to adapt their operations to economic advantage with limited restrictions. Our area has been impacted by external growth for as many years as my family has been in farming here (approximately 50 years). Increased trains, trucks, cars, crime and garbage dumping have altered our life style negatively,yet we adjust and farm within the AG40 restrictions. This project goes beyond a tolerance for growth. Kindly consider me opposed to this proposal.

Elenore Bedell-Miller
21944 Burwood Rd.
Escalon, Ca 95320
209) 838-3068

9/29/10

San Joaquin County Community Development Department

RE: Opposition to Aggregates Inc. Application #QX-890002

Dear San Jouquin County Development Department,

I am a River Rd. resident and a neighbor of the Munn & Perkins Plant. I was shocked to hear of the Departments proposed Negative Declaration regarding night time operations of the plant. We have lived with the noise, hazards, and pollution of the plant for over ten years. The Department has agreed with and assisted us in addressing the hazards and nuisances related to the Munn & Perkins facility in the past. A few examples would be truck "stacking" on River Rd. near the entrance, illegal parking of trucks and diesel spraying of truck beds. While these violations have become less frequent, they still occur. We have been willing to tolerate this as a condition of living near an active plant. I am the owner of a trucking operation and understand that it is impossible to control the actions of truck drivers at all times. But, the issue of night time operation is all together different. When the plant is operating at night, we do not sleep. It is as simple as that. I have four children ranging in age from 6 to 14. When the trucks are running at night their sleep is disrupted. Aggregate Inc/Munn & Perkins has suggested that we keep our windows shut. In spite of the fact that this suggestion is bold and inappropriate, we do in fact sleep with our windows shut. In addition, my wife wears ear plugs and runs a fan in my youngest child's room to create "white" noise. These measures do not work when a truck is accelerating from the McHenry/River Rd. intersection or when a "jake brake" is applied as they approach the intersection. They mention limiting night time operations to 125 nights a year. To ask my family to tolerate 125 nights of disrupted sleep per year is unconscionable. At some point the needs of a business must be measured against the quality of life of the people that business directly impacts. If Munn & Perkins is allowed to operate at night on a regular basis it will destroy our quality of life. We already avoid being outside when the trucks are running. Approval of this application will rob us of the night time peace and quiet that any person should be entitled to, no matter where they live.

For the reasons mentioned above I implore you to reconsider your Negative Declaration of Aggregates Inc. application #QX-89-0002.

Thank you for your consideration,

Robert Stewart and Family

22587 Burwood Lane
Escalon, CA 95320
October 12, 2010

SJ County Planning Commission
1810 East Hazelton Avenue
Stockton, CA 95205

Re. Application No. QX-89-0002 (Extended Hours of Operation for George Reed, Inc.)

We have a small cattle and horse ranch on Burwood Lane that borders the Munn & Perkins property. Over the years it has become apparent that the corporate citizenry of Modesto's George Reed Inc. is somewhat less than admirable, with their M&P operation having

- Operated during restricted time periods without authorization;
- Installed new equipment without permits;
- Mined adjacent property without approval;
- Created dust pollution on a daily basis – when documenting photographs were submitted to the regional air quality district, M&P attributed the dust to surrounding farming operations;
- Routinely exceeded county maximum noise standards near our residence, as documented by their own acoustic study (Environmental Noise Assessment, Bollard Acoustical Consultants, Oct. 7, 2009, p.11); and
- Claimed grandfather exemptions for new facilities, such as their upgraded (and louder) rock crusher.

Now, more recently with the addition of asphalt holding facilities, they pollute the surrounding neighborhood with noxious hydrocarbon fumes, making it virtually impossible for us to be outdoors at various times, or to keep our windows open. Given their history, it's not surprising that George Reed is now using a flawed acoustic study to support their application for operating at night time without pre-approval.

It's unfortunate enough that our agriculturally zoned region is continuously subjected to this offensive industrial operation during normal operating hours, as well as the dangerous and noisy truck traffic on 2-lane River Road, without being subjected to the same noise, dust and odors during the night and early morning. For the acoustic "expert" to recommend that we close our windows is simply not realistic – our 145-yr old farm house is not air conditioned.

The aggregate and asphalt trucks on River Road don't even obey the speed limit, let alone drive in a manner to reduce their noise impact. These are mostly independent operators, not subject to any governance by M&P. Combining darkness and fog, as we often have in winter near the Stanislaus River, makes for an especially dangerous situation; a friend collided with a gravel truck pulling out from the M&P plant on a foggy morning.

It's also unfortunate that most of the residents on and near River Road are not aware of this proposal, since they do not have to be notified, even though they are directly affected by daily

M&P operations. (As adjacent land owners, we have not yet received official notice of the upcoming hearing).

Since the majority of Munn & Perkins' products are trucked to Modesto, Salida, Riverbank and other Stanislaus County projects (often for George Reed's construction division), this operation is doubly onerous for us nearby residents of San Joaquin County (most of their raw materials are also trucked in from other counties, since the M&P site is no longer a self-sufficient quarry). Over the past 10 years every notice of extended hours that we received was for a project in Stanislaus County. We hope extended hours of operation for out-of-county projects are off limits under any circumstances.

Respectfully,

Ralph & Judy Dorward

SJVAPCD
Complaints

Complaint Investigation

03/23/2010
2:46PM

Complaint Number: N-0406-103 **Assigned To:** Lisa Middleton

Received By: Dottie Shoffner **Date:** June 29, 2004 **Time:** 11:47 AM

Complainant's Name: **********

Address: ********** **City:** **********

Complainant's Primary Phone: ********** **Secondary Phone:** **********

Complaint Location: 26292 River Road **Permit:** N-0566

City: Escalon **County:** San Joaquin **Zip:**

Property Owner: Munn & Perkins **Telephone:** (209) 524-3197

Address: P.O. Box 4760 **City:** Modesto **Zip:** 95352

Nature of Complaint:

Dust from gravel pit. See attached letter sent by residents to San Joaquin County.

Conclusions:

June 29, 2004; 4:15 PM: Conclusion by Lisa Middleton: Munn & Perkins' gravel and asphalt plant was being maintained adequately moist to prevent fugitive dust emissions. However, there was some trackout from trucks onto the road that leads from the plant to the main road. The facility agreed to clean up all trackout at least daily and to clean it up immediately if it extended beyond 50 feet.

Findings:

June 29, 2004; 2:10 PM Contact by Field Visit: Finding by Lisa Middleton: R/I arrived at the complaint location at 2:10 pm on 6/29/04.
R/I met with Mr. Jeff Welch of Munn & Perkins and explained the general dust complaint that had been received (see attachment from San Joaquin County).
R/I noted that all roads and stockpiles within the plant were moist and there were no visible emissions from any processes at the plant (other than steam from the asphalt batch plant).
The road that leads from the plant to the main road (River Road) did have some trackout from truck traffic.
Mr. Welch called the plant foreman, Mr. BJ Kelley, over to speak with R/I and Mr. Welch.
Mr. Kelley stated that the facility rented a street sweeper and that teh trackout would be cleaned up immediately even though it did not extend out onto River Road.
Mr. Kelley also explained to R/I that a lot of the dirt from the trucks was not trackout from the plant, but was due to the fact that the trucks pull off onto the dirt on the side of the road, next to an orchard. R/I was able to verify this.
Mr. Kelley stated that the facility had received bids to have a fence built so that the trucks could not pull into the orchard dirt anymore, but that he didn't know how long it would be until the fence was built.
R/I told Mr. Welch and Mr. Kelley to be sure to clean up all trackout in an appropriate manner and to clean it up immediately if it extended beyond 50 feet.
Mr. Welch and Mr. Kelley stated that this would be done.

Resolution: Not Confirmed

Date Reporting Person Notified: **Time:** **Method:** No Contact

Date Investigation Completed: 07/01/2004

Inspector: Lisa Middleton **Supervisor:** GIANNONR **Date:** 07/01/2004

Complaint Investigation

Complaint Number: N-0205-035 **Assigned To:** Heather Kuklo

Received By: ? ? **Date:** May 09, 2002 **Time:** 8:35 AM

Complainant's Name: **********

Address: ********** **City:** **********

Complainant's Primary Phone: ********** **Secondary Phone:** **********

Complaint Location: 26292 E. RIVER ROAD **Permit:** N-566

City: ESCALON **County:** Unknown (N) **Zip:**

Property Owner: MUNN & PERKINS **Telephone:**

Address: **City:** **Zip:**

Nature of Complaint:

DUST GENERATION FROM ASPHALT/AGGREGATE PLANT WHICH IMPACTS CITY OF RIVERBANK. SEE ATTACHED LETTER SENT TO FRESNO OFFICE.

Conclusions:

Findings:

Resolution: Not Confirmed

Date Reporting Person Notified: June 01, 2004 **Time:** 11:21 AM **Method:**

Date Investigation Completed: 05/24/2002

Inspector: Heather Kuklo **Supervisor:** Legacy **Date:** 05/24/2002

Complaint Investigation

Complaint Number: N-0205-106 **Assigned To:** Lisa Middleton

Received By: ? ? **Date:** May 22, 2002 **Time:** 12:00 AM

Complainant's Name: **********

Address: ********** **City:** **********

Complainant's Primary Phone: ********** **Secondary Phone:** **********

Complaint Location: 25292 E RIVER RD **Permit:**

City: ESCALON **County:** Unknown (N) **Zip:**

Property Owner: MUNN AND PERKINS ASPHAS/AGGREGTES **Telephone:**

Address: **City:** **Zip:**

Nature of Complaint:

MUNN AND PERKINS ASPHALT/AGREGATES PLANT EMITS DUST INTO STANISLAUS CO WHEN THE NORTHWESTERN WINDS BLOW 5 DAYS A WEEK, 52 WEEKS A YEAR. SEE ATTACHMENT.

Conclusions:

Findings:

Resolution:

Date Reporting Person Notified: June 01, 2004 **Time:** 11:21 AM **Method:**

Date Investigation Completed: 01/14/2004

Inspector: Lisa Middleton **Supervisor:** Legacy **Date:** 01/14/2004

James D. Mayol
26144 East River Road
Escalon, California
(209) 531-5983
jdm@fire2wire.com

San Joaquin County Community Development Department
Planning Commission and Director; Board of Supervisors
1810 E. Hazelton, CA 95205

RE: Munn and Perkins

Dear Planning Commissioners, Board of Supervisors and Director Sullivan,

My wife, children and I live at 26144 East River Road, Escalon Road, west of the Munn and Perkins plant. In past disputes with Munn and Perkins it was agreed by them and county planning that we would receive specific notice of any intended action. Yet we still fail to be provided notices of any proposed hearings or deadlines. We have been informed by attorney Tom Terpstra of a hearing date being set for October 21, 2010 but have received no formal notice. We would appreciate being provided written notice as agreed.

We have several acres of walnuts surrounding our home and understand the need for the very infrequent noise of our agriculture and that of our neighbors. We understood that Munn and Perkins had daytime operations in our vicinity. However, over the years, through one "permitted" expansion after another, the noise, dust, odor and traffic impacts of the Munn and Perkins operation have increased dramatically. The truck traffic during the day now comes from both the east and west as trucks deliver and take away material from the River Road site. No mitigation of any kind has ever been implemented. We have documented the extreme danger of the speeding truck traffic generated by their operations. The truck noise is extremely loud both emanating from River Road and the McHenry Bridge (no study done on sound emanating from McHenry Bridge) as they accelerate out of the plant easily reaching 50-60mph, apply jake brakes, slow to a stop and then rapidly accelerate away. Again, these trucks are coming and going from all directions and essentially has our property surrounded with noise from the trucks. This was especially the case when they operated at night as the sound carries greatly. This noise easily flows in skylights and windows, disrupting sleep as further discussed below.

It is also very important to note that the plant has been adding some form of liquid rubber to its asphalt, which often creates a distinct and offensive odor. It also spills from the trucks and sticks to your tires, which results in black-marked driveways for the residents. We believe the effects of this additive should be stopped or at least studied, as there appears to be no air control or filter. Of course, we are not aware that there is any bag house on the asphalt plant itself, which we understand is a requirement of their continued operation.

I have heard the argument that mining operations should be located where the material can be mined. However, we understand that in this location, Munn and Perkins no longer uses material from this site to make asphalt. We are informed that the raw material ran out years ago. At this time, the site is nothing more than an assembly point for asphalt, using raw materials which are ripped up and trucked from a given project to the River Road site, then

remixed (apparently including the noxious rubber) and trucked back to the project site. This is very inefficient, and results in a doubling or tripling of traffic and air quality impacts in our neighborhood. How much more efficient are sites like KRC, Granite and Teichert in Vernalis, or CMI in Hughson, where ALL of the necessary raw materials are onsite. Certainly, the impact of such assembly is nothing akin to agriculture as Munn and Perkins' Noise Study expert states.

I was involved with Munn and Perkins original promise to provide a noise study back in the fall of 2008! Yet we only received their first insufficient Noise Study in April 2010 (approximately 1 ½ years later)! We then recently received the second purported study. One wonders how many times they tried before they could have the trucks drive at a directed speed which lowered the decibel level. In any case, the Noise Study and the most recent "redo" of the initial study prepared by the applicant is a serious disappointment and lacks any sort of scientific credibility. It is even more disappointing that the County did not require the applicant to pay for peer review the report. **The final indignity is the Study's conclusion that the NEIGHBORHOOD, not the applicant, must mitigate noise impacts, possibly year round, by closing their windows at night.** Recently I have read that the closure of windows is just a suggestion and not an actually "approved" mitigation measure. If such a suggestion was actually approved as a mitigation measure, I am told it would be a new "interpretation" of environmental law yet to be seen in this state or any other.

In any case, inasmuch as our neighborhood is in a PG&E district, our bills are already high. They would climb even higher were we to be forced to follow the "suggestion" to close our windows and skylights and run the air conditioner to circulate cool air as the applicant cavalierly would have us do. Currently, we all enjoy opening our windows at night to allow the cooling breezes in, uninterrupted by the daytime's constant stream of truck traffic and related noise.

As it now stands, the early morning truck traffic noise from River Road and the McHenry bridge flows through open windows and skylights (we are more than 250 feet off of River Road and a quarter mile or so from the bridge). We all know that sound only carries greater at night and would become an extreme intrusion, unless of course, we "mitigated" Munn and Perkins environmental impacts by closing our windows and skylights at night. By doing so we could probably hear the sound of our PG&E meters whirring as our bills rose even higher!

I hope that all of you do not accept Munn and Perkins "sound study" as the basis for any sort of blessing of their nighttime proposal. We urge you to (a) deny the Project outright or (b) require the applicant to prepare a full Environmental Impact Report on this Project.

Respectfully Submitted (via email to avoid delay),

James D. Mayol and Family

March 27, 2010

San Joaquin County Community Development Department

Re: Opposition to Aggregates Inc. Application # QX-89-0002

This letter is in opposition to the new permit for the gravel plant to forgo their case-by-case authorization to work night hours from 9:00 p.m. to 5:00 a.m. 7 days a week. This case-by-case review was revoked in 2005 due to the plant working excessive nights. At that time it was decided that something MORE than case-by-case review needed to take place. It makes no sense why the plant should be granted a permit to allow them total freedom with the possibility of running every single night if the work is available, leaving the residents with no way to be able to voice their concerns, or have a review of the situation when case-by-case management failed. In addition, the plant is already allowed to run all equipment 16 hours a day 7 days a week starting at 5:00 a.m., which has a daily and continual negative impact on all surrounding residents.

Most importantly however, seems to be this companies long and quite alarming history of non-compliance. It began in 2002, when it installed night lights, and started working night jobs without getting approval from the county. In the next few years it would work additional unpermitted hours along with permitted hours and by 2005 and working over 100 nights that year, the county put a stop to their excessive night jobs and canceled night work all together. The plant immediately began to build a new 3 story plant with additional rock crushers and sand plants that increased their noise level at our home 10 times over. Of course, they did this with no permits or notification of any kind to the county. It soon got a NOTICE OF VIOLATION for crushing too much rock in one day. Next, it began excavating in an area without a permit. All of these matters led to the involvement of District Attorney David Irey who has been leading a very serious ongoing investigation into the matter. I urge you to contact him at 468-2305. There have been many other non-compliance issues, but I have chosen to highlight the major ones.

Please read the following complaint letters from last summer regarding the more than two months we were forced to live with the results of "ONE" night job and the enormous negative effects than we were burdened with, and you will have a much better understanding of our situation.

After looking over and studying the Environmental Noise Assessment prepared on October 7, 2009, I have to wonder why the plant did not go ahead and actually do a factual report, as it a prime opportunity to do so last summer while it had over two months of actually working round the clock, with more than 100 trucks in-hauling, dumping the old roadway and loading up asphalt for another trip each night. The decibel levels we took at our home during this time from the plant were extremely high, and this may be why.

The Environmental Noise Assessment states "historical data" on page 28 that the most the plant worked was 26 nights in 2004. This is untrue. The county approved more than 52 approved nights in 2005, and

actually many, many more unreported nights were worked. Personally, I made a log of over 100 nights and later the plant did admit to working many more hours. When you average these hours with the job from last year the data is quite different. The report also falsely states an average between 1999 and 2005 when in fact no night work ever began until 2002. If you were to average 2004 with 26 nights, 2005 with 52 approved only nights and 2009 with one job that lasted two months totaling 29 approved nights you come up with an average of 36 nights per year. If we use factual logs that I have with my documentation, the true average is over 60 nights for the three years which is a staggering 2 months out of the year, not quite the "infrequent 3% of nights" sited on page 30, but much closer to 20% of nights.

When we look at when most of the work is done, it actually turned out to be 50% OF NIGHTS within a four month period, nights when all neighbors would love to sit outside and enjoy their evenings. Please keep in mind these nights included only one job from last fall, and this is what is so alarming, that the plant will have the ability to work 100% of the time as long as they have the work.

On page 31 of the Environmental Noise Assessment, it "predicts" that 5% of the population will be awaked with its windows closed with a maximum of 10%. This study did not include but a few homes within a small radius of the plant. Hundreds of homes are impacted by this plant. See the letter from Air Pollution about the dust from the plant drifting into Riverbank. Even with the small population used, I can't understand why having 10% of residents awoken for months at a time would be acceptable, especially since this is a "prediction." In this study they "predicted" my home would not be impacted by the noise even though many times their own study showed that the plant had EXCEEDED THE ALLOWABLE NOISE LIMIT during the daytime hours. Currently, this daytime situation alone is unacceptable, and they are currently in violation using their own noise study. This is their third noise study and I am sure the most favorable. I know this because each time a study is done I can see the sound meters from my home.

I do not have to "predict" what impact night work from this plant will have on my family as we were forced to live this nightmare each time night work has been done. I can tell you 100% of ALL nights they worked we were awakened and received little to no sleep. We were forced to close our windows, wear earplugs, and listen to our PG & E bill churn right along with the sound of the air conditioner we were forced to run. Our utility bills were outrageous.

Most of the complaints were not even addressed in the Environmental Noise Assessment "predictions". The largest complaint of course was the noise from the in-hauling of the old road and the back-up beepers, loaders, squealing tire brakes along with the jake-brakes, and loud banging as they dumped the material. Also heard all nights were the plants beepers from their own equipment that were supposed to be turned off, horn honking, and the actual running of the asphalt plant. All of these, along with atmospheric conditions, exceeding daytime noise levels and prevailing winds were largely unaccounted for in the Environmental Noise Assessment.

However, a huge issue has become the rubberized asphalt that they now use in their night jobs. There has been numerous complaints to SJC Air Pollution Control District as this horrible smell burns our eyes and mouth. It hangs in the air during the night, and forced us inside our homes. It smells just like the

Tracy tire fire did which was quite a health hazard. It is very sticky and left deposits all over the roads. CHP had to be called and the plant was forced to "clean" it up. They did this by sweeping it off the road and into everyone's driveways and orchards, leaving us to clean it up. During this time every vehicle we had received a broken windshield. After contacting the plant, they said they had numerous complaints and would replace our windshields, which never happened. The permanent damage to the roadways can easily be felt in front of Al's Unfinished Furniture. This is where the trucks had to stop and the sticky rubberized asphalt came off and has destroyed the road.

As a neighbor, I have tolerated quite a lot from the plant and been forced to give up my right to enjoy my home and yard. I have spent thousands of dollars to build a nine foot tall fence to block out the new 3 story tall plant that was built, giving up my view to try to block out THEIR noise. But with the addition of the new crushers and sand plants and height, it is impossible. The noise is overwhelming on a daily basis.

There are options for this plant. They could easily enclose it as many other facilities have willingly done or been required to do so. There have to be limits and boundaries in place. "One" job last summer lasted over two months. A few jobs could mean almost an entire year depending on the project. History shows this plant will push any limits they are given. The job of the board and the planning commission to is look after the community. Giving this plant who has a history of non-compliance and a failed case-by-case review for working nights, a new permit with total freedom should NOT even be an option to consider.

Thank you very much.

Diana Adrian

Marty Adrian

22201 Burwood Ln.
Phone: (209) 402-4972

Chandler Martin
San Joaquin Co. Community Development

Application QX-89-0002

Dear Sir,

I feel the need to express my opinions regarding the application regarding the extension of hours for the George Reed/Munn & Perkins asphalt plant. It seems ridiculous to me that the county would consider this application given the fact that the count revoked this privilege several years ago in response to community concern. I am opposed to the extension of hours of operation for the following reasons:

-continued expansion of this plants capacity has caused it to outgrow its current location creating an unfair burden of nuisances to those who live in the surrounding area.

-use of rubberized asphalt has become a major eye and respiratory tract irritant as well as smelling like the Tracy tire fire, deodorants don't work.

-even though back-up beepers are sometimes turned off night jobs can be a major operation with 100 trucks or more in and out hauling.

-we have the right to enjoy our time at home

-they can source the asphalt from other plants

-the Environmental Noise Assessment prepared for Munn & Perkins is based on ridiculous assumptions even shows that they are currently violating the County's noise standards on almost a daily basis.

-if against the wishes and well being of the community the community development department approves night work they must 1) not allow the use of rubberized asphalt at night 2) define the phrase occasional nights 3) limit the number of truck loads per night.

Over the past several years the sand and rock processing and crushing facilities have been completely replaced with a plant of much higher capacity. All of the nuisances that come with a production facility of this type have also increased; the noise, dust, smell, and truck traffic have become unbearable. I have lived and worked in the area for most of my life, I can assure you that the capacity of the plant has exponentially increased while the

buffer area around the plant has remained the same. The facility can run 16 hours per day seven days per week, a fairly new occurrence that seems to happen more and more often is the use of rubberized asphalt. When the rubberized asphalt is produced the stench and smoke fills covers our properties burning our noses and eyes, and seeps into our homes. It is especially bad at night because there is little air movement and an inversion which concentrates the stench in our area. I see nowhere on their application how they intend to remedy this problem, the only solution I know is to add a smell masking agent.....they don't work.

A night job is no small undertaking, while they may turn some back-up beepers off, and tell their drivers not to use jake brakes they still have to run the asphalt plant, run their loaders, and have up to 100 trucks or more in-hauling, out-hauling, dumping loads, revving engines and squealing brakes. During last summer's night run it was impossible to sleep and we couldn't go outside because of the stench and smoke. We have the right to 8 hours per day not to have this nuisance.

George Reed does have other plants that they can source this material from and while I understand trucking costs might be higher these plants are situated where they do not impact residents in the area, they also have a portable rubberized asphalt plant that might only affect residents for the duration of one job, not day after day year after year. This operation can no longer be considered a quarry, but a processing plant as now virtually all their rock and most of their sand is trucked in from out of county.

The supposition on page 7 of their noise study that the noise from a rock processing plant should be considered the same as Agricultural noise is absurd. First of all crushing rocks and making asphalt is not growing food and fiber! We who live here do expect Ag noise, it comes and goes, a tractor moves across a field and is gone, a farmer applies a pesticide and moves on. Farming operations are not cemented to the ground with 100's of trucks feeding it daily day after day, year after year. Also, the Noise study does not address the in-hauling and dumping of road grindings that usually accompanies a night paving job. If you read the appendices of the report many times in the 24 hour noise monitoring the acceptable levels set by the county.

If the Community Development Dept, against the wishes and well-being of the residents of our area decide to let the asphalt plant to work at night they need to clearly define the ambiguous application. The production of rubberized asphalt should absolutely not be allowed at night, even with the addition of smell masking agents it is unbearable. The county should define what an occasional night is, I would define it as one or two nights a year, while the plant might consider it whenever they can get a bid that involves night work. The number of trucks that are allowed to enter and exit the plant at night should be limited; I can assure you that the 100 trucks per night of last summer is many times too many.

I am not advocating trying to stop all operations at this facility, but feel that we have already been unfairly burdened, enough is enough, no further expansion of any kind. Before the County considers expanding operating hours they should be requiring the plant to take proactive steps to reduce their impact on us like enclosing the plant, containing smells, and reducing truck noise, all of which are realistic options, and have been required at other operations.

Thank-You

Marty Adrian

3/26/2010

03/24/10

San Joaquin County Community Development Dept.
R.E. Application QX-89-0002

We have lived and worked on River Rd. in Escalon for the past 43 years. During this time we have had a good relationship with the Munn & Perkins gravel facility however in recent years we have become very concerned with the unregulated expansion of the plant and all of the related nuisances that come with it. We feel that Munn & Perkins should not be allowed any further expansion of the capacity of their plant or hours of operation. As a result of continually putting more trucks and material thru their plant they have simply outgrown their current location. They are taking away our ability to use and enjoy our homes and farms, and we are worried about our land values as our area of River Rd. seems to have become an industrial tract.

We realize that the gravel plant provides essential elements to the county to build and maintain roads and infrastructure and that they have the right to use their property to their desires just as we should be allowed to have that right. We have never opposed any of their operations or projects, however, now the noise, dust, truck traffic, and now often times the smell of burning rubber are no longer contained on their property and have become too much for us to overlook any longer. We can no longer stand quietly by and feel that we must oppose this application for expanded hours of operation

One of the most troubling areas of concern for nite operations is that many of the timees they run at nite they seem to use rubberized asphalt, the stench of which permeates the area irritating our eyes and lungs. Last summers nite run is a prime example, there was little or no air movement when they were mixing in the rubber and we were forced to endure close to seven weeks of the smoke and smell on a project that was originally only to run ten days.

In closing, the plant is allowed to run 7 days a week 16 hours per day please, allow us to have the last 8 hours to enjoy our homes and yards without the noise smell and dust of this constantly growing monster in our back yards.

Thank-you,
Phil and Mary Adrian

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October 13, 2010

Mr. Tom Terpstra
Law Office of Thomas H. Terpstra
578 N. Wilma Avenue, Suite A
Ripon, CA 95366

Subject: Review of Munn & Perkins Increased Nighttime Operations Environmental Noise Assessment

Dear Mr. Terpstra:

j.c. brennan & associates, Inc. has reviewed the Revised Environmental Noise Assessment for the above referenced project. The analysis was conducted by Bollard Acoustical Consultants (BAC), dated August 23, 2010. The revisions are in response to several letters sent by San Joaquin County Community Development Department and the Senior Code Enforcement Officer, Mr. Rick Matuska, outlining the noise complaints which had been received since 2003 with regards to the excessive noise coming from the plant due to plant operations after the approved operating hours, and on nights that were not approved for night operations.

We have provided reviews of two previous draft reports dated October 7, 2009 and July 1, 2010. For the most part, the final analysis does not deviate in methods, procedures or even conclusions from the previous reports. This review will provide comments on specific flaws which we have found in the report, and will detail the pages of the report where they occur. However, it may be useful to summarize the major flaws in the report prior to providing detailed comments.

SUMMARY OF MAJOR TECHNICAL PROBLEMS WITH THE REPORT

A. The report provides a discussion on the effects of single event noise, primarily due to increased truck traffic on local roadways. The discussion centers around the potential for sleep disturbance, and utilizes the Federal Interagency Committee on Aviation Noise (FICAN) report which estimated a 5 – 10% of the population is affected when interior SEL noise levels are between 65 and 81 dB, and few sleep awakenings (less than 5%) are predicted if the interior SEL is less than 65 dB. This procedure does not account for the number of events.

   However, most recent research and procedures for evaluating sleep disturbance are based upon the American National Standards Institute (ANSI) which has developed procedures for evaluating the potential for sleep disturbance. The Procedure ANSI/ASA S12.9-2008 / Part 6 sets for the procedures for evaluating

the potential for sleep disturbance. It establishes a threshold for a single event for which the A-weighted sound exposure level (ASEL) which occurs within a room at 50 dBA *and not 65 dBA as described in the report.* The ANSI procedure calculates the probability of awakening based upon the interior mean SEL and the number of events which occur during the nighttime hours (10:00 p.m. – 7:00 a.m.). The ANSI procedure for estimating the probability of awakening calculates a 97% probability of awakening, based upon an exterior SEL of 79 dBA and 182 truck trips during the nighttime period, as indicated in the BAC report. This is clearly a major difference in the overall analysis.

The potential for 182 heavy truck trips passing by at a distance of less than 60 feet from a residence during a typical night, and not having a major impact on sleep disturbance does not pass the test of being an intuitively reasonable analysis.

B. The BAC report utilizes the noise measurement data collected at Sites A and B to isolate the asphalt plant noise levels. This process was used to determine the potential noise levels during nighttime operations. The report concludes that the asphalt plant noise levels will be between 35 and 45 dB Leq. First off, the noise measurement locations do not accurately represent potential noise levels at the elevated residences. This is due to the fact that the noise measurement sites used for evaluating the asphalt plant operations were located in depressions.

In addition, since the noise measurement data used to extrapolate the asphalt plant operations were due to daytime asphalt plant operations, and were collected at a distance of over 2,000 feet from the plant, the expected nighttime noise levels, due to atmospheric conditions could increase by as much as 5 dBA to 10 dBA. j.c. brennan & associates, Inc. staff have had first-hand experience in measuring industrial noise sources during the daytime and nighttime hours. It has been well documented that industrial noise sources during the daytime hours may not even be audible at distances of 2,000 feet. However, during the nighttime hours, the noise levels associated with these sources will increase by 10 dBA due to atmospheric conditions. Therefore, we do not believe that the asphalt batch plant noise levels have accurately been identified. An accurate method for evaluating asphalt plant noise levels is to run the plant during the nighttime hours, and collect noise level data during the operations. This would provide an accurate representation of potential noise impacts. At the very least, reference noise level measurements of the asphalt plant should have been conducted on the Munn Perkins site. These reference measurements could have been used to generate noise contours associated with the operations. The noise level data can be used as direct inputs into a model which can account for prevailing wind direction, wind speed, temperature, atmospheric conditions and topography.

C. The BAC report provides a discussion on **"Optimization of Heavy Truck Operating Parameters to Minimize Passby Noise"**. This analysis provides good insight into the variations in operating conditions and how they affect the noise generated by the trucks. However, the education of individuals on the use

of proper speeds and gear selection is extremely difficult to enforce as a mitigation measure. The BAC report indicates that the analysis of truck noise impacts will assume that truck drivers are operating vehicles in the "quietest manner possible". This analysis is not a conservative approach to evaluating noise impacts. This would seem to indicate that there has been an identified significant impact, and that mitigation measures are being implemented.

D. The BAC report conducts an evaluation of increased noise levels due to the project. The analysis correctly utilizes the FICON procedure which indicates that if existing background noise levels exceed 65 dB, a 1.5 dB increase would be required to trigger a significant increase in noise levels. If existing background noise levels range between 60 dB and 65 dB, a 3 dB increase would be required to trigger a significant increase in noise levels. In addition, if existing background noise levels are less than 60 dB, a 5 dB increase would be required to trigger a significant increase in noise levels.

That being said, if you review the measured background noise levels contained within the appendix to the report, the background hourly average (Leq) values during the 9:00 p.m. hour at Noise Measurement Sites 1, 3, 4 & 5, which represent distances between 40 feet and 60 feet from the East River Road centerline, the noise levels range between 62 dB and 68 dB Leq. Based upon the average measured truck passby noise level of 86 dB SEL, at a distance of 40 feet, and the predicted anticipated 66 truck trips during the 9:00 p.m. hour associated with the Munn Perkins plant expansion, the noise level associated with the additional truck trips would be 68.6 dB Leq. Therefore, the cumulative increase in truck traffic noise levels is expected to range between 3 dB and 7 dB Leq. So clearly during the start-up of the truck traffic, there would be a significant increase truck traffic noise levels. The report does not provide this conclusion.

SPECIFIC COMMENTS ON THE BAC REPORT

Criteria for Acceptable Noise Exposure

1. The report provides a discussion, on Page 6, that describes the effects of single event noise. The discussion centers around the potential for sleep disturbance, and utilizes the Federal Interagency Committee on Aviation Noise (FICAN) report which estimated a 5 – 10% of the population is affected when interior SEL noise levels are between 65 and 81 dB, and few sleep awakenings (less than 5%) are predicted if the interior SEL is less than 65 dB. However, most recent research and procedures for evaluating sleep disturbance are based upon the American National Standards Institute (ANSI) which has developed procedures for evaluating the potential for sleep disturbance. The Procedure ANSI/ASA S12.9-2008 / Part 6 sets for the procedures for evaluating the potential for sleep disturbance. It establishes a threshold for a single event for which the A-weighted sound exposure level (ASEL) which occurs within a room at 50 dBA. The ANSI procedure calculates the probability of awakening based upon the interior mean

SEL and the number of events which occur during the nighttime hours (10:00 p.m. – 7:00 a.m.).

2. The original report (October 7, 2009) indicated that since individuals near the project site are located on agriculturally-zoned parcels, and not on residentially zoned property, there is a question regarding the applicability of the County's noise level standards for residential land uses. The report indicates that the Right to Farm Ordinance indicates that since people reside on agriculturally zoned land, there is an expectation that these residences will be exposed to elevated noise levels associated with nearby agricultural activities. In the May 7, 2010 comment letter from the San Joaquin County Community Development Department to BAC states the following:

   The last paragraph under the subheading "Right to Farm Ordinance," it is implied that this project falls under the exemption of the County Right to farm Ordinance. The Right to Farm Ordinance does not apply to quarries.

   However, the two revised reports continue to insist that residences in the immediate project vicinity are constructed on agricultural lands, and that there is an expectation that these residences will be exposed to elevated noise levels associated with nearby agricultural activities.

   It is difficult to find a nexus between the noise generated by seasonal agricultural operations, regardless of the time of day which it occurs, and the nighttime operations of an asphalt batch plant, heavy truck traffic, on-site skip loaders and other mobile equipment. Previous noise level measurements of walnut harvesting operations or agricultural spraying indicate that this occurs once per year, and are usually gone from the immediate vicinity within a few days.

   It is not unusual for communities to establish higher noise levels for activities which are historically the economic base of the community. Agricultural activities are historically the economic base of the Central Valley.

3. On page 10, second, third and fourth paragraphs, the report states that it is highly unlikely that outdoor activities would be taking place between 1 a.m. and 3 a.m. when the facility will be operating. Although the analysis does evaluate the San Joaquin County nighttime exterior noise level standards, this discussion discounts the applicability of the San Joaquin County nighttime noise level criteria of 45 dB Leq and 65 dB Lmax. It leads the reader to a conclusion that there is no need for nighttime noise standards. However, in review of the City of Orland General Plan Update Noise Section, which was recently developed by BAC, the Noise Element clearly identifies an exterior nighttime noise level criterion of 45 dB Leq.

Evaluation of Existing Noise Environment in the Project Vicinity

4. The evaluation of the existing noise environment indicates that the residences located along Burwood Road are not significantly affected by truck traffic noise along River Road. On March 23, 2010, j.c. brennan & associates, Inc. conducted noise level measurements in the front yard of 22201 Burwood Road (Adrian Residence). The noise environment in the front yard was dominated by truck traffic on River Road. The hourly measured Leq was 51 dBA and the mean SEL values from trucks passbys were as high as 71 dBA. The BAC report indicates that this residence is affected primarily by on-site plant operations.

5. The BAC report conducted continuous hourly ambient noise measurements at two locations along Burwood Road, which are identified as Sites A and B. The noise measurements were conducted at the property lines of the project site. In each case the noise measurement sites were located in a depression. The residence located at 2220 Burwood Road is elevated considerably above the noise measurement Site A. During the site visit, the plant noise levels at the back yard property line of the residence were audibly higher than the plant noise levels at the Site A location. However, throughout the report, Site A was used to evaluate the plant noise levels at this residence. The San Joaquin County General Plan noise level standards clearly state that the noise level criteria are applied at the residential outdoor activity area. Therefore, we do not believe that the noise measurement data collected in the BAC report accurately reflect the noise levels associated with the plant operations.

6. On Pages 11 through 14, and Page 19 of the BAC report they utilize the noise measurement data collected at Sites A and B to isolate the asphalt plant noise levels. This process was used to determine the potential noise levels during nighttime operations. The report concludes that the asphalt plant noise levels will be between 35 and 45 dB Leq. Once again, the noise measurement locations do not accurately represent potential noise levels at the elevated residences. This is due to the fact that the noise measurement location used for evaluating the asphalt plant operations was located in a depression. In addition, since the noise measurement data used to extrapolate the asphalt plant operations were due to daytime asphalt plant operations, and were collected at a distance of over 2,000 feet from the plant, the expected nighttime noise levels, due to atmospheric conditions could increase by as much as 5 dBA to 10 dBA. Therefore, we do not believe that the asphalt batch plant noise levels have accurately been identified. An accurate method for evaluating asphalt plant noise levels is to run the plant during the nighttime hours, and collect noise level data during the operations. This would provide an accurate representation of potential noise impacts. At the very least, reference noise level measurements of the asphalt plant should have been conducted on the Munn Perkins site. These reference measurements could have been used to generate noise contours associated with the operations. The noise level data can be used as direct inputs into a model which can account for

prevailing wind direction, wind speed, temperature, atmospheric conditions and topography.

7. Pages 14 through 16 of the BAC report provide a discussion on the ambient noise environment along the East River Road. This was obviously a very comprehensive noise measurement program. It would have been useful to have a series of aerial images which clearly show the residences where the noise monitoring occurred.

8. Table 6 of the BAC report indicates that Residences 2 & 3 are separated from the road by a solid noise barrier. During the site visit to Site 2, j.c. brennan & associates, Inc. staff noted that there are three large openings in the barrier for access to the residences. These openings in the barrier virtually render the barrier as ineffective.

9. Table 7 of the BAC report clearly shows that residences along East River Road already exceed the San Joaquin County noise level standards for transportation noise sources by up to 10 dBA (75 dBA Ldn).

ANALYSIS OF PROJECT NOISE IMPACTS

10. Page 19 of the BAC report identifies the noise impacts associated with the nighttime asphalt operations. Once again, we do not believe that the predicted noise levels associated with the asphalt plant operations, or the methodology for determining the asphalt plant noise levels are accurate. It is quite likely that the plant could exceed the nighttime noise level criterion of 45 dB Leq.

11. The report only evaluates the plant operations at the residences to the east. However, there are residences closer to the project site located along E. River Road. Although it is true that the noise environment at those residences will be dominated by truck traffic, the time periods between truck passbys may be dominated by noise associated with the asphalt plant operations. A detailed noise contour associated with the asphalt plant operations should be developed which shows the potential noise impacts at all receivers.

12. Page 27 of the BAC report provides a discussion on **"Optimization of Heavy Truck Operating Parameters to Minimize Passby Noise"**. This analysis provides good insight into the variations in operating conditions and how they affect the noise generated by the trucks. However, the education of individuals on the use of proper speeds and gear selection is extremely difficult to enforce as a mitigation measure. During the site visit on March 23, 2010, j.c. brennan staff drove East River Road several times while maintaining the speed limit. During this time, trucks which were approaching from behind were clearly exceeding the posted speed limit.

13. Page 28 of the BAC report indicates that the analysis of truck noise impacts will assume that truck drivers are operating vehicles in the "quietest manner possible". This analysis does not appear to be a conservative approach to evaluating noise impacts. This would seem to indicate that there has been an identified significant impact, and that mitigation measures being implemented.

14. **The analysis of sleep disturbance on pages 31 through 34 appears to be flawed. The American National Standards Institute (ANSI) has developed procedures for evaluating the potential for sleep disturbance. The Procedure ANSI/ASA S12.9-2008 / Part 6 sets the procedures for evaluating the potential for sleep disturbance. It establishes a threshold for a single event for which the A-weighted sound exposure level (ASEL) which occurs within a room at 50 dBA. The ANSI procedure calculates the probability of awakening based upon the interior mean SEL and the number of events which occur during the nighttime hours (10:00 p.m. – 7:00 a.m.). The BAC report indicates that there would only be a 5% probability of awakening. However, the ANSI procedure for estimating the probability of awakening calculates a 97% probability of awakening, based upon an exterior SEL of 79 dBA and 182 truck trips during the nighttime period, as indicated in the BAC report. This is clearly a major difference in the overall analysis.**

15. Page 30 of the BAC report conducts an analysis of the "**Traffic Noise Impacts Relative to County 65 dB Ldn Exterior Noise Standard**". This analysis does not correctly address the County exterior noise level standard of 65 dB Ldn. The Ldn descriptor is a 24-hour average of all traffic noise. This analysis only evaluates the project traffic noise level. Although, later in the report, there is an evaluation of the overall traffic noise, this analysis is misleading. A typical noise analysis for traffic noise impacts would first evaluate the existing traffic noise levels and compare them to the standard, and then evaluate the existing + project noise levels to show the comparison.

    The BAC report estimated the project-related truck trips to result in an Ldn of 63 dB at a distance of 60 feet. j.c. brennan & associates, Inc. utilized the Federal Highway Administration (FHWA RD77-108) traffic noise prediction model to evaluate the project-related truck traffic noise levels along E. River Road. The inputs assumed 248 total truck trips, with 66 of those trips occurring during the daytime hours. It assumed a speed of 40 mph (This is probably underestimating the actual travel speeds). The FHWA traffic noise prediction model resulted in an Ldn of 66 dBA. This would result in an exceedance of the San Joaquin County noise level criterion of 65 dB Ldn.

16. Page 30 of the BAC report conducts an analysis of the "**Traffic Noise Impacts Relative to County 45 dB Ldn Interior Noise Standard**". This analysis does not correctly address the County interior noise level standard of 45 dB Ldn. The Ldn descriptor is a 24-hour average of all traffic noise. This analysis only evaluates the project traffic noise level. Although, later in the report, there is an

evaluation of the overall traffic noise, this analysis is misleading. A typical noise analysis for traffic noise impacts would first evaluate the existing traffic noise levels and compare them to the standard, and then evaluate the existing + project noise levels to show the comparison.

The BAC report estimated the project-related truck trips to result in an interior Ldn of 38 dB at a distance of 60 feet. j.c. brennan & associates, Inc. utilized the Federal Highway Administration (FHWA RD77-108) traffic noise prediction model to evaluate the project-related truck traffic noise levels along E. River Road. The inputs assumed 248 total truck trips, with 66 of those trips occurring during the daytime hours. It assumed a speed of 40 mph (This is probably underestimating the actual travel speeds). The FHWA traffic noise prediction model resulted in an interior Ldn of 41 dBA.

17. Page 34 of the BAC report provides a discussion entitled "**Traffic Noise Impacts Relative to Existing Nighttime Hourly Noise Levels Without the Project**". This analysis seems to indicate that there is no significant noise impact due to truck traffic as it is compared to the ambient noise environment.

    Based upon the BAC report, the project could typically result in 26 hourly truck trips per hour during the nighttime hours. Based upon Table 6 of the BAC report, the average measured hourly background noise levels during the nighttime periods ranged between 59 dBA Leq and 62 dBA Leq at a distance of 60 feet from the centerline (Site 4). This corresponds with the closest building façade to the roadway, as stated in the BAC report. If you use the lowest SEL value shown in the BAC report for truck passbys (79 dBA) at 60 feet, the Leq associated with the 26 trucks would be 62 dBA. Therefore, the nighttime noise levels would increase between 3 dBA and 4 dBA Leq. Based upon the FICON criteria shown in Table 3 of the report, this would result in a significant increase in noise levels. What the analysis does not mention, is that the increase in noise levels which trigger a significant impact is based upon an increase in noise levels of the same character. So, if the ambient noise during the nighttime period is not a function of truck traffic, the increase in noise levels due to truck traffic could be more annoying than indicated.

18. Page 29 of the BAC report provides an **Analysis of Potential Project Noise Impacts.**

    - Asphalt Plant impacts are considered less than significant. Based upon our review, as described earlier in this review, the BAC report states that they utilize the noise measurement data collected at Sites A and B to isolate the asphalt plant noise levels. This process was used to determine the potential noise levels during nighttime operations. Once again, the noise measurement locations do not accurately represent potential noise levels at the elevated residences. This is due to the fact that the noise measurement location used for evaluating the asphalt plant operations was

located in a depression. In addition, since the noise measurement data used to extrapolate the asphalt plant operations were due to daytime asphalt plant operations, and were collected at a distance of over 2,000 feet from the plant, the expected nighttime noise levels, due to atmospheric conditions could increase by as much as 5 dBA to 10 dBA. The BAC staff are aware of the effects of atmospheric conditions during nighttime conditions. Therefore, we do not believe that the asphalt batch plant noise levels have accurately been identified. An accurate method for evaluating asphalt plant noise levels is to run the plant during the nighttime hours, and collect noise level data during the operations. This would provide an accurate representation of potential noise impacts. At the very least, reference noise level measurements of the asphalt plant should have been conducted. These reference measurements could have been used to generate noise contours associated with the operations. The noise level data is entered into a model which can account for prevailing wind direction, wind speed, temperature, atmospheric conditions and topography.

- The report only evaluates the plant operations at the residences to the east. However, there are residences closer to the project site located along E. River Road. Although it is true that the noise environment at those residences will be dominated by truck traffic, the time periods between truck passbys may be dominated by noise associated with the asphalt plant operations. A detailed noise contour associated with the asphalt plant operations should be developed which shows the potential noise impacts at all receivers.

- Sleep disturbance during individual truck passages, with windows closed are considered less than significant. The analysis of sleep disturbance on page 31 appears to be flawed. The American National Standards Institute (ANSI) has developed procedures for evaluating the potential for sleep disturbance. The Procedure ANSI/ASA S12.9-2008 / Part 6 sets for the procedures for evaluating the potential for sleep disturbance. It establishes a threshold for a single event for which the A-weighted sound exposure level (ASEL) which occurs within a room at 50 dBA. The ANSI procedure calculates the probability of awakening based upon the interior mean SEL and the number of events which occur during the nighttime hours (10:00 p.m. – 7:00 a.m.). The BAC report indicates that there would only be a 5% probability of awakening. However, the ANSI procedure for estimating the probability of awakening calculates a 97% probability of awakening, based upon an exterior SEL of 79 dBA and 182 truck trips during the nighttime period, as indicated in the BAC report. This is clearly a major difference in the overall analysis.

- Project truck traffic increase in hourly noise levels is considered to be less than significant. Based upon the BAC report, the project could typically

result in 26 hourly truck trips per hour during the nighttime hours. Based upon Table 7 of the BAC report, the average measured hourly background noise levels during the nighttime periods ranged between 59 dBA Leq and 62 dBA Leq at a distance of 60 feet from the centerline (Site 4). This corresponds with the closest building façade to the roadway, as stated in the BAC report. If you use the lowest SEL value shown in the BAC report for truck passbys (79 dBA) at 60 feet, the Leq associated with the 26 trucks would be 62 dBA. Therefore, the nighttime noise levels would increase between 3 dBA and 4 dBA Leq. Based upon the FICON criteria shown in Table 3 of the report, this would result in a significant increase in noise levels. What the analysis does not mention, is that the increase in noise levels which trigger a significant impact is based upon an increase in noise levels of the same character. So, if the ambient noise during the nighttime period is not a function of truck traffic, the increase in noise levels due to truck traffic could be more annoying than indicated.

MITIGATION OPTIONS

19. Page 37 of the BAC report provides mitigation options. First of all we do not believe that the impacts have been adequately identified, and therefore, mitigation measures may not have been fully addressed.

20. The recommended mitigation measure for truck passbys seems unenforceable. Educating truck drivers on proper gear usage, speed and rpm of the engine is difficult to enforce, at best.

21. The mitigation measures indicate that upgrades to building facades is not recommended due to the fact that there would not be a significant impact associated with truck passbys. However, the ANSI procedure used by j.c. brennan & associates, Inc. indicates that the potential for sleep disturbance is 97%, which would indicate a significant impact. Building façade upgrades would be a likely mitigation measure. A sound proofing analysis of the homes, conducted by an acoustical consultant would identify the appropriate upgrades to homes along East River Road.

22. There is no mention of mitigation for the asphalt plant. BAC staff have previously worked on an asphalt plant in Truckee California, where noise complaint resulted from nighttime operations. The installation of a silencer on the stack of the asphalt plant burner resulted in significant decreases in noise levels.

23. There is no mention of the use of strobes instead of back-up alarms on mobile equipment to reduce noise levels.

24. There is no mention of shielding of equipment through barriers or stockpiling of resource to reduce noise levels.

This concludes our review of the BAC report. If you have any questions, please contact me at (530) 823-0960, or jbrennan@jcbrennanassoc.com

Respectfully submitted,
j.c. brennan & associates, Inc

Jim Brennan
President
File:2010-122 BAC Peer Review – Munn and Perkins – Revision 2 September 22 2010

Appendix A
Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.
RT_{60}	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B

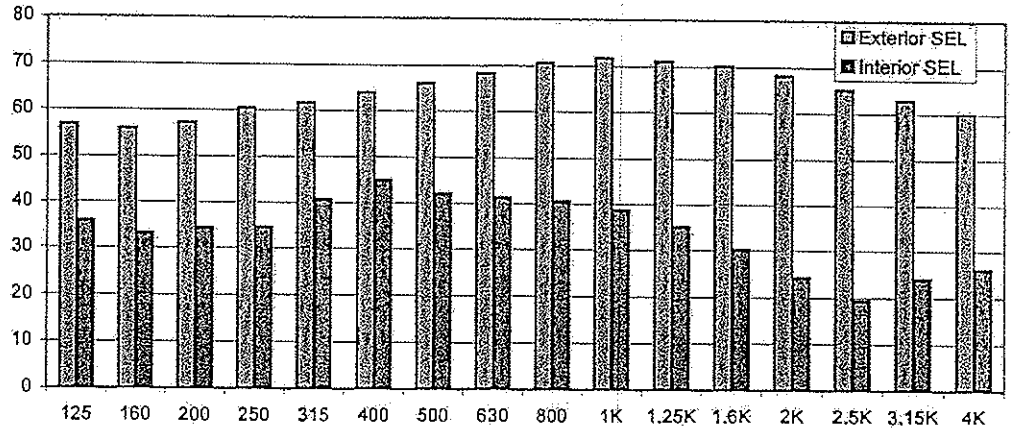
ANSI Procedure for Calculating Percent Awakening

Project Name: BAC Review
Job Number: 2010-122
Noise Source: Trucks
Site: 1

		One-Third Octave Band Center Frequency (Hz)															
		125	160	200	250	315	400	500	630	800	1K	1.25K	1.6K	2K	2.5K	3.15K	4K
Noise Source Information:																	
	Freeway Traffic	-22	-23	-22	-19	-17	-15	-13	-11	-8	-7	-8	-9	-11	-14	-16	-19
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Exterior SEL, dB	57	56	57	61	62	64	66	68	71	72	71	70	68	65	63	60
		489779	407380	537032	######	#####	######	#####	####	####	####	######	#####	#####	#####	######	####
Window - 1/8*1/4*1/8 STC28	TL of Window	21	23	23	26	21	19	24	27	30	33	36	40	44	46	39	34
	Interior SEL, dB	36	33	34	35	41	45	42	41	41	39	35	30	24	19	24	26
		3890	2042	2692	2818	11749	31623	16218	####	####	7413	3236	1047	263	85	251	407
Date	Time	SEL >75															

Mean Exterior SEL: 79
Mean Interior SEL[1]: 54
Number of Nighttime Events: 182
Percent Awakened: 97%

[1]Assumes a typical exterior-to-interior noise level reduction (NLR) of 25 dB provided by STC 28 windows and modern construction practices.



Source: *ANSI/ASA S12.9-2008 / Part 6 - Quantities and Procedures for Description and Measurement of Environmental Sound - Part 6: Methods for Estimation of Awakenings Associated with Outdoor Noise Events Heard in Homes.*

j.c. brennan & associates
consultants in acoustics

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 2010-122
Description: Traffic Noise Calculation
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Lot Numbers	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)
1	E. River Road	Only Project Traffic	248	26		74	0.5	99	40	60	
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											

Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model
Predicted Levels

Project #: 2010-122
Description: Traffic Noise Calculation
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway Name	Lot Numbers	Autos	Medium Trucks	Heavy Trucks	Total
1	E. River Road	Only Project Traffic	29.5	38.5	66.2	66

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Appendix C

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Noise Contour Output

Project #: 2010-122
Description: Traffic Noise Calculation
Ldn/CNEL: Ldn
Hard/Soft: Soft

			Distances to Traffic Noise Contours				
Segment	Roadway Name	Lot Numbers	75	70	65	60	55
1	E. River Road	Only Project Traffic	16	34	73	157	338

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SAN JOAQUIN COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT

1810 E. HAZELTON AVE., STOCKTON, CA 95205-6232
PHONE: 209/468-3121 FAX: 209/468-3163

May 7 , 2010

Mr. Paul Bollard,
President
Bollard Acoustical Consultants Inc.
455 Main Street, Suite 3
Newcastle, CA 95658

Re: Munn & Perkins Environmental Noise Assessment,
for Increased Nighttime Operations.

Dear Mr. Bollard:

The Community Development Department has reviewed the above referenced Environmental Noise Assessment (ENA) for the Munn & Perkins facility on East River Road in Escalon. As you are aware, the noise assessment request by the County is in response to Munn & Perkins Revision of Approved Actions application for expanding operating hours at the existing facility from 9:00 p.m. to 5:00 a.m., as needed for specific nighttime paving projects. The current operating hours for the plant are restricted to the period from 5:00 a.m. to 9:00 p.m.

Upon review of the ENA, the Community Development Department developed some questions/ issues regarding the assessment.

Leq and Lmax

The study appears to incorrectly rely on an "average Leq" and an "average Lmax" to find compliance with Development Title requirements. It should be using the Leq and Lmax without averaging. For instance, On September 28, 2008, plant operations resulted in Leq that exceeded the County Nighttime standard for the hours of 10:00 p.m., 11:00 p.m., 2 a.m., 3:00 a.m., and 6 a.m. Yet the "average" of the Leq's was well below the county standard. The Lmax figures were similar. The Leq is already a statistical "average" taken over an hour of continuous readings. The Title requires projects to stay below the Leq in any given hour, not averaged throughout the daytime or nighttime. The Lmax is the maximum single noise event, not an average of the Lmax of each hour. The definitions from the Development Title are provided below:

Equivalent Sound Level (Leq). "Equivalent sound level" or "Leq" means the sound level containing the same total energy as a time-varying sound level over a given sample period, typically7 computed for a one (1) hour sample period.

Maximum Sound Level (Lmax). "Maximum sound level" or "Lmax" means the maximum sound level recorded during a noise event.

Applicability of Noise Ordinance

On page 7 of the ENA, the ENA erroneously indicates that because the existing residences in the immediate project vicinity are constructed on agriculturally-zoned parcels and not on residentially-zoned parcels there is a question regarding the applicability of County noise level standards. The County Noise Ordinance does apply to the residences.

Right to Farm

The last paragraph under the subheading "Right to Farm Ordinance," it is implied that this project falls under the exemption of the County Right to Farm Ordinance. The Right to Farm Ordinance does not apply to quarries.

Impacts to Residences

The study calculates the noise impact from nighttime plant operations to be 35 to 45 dB at the nearest residence to the east. The background noise on page 11 is shown to vary from an average Leq of 42 to 47 dB. On page 18 the study states that the plant will result in noise at the residence of 40 + or - 5 dB, but fails to add the background or ambient noise level of 42 to 47 dB Leq. Under "Impacts of Nighttime Asphalt Plan Operation Relative to County Exterior Noise Standards" on page 19, the study states that that "asphalt plant noise levels are predicted to be at or below the County's 45 dB Leq noise criteria outside the nearest existing residences". Again, the study does not add the ambient noise, which already often exceeds the County's nighttime standard of 45 dB Leq. Similarly, it does not add the ambient nighttime Lmax which exceeded the County nighttime standard of 65 dB Lmax on every night measured on both residences.

Base Line Conditions

The study states on page 1, "In light of the historic nighttime operation of this facility in servicing night paving projects, the proposed application would affect the means by which the applicant obtains permission for night operations, but would not represent new nighttime operations." Actually, the Director has told the applicant he cannot have more nighttime operations without the approval of a Revisions of Approved Actions application, so the base line should be no nighttime operations.

It is not clear when the plant was operating during the time that the background noise samples were taken. It appears that the plant was operating at night and already exceeding the noise requirements of the Development Title. (See chart Table 6, 7 a.m. 10 p.m. (daytime) and 10 p.m. to 7 a.m. (nighttime).

History/Assumptions

In the conclusion on page 30, the study indicates "an average of 11 nights per year of night operations between 1999 and 2005" and a maximum of 26 nights in 2004. There is an implied assumption that nighttime operations will average 11 nights per year. The Community Development Department's record indicate in 2005 alone, Munn and Perkins worked a total of 22 nights and in 2009 30 nights. Clearly the average number of nighttime operations may exceed the

noted 11 nights per year. In addition, the State is moving toward requiring construction paving projects to be conducted during the nighttime hours for safety (limited roadway access) and the reduction in costs for materials. With these factors it is likely that the number of contracts awarded by the State for nighttime construction paving projects will increase.

Summary

We have many other questions regarding the study; however the above questions need to be answered first. As land use planners, we are generalists and rely on expert advice for noise issues. I'm sure some of the above discussion results from our misunderstanding of the science. I look forward to discussing this with you.

Please contact me at 209-468-9653 should you have any questions.

Respectfully,

Kevin Swanson
Senior Planner

Cc: Michael McGrew, Neumiller & Beardslee
Jeff Welch, Aggregates Inc.

SAN JOAQUIN COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT

1810 E. HAZELTON AVE., STOCKTON, CA 95205-6232
PHONE: 209/468-3121 FAX: 209/468-3163

April 19, 2010

MEMORANDUM

TO: Rick Griffin, Senior Planner

FROM: Rick Matuska, Senior Code Enforcement Officer

SUBJECT: Munn & Purkins Complaints

This is in response to a request by one of the complainants opposed to the plants pending application to extend plant operation. The writing of this memo was approved by Deputy Director Chandler Martin.

The San Joaquin County Code Enforcement Division has received in excess of eighteen (18) complaints about the subject property at 26292 E. River Rd. Escalon. The complaints date back to July of 2003, and have continued to this year. These complaints are about excessive noise coming from the plant due to the plant operating after the approved operating hours and on nights that were not approved for night operation or exceeded the number of nights that were approved to operate. Some of the complaints also were about the mud, dirt and rocks that is tracked onto the roadway or fall from the trucks while traveling on the roadways. In 2009, complaints were being received that the odor of burning rubber was being smelled and that the complainant believed the smell was coming from the plant due to a new requirement that used tires be used in the production of asphalt.

In December 2006, a complaint was received that the plant had expanded its operation by increasing the amount of equipment and replacing older equipment. Upon inspection with the plant management it was determined that the plant was expanded and new equipment was installed without the issuance of building permits. The required permits were eventually applied for and issued. The last building permit was finaled in May 2009.

Please refer to the two letters in your file dated September 27, 2009, and Follow-up to letter dated September 27, 2009, for more detailed information by one of the complainants.

If you have any questions, please contact me at 209-468-3385.

***

Appendix C
Traffic Data

ESA

Appendix C-1

Existing Roadway Traffic Volume Counts

ESA

Tuesday 09/30/08		Wednesday 10/01/08		Thursday 10/02/08	
Road: East River Road		Road: East River Road		Road: East River Road	
East of Munn & Perkins Plant		East of Munn & Perkins Plant		East of Munn & Perkins Plant	
Hour	**Totals**	**Hour**	**Totals**	**Hour**	**Totals**
	Hourly Totals:		Hourly Totals:		Hourly Totals:
0:00	11	0:00	13	0:00	16
1:00	4	1:00	3	1:00	9
2:00	12	2:00	9	2:00	10
3:00	46	3:00	43	3:00	41
4:00	67	4:00	66	4:00	63
5:00	129	5:00	109	5:00	130
6:00	292	6:00	345	6:00	357
7:00	385	7:00	386	7:00	398
8:00	286	8:00	270	8:00	329
9:00	189	9:00	191	9:00	203
10:00	216	10:00	222	10:00	234
11:00	187	11:00	188	11:00	256
12:00	184	12:00	184	12:00	254
13:00	220	13:00	196	13:00	237
14:00	220	14:00	238	14:00	315
15:00	307	15:00	307	15:00	386
16:00	412	16:00	372	16:00	393
17:00	333	17:00	351	17:00	411
18:00	269	18:00	302	18:00	334
19:00	203	19:00	184	19:00	189
20:00	136	20:00	121	20:00	135
21:00	87	21:00	95	21:00	99
22:00	72	22:00	61	22:00	60
23:00	35	23:00	48	23:00	43
Total:	**4302**	**Total:**	**4304**	**Total:**	**4902**
SOURCE: National Data & Surveying Services					

Tuesday 09/30/08		Wednesday 10/01/08		Thursday 10/02/08	
Road: East River Road		Road: East River Road		Road: East River Road	
West of Munn & Perkins Plant		West of Munn & Perkins Plant		West of Munn & Perkins Plant	
Hour	**Totals**	**Hour**	**Totals**	**Hour**	**Totals**
	Hourly Totals:		Hourly Totals:		Hourly Totals:
0:00	15	0:00	18	0:00	19
1:00	6	1:00	3	1:00	14
2:00	15	2:00	10	2:00	16
3:00	51	3:00	50	3:00	47
4:00	73	4:00	67	4:00	69
5:00	142	5:00	119	5:00	149
6:00	296	6:00	366	6:00	385
7:00	404	7:00	367	7:00	426
8:00	291	8:00	294	8:00	332
9:00	208	9:00	194	9:00	235
10:00	218	10:00	235	10:00	247
11:00	208	11:00	210	11:00	268
12:00	204	12:00	214	12:00	297
13:00	243	13:00	225	13:00	260
14:00	257	14:00	287	14:00	322
15:00	312	15:00	323	15:00	363
16:00	411	16:00	384	16:00	381
17:00	334	17:00	334	17:00	385
18:00	273	18:00	301	18:00	336
19:00	203	19:00	182	19:00	186
20:00	136	20:00	121	20:00	132
21:00	89	21:00	97	21:00	98
22:00	72	22:00	65	22:00	66
23:00	40	23:00	51	23:00	42
Total:	**4501**	**Total:**	**4517**	**Total:**	**5075**
SOURCE: National Data & Surveying Services					

MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

SAN JOAQUIN COUNTY
McHENRY AV. btwn MEYERS RD. & JONES RD.

Site Code: 1
mchenry1

Start	28-Feb-11	NB		SB		01-Mar-11	NB		SB		02-Mar-11	NB		SB		Total	
Time	Mon	A.M.	P.M.	A.M.	P.M.	Tue	A.M.	P.M.	A.M.	P.M.	Wed	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		6	77	3	91		8	74	5	86		2	76	1	81	25	485
12:15		12	82	5	92		11	90	1	94		8	77	3	62	40	497
12:30		6	84	1	95		6	76	2	79		7	89	1	77	23	500
12:45		2	78	1	82		7	90	2	87		4	71	3	69	19	477
01:00		4	88	2	86		2	79	2	56		5	70	0	85	15	464
01:15		4	91	5	77		2	96	1	86		1	90	3	75	16	515
01:30		4	93	3	79		1	89	4	85		12	67	5	73	29	486
01:45		3	82	5	66		2	87	3	64		0	104	2	62	15	465
02:00		6	86	2	68		2	90	5	79		1	80	3	72	19	475
02:15		3	81	4	83		1	78	2	70		1	88	1	78	12	478
02:30		4	94	2	96		8	107	0	99		2	69	4	98	20	563
02:45		3	92	2	84		0	90	3	53		3	78	4	67	15	464
03:00		3	121	4	***91***		2	96	0	***120***		2	100	5	***108***	16	***636***
03:15		3	91	1	***98***		4	97	4	***110***		3	103	1	***91***	16	***590***
03:30		2	95	4	***118***		6	***114***	7	***117***		8	95	6	***135***	33	***674***
03:45		5	113	3	***94***		6	***115***	4	***100***		3	86	3	***84***	24	***592***
04:00		10	99	6	76		6	***115***	4	80		9	96	4	65	39	531
04:15		11	102	5	76		3	***121***	10	96		9	119	5	94	43	608
04:30		7	107	3	106		5	108	4	100		7	99	7	93	33	613
04:45		7	116	12	85		15	106	13	82		11	***98***	10	64	68	551
05:00		10	116	16	88		8	110	19	87		8	***121***	32	81	93	603
05:15		12	***113***	15	94		20	116	24	85		18	***129***	18	78	107	615
05:30		18	***129***	33	81		31	113	35	104		20	***110***	38	73	175	610
05:45		34	***124***	32	66		44	121	46	73		40	96	32	61	228	541
06:00		47	***129***	26	85		50	88	48	80		56	93	48	54	275	529
06:15		41	105	48	66		70	67	48	70		53	108	50	78	310	494
06:30		45	71	73	61		43	78	71	62		49	80	68	50	349	402
06:45		45	62	51	53		52	71	65	47		46	66	68	55	327	354
07:00		46	57	73	46		52	56	80	47		36	57	***92***	36	379	299
07:15		49	45	***112***	27		49	51	***125***	28		54	63	***117***	28	***506***	242
07:30		39	55	***113***	34		59	51	***131***	27		67	58	***141***	18	***550***	243
07:45		86	38	***79***	27		62	47	***101***	21		70	61	***96***	23	***494***	217
08:00		71	59	***95***	20		70	54	***82***	14		59	41	88	42	***465***	230
08:15		63	45	104	34		65	37	102	12		47	47	102	26	483	201
08:30		68	30	106	21		77	34	88	23		62	58	101	23	502	189
08:45		70	52	91	29		61	38	88	10		53	49	89	17	452	195
09:00		65	35	98	20		66	37	86	26		66	47	83	23	464	188
09:15		68	48	91	18		53	45	93	13		71	40	69	17	445	181
09:30		55	35	77	22		61	36	86	11		48	31	70	19	397	154
09:45		59	33	78	10		68	22	84	9		50	28	76	14	415	116
10:00		52	20	84	17		70	24	99	14		55	19	73	12	433	106
10:15		58	16	69	17		57	13	75	14		52	20	70	10	381	90
10:30		60	10	75	10		64	11	64	9		60	19	74	9	397	68
10:45		66	12	68	4		58	14	73	8		64	15	78	11	407	64
11:00		***73***	12	66	7		***64***	8	70	14		***57***	8	84	11	414	60
11:15		***72***	10	62	7		***76***	6	73	6		***59***	10	73	6	415	45
11:30		***81***	11	72	3		***74***	13	73	1		***80***	6	58	5	438	39
11:45		***79***	6	79	5		***83***	9	87	4		***69***	5	74	2	471	31
Total		1637	3350	2059	2715		1704	3288	2192	2662		1567	3240	2133	2515	11292	17770
Day Total		4987		4774			4992		4854			4807		4648		29062	
Percent		32.8%	67.2%	43.1%	56.9%		34.1%	65.9%	45.2%	54.8%		32.6%	67.4%	45.9%	54.1%		
Peak		11:00	05:15	07:15	03:00		11:00	03:30	07:15	03:00		11:00	04:45	07:00	03:00	07:15	03:00
Vol.		305	495	399	401		297	465	439	447		265	458	446	418	2015	2492
P.H.F.		0.941	0.959	0.883	0.850		0.895	0.961	0.838	0.931		0.828	0.888	0.791	0.774	0.916	0.924

MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

SAN JOAQUIN COUNTY
McHENRY AV. btwn MEYERS RD. & JONES RD.

Site Code: 1
mchenry1

Start	03-Mar-11	NB		SB		04-Mar-11	NB		SB		05-Mar-11	NB		SB		Total	
Time	Thu	A.M.	P.M.	A.M.	P.M.	Fri	A.M.	P.M.	A.M.	P.M.	Sat	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		8	65	1	98		7	86	7	61		16	101	10	96	49	507
12:15		12	91	5	90		11	74	5	74		16	81	3	***85***	52	495
12:30		7	71	6	78		8	93	1	95		11	74	7	***92***	40	503
12:45		2	78	0	74		9	90	3	74		7	79	5	***103***	26	498
01:00		4	94	1	72		4	91	2	86		8	78	8	***103***	27	524
01:15		7	105	3	98		3	99	4	76		6	87	6	75	29	540
01:30		4	97	5	79		6	80	5	93		4	85	7	74	31	508
01:45		4	85	3	64		4	96	1	61		9	82	4	74	25	462
02:00		7	67	1	64		3	84	6	83		9	75	4	96	30	469
02:15		0	81	1	80		5	92	1	99		4	86	4	79	15	517
02:30		2	82	3	120		4	96	7	101		3	91	1	86	20	576
02:45		7	88	4	80		2	107	2	***97***		5	89	7	61	27	522
03:00		5	110	2	96		8	96	2	***123***		6	100	2	84	25	***609***
03:15		2	110	3	94		4	94	5	***131***		6	75	6	92	26	***596***
03:30		3	87	3	104		2	106	6	***121***		3	***87***	4	118	21	***623***
03:45		10	***132***	5	75		8	83	3	91		1	***99***	2	86	29	***566***
04:00		4	***116***	6	95		1	104	7	92		5	***81***	5	81	28	569
04:15		6	***116***	6	90		8	109	7	98		5	***101***	5	73	37	587
04:30		6	***102***	3	99		6	114	5	111		14	87	8	71	42	584
04:45		11	103	17	82		4	103	16	93		6	77	10	71	64	529
05:00		8	110	15	***98***		11	***103***	14	90		4	79	12	73	64	553
05:15		19	127	22	***93***		16	***120***	27	93		5	71	8	57	97	561
05:30		24	126	36	***111***		31	***110***	31	113		14	58	7	75	143	593
05:45		51	101	34	***90***		49	***115***	26	86		20	76	10	56	190	524
06:00		46	97	53	93		58	101	47	77		18	72	14	69	236	509
06:15		51	107	53	68		57	117	51	81		36	71	28	53	276	497
06:30		53	94	61	68		66	89	53	85		45	58	40	50	318	444
06:45		63	68	59	51		53	69	60	50		50	37	25	39	310	314
07:00		43	59	92	52		61	51	88	45		38	42	26	34	348	283
07:15		49	57	112	36		49	67	110	49		30	49	43	28	393	286
07:30		63	54	***143***	35		60	53	***143***	49		42	49	52	37	503	277
07:45		72	53	***86***	22		86	54	***78***	35		39	58	37	27	398	249
08:00		85	48	***109***	29		79	56	***97***	31		35	52	59	38	464	254
08:15		57	50	***120***	31		70	40	***116***	32		51	44	51	40	465	237
08:30		61	57	105	26		84	63	120	20		51	34	77	21	498	221
08:45		62	53	98	23		77	50	76	25		44	37	69	18	426	206
09:00		45	43	85	21		74	47	93	23		50	40	63	29	410	203
09:15		52	43	73	29		60	38	88	19		66	35	67	18	406	182
09:30		39	47	92	17		52	41	92	27		55	35	***90***	21	420	188
09:45		65	36	81	13		82	38	76	18		49	32	***94***	16	447	153
10:00		65	22	84	22		57	30	82	15		64	29	***88***	24	440	142
10:15		55	31	96	13		51	25	85	14		65	28	***98***	26	450	137
10:30		70	27	98	9		64	22	91	13		84	23	87	19	494	113
10:45		62	8	73	7		63	18	82	3		65	22	81	18	426	76
11:00		***67***	8	83	14		***72***	18	91	18		***91***	26	84	13	***488***	97
11:15		***69***	15	68	8		***72***	25	84	10		***67***	24	99	15	***459***	97
11:30		***83***	15	79	8		***93***	14	85	11		***88***	24	87	7	***515***	79
11:45		***91***	9	80	7		***96***	12	85	4		***68***	10	78	22	***498***	64
Total		1681	3445	2268	2826		1850	3483	2266	2996		1478	2930	1682	2643	11225	18323
Day Total		5126		5094			5333		5262			4408		4325		29548	
Percent		32.8%	67.2%	44.5%	55.5%		34.7%	65.3%	43.1%	56.9%		33.5%	66.5%	38.9%	61.1%		
Peak		11:00	03:45	07:30	05:00		11:00	05:00	07:30	02:45		11:00	03:30	09:30	00:15	11:00	03:00
Vol.		310	466	458	392		333	448	434	472		314	368	370	383	1960	2394
P.H.F.		0.852	0.883	0.801	0.883		0.867	0.933	0.759	0.901		0.863	0.911	0.944	0.930	0.951	0.961

MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

STANISLAUS COUNTY
McHENRY AV. btwn RIVER RD. & HOGUE RD.

Site Code: 2
mchenry2

Start	28-Feb-11	NB		SB		01-Mar-11	NB		SB		02-Mar-11	NB		SB		Total	
Time	Mon	A.M.	P.M.	A.M.	P.M.	Tue	A.M.	P.M.	A.M.	P.M.	Wed	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		9	77	3	91		9	95	8	98		3	90	6	83	38	534
12:15		7	86	7	95		9	112	5	118		8	91	5	97	41	599
12:30		3	87	2	91		11	86	3	106		11	105	6	84	36	559
12:45		3	82	3	83		5	106	3	91		7	91	5	84	26	537
01:00		8	89	6	82		5	108	6	73		5	96	1	85	31	533
01:15		8	103	4	82		3	111	1	106		3	104	2	91	21	597
01:30		7	102	6	62		3	96	7	95		12	75	6	97	41	527
01:45		6	123	3	103		3	122	5	95		3	129	1	85	21	657
02:00		5	112	1	71		6	106	3	100		4	91	4	90	23	570
02:15		4	101	5	108		1	110	4	104		1	121	3	89	18	633
02:30		5	107	3	118		9	125	1	117		9	96	3	112	30	675
02:45		2	132	6	117		0	110	2	94		2	109	3	104	15	666
03:00		3	124	3	101		3	137	2	123		3	127	7	103	21	715
03:15		5	134	0	107		6	114	3	***138***		3	131	4	109	21	733
03:30		3	106	7	141		8	157	9	***138***		9	115	5	***130***	41	787
03:45		5	139	3	120		8	140	3	***164***		7	111	5	***115***	31	789
04:00		7	130	10	130		8	121	4	***127***		12	123	3	***106***	44	737
04:15		6	140	7	***129***		7	147	10	127		11	145	4	***110***	45	798
04:30		17	161	6	***143***		8	129	14	118		13	***139***	9	128	67	818
04:45		18	186	22	***138***		18	126	15	128		20	***124***	9	114	102	***816***
05:00		16	***171***	15	***132***		16	***133***	18	108		10	***148***	32	103	107	***795***
05:15		21	***220***	21	124		29	***152***	22	140		25	***167***	24	115	142	***918***
05:30		38	***210***	39	114		39	***143***	37	139		31	135	42	101	226	***842***
05:45		67	***215***	38	99		59	***152***	53	109		45	106	38	96	300	777
06:00		67	154	55	97		67	108	44	93		61	109	50	95	344	656
06:15		83	118	49	96		92	83	64	97		77	117	64	99	429	610
06:30		84	81	83	77		71	82	80	95		75	105	85	81	478	521
06:45		75	74	102	65		75	94	92	75		72	80	86	76	502	464
07:00		72	85	97	64		78	82	86	55		57	75	89	72	479	433
07:15		84	63	***157***	48		77	75	***147***	51		***66***	78	***149***	31	***680***	346
07:30		***74***	67	***170***	35		93	60	***172***	23		***77***	83	***169***	30	***755***	298
07:45		***95***	54	***174***	32		94	66	***167***	28		***112***	81	***170***	33	***812***	294
08:00		***100***	71	***117***	29		82	76	***104***	22		***78***	61	***116***	35	***597***	294
08:15		***88***	70	134	38		76	58	141	20		58	53	136	35	633	274
08:30		68	32	129	31		89	50	118	34		63	74	133	39	600	260
08:45		70	63	117	39		74	53	116	26		73	61	145	21	595	263
09:00		62	47	134	19		69	55	114	31		77	58	105	30	561	240
09:15		78	51	97	18		74	74	106	21		71	51	92	21	518	236
09:30		67	47	98	33		67	46	112	22		71	51	93	19	508	218
09:45		68	45	91	14		86	26	110	11		59	42	97	18	511	156
10:00		75	25	99	20		81	33	107	20		67	25	78	16	507	139
10:15		87	22	107	21		71	26	108	16		56	29	90	16	519	130
10:30		75	17	96	9		86	15	81	12		77	22	97	14	512	89
10:45		73	17	102	9		79	18	108	15		72	26	101	16	535	101
11:00		85	18	101	9		***81***	12	91	15		75	22	88	18	521	94
11:15		69	18	67	7		***93***	15	81	11		72	14	91	12	473	77
11:30		94	13	79	5		***84***	15	91	4		94	10	73	9	515	56
11:45		74	8	110	7		***93***	12	97	4		83	8	88	3	545	42
Total		2140	4397	2785	3403		2205	4172	2775	3557		2000	4104	2712	3270	14617	22903
Day Total		6537		6188			6377		6332			6104		5982		37520	
Percent		32.7%	67.3%	45.0%	55.0%		34.6%	65.4%	43.8%	56.2%		32.8%	67.2%	45.3%	54.7%		
Peak		07:30	05:00	07:15	04:15		11:00	05:00	07:15	03:15		07:15	04:30	07:15	03:30	07:15	04:45
Vol.		357	816	618	542		351	580	590	567		333	578	604	461	2844	3371
P.H.F.		0.893	0.927	0.888	0.948		0.934	0.954	0.858	0.864		0.743	0.865	0.888	0.887	0.876	0.918

MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

STANISLAUS COUNTY
McHENRY AV. btwn RIVER RD. & HOGUE RD.

Site Code: 2
mchenry2

Start	03-Mar-11	NB		SB		04-Mar-11	NB		SB		05-Mar-11	NB		SB		Total	
Time	Thu	A.M.	P.M.	A.M.	P.M.	Fri	A.M.	P.M.	A.M.	P.M.	Sat	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		5	88	7	105		9	101	13	96		19	111	13	87	66	588
12:15		10	116	8	105		14	107	8	94		19	103	14	104	73	629
12:30		8	88	10	97		11	110	4	89		13	99	8	***98***	54	581
12:45		6	105	1	100		12	104	4	95		13	98	6	***124***	42	626
01:00		8	114	4	82		3	94	3	95		16	103	12	***118***	46	606
01:15		9	125	5	96		6	112	1	96		8	111	7	***110***	36	650
01:30		5	106	6	102		9	126	9	117		12	117	8	94	49	662
01:45		5	106	5	99		4	105	2	85		8	96	7	77	31	568
02:00		6	93	1	80		5	110	6	80		8	96	3	112	29	571
02:15		4	111	2	94		7	117	5	101		13	108	5	109	36	640
02:30		3	90	4	127		5	120	5	127		4	104	4	92	25	660
02:45		6	129	2	127		5	135	6	117		7	122	8	96	34	726
03:00		4	127	5	110		9	114	4	***127***		7	120	5	94	34	692
03:15		5	135	1	105		3	129	6	***147***		6	101	5	86	26	703
03:30		9	138	8	126		2	141	5	***153***		5	106	3	121	32	***785***
03:45		10	142	8	129		9	103	6	***135***		2	***131***	3	115	38	***755***
04:00		9	161	4	103		10	128	7	120		7	***103***	7	92	44	***707***
04:15		6	150	5	***127***		14	137	7	130		5	***125***	5	101	42	***770***
04:30		11	117	12	***140***		7	131	5	140		14	***113***	3	89	52	730
04:45		17	***148***	14	***131***		17	121	17	147		16	102	15	105	96	754
05:00		16	***148***	23	***147***		14	***128***	18	130		7	92	10	74	88	719
05:15		32	***156***	21	114		28	***148***	23	123		7	100	13	95	124	736
05:30		32	***154***	48	121		37	***153***	33	133		15	82	8	98	173	741
05:45		63	111	44	137		56	***128***	41	139		17	98	14	89	235	702
06:00		62	126	46	124		70	125	39	113		29	82	16	74	262	644
06:15		75	139	76	94		79	134	56	87		45	111	32	72	363	637
06:30		86	110	89	84		83	108	75	115		61	64	43	71	437	552
06:45		95	103	84	68		80	78	80	88		64	70	47	54	450	461
07:00		57	83	94	63		71	82	96	58		53	57	28	49	399	392
07:15		***77***	71	138	59		75	81	126	60		40	59	50	51	506	381
07:30		***95***	80	***183***	37		79	66	***172***	63		54	63	58	45	***641***	354
07:45		***100***	83	***152***	37		105	64	***136***	47		49	58	59	34	***601***	323
08:00		***94***	62	***125***	42		85	72	***116***	39		55	59	56	32	***531***	306
08:15		67	60	***149***	50		88	55	***141***	35		67	59	72	40	***584***	299
08:30		74	81	129	41		89	78	138	28		61	50	84	38	575	316
08:45		84	61	130	28		96	59	115	34		58	50	96	28	579	260
09:00		52	54	122	29		91	64	112	30		73	51	87	24	537	252
09:15		68	55	107	31		73	54	102	21		78	41	85	29	513	231
09:30		66	58	104	34		84	51	115	29		63	44	116	35	548	251
09:45		89	46	92	14		91	49	104	32		87	40	101	29	564	210
10:00		69	43	87	19		63	43	95	20		74	38	94	22	482	185
10:15		73	49	102	17		67	42	102	20		83	35	116	39	543	202
10:30		75	37	111	16		94	30	97	24		87	36	109	18	573	161
10:45		98	25	103	12		74	23	110	10		82	35	97	32	564	137
11:00		75	15	93	20		***99***	24	105	24		***98***	29	***86***	27	556	139
11:15		85	25	81	13		***95***	23	86	14		***90***	26	***120***	20	557	121
11:30		88	22	98	13		***98***	24	127	10		***94***	28	***135***	18	640	115
11:45		101	11	86	11		***113***	26	102	15		***98***	16	***100***	19	600	98
Total		2194	4457	2829	3660		2338	4357	2785	3832		1891	3742	2073	3280	14110	23328
Day Total		6651		6489			6695		6617			5633		5353		37438	
Percent		33.0%	67.0%	43.6%	56.4%		34.9%	65.1%	42.1%	57.9%		33.6%	66.4%	38.7%	61.3%		
Peak		07:15	04:45	07:30	04:15		11:00	05:00	07:30	03:00		11:00	03:45	11:00	00:30	07:30	03:30
Vol.		366	606	609	545		405	557	565	562		380	472	441	450	2357	3017
P.H.F.		0.915	0.941	0.832	0.927		0.896	0.910	0.821	0.918		0.969	0.901	0.817	0.907	0.919	0.961

MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

SAN JOAQUIN COUNTY
SANTA FE RD. btwn HALL RD. & HENRY RD.

Site Code: 3
santa fe3

Start	28-Feb-11	NB		SB		01-Mar-11	NB		SB		02-Mar-11	NB		SB		Total	
Time	Mon	A.M.	P.M.	A.M.	P.M.	Tue	A.M.	P.M.	A.M.	P.M.	Wed	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		3	46	6	57		5	44	7	64		4	56	5	57	30	324
12:15		5	57	3	78		5	53	9	57		3	51	12	61	37	357
12:30		2	69	5	65		4	40	9	55		4	60	8	48	32	337
12:45		0	50	6	88		3	72	3	57		3	66	7	74	22	407
01:00		6	45	3	44		3	76	10	71		3	69	1	62	26	367
01:15		5	67	4	53		3	69	3	74		1	60	3	62	19	385
01:30		4	69	5	68		2	71	4	73		2	68	5	61	22	410
01:45		6	70	5	39		6	61	3	71		5	61	4	56	29	358
02:00		9	66	4	56		7	64	4	60		2	64	3	82	29	392
02:15		8	59	2	89		5	***75***	3	72		4	74	1	81	23	450
02:30		3	64	2	95		3	***76***	3	83		2	***80***	2	100	15	498
02:45		6	***73***	0	101		4	***75***	1	92		5	***68***	2	76	18	485
03:00		3	***59***	1	88		3	***71***	2	106		3	***59***	2	88	14	471
03:15		8	***102***	1	84		7	69	3	116		7	***87***	2	100	28	***558***
03:30		9	***65***	3	109		11	70	10	98		11	66	7	100	51	***508***
03:45		11	54	7	111		15	75	4	89		15	52	4	102	56	***483***
04:00		27	68	6	106		17	73	2	***114***		9	71	3	110	64	***542***
04:15		20	77	5	***100***		32	50	9	***116***		30	75	7	***118***	103	536
04:30		30	58	6	***127***		30	51	7	***104***		24	49	5	***97***	102	486
04:45		22	67	5	***123***		34	54	9	***102***		25	41	5	***102***	100	489
05:00		27	54	10	***134***		18	69	6	91		37	53	8	***114***	106	515
05:15		40	65	6	92		47	47	4	97		33	65	11	72	141	438
05:30		48	47	13	88		55	55	14	90		51	64	9	97	190	441
05:45		50	56	10	82		55	48	10	91		60	56	8	80	193	413
06:00		74	53	13	74		79	51	18	56		75	33	8	70	267	337
06:15		***116***	37	21	51		92	56	18	67		85	44	23	65	355	320
06:30		***110***	31	26	55		101	37	34	60		90	33	34	44	395	260
06:45		***83***	39	31	45		76	34	45	61		73	25	38	40	346	244
07:00		***78***	29	48	36		77	30	40	40		78	25	30	47	351	207
07:15		85	27	46	39		82	23	50	43		81	22	54	38	398	192
07:30		109	26	41	32		***89***	22	43	34		***70***	24	***59***	32	***411***	170
07:45		77	25	53	28		***107***	27	57	21		***113***	25	***77***	26	***484***	152
08:00		62	22	48	32		***101***	28	49	25		***132***	33	***57***	33	***449***	173
08:15		86	19	47	31		***104***	20	79	28		***87***	23	***78***	27	***481***	148
08:30		39	24	55	16		88	22	74	19		41	20	59	24	356	125
08:45		50	19	42	20		58	24	55	24		44	17	56	26	305	130
09:00		67	22	54	23		53	20	48	22		61	21	53	22	336	130
09:15		68	25	41	16		62	21	47	14		72	19	65	21	355	116
09:30		51	15	73	22		46	11	52	19		53	19	61	17	336	103
09:45		45	13	47	17		63	17	52	19		69	14	59	19	335	99
10:00		52	12	44	9		60	9	52	13		57	12	62	18	327	73
10:15		34	7	36	14		58	10	50	21		55	13	48	12	281	77
10:30		69	16	52	13		41	11	66	19		68	9	52	19	348	87
10:45		65	4	***52***	10		61	9	45	21		60	8	75	21	358	73
11:00		53	8	***65***	12		46	9	***56***	15		39	5	56	18	315	67
11:15		40	10	***57***	10		58	12	***64***	9		62	10	43	9	324	60
11:30		30	3	***54***	11		64	6	***73***	5		50	4	51	9	322	38
11:45		59	1	32	8		52	3	***69***	8		53	7	72	7	337	34
Total		1954	1994	1196	2701		2092	2020	1375	2706		2011	1980	1394	2664	10022	14065
Day Total		3948		3897			4112		4081			3991		4058		24087	
Percent		49.5%	50.5%	30.7%	69.3%		50.9%	49.1%	33.7%	66.3%		50.4%	49.6%	34.4%	65.6%		
Peak		06:15	02:45	10:45	04:15		07:30	02:15	11:00	04:00		07:30	02:30	07:30	04:15	07:30	03:15
Vol.		387	299	228	484		401	297	262	436		402	294	271	431	1825	2091
P.H.F.		0.834	0.733	0.877	0.903		0.937	0.977	0.829	0.940		0.761	0.845	0.869	0.913	0.943	0.937

MARKS TRAFFIC DATA

mietekm@comcast.net
916.806.0250

SAN JOAQUIN COUNTY
SANTA FE RD. btwn HALL RD. & HENRY RD.

Site Code: 3
santa fe3

Start	03-Mar-11	NB		SB		04-Mar-11	NB		SB		05-Mar-11	NB		SB		Total	
Time	Thu	A.M.	P.M.	A.M.	P.M.	Fri	A.M.	P.M.	A.M.	P.M.	Sat	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		1	40	7	45		4	33	6	45		3	39	6	62	27	264
12:15		3	36	9	35		2	60	11	51		7	57	12	59	44	298
12:30		1	47	9	37		1	51	7	48		2	40	7	55	27	278
12:45		4	48	5	49		1	47	11	59		12	43	6	62	39	308
01:00		3	55	4	63		1	47	5	48		5	31	8	46	26	290
01:15		4	56	3	49		1	49	6	41		4	46	5	42	23	283
01:30		2	48	4	41		5	47	9	59		5	45	2	56	27	296
01:45		3	59	5	48		5	55	4	45		5	45	5	42	27	294
02:00		3	60	3	53		4	49	0	56		5	41	1	63	16	322
02:15		3	41	2	77		4	55	5	54		5	45	2	60	21	332
02:30		7	39	2	81		2	***67***	2	71		11	38	6	55	30	351
02:45		0	70	3	74		5	***67***	2	84		9	36	3	55	22	386
03:00		5	41	1	90		5	***72***	3	92		2	***40***	6	58	22	393
03:15		7	67	2	105		10	***61***	1	89		5	***69***	7	63	32	454
03:30		12	56	5	102		12	49	4	98		4	***49***	5	60	42	414
03:45		20	56	3	82		7	40	4	104		5	***49***	4	55	43	386
04:00		17	41	4	82		22	63	2	97		11	35	2	***70***	58	388
04:15		25	57	3	92		24	50	6	***115***		10	47	4	***62***	72	423
04:30		26	***50***	4	***104***		27	66	3	***105***		11	38	1	***84***	72	***447***
04:45		22	***68***	4	***119***		24	58	4	***107***		12	56	7	***82***	73	***490***
05:00		38	***68***	3	***114***		27	74	7	***109***		10	57	9	56	94	***478***
05:15		42	***65***	8	***104***		43	56	9	103		21	37	7	66	130	***431***
05:30		56	50	9	91		48	68	15	92		31	45	8	60	167	406
05:45		52	52	9	71		56	60	20	98		28	39	6	44	171	364
06:00		***75***	45	10	88		***74***	56	16	89		***51***	58	7	44	233	380
06:15		***76***	62	29	68		***95***	56	28	82		***50***	35	18	59	296	362
06:30		***112***	58	29	50		***105***	49	38	86		***49***	48	13	46	346	337
06:45		***96***	30	31	63		***100***	32	26	73		***49***	32	15	42	317	272
07:00		51	33	38	41		62	29	37	68		33	24	14	43	235	238
07:15		91	40	57	42		78	36	***59***	37		35	27	16	32	***336***	214
07:30		86	30	48	37		100	40	***53***	42		29	31	26	23	***342***	203
07:45		85	24	***49***	45		105	28	***44***	34		33	30	33	29	***349***	190
08:00		81	28	***60***	27		84	35	***50***	32		39	29	28	27	***342***	178
08:15		67	22	***68***	24		64	25	53	26		37	18	23	31	312	146
08:30		48	25	***51***	22		50	15	50	24		39	29	49	27	287	142
08:45		56	16	41	25		53	21	37	30		52	24	32	23	271	139
09:00		43	21	35	17		47	28	45	30		37	20	36	22	243	138
09:15		46	22	39	28		45	21	43	30		39	31	24	18	236	150
09:30		31	26	48	26		41	30	40	28		34	22	43	19	237	151
09:45		36	24	42	12		41	19	46	23		38	22	42	25	245	125
10:00		40	13	47	23		40	20	43	15		37	18	46	15	253	104
10:15		41	12	43	15		48	25	51	13		67	11	34	25	284	101
10:30		37	10	55	15		39	14	39	27		48	10	***58***	25	276	101
10:45		52	8	49	21		39	9	43	21		41	7	***45***	15	269	81
11:00		43	10	46	10		49	10	52	21		30	13	***60***	23	280	87
11:15		44	11	39	11		45	12	55	17		39	18	***47***	18	269	87
11:30		35	3	58	10		39	4	45	15		44	8	57	8	278	48
11:45		37	6	52	8		52	7	39	10		48	3	45	9	273	43
Total		1765	1849	1175	2536		1835	1965	1178	2743		1221	1635	940	2065	8114	12793
Day Total		3614		3711			3800		3921			2856		3005		20907	
Percent		48.8%	51.2%	31.7%	68.3%		48.3%	51.7%	30.0%	70.0%		42.8%	57.2%	31.3%	68.7%		
Peak		06:00	04:30	07:45	04:30		06:00	02:30	07:15	04:15		06:00	03:00	10:30	04:00	07:15	04:30
Vol.		359	251	228	441		374	267	206	436		199	207	210	298	1369	1846
P.H.F.		0.801	0.923	0.838	0.926		0.890	0.927	0.873	0.948		0.975	0.750	0.875	0.887	0.981	0.942

Appendix C-2

Highway Capacity Software (HCS) Level of Service Calculation Sheets – Existing Conditions

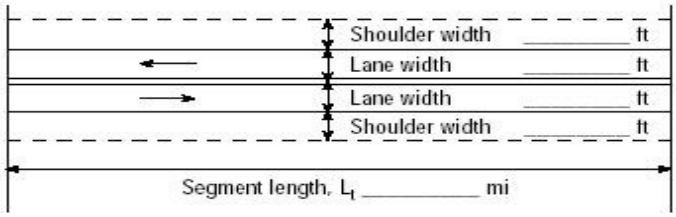
ESA

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Peter Costa*	Highway	*East River Road*
Agency or Company	*ESA*	From/To	*McHenry Ave to Site Access Rd*
Date Performed	*3/17/2011*	Jurisdiction	*San Joaquin County*
Analysis Time Period	*9:00 PM - 10:00 PM*	Analysis Year	*2011*

Project Description: *211086 - Munn & Perkins Quarry Project*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*95* veh/h
Directional split	*62 / 38*
Peak-hour factor, PHF	*0.70*
No-passing zone	*75*
% Trucks and Buses , P_T	*3* %
% Recreational vehicles, P_R	*0*%
Access points/ *mi*	*0*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*136*
v_p * highest directional split proportion[2] (pc/h)	*84*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*1.3 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.0 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.7 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*1.7*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*50.9*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*136*
v_p * highest directional split proportion[2] (pc/h)	*84*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*11.3*
Adj. for directional distribution and no-passing zone, $f_{d/hp}$(%)(Exh. 20-12)	*24.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*35.2*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*B*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.04*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*44*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*123*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.9*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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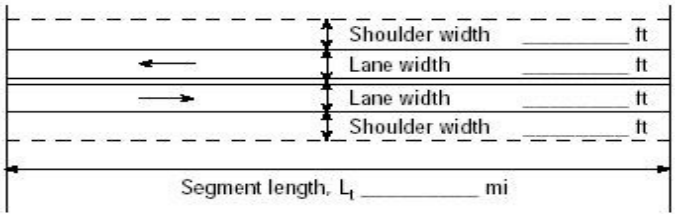
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Peter Costa*	Highway	*East River Road*
Agency or Company	*ESA*	From/To	*Site Access Rd to Santa Fe Rd*
Date Performed	*3/17/2011*	Jurisdiction	*San Joaquin County*
Analysis Time Period	*9:00 PM - 10:00 PM*	Analysis Year	*2011*

Project Description: *211086 - Munn & Perkins Quarry Project*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*94* veh/h
Directional split	*63 / 37*
Peak-hour factor, PHF	*0.64*
No-passing zone	*75*
% Trucks and Buses , P_T	*3* %
% Recreational vehicles, P_R	*0*%
Access points/ *mi*	*1*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*147*
v_p * highest directional split proportion[2] (pc/h)	*93*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*1.3 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.3 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.5 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*1.9*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*50.4*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*147*
v_p * highest directional split proportion[2] (pc/h)	*93*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*12.1*
Adj. for directional distribution and no-passing zone, $f_{d/hp}$(%)(Exh. 20-12)	*24.1*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*36.2*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*B*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.05*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*48*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*122*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*1.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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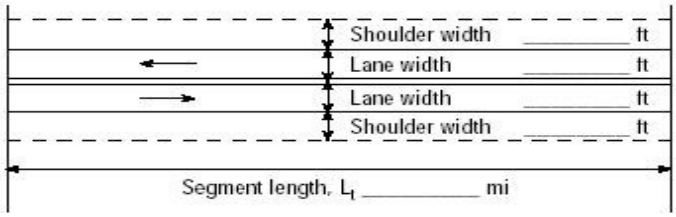
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Peter Costa*	Highway	*McHenry Rd*
Agency or Company	*ESA*	From/To	*East River Rd to Hogue Rd*
Date Performed	*3/17/2011*	Jurisdiction	*San Joaquin County*
Analysis Time Period	*9:00 PM - 10:00 PM*	Analysis Year	*2011*

Project Description: *211086 - Munn & Perkins Quarry Project*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*299* veh/h
Directional split	*69 / 31*
Peak-hour factor, PHF	*0.87*
No-passing zone	*36*
% Trucks and Buses , P_T	*3* %
% Recreational vehicles, P_R	*0*%
Access points/ *mi*	*1*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*344*
v_p * highest directional split proportion[2] (pc/h)	*237*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*1.3 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.3 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.5 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*2.1*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*48.6*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*344*
v_p * highest directional split proportion[2] (pc/h)	*237*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*26.1*
Adj. for directional distribution and no-passing zone, $f_{d/hp}$(%)(Exh. 20-12)	*16.7*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*42.8*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.11*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*77*

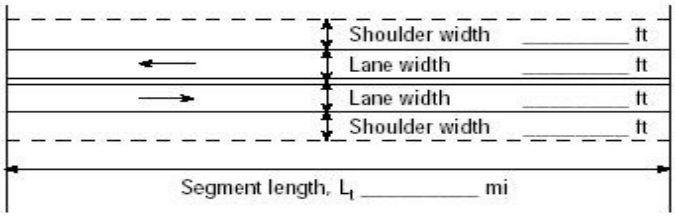
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*269*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*1.6*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Peter Costa*	Highway	*McHenry Rd*
Agency or Company	*ESA*	From/To	*Meyers Rd to Jones Rd*
Date Performed	*3/17/2011*	Jurisdiction	*San Joaquin County*
Analysis Time Period	*9:00 PM - 10:00 PM*	Analysis Year	*2011*

Project Description: *211086 - Munn & Perkins Quarry Project*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*222* veh/h
Directional split	*68 / 32*
Peak-hour factor, PHF	*0.85*
No-passing zone	*19*
% Trucks and Buses , P_T	*3* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*2*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*261*
v_p * highest directional split proportion[2] (pc/h)	*177*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*1.3 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.5 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.2 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.9*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*50.3*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*261*
v_p * highest directional split proportion[2] (pc/h)	*177*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*20.5*
Adj. for directional distribution and no-passing zone, $f_{d/hp}$(%)(Exh. 20-12)	*12.3*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*32.8*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*B*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.08*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*20*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*67*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.4*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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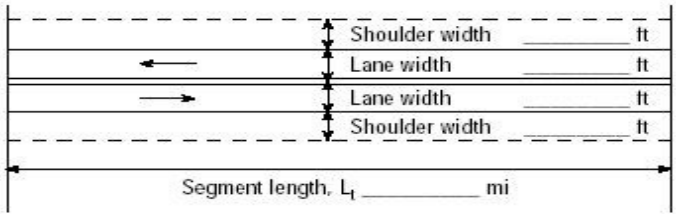
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Peter Costa*	Highway	*Santa Fe Rd*
Agency or Company	*ESA*	From/To	*Hall Rd to Henry Rd*
Date Performed	*3/17/2011*	Jurisdiction	*San Joaquin County*
Analysis Time Period	*9:00 PM - 10:00 PM*	Analysis Year	*2011*

Project Description: *211086 - Munn & Perkins Quarry Project*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*157* veh/h
Directional split	*51 / 49*
Peak-hour factor, PHF	*0.94*
No-passing zone	*95*
% Trucks and Buses , P_T	*3* %
% Recreational vehicles, P_R	*0*%
Access points/ *mi*	*1*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*167*
v_p * highest directional split proportion[2] (pc/h)	*85*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*1.3 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.3 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.5 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*2.7*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*49.4*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*167*
v_p * highest directional split proportion[2] (pc/h)	*85*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*13.7*
Adj. for directional distribution and no-passing zone, $f_{d/hp}$(%)(Exh. 20-12)	*21.4*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*35.0*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.05*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*38*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*141*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.8*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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Appendix C-3

Highway Capacity Software (HCS) Level of Service Calculation Sheets – Existing Plus Project Conditions

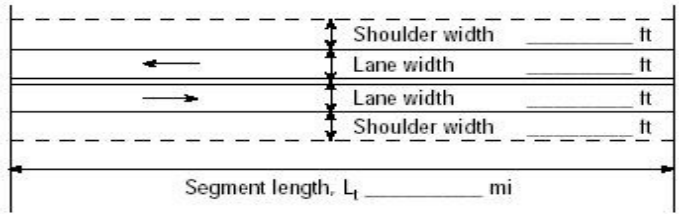
ESA

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Peter Costa*	Highway	*East River Road*
Agency or Company	*ESA*	From/To	*McHenry Ave to Site Access Rd*
Date Performed	*3/17/2011*	Jurisdiction	*San Joaquin County*
Analysis Time Period	*9:00 PM - 10:00 PM*	Analysis Year	*2011*

Project Description: *211086 - Munn & Perkins Quarry Project*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*161* veh/h
Directional split	*62 / 38*
Peak-hour factor, PHF	*0.70*
No-passing zone	*75*
% Trucks and Buses , P_T	*3* %
% Recreational vehicles, P_R	*0*%
Access points/ *mi*	*0*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*230*
v_p * highest directional split proportion[2] (pc/h)	*143*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*1.3 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.0 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.7 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*2.7*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*49.2*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*230*
v_p * highest directional split proportion[2] (pc/h)	*143*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*18.3*
Adj. for directional distribution and no-passing zone, $f_{d/hp}$(%)(Exh. 20-12)	*23.1*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*41.4*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.07*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*75*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*209*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*1.5*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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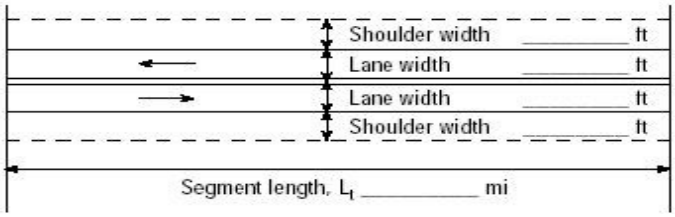
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Peter Costa*	Highway	*East River Road*
Agency or Company	*ESA*	From/To	*Site Access Rd to Santa Fe Rd*
Date Performed	*3/17/2011*	Jurisdiction	*San Joaquin County*
Analysis Time Period	*9:00 PM - 10:00 PM*	Analysis Year	*2011*

Project Description: *211086 - Munn & Perkins Quarry Project*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*160* veh/h
Directional split	*63 / 37*
Peak-hour factor, PHF	*0.64*
No-passing zone	*75*
% Trucks and Buses , P_T	*3* %
% Recreational vehicles, P_R	*0*%
Access points/ *mi*	*1*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*250*
v_p * highest directional split proportion[2] (pc/h)	*158*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*1.3 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.3 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.5 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*2.9*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*48.6*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*250*
v_p * highest directional split proportion[2] (pc/h)	*158*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*19.7*
Adj. for directional distribution and no-passing zone, $f_{d/hp}$(%)(Exh. 20-12)	*23.1*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*42.8*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.08*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*81*

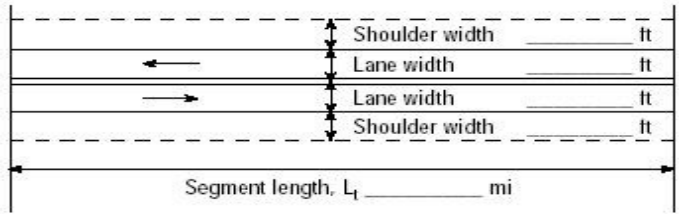
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*208*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*1.7*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Peter Costa*	Highway	*McHenry Rd*
Agency or Company	*ESA*	From/To	*East River Rd to Hogue Rd*
Date Performed	*3/17/2011*	Jurisdiction	*San Joaquin County*
Analysis Time Period	*9:00 PM - 10:00 PM*	Analysis Year	*2011*

Project Description: *211086 - Munn & Perkins Quarry Project*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*365* veh/h
Directional split	*69 / 31*
Peak-hour factor, PHF	*0.87*
No-passing zone	*36*
% Trucks and Buses , P_T	*3* %
% Recreational vehicles, P_R	*0*%
Access points/ *mi*	*1*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*420*
v_p * highest directional split proportion[2] (pc/h)	*290*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*1.3 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.3 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.5 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*2.5*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*47.7*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*420*
v_p * highest directional split proportion[2] (pc/h)	*290*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*30.9*
Adj. for directional distribution and no-passing zone, $f_{d/hp}$(%)(Exh. 20-12)	*16.1*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*46.9*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.13*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*94*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*328*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*2.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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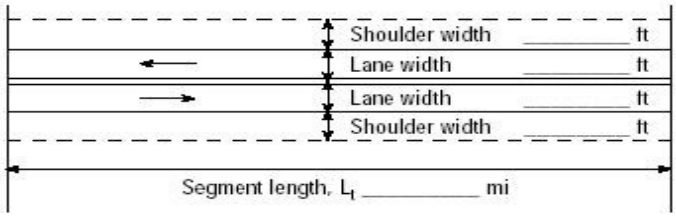
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Peter Costa*	Highway	*McHenry Rd*
Agency or Company	*ESA*	From/To	*Meyers Rd to Jones Rd*
Date Performed	*3/17/2011*	Jurisdiction	*San Joaquin County*
Analysis Time Period	*9:00 PM - 10:00 PM*	Analysis Year	*2011*

Project Description: *211086 - Munn & Perkins Quarry Project*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*288* veh/h
Directional split	*68 / 32*
Peak-hour factor, PHF	*0.85*
No-passing zone	*19*
% Trucks and Buses , P_T	*3* %
% Recreational vehicles, P_R	*0*%
Access points/ *mi*	*2*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*339*
v_p * highest directional split proportion[2] (pc/h)	*231*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*1.3 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.5 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.2 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*1.3*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*49.3*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*339*
v_p * highest directional split proportion[2] (pc/h)	*231*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*25.8*
Adj. for directional distribution and no-passing zone, $f_{d/hp}$(%)(Exh. 20-12)	*12.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*37.8*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.11*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*25*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*86*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.5*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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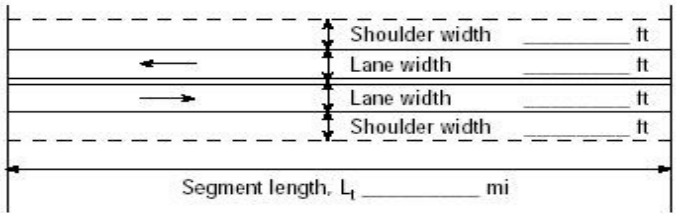
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*Peter Costa*	Highway	*Santa Fe Rd*
Agency or Company	*ESA*	From/To	*Hall Rd to Henry Rd*
Date Performed	*3/17/2011*	Jurisdiction	*San Joaquin County*
Analysis Time Period	*9:00 PM - 10:00 PM*	Analysis Year	*2011*

Project Description: *211086 - Munn & Perkins Quarry Project*

Input Data



☑ Class I highway ☐ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*223* veh/h
Directional split	*51 / 49*
Peak-hour factor, PHF	*0.94*
No-passing zone	*95*
% Trucks and Buses , P_T	*3* %
% Recreational vehicles, P_R	*0*%
Access points/ *mi*	*1*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*237*
v_p * highest directional split proportion[2] (pc/h)	*121*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*1.3 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*0.3 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.5 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*3.5*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*48.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*237*
v_p * highest directional split proportion[2] (pc/h)	*121*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*18.8*
Adj. for directional distribution and no-passing zone, $f_{d/hp}$(%)(Exh. 20-12)	*22.3*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*41.1*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.07*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*53*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*201*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*1.1*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

Appendix D
Air Quality

ESA

```
**

**************************************

**

** AERMOD Input Produced
by:
** AERMOD View Ver.
6.0.0
** Lakes Environmental Software
Inc.
** Date:
4/4/2011

** File: E:\M&P Modeling-
Final\AERMOD\m&p.ADI
**

**************************************

**

**

**************************************

** AERMOD Control
Pathway
**************************************

**

**

CO
STARTING
```

```
   TITLEONE E:\AERMOD\Munn and
   Perkins\m&p.isc
   MODELOPT DFAULT
   CONC
   AVERTIME 1
   PERIOD

   POLLUTID
   H2S

   FLAGPOLE
   1.80

   RUNORNOT
   RUN

CO
FINISHED

**

**********************************

** AERMOD Source
Pathway
**********************************

**

**

SO
STARTING

** Source Location
**
```

```
** Source ID - Type - X Coord. - Y Coord.
**
   LOCATION STCK1 POINT 678574.590 4181029.540
   0.0
   LOCATION CVOL1 VOLUME 678552.790 4181075.330
   0.0
   LOCATION CVOL2 VOLUME 678555.410 4181078.470
   0.0
** Source Parameters
**
   SRCPARAM STCK1 0.204746555902778 12.802 311.483 4.14293
   1.957
   SRCPARAM CVOL1 0.154347403680556 19.964 0.921
   4.643
   SRCPARAM CVOL2 0.154347403680556 19.964 0.921
   4.643


** Variable Emissions Type: "By
Hour-of-Day"
** Variable Emission Scenario: "Night
Emissions"
   EMISFACT STCK1 HROFDY 1 1 1 1 1
   0
   EMISFACT STCK1 HROFDY 0 0 0 0 0
   0
   EMISFACT STCK1 HROFDY 0 0 0 0 0
   0
   EMISFACT STCK1 HROFDY 0 0 1 1 1
   1
   EMISFACT CVOL2 HROFDY 1 1 1 1 1
   0
   EMISFACT CVOL2 HROFDY 0 0 0 0 0
   0
   EMISFACT CVOL2 HROFDY 0 0 0 0 0
   0
   EMISFACT CVOL2 HROFDY 0 0 1 1 1
```

```
   1
   EMISFACT CVOL1 HROFDY 1 1 1 1 1
   0
   EMISFACT CVOL1 HROFDY 0 0 0 0 0
   0
   EMISFACT CVOL1 HROFDY 0 0 0 0 0
   0
   EMISFACT CVOL1 HROFDY 0 0 1 1 1
   1
   SRCGROUP
   ALL

SO
FINISHED

**

**************************************

** AERMOD Receptor
Pathway
**************************************

**

**

RE
STARTING

** DESCRREC ""
""
   DISCCART    678282.41   4181440.95    0.00    0.00
   1.80
   DISCCART    678130.18   4181413.54    0.00    0.00
   1.80
   DISCCART    677859.21   4181258.27    0.00    0.00
```

```
   1.80
   DISCCART    679110.55   4181246.09    0.00    0.00
   1.80
   DISCCART    677743.51   4180801.57    0.00    0.00
   1.80
   DISCCART    679226.37   4180427.05    0.00    0.00
   1.80
   DISCCART    679297.62   4180483.66    0.00    0.00
   1.80
   DISCCART    679191.93   4180855.19    0.00    0.00
   1.80
RE
FINISHED

**

**************************************

** AERMOD Meteorology
Pathway
**************************************

**

**

ME
STARTING

   SURFFILE
   C:\DOCUME~1\pxb\Desktop\MUNNAN~1\Stockton\232370~1.SFC

   PROFFILE
   C:\DOCUME~1\pxb\Desktop\MUNNAN~1\Stockton\232370~1.PFL

   SURFDATA 23237
   2005
```

```
   UAIRDATA 23230 2005
   OAKLAND/WSO_AP
   PROFBASE 8
   METERS

ME
FINISHED

**

**************************************

** AERMOD Output
Pathway
**************************************

**

**

OU
STARTING

   RECTABLE 1
   1ST

** Auto-Generated
Plotfiles
   PLOTFILE 1 ALL 1ST
   M&P.AD\01H1GALL.PLT
   PLOTFILE PERIOD ALL
   M&P.AD\PE00GALL.PLT
OU FINISHED

**********************************
*** SETUP Finishes Successfully ***
**********************************
```

```
FF *** AERMOD - VERSION 07026 ***    *** E:\AERMOD\Munn and Perkins\m&p.isc
***        04/04/11
                                   ***
                                   ***        09:20:30
**MODELOPTs:
 PAGE   1
CONC                           DFAULT ELEV
FLGPOL

                                           ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - -

**Model Is Setup For Calculation of Average CONCentration Values.

  --  DEPOSITION LOGIC  --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO GAS DRY DEPOSITION Data Provided.

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:
           1. Stack-tip Downwash.
           2. Model Accounts for ELEVated Terrain Effects.
           3. Use Calms Processing Routine.
           4. Use Missing Data Processing Routine.
           5. No Exponential Decay

**Model Accepts FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:   1-HR
    and Calculates PERIOD Averages

**This Run Includes:     3 Source(s);      1 Source Group(s); and       8 Receptor(s)
```

```
**The Model Assumes A Pollutant Type of:  H2S

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     8.00 ;  Decay Coef. =    0.000     ;  Rot. Angle
=     0.0
                 Emission Units = GRAMS/SEC                             ;  Emission Rate Unit Factor =
                 0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =     1.2 MB of RAM.

FF *** AERMOD - VERSION 07026 ***    *** E:\AERMOD\Munn and Perkins\m&p.isc
***        04/04/11
                                   ***
                                   ***        09:20:30
**MODELOPTs:
 PAGE   2
CONC                        DFAULT ELEV
FLGPOL



                                              *** POINT SOURCE DATA ***


             NUMBER EMISSION RATE                    BASE     STACK    STACK    STACK     STACK    BLDG   URBAN
             CAP/  EMIS RATE
```

```
   SOURCE     PART.  (GRAMS/SEC)     X        Y      ELEV.    HEIGHT  TEMP.   EXIT VEL. DIAMETER  EXISTS SOURCE
   HOR   SCALAR
     ID       CATS.               (METERS) (METERS) (METERS) (METERS) (DEG.K)  (M/SEC)
     (METERS)                      VARY BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - -

  STCK1         0   0.20475E+00  678574.6 4181029.5     0.0    12.80   311.48     4.14     1.96    NO      NO
  NO   HROFDY
FF *** AERMOD - VERSION 07026 ***    *** E:\AERMOD\Munn and Perkins\m&p.isc
***        04/04/11
                                  ***
                                  ***        09:20:30
**MODELOPTs:
 PAGE   3
CONC                        DFAULT ELEV
FLGPOL



                                              *** VOLUME SOURCE DATA ***

            NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.   URBAN  EMISSION RATE
    SOURCE    PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ     SOURCE  SCALAR VARY
     ID       CATS.               (METERS) (METERS) (METERS) (METERS) (METERS) (METERS)             BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - -

  CVOL1         0   0.15435E+00  678552.8 4181075.2     0.0    19.96     0.92     4.64     NO     HROFDY
  CVOL2         0   0.15435E+00  678555.4 4181078.5     0.0    19.96     0.92     4.64     NO     HROFDY
FF *** AERMOD - VERSION 07026 ***    *** E:\AERMOD\Munn and Perkins\m&p.isc
***        04/04/11
                                  ***
                                  ***        09:20:30
**MODELOPTs:
 PAGE   4
CONC                        DFAULT ELEV
```

FLGPOL

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID SOURCE IDs

ALL STCK1 , CVOL1 , CVOL2 ,
FF *** AERMOD - VERSION 07026 *** *** E:\AERMOD\Munn and Perkins\m&p.isc
*** 04/04/11
***
*** 09:20:30
**MODELOPTs:
PAGE 5
CONC DFAULT ELEV
FLGPOL

* SOURCE EMISSION RATE SCALARS WHICH VARY FOR EACH HOUR OF THE DAY *

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

SOURCE ID = STCK1 ; SOURCE TYPE = POINT :

1	.10000E+01	2	.10000E+01	3	.10000E+01	4	.10000E+01	5	.10000E+01	6	.00000E+00
7	.00000E+00	8	.00000E+00	9	.00000E+00	10	.00000E+00	11	.00000E+00	12	.00000E+00
13	.00000E+00	14	.00000E+00	15	.00000E+00	16	.00000E+00	17	.00000E+00	18	.00000E+00
19	.00000E+00	20	.00000E+00	21	.10000E+01	22	.10000E+01	23	.10000E+01	24	.10000E+01

```
SOURCE ID = CVOL1    ;  SOURCE TYPE = VOLUME   :
      1   .10000E+01      2   .10000E+01      3   .10000E+01      4   .10000E+01      5   .10000E+01      6
      .00000E+00
      7   .00000E+00      8   .00000E+00      9   .00000E+00     10   .00000E+00     11   .00000E+00     12
      .00000E+00
     13   .00000E+00     14   .00000E+00     15   .00000E+00     16   .00000E+00     17   .00000E+00     18
     .00000E+00
     19   .00000E+00     20   .00000E+00     21   .10000E+01     22   .10000E+01     23   .10000E+01     24
     .10000E+01


SOURCE ID = CVOL2    ;  SOURCE TYPE = VOLUME   :
      1   .10000E+01      2   .10000E+01      3   .10000E+01      4   .10000E+01      5   .10000E+01      6
      .00000E+00
      7   .00000E+00      8   .00000E+00      9   .00000E+00     10   .00000E+00     11   .00000E+00     12
      .00000E+00
     13   .00000E+00     14   .00000E+00     15   .00000E+00     16   .00000E+00     17   .00000E+00     18
     .00000E+00
     19   .00000E+00     20   .00000E+00     21   .10000E+01     22   .10000E+01     23   .10000E+01     24
     .10000E+01

FF *** AERMOD - VERSION 07026 ***    *** E:\AERMOD\Munn and Perkins\m&p.isc
***        04/04/11
                                  ***
                                  ***        09:20:30
**MODELOPTs:
 PAGE   6
CONC                        DFAULT ELEV
FLGPOL


                                    *** DISCRETE CARTESIAN RECEPTORS ***
                                  (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                               (METERS)
```

```
   ( 678282.4, 4181441.0,       0.0,        0.0,        1.8);        ( 678130.2, 4181413.5,       0.0,
   0.0,       1.8);
   ( 677859.2, 4181258.2,       0.0,        0.0,        1.8);        ( 679110.6, 4181246.0,       0.0,
   0.0,       1.8);
   ( 677743.5, 4180801.5,       0.0,        0.0,        1.8);        ( 679226.4, 4180427.0,       0.0,
   0.0,       1.8);
   ( 679297.6, 4180483.8,       0.0,        0.0,        1.8);        ( 679191.9, 4180855.2,       0.0,
   0.0,       1.8);
FF *** AERMOD - VERSION 07026 ***    *** E:\AERMOD\Munn and Perkins\m&p.isc
***       04/04/11
                                         ***
                                         ***       09:20:30
**MODELOPTs:
 PAGE   7
CONC                          DFAULT ELEV
FLGPOL


                                                  *** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
                                                                   (1=YES; 0=NO)

           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1

                      METEOROLOGICAL DATA PROCESSED BETWEEN START DATE:    0   0  0  0
                                                        AND END DATE: 9999  99 99 24

                NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.
```

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

FF *** AERMOD - VERSION 07026 *** *** E:\AERMOD\Munn and Perkins\m&p.isc
*** 04/04/11
***
*** 09:20:30

**MODELOPTs:
PAGE 8
CONC DFAULT ELEV
FLGPOL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\DOCUME~1\pxb\Desktop\MUNNAN~1\Stockton\232370~1.SFC Met Version: 06341
Profile file: C:\DOCUME~1\pxb\Desktop\MUNNAN~1\Stockton\232370~1.PFL
Surface format:
(3(I2,1X),I3,1X,I2,1X,F6.1,1X,3(F6.3,1X),2(F5.0,1X),F8.1,1X,F6.3,1X,2(F6.2,1X),F7.2,1X,F5.0,3(1X,F6.1))
Profile format:
(4(I2,1X),F6.1,1X,I1,1X,F5.0,1X,F7.2,1X,F7.2,1X,F6.1,1X,F7.2)
Surface station no.: 23237 Upper air station no.: 23230
Name: UNKNOWN Name: OAKLAND/WSO_AP
Year: 2005 Year: 2005

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
05	01	01	1	01	-20.7	0.365	-9.000	-9.000	-999.	508.	213.1	0.08	0.83	1.00	4.60	171.	10.0	282.0	2.0
05	01	01	1	02	-18.2	0.321	-9.000	-9.000	-999.	419.	164.4	0.08	0.83	1.00	4.10	158.	10.0	281.4	2.0
05	01	01	1	03	-18.2	0.321	-9.000	-9.000	-999.	418.	164.4	0.08	0.83	1.00	4.10	144.	10.0	281.4	

```
2.0
05 01 01   1 04  -18.2  0.321 -9.000 -9.000 -999.  418.    164.0  0.08   0.83   1.00    4.10  143.   10.0  280.9
2.0
05 01 01   1 05  -15.7  0.276 -9.000 -9.000 -999.  334.    121.3  0.08   0.83   1.00    3.60  143.   10.0  280.9
2.0
05 01 01   1 06  -20.7  0.365 -9.000 -9.000 -999.  507.    212.6  0.08   0.83   1.00    4.60  152.   10.0  281.4
2.0
05 01 01   1 07  -26.6  0.309 -9.000 -9.000 -999.  397.    100.7  0.08   0.83   1.00    4.10  145.   10.0  280.4
2.0
05 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.06   0.83   0.73    0.00    0.   10.0  280.4
2.0
05 01 01   1 09   -1.4  0.298 -9.000 -9.000 -999.  374.   1733.3  0.08   0.83   0.39    3.60  147.   10.0  282.0
2.0
05 01 01   1 10   41.6  0.488  0.595  0.005  183.  784.   -252.7  0.08   0.83   0.27    5.70  171.   10.0  283.8
2.0
05 01 01   1 11   15.7  0.480  0.475  0.005  246.  766.   -638.9  0.08   0.83   0.23    5.70  174.   10.0  284.2
2.0
05 01 01   1 12   20.4  0.433  0.570  0.005  329.  658.   -361.1  0.08   0.83   0.22    5.10  146.   10.0  285.4
2.0
05 01 01   1 13   21.4  0.571  0.628  0.005  417.  991.   -783.9  0.09   0.83   0.21    6.70  183.   10.0  287.0
2.0
05 01 01   1 14   83.1  0.374  1.159  0.005  677.  557.    -56.8  0.08   0.83   0.22    4.10  179.   10.0  287.0
2.0
05 01 01   1 15   10.8  0.479  0.596  0.005  705.  761.   -915.1  0.08   0.83   0.26    5.70  172.   10.0  286.4
2.0
05 01 01   1 16    0.0  0.346  0.076  0.005  700.  479.  -8888.0  0.09   0.83   0.35    4.10  214.   10.0  283.8
2.0
05 01 01   1 17  -16.6  0.234 -9.000 -9.000 -999.  266.     69.5  0.10   0.83   0.60    3.10  311.   10.0  282.5
2.0
05 01 01   1 18   -2.8  0.063 -9.000 -9.000 -999.   78.      8.2  0.09   0.83   1.00    1.50  217.   10.0  282.0
2.0
05 01 01   1 19  -15.5  0.181 -9.000 -9.000 -999.  177.     34.6  0.05   0.83   1.00    3.10  134.   10.0  281.4
2.0
05 01 01   1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.06   0.83   1.00    0.00    0.   10.0  280.9
2.0
05 01 01   1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.06   0.83   1.00    0.00    0.   10.0  281.4
2.0
```

```
05 01 01   1 22  -19.5  0.228 -9.000 -9.000 -999.  250.     54.8  0.05   0.83   1.00    3.60  112.   10.0  280.9
2.0
05 01 01   1 23   -6.4  0.078 -9.000 -9.000 -999.   71.      6.7  0.05   0.83   1.00    2.10  100.   10.0  280.4
2.0
05 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.06   0.83   1.00    0.00    0.   10.0  279.2
2.0


First hour of profile data
YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
05 01 01 01   10.0 1  171.    4.60   282.1   99.0  -99.00  -99.00

F indicates top of profile (=1) or below (=0)
FF *** AERMOD - VERSION 07026 ***    *** E:\AERMOD\Munn and Perkins\m&p.isc
***        04/04/11
                                  ***
                                  ***        09:20:30
**MODELOPTs:
 PAGE   9
CONC                        DFAULT ELEV
FLGPOL

                           *** THE PERIOD ( 43776 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: ALL      ***
                               INCLUDING SOURCE(S):      STCK1   , CVOL1   , CVOL2   ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                     ** CONC OF H2S      IN MICROGRAMS/M**3                        **

      X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)   Y-COORD (M)        CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - -
        678282.44    4181441.00        0.19406                     678130.19    4181413.50
        0.18373
        677859.19    4181258.25        0.08318                     679110.56    4181246.00
        0.26730
        677743.50    4180801.50        0.05201                     679226.38    4180427.00
```

```
        0.27339
        679297.62    4180483.75        0.29739                      679191.94    4180855.25
        0.54417
FF *** AERMOD - VERSION 07026 ***    *** E:\AERMOD\Munn and Perkins\m&p.isc
***        04/04/11
                                  ***
                                  ***        09:20:30
**MODELOPTs:
 PAGE  10
CONC                         DFAULT ELEV
FLGPOL

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP:  ALL
                              ***
                                  INCLUDING SOURCE(S):      STCK1   , CVOL1   , CVOL2   ,

                                           *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                           ** CONC OF H2S      IN MICROGRAMS/M**3                          **

     X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)             X-COORD (M)  Y-COORD (M)        CONC
     (YYMMDDHH)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - -
       678282.44   4181441.00       19.44813  (06041605)               678130.19   4181413.50       18.84942
       (07111103)
       677859.19   4181258.25       16.70224  (08110104)               679110.56   4181246.00       17.62230
       (06101603)
       677743.50   4180801.50       13.63062  (08081301)               679226.38   4180427.00       14.04615
       (06062822)
       679297.62   4180483.75       15.23139  (05050421)               679191.94   4180855.25       17.46691
       (06072204)
FF *** AERMOD - VERSION 07026 ***    *** E:\AERMOD\Munn and Perkins\m&p.isc
***        04/04/11
                                  ***
                                  ***        09:20:30
**MODELOPTs:
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PAGE 11
CONC DFAULT ELEV
FLGPOL

*** THE SUMMARY OF MAXIMUM PERIOD (43776 HRS) RESULTS ***

** CONC OF H2S IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)				NETWORK OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	0.54417 AT (	679191.94,	4180855.25,	0.00,	0.00,	1.80)	DC	
	2ND HIGHEST VALUE IS	0.29739 AT (	679297.62,	4180483.75,	0.00,	0.00,	1.80)	DC	
	3RD HIGHEST VALUE IS	0.27339 AT (	679226.38,	4180427.00,	0.00,	0.00,	1.80)	DC	
	4TH HIGHEST VALUE IS	0.26730 AT (	679110.56,	4181246.00,	0.00,	0.00,	1.80)	DC	
	5TH HIGHEST VALUE IS	0.19406 AT (	678282.44,	4181441.00,	0.00,	0.00,	1.80)	DC	
	6TH HIGHEST VALUE IS	0.18373 AT (	678130.19,	4181413.50,	0.00,	0.00,	1.80)	DC	
	7TH HIGHEST VALUE IS	0.08318 AT (	677859.19,	4181258.25,	0.00,	0.00,	1.80)	DC	
	8TH HIGHEST VALUE IS	0.05201 AT (	677743.50,	4180801.50,	0.00,	0.00,	1.80)	DC	
	9TH HIGHEST VALUE IS	0.00000 AT (	0.00,	0.00,	0.00,	0.00,	0.00)		
	10TH HIGHEST VALUE IS	0.00000 AT (	0.00,	0.00,	0.00,	0.00,	0.00)		

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART

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                     DP = DISCPOLR
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 PAGE  12
CONC                        DFAULT ELEV
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                                          *** THE SUMMARY OF HIGHEST  1-HR RESULTS ***


                                       ** CONC OF H2S      IN MICROGRAMS/M**3                          **


                                                    DATE
                                                     NETWORK
GROUP ID                          AVERAGE CONC     (YYMMDDHH)             RECEPTOR  (XR, YR, ZELEV, ZHILL, ZFLAG)
OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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ALL      HIGH  1ST HIGH VALUE IS      19.44813  ON 06041605: AT (  678282.44,  4181441.00,      0.00,
0.00,      1.80)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
FF *** AERMOD - VERSION 07026 ***    *** E:\AERMOD\Munn and Perkins\m&p.isc
***        04/04/11
                                  ***
                                  ***        09:20:30
**MODELOPTs:
 PAGE  13
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CONC                        DFAULT ELEV
FLGPOL


*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            0 Warning Message(s)
A Total of         9148 Informational Message(s)

A Total of         8522 Calm Hours Identified

A Total of          626 Missing Hours Identified (  1.43 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
              ***  NONE  ***


   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

Appendix E
Noise

Environmental Noise Assessment

Munn & Perkins Increased Nighttime Operations

San Joaquin County, California

BAC Job #2008-089

Prepared For:

Neumiller & Beardslee

c/o Mr. Michael McGrew
P.O. Box 20
Stockton, California 95201-3020

Prepared By:

Bollard Acoustical Consultants, Inc.

Paul Bollard, President

August 18, 2010

BOLLARD
Acoustical Consultants

455 Main Street, Suite 3 ▸ Newcastle, CA 95658 ▸ Phone: (916) 663-0500 ▸ Fax: (916) 663-0501 ▸ BACNOISE.COM

INTRODUCTION

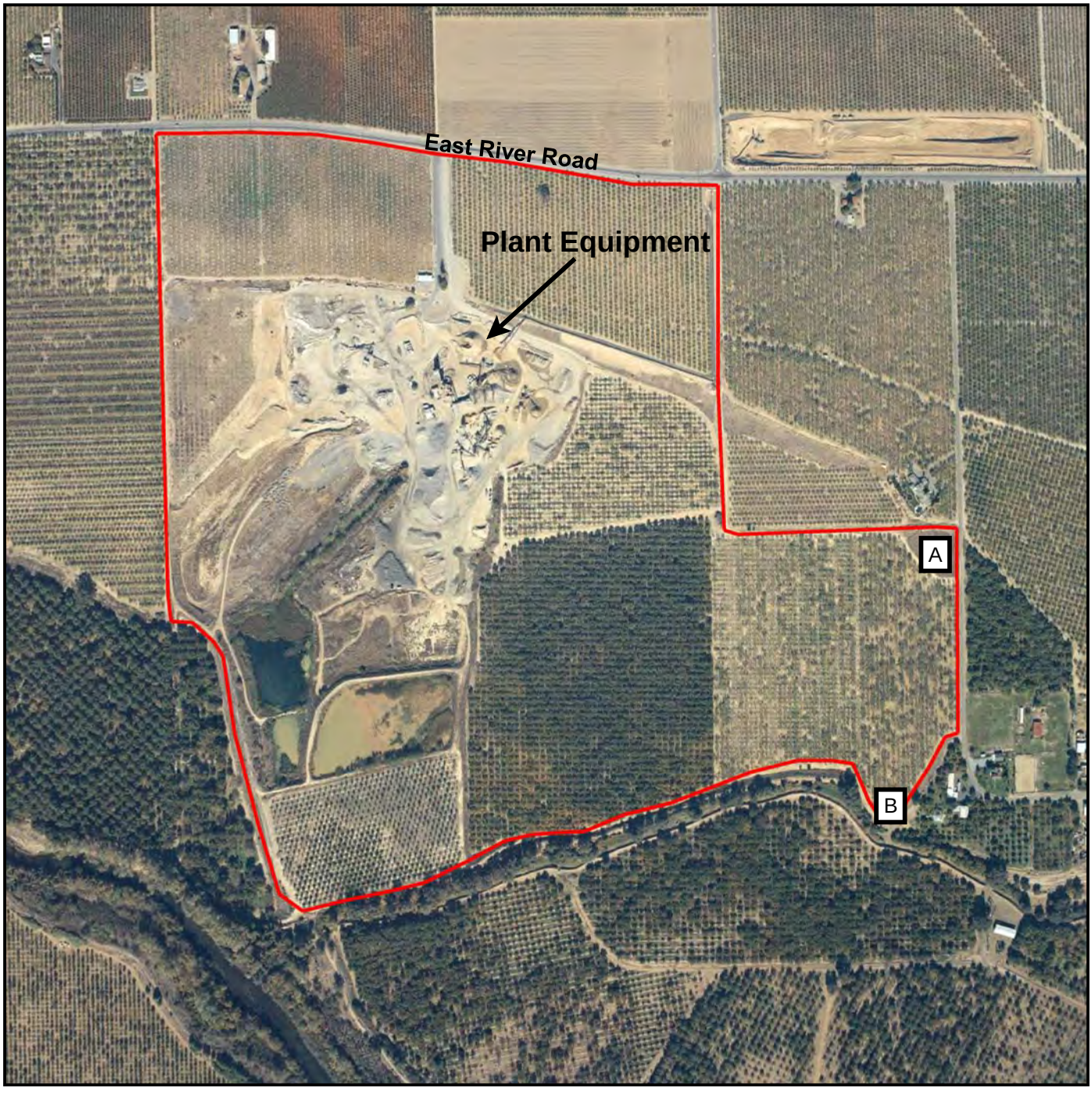
George Reed, Inc. proposes to expand operating hours at the existing Munn and Perkins facility in San Joaquin County, California. The Munn & Perkins Plant is located south of East River Road, approximately 10 miles east of SR-99, as indicated in Figure 1.

Existing operations at this facility are permitted between the hours of 5:00 a.m. to 9:00 p.m., with nighttime operations previously allowed on a project-by-project basis with County approval. The applicant is seeking permission from the County to operate between the hours of 9:00 p.m. and 5:00 a.m. without case-by-case authorization, but only as needed for specific nighttime projects. Specifically, the applicant is seeking permission to operate the asphalt plant, scale house, loaders, and water truck during these hours when required to fulfill nighttime project demands.

George Reed records indicate that night operations have occurred on numerous previous occasions with County approval. In light of the historic nighttime operation of this facility in servicing night paving projects, the proposed application would affect the means by which the applicant obtains permission for night operations, but would not represent new nighttime operations. Nonetheless, because the County has stated that additional nighttime operations at this facility would require the approval of a "Revisions of Approved Actions" application, for the purposes of this analysis the baseline condition is considered to be no nighttime operations. It should be emphasized, however, that the Munn & Perkins application for modification to the nighttime operations approval process is not for blanket, around-the-clock operations. The extended hours of operation will be only for specific projects as needed, as has occurred in the past.

Due to the presence of existing residences in the plant vicinity and along East River Road, San Joaquin County has requested an acoustical analysis be prepared to address noise impacts resulting from nighttime operations. Bollard Acoustical Consultants (BAC) was retained by the project applicant, George Reed, to prepare this noise analysis in response to the County's request.

Figure 1
Munn & Perkins Plant
San Joaquin County, California



: Continuous Hourly Measurement Site

: Property Line (Approximate)

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200' 600'
0 400' 800'

Table 1
Acoustical Terminology

Acoustics	The science of sound.
Ambient	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel (dB)	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours (10 p.m. – 7 a.m.) weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Masking	The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the “Maximum” level, which is the highest RMS level.
SEL	Sound exposure level, sometimes referred to as Single Event Level. SEL represents the entire sound energy of a given event normalized into a one-second period.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.

NOISE FUNDAMENTALS AND TERMINOLOGY

Background on Noise

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure), as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in levels (dB) correspond closely to human perception of relative loudness. Table 1 contains definitions of Acoustical Terminology. Table 2 shows common noise levels associated with various sources.

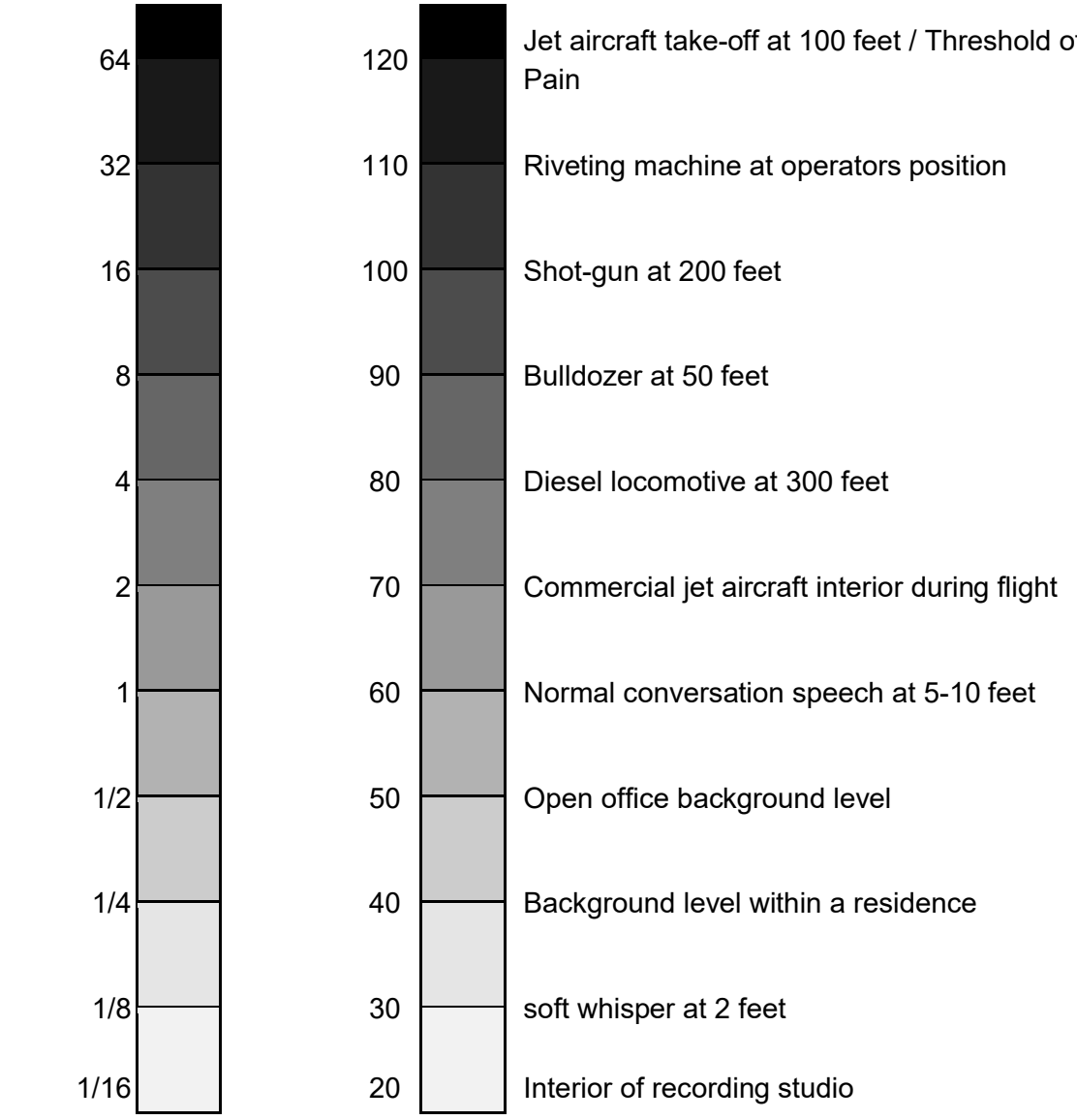
Effects of Noise on People

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighing network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels in decibels.

Community noise is commonly described in terms of the “ambient” noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq) over a given time period (usually one hour). The Leq is the foundation of the Day-Night Average Level noise descriptor, Ldn, and shows very good correlation with community response to noise.

The Day-Night Average Level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment. Ldn-based noise standards are commonly used to assess noise impacts associated with traffic, railroad and aircraft noise sources.

Table 2
Typical A-Weighted Sound Levels of Common Noise Sources



Effects of Single-Event Noise

A single event is an individual distinct loud activity, such as an aircraft overflight, train or truck passage. Because most noise policies applicable to transportation noise sources are specified in terms of 24-hour-averaged descriptors, such as Ldn or CNEL, the potential for annoyance or sleep disturbance associated with individual loud events can be masked by the averaging process.

Like most jurisdictions, San Joaquin County's noise policies do not address single-event noise. But because this project involves an increase in nighttime truck traffic trips in an area where existing residences are located, single-event noise associated with nighttime truck passages are evaluated in this report.

Extensive studies have been conducted regarding the effects of single-event noise on sleep disturbance, with the Sound Exposure Level (SEL) metric being the most common used for such assessments. SEL represents the entire sound energy of a given event normalized into a one-second period regardless of event duration. As a result, the single-number SEL metric contains information pertaining to both event duration and intensity. Another descriptor utilized to assess single-event noise is the maximum, or Lmax, noise level associated with the event. A problem with utilizing Lmax to assess singe events is that the duration of the event is not considered.

It should be noted that there is currently an on-going nationwide debate regarding the appropriateness of SEL criteria as a supplement or replacement for cumulative noise level metrics such as Ldn and CNEL, 24-hour noise descriptors. Nonetheless, because SEL describes a receiver's total noise exposure from a single impulsive event, SEL is often used to characterize noise from individual brief loud events.

Due to the wide variation in test subjects reactions to noises of various levels (some test subjects were awakened by indoor SEL values of 50 dB, whereas others slept through indoor SEL values exceeding 80 dB), no definitive consensus has been reached with respect to a universal criterion to apply. To the extent that there is any guidance regarding acceptable SEL, the emphasis has been on physiological effects, not on land use planning. The Federal Interagency Committee on Aviation Noise (FICAN) has provided estimates of the percentage of people expected to be awakened when exposed to specific SEL inside a home (FICAN 1997). According to the FICAN study, an estimated 5 to 10% of the population is affected when interior SEL noise levels are between 65 and 81 dB, and few sleep awakenings (less than 5%) are predicted if the interior SEL is less than 65 dB.

CRITERIA FOR ACCEPTABLE NOISE EXPOSURE

San Joaquin County Planning Department Staff have indicated that the focus of this assessment should be on ascertaining compliance with the County General Plan Noise Element standards applicable to residential land uses in the immediate project vicinity. In light of recent court rulings and other CEQA considerations, this analysis also assesses project impacts relative to changes in ambient conditions present without the project and against reasonable criteria for single-event noise exposure at residential uses. As a result, this analysis is presented in two segments; the first dealing specifically with compliance with San Joaquin County standards and the second addressing pertinent CEQA sleep disturbance, and Single-Event issues.

San Joaquin County Noise Standards

The San Joaquin County Development Title (Section 9-1025.9) establishes acceptable noise level limits for residential uses affected by both transportation and non-transportation noise sources. For stationary noise sources (such as activities occurring within the Munn & Perkins plant site), the County's maximum allowable noise level (L_{max}) is 70 dB during daytime hours (7 a.m. to 10 p.m.) and 65 dB during nighttime hours (10 p.m. to 7 a.m.) at outdoor activity areas of residential land uses. The County also applies an hourly equivalent sound level (L_{eq}) of 50 dB during daytime hours (7 a.m. to 10 p.m.) and 45 dB during nighttime hours (10 p.m. to 7 a.m.) to outdoor activity areas of residential land uses.

For transportation noise sources, such as project traffic on public roadways, the County applies exterior and interior noise level standards of 65 dB Ldn and 45 dB Ldn, respectively, to the outdoor activity areas of residential land uses.

The County's noise standards for transportation and non-transportation noise level standards are summarized in Table 3.

Table 3
San Joaquin County Noise Level Standards for Residential Uses

Noise Source Type	Time of Day	Descriptor	Standard, dBA
Transportation Sources (Trucks on East River Road)	24-hour Standard	Ldn	65
Stationary Sources (Asphalt plant operations)	7 am – 10 pm	Leq	50
		Lmax	70
	10 pm – 7 am	Leq	45
		Lmax	65

Source: San Joaquin County General Plan Noise Element

Noise Criteria Pertinent to CEQA Guidelines and Sleep Disturbance

The previous section of this report addressed adopted San Joaquin County noise standards. This section discusses additional criteria used to evaluate potential noise impacts for this project relative to CEQA considerations and a specific court ruling pertaining to single-event noise.

Acoustical Context of Project Area

The existing residences in the immediate vicinity of the Munn & Perkins plant and along East River Road are constructed on agriculturally-zoned parcels, and not on residentially-zoned properties. Although the County has stated that the County's Noise level standards applicable to residential uses apply to these residences, for purposes of evaluating impacts relative to CEQA criteria the expectation of occasionally higher ambient noise levels in agricultural zones as a result of normal agricultural activities occurring on neighboring properties is pertinent. The County's Right to Farm Ordinance, although not applicable to aggregate processing facility operations, provides specific information pertaining to the acoustical characteristics of agricultural zones. The following is an excerpt from that ordinance, with emphasis added by BAC:

> The County of San Joaquin recognizes and supports the right to farm agricultural lands in a manner consistent with accepted customs, practices, and standards. Residents of property on or near agricultural land should be prepared to accept the inconveniences or discomforts associated with agricultural operations or activities, including but not limited to ***noise***, odors, insects, fumes, dust, ***the operation of machinery of any kind during any twenty-four (24) hour period*** (including aircraft), the application by spraying or otherwise of chemical fertilizers, soil amendments, seeds, herbicides, and pesticides, the storage of livestock feed and other agricultural commodities, and the storage, application and disposal of manure. ***San Joaquin County has determined that inconveniences or discomforts associated with such agricultural operations or activities shall not be considered to be a nuisance***.

Although the proposed occasional nighttime operations of the Munn & Perkins facility required to accommodate nighttime paving projects would not be considered agricultural in nature, the County's Right to Farm ordinance recognizes that persons living on or near agricultural lands should have an expectation for higher noise environments.

CEQA Noise Level Increase Criteria

The California Environmental Quality Act (CEQA) requires that noise impacts of a project be evaluated not only relative to local noise standards, but also relative to project-related increases in ambient noise levels. As noted previously, this facility has historically operated at night when necessary to service night paving projects with approval from the County on a project-by-project basis. Technically, therefore, the project would result in the continuation of those periodic nighttime operations which have historically occurred at the project site, and would not result in an increase in noise relative to those historic operations. In cases where a project would result in changes to ambient conditions, the significance of those project-related noise level increases can be evaluated using the Table 4 criteria.

Table 4 was developed by the Federal Interagency Committee on Noise (FICON) as a means of developing thresholds for impact identification for project-related noise level increases. The rationale for the graduated scales is that test subject's reactions to increases in noise levels varied depending on the starting level of noise. Specifically, with lower ambient noise environments, such as those below 60 dB L_{dn}, a larger increase in noise levels was required to achieve a negative reaction than was necessary in environments that are already elevated.

Table 4
Significance of Changes in Cumulative Noise Exposure
Munn & Perkins Expanded Hours of Operations
San Joaquin County, California

Ambient Noise Level Without Project, L_{dn}	Increase Required for Significant Impact
Less than 60 dB	+5.0 dB or more
60 to 65 dB	+3.0 dB or more
Greater than 65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON)

As indicated by Table 4, an increase in the traffic noise levels becomes more significant as the ambient noise levels increase. For instance, a significant increase in traffic noise levels is expected to be 1.5 dB when the no-project traffic noise levels exceed 65 dB L_{dn}. However, a significant increase in traffic noise levels is expected to be 5 dB when the no-project traffic noise levels are less than 60 dB L_{dn}. In other words, as ambient noise levels increase, a smaller increase in noise resulting from the project is sufficient to cause significant annoyance.

Noise Criteria Used to Assess Impacts Associated with this Project

Any noise impact analysis should consider where and when the noise-sensitivity of those potentially affected by a project exists. For this project, noise will be periodically generated by Munn & Perkins on-site equipment (asphalt plant) and off-site truck traffic during the hours of 9 p.m. to 5 a.m., as it historically has while servicing night paving projects. As noted previously, however, such operations would continue to occur only when nighttime paving projects require materials during these hours. One of the critical questions in terms of the noise impact analysis is where will the sensitivity of noise exist during those nighttime hours?

It is reasonable to assume that noise-sensitivity at outdoor activity areas of the residences constructed within the project area will be severely limited, if it exists at all, during the nighttime hours which would be affected by the project. For example, it is highly unlikely that outdoor activities would be taking place between 1 a.m. and 3 a.m., the quietest measured hours, on nights when the facility would be operating due to a project's requirement for nighttime paving materials.

Because the hours affected by the project are nighttime hours (with the exception of the 9 p.m. hour, which technically is considered daytime), it is equally reasonable to assume that the vast majority of the noise-sensitivity during those hours will be within bedrooms while residents are sleeping.

In light of these reasonable assumptions regarding the realistic locations where and when project noise impacts would be likely to occur, the focus of this analysis is on noise impacts associated with sleep disturbance caused by the project. In light of recent findings that the potential for awakenings is less than 5% for interior SEL values of 65 dB or less, potential noise impacts are identified in cases where interior SEL values would exceed that level within bedrooms due to project traffic.

Although there is likely very little (if any), nighttime sensitivity at the exterior areas of residences located along East River Road, the County's nighttime noise standards for outdoor activity areas of residential uses are nonetheless addressed in this assessment as well. Specifically, potential noise impacts are identified if the nighttime operation of on-site sources (i.e. those sources involved with the nighttime production of asphalt materials) would cause noise levels to exceed the County's 45 dB Leq and 65 dB Lmax noise standards at the exterior space of the nearest residential uses.

Finally, because CEQA requires that impacts be considered if a project would result in either substantial short-term / temporary, or permanent, increases in ambient noise levels, this analysis provides an assessment of project-related noise increases using the FICON methodology identified in Table 4.

EVALUATION OF EXISTING NOISE ENVIRONMENT

The daytime ambient noise environment in the immediate project vicinity is defined primarily by the various processing plant activities (asphalt plant, crushing plant, etc.), but is also affected by local roadway traffic. The nighttime ambient noise environment is consistent with that of typical rural areas and is defined primarily by natural sounds, (wind, birds, insects, etc.), and by intermittent local roadway traffic. During the previous periods of night operations at the Munn & Perkins facility, the nighttime noise environment was also influenced by plant operations and additional heavy truck traffic on East River Road.

For this project, there are two distinct noise environments to consider. The first is the noise environment at residences nearest to the Munn & Perkins plant site where the residences are more affected by on-site plant equipment noise than off-site traffic noise. Examples of such locations include the residences located at Sites A and B in Figure 1.

The second noise environment to consider for this project is the noise environment at residences located along East River Road which are more affected by noise from traffic on East River Road than by noise generated by on-site plant equipment. Examples of such residential locations include residences represented by noise measurement Sites 1-5, shown in Figure 2.

It is necessary to distinguish between these two noise environments because the nighttime operations would result in noise-generation of two distinct sources of noise. Those two distinct sources include on-site equipment (primarily the asphalt plant), and off-site truck traffic. As a result, the proposed project could affect various residential receptor locations differently. Therefore, separate discussions are provided below for ambient conditions at each distinct receptor area. It should be noted that some receptors are affected by both on-site noise sources and East River Road traffic noise sources. In such cases, impacts are evaluated at those locations for both noise sources even though they are included in the category below which most heavily influences project noise levels at their location.

Ambient Noise Environment at Receptors Affected Primarily by Asphalt Plant Noise Sources

The closest noise sensitive receptors to the plant site which are primarily affected by on-site plant-related noise sources (i.e. nearest receptors not affected by traffic noise from East River Road), are residences located near noise monitoring Sites A and B, shown on Figure 1. These residences are located generally east and southeast of the plant equipment, approximately 2,200 feet east and 3,000 feet southeast of the asphalt plant equipment. Although there are closer residences to the existing asphalt plant equipment than those represented by Sites A & B on Figure 1, those residences experience higher ambient conditions due to their proximity to East River Road. As a result, the evaluation of ambient conditions at locations affected primarily by asphalt plant noise alone focuses on the residences represented by Sites A & B.

To quantify the existing ambient noise environment at these two representative locations, continuous ambient noise level measurements were conducted at Sites A and B (Figure 1) from September 27 through October 2, 2008.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute.

The results of the ambient noise measurement survey are summarized in Table 5. The data presented in Table 5 data are provided as averages over the entire daytime and nighttime periods to reflect an overview of the ambient noise environment for those time periods. However, because the County's noise standards are qualified in terms of one-hour periods for Leq and individual single-events for Lmax, a complete listing of the tabular ambient noise measurement results and a graphical representation of those data are provided in Appendices A & B, respectively, for each individual hour of the noise surveys.

Table 5
Continuous Ambient Noise Monitoring Results
Nearest Residences to Munn & Perkins Project Site
September 27 through October 2, 2008

		Daytime (7 am to 10 pm)		Nighttime (10 pm to 7 am)		
Location	**Date**	**Average (Leq)**	**Maximum (Lmax)**	**Average (Leq)**	**Maximum (Lmax)**	**Ldn**
Site A	September 27	45	69	45	67	51
	September 28	43	62	45	70	51
	September 29	45	70	42	70	49
	September 30	50	67	45	68	52
	October 1	51	77	46	69	53
	October 2 - with harvest	61	82[A]	43	68	60
	October 2 - w/o harvest	46	68	43	68	50
Site B	September 27	50	71	46	70	53
	September 28	48	67	47	72	53
	September 29	50	81	44	72	52
	September 30	55	75	46	70	55
	October 1	56	88	46	71	56
	October 2 - with harvest	74	104[A]	45	74	72
	October 2 - w/o harvest	48	73	45	72	52

Source: Bollard Acoustical Consultants, Inc.
Noise measurement locations are identified on Figure 1.
Noise level data shown are averages for each site.
A - Note that a very high noise level was registered at this location on October 2 (104 dB). This is believed to be due to local harvesting activities occurring in the almond orchards near the noise level meter.

The Table 5 data indicate that ambient noise conditions at the measurement sites varied, with average existing noise levels generally near or below the County's daytime and nighttime average (Leq) noise level thresholds of 50 dB Leq and 45 dB Leq, respectively, and computed Ldn values well below the County's 60 dB Ldn standard applied to residential uses. A notable exception is the data collected on October 2, 2008, in which the daytime ambient noise environment is believed to have been heavily influenced by almond harvesting activities.

Average and maximum noise levels registered during the afternoon of October 2 were considerably higher than those collected during the other days of the sample. In fact, inspection of Appendices B-6 and B-12 reveals that local almond harvesting activities likely occurred during the noon to 5 pm hours, dramatically affecting the noise measurement results for that day. Because the data collected during the apparent almond harvesting activities near the noise monitoring sites is clearly anomalous, average and maximum daytime noise levels for October 2 were recalculated with the noise levels measured during those hours omitted. The recalculated noise levels for that day are included as the last rows of data for each site in Table 5.

With respect to measured Leq values for individual hours during which the Munn & Perkins asphalt plant was operating (not averages for the complete daytime or nighttime periods), the Appendix B data indicate that noise levels varied. For example, on Sunday, September 28th, 2008, the Munn & Perkins asphalt plant operated during the hours of 7 am through 2 pm. Because these operations occurred during daytime hours (7 am – 10 pm), the average (Leq) and maximum (Lmax) noise level standards applicable to these operations at the nearest residences are 50 dB Leq and 70 dB Lmax. Examination of Appendix B-2, which contains the complete listing of noise measurement data for September 28th at measurement Site "A", as well as a visual indication of when the asphalt plant was in operation, reveals that average noise levels during the period during which the plant was operating ranged from 40 to 46 dB Leq. This range of noise levels is below the County's 50 dB Leq standard. In addition, measured maximum noise levels during that same period ranged from 49 to 62 dB Lmax during this period, also below the daytime 70 dB Lmax standard of the County. A similar finding of compliance with the County noise standards was made for this day of operations (September 28th), at noise measurement Site B with the exception of the 2 pm hour, during which time a clearly anomalous event resulted in an elevated Leq of 56 dB.

This information pertaining to noise levels measured during individual hours on this Sunday is critically important because Sunday's are typically the quietest days of the week due to reduced traffic and human activity. Because the Munn & Perkins asphalt plant operations, which generate steady-state noise levels while the plant equipment is operating, satisfied the County's requirements on this Sunday period of low ambient conditions, it is reasonable to conclude that during periods when the County's noise level standards were exceeded during asphalt plant operation, those exceedances were caused by other local ambient noise sources and not the Munn & Perkins asphalt plant.

In addition, it is important to note that, during several hours in which the Munn & Perkins asphalt plant equipment was ***not*** operating, measured ambient noise levels exceeded the County noise level standards at the nearest residences. For example, Appendix B-2 indicates that individual average hourly Leq noise levels measured on September 28th exceeded the County's nighttime noise level standard during the 10 pm, 11 pm, 2 am, 3 am, and 6 am hours, yet the asphalt plant operating logs for that day clearly indicate that the asphalt plant was shut down during those hours. As noted above, the asphalt plant did operate on that day, but only during the 7 am through 2 pm hours. This is conclusive evidence that local ambient noise sources were responsible for exceedances of County noise standards during the hours in which the plant was not operating, and that exceedances of the County standards when the asphalt plane was operating were caused by local ambient noise sources and not by the Munn & Perkins asphalt plant.

Figures 3 through 8 show the logs of asphalt plant usage during the noise survey period. Those figures indicate that the Munn & Perkins Asphalt plant did operate every day during the monitoring period, but that late night and early morning operation of that plant equipment did not occur. The Figure 3-8 data was utilized to identify the hours in which the asphalt plant operated in Appendix B. The hours during which the Rock Plant operated during the noise surveys are also indicated in Appendix B, with that data provided by Munn & Perkins representatives.

Ambient Noise Environment at Residences along East River Road

There are approximately 22 identified residences located within 350 feet of East River Road between McHenry Avenue to the west and Santa Fe Road to the east. Many of these residences are constructed on actively farmed orchard sites, and primary outdoor activity areas were assumed to be in close proximity to the residences. The closest of these identified residences was scaled from aerial photographs and BAC field surveys to be approximately 60 feet from the centerline of East River Road. Table 6 shows the nearest identified residences and the approximate distances from the centerline of East River Road to the residence. Where the location of the primary outdoor activity area could not be identified it was assumed to be in close proximity to the residence.

Table 6
Nearest Residences to East River Road
McHenry Road to Santa Fe Road

Side of Road	Number	Appx. Longitude	Façade Dist. (ft.)	Notes
North	1	120° 59' 38.55"	60	All residences on north side of East
North	2	120° 59' 30.30"	60	River Road appear to be ancillary to
North	3	120° 59' 21.19"	140	active agricultural operations. Nearly
North	4	120° 59' 16.21"	225	all north side residences are bordered
North	5	120° 59' 11.17"	100	on 2 -3 sides by orchards. No north
North	6	120° 58' 56.60"	120	side residences have existing noise
North	7	120° 58' 45.74"	260	barriers constructed between the
North	8	120° 58' 40.04"	175	roadway and residence.
North	9	120° 58' 33.83"	150	
North	10	120° 57' 39.34"	135	
North	11	120° 57' 36.89"	80	
North	12	120° 57' 31.67"	110	
North	13	120° 57' 22.31"	110	
South	1	120° 59' 21.74"	340	Res. 1 main house 450 ft. from road.
South	2	120° 59' 09.22"	70	Residences 2 & 3 separated from
South	3	120° 59' 04.99"	55	road by solid noise barrier.
South	4	120° 59' 03.24"	60	Residences 4-7 are constructed on
South	5	120° 58' 59.46"	350	active agricultural (orchard) sites.
South	6	120° 58' 51.82"	165	
South	7	120° 57' 58.80"	90	
South	8	120° 57' 40.96"	100	Residence 8 on cemetery site.
South	9	120° 57' 20.09"	135	

Source: Bollard Acoustical using Google Earth aerial imagery.

The ambient noise environment at the existing residences along East River Road is defined primarily by noise from traffic on that roadway. To quantify the existing ambient noise environment along East River Road, continuous ambient noise level measurements were conducted from September 27 through October 2, 2008 at the five representative locations identified on Figure 2. Although there are no residences as close as 40 or 50 feet from the East River Road centerline, Sites 1, 3 and 5 were selected from available locations along East River Road to represent logical distance intervals between noise measurement sites.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute.

The results of the ambient noise measurement survey are summarized in Table 7. Tabular and graphical representations of the results are provided in Appendices C & D, respectively. Appendix D shows the average measured Leq values grouped into weekend and weekday periods, with additional information pertaining to the noise generation of varying numbers of heavy trucks overlaid on those graphs. The significance of the heavy truck graphs shown in Appendix D is provided later in this report.

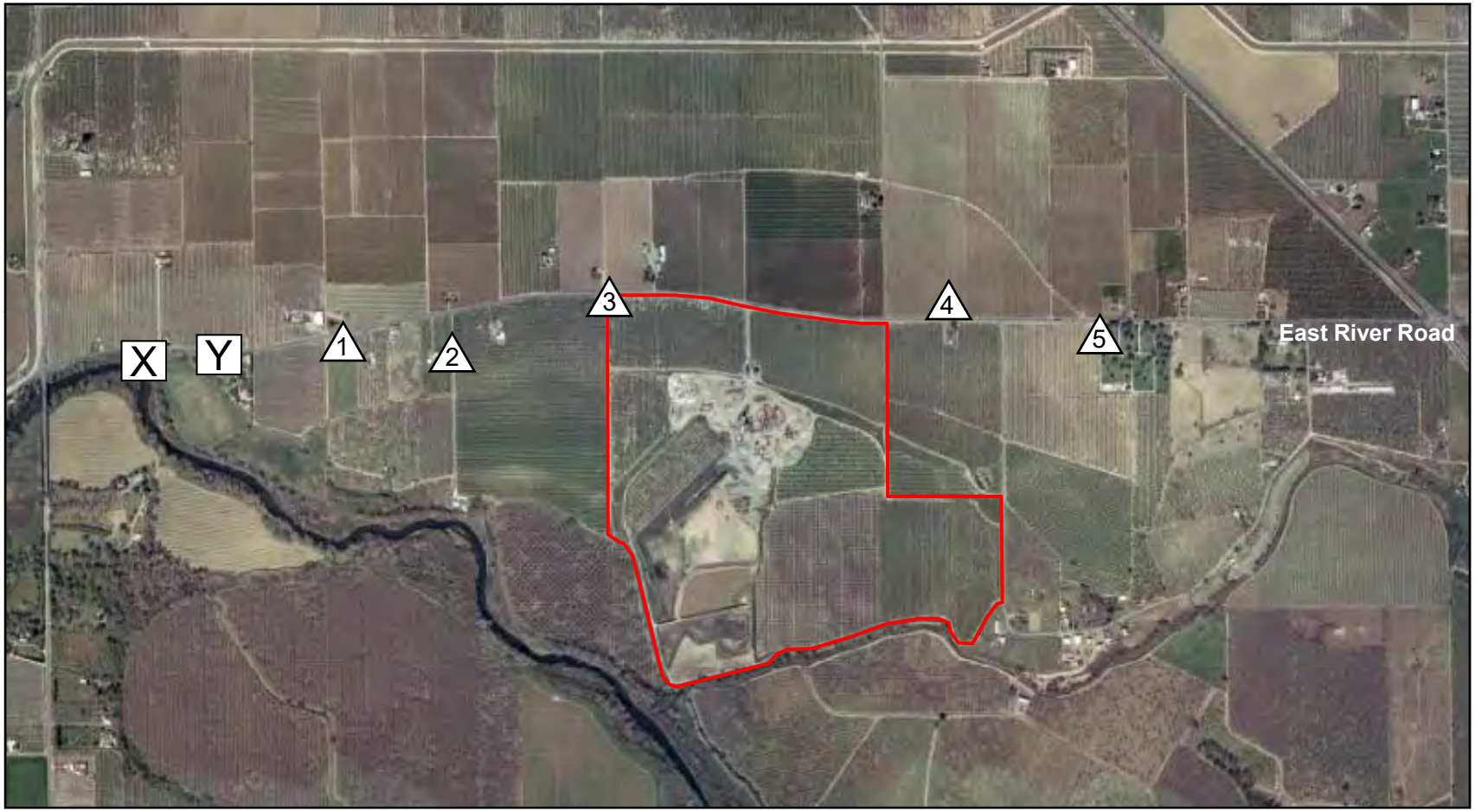
The Table 7 data indicate that measured existing noise levels at the locations closest to East River Road are currently elevated, with computed Ldn values ranging from the mid 70's at the closest measurement site (Site 1) to the low 60's at the furthest measurement location (Site 2). It should be noted that there was no nighttime paving activities occurring at the Munn & Perkins facility during the traffic noise surveys. Had there been such activity, it is logical to conclude that ambient conditions would have been higher, and that future nighttime operations occurring as needed would be similar.

Table 7
Continuous Ambient Noise Monitoring Results
Representative Locations Along East River Road
September 27 through October 2, 2008

		Daytime (7 am to 10 pm)		Nighttime (10 pm to 7 am)		
Location	**Date**	**Average (Leq)**	**Maximum (Lmax)**	**Average (Leq)**	**Maximum (Lmax)**	**Ldn**
Site 1 (40' to C/L)	September 27	72	106	66	92	74
	September 28	71	104	65	95	73
	September 29	72	92	67	89	75
	September 30	72	97	67	89	75
	October 1	72	91	68	88	75
	October 2	73	93	68	90	75
Site 2 (350' to C/L)	September 27	57	85	55	74	62
	September 28	55	85	56	85	62
	September 29	57	81	53	72	60
	September 30	58	84	54	71	61
	October 1	55	75	54	71	61
	October 2	58	80	53	70	61
Site 3 (50' to C/L)	September 27	69	92	64	88	71
	September 28	67	91	63	98	70
	September 29	69	91	64	87	72
	September 30	69	92	64	84	72
	October 1	69	89	65	86	72
	October 2	69	99	65	84	72
Site 4 (60' to C/L)	September 27	65	87	61	84	68
	September 28	64	89	59	85	67
	September 29	65	96	61	82	69
	September 30	67	95	61	82	69
	October 1	66	86	62	86	69
	October 2	66	87	62	84	69
Site 5 (50' to C/L)	September 27	66	88	63	87	70
	September 28	65	90	61	92	69
	September 29	66	86	63	85	70
	September 30	67	85	63	84	70
	October 1	69	92	64	92	71
	October 2	68	94	63	86	71

Source: Bollard Acoustical Consultants, Inc.
Noise measurement locations are identified on Figure 1.

Figure 2
Munn & Perkins Plant Area & East River Road Receptors Monitored
San Joaquin County, California



△# : Continuous Hourly Measurement Site

□# : Single Event Truck (Jake) Brake Measurement Site

: Property Line (Approximate)

500’ 1,500’

0’ 1,000’ 2,000’

BOLLARD
Acoustical Consultants

PROJECT NOISE GENERATION

Methodology for Isolation of Asphalt Plant Noise

During the expanded hours of operations, mining and aggregate crushing/screening activities would not occur. Therefore, the most significant source of on-site noise generation at the residences to the east during the expanded hours of facility operations would be the operation of the asphalt plant. The Table 4 data, in conjunction with the Appendix B graphs, provide a comprehensive evaluation of the overall ambient noise environment present at Sites A and B during the week of monitoring. However, to assess the potential impacts associated with use of the asphalt plant by itself (without the concurrent noise generation of the aggregate mining, crushing, and screening activities, as well as local activities and natural sounds), it is important to isolate the noise generated by the asphalt plant from the rest of the noise environment.

BAC used logs of asphalt and rock plant usage during the week-long noise monitoring program with a detailed statistical analysis of the noise measurement results shown in Appendix B to determine the noise generation of the asphalt plant in isolation. Specific analysis of median (L50), and background (L90), noise levels was conducted for both the hours in which the asphalt plant was in operation, as well as the hours adjacent to those hours during which time the plant was known *not* to be in operation.

From this assessment, it was concluded that, during the hours the asphalt plant was reportedly operating, background (L90) noise levels were computed to be approximately 42-43 dB at the residences represented by noise measurement sites A & B, with measured variations of between +/- 5 dB believed to be likely due to changes in atmospheric conditions and operation of the main rock processing equipment during those same hours. From this analysis, it was concluded that asphalt plant noise generation at the nearest residences to the east averages between 35 and 45 dB, with a mean of approximately 40 dB.

Because the noise generation of the asphalt plant is dominated by the operation of the burner at large distances from the plant equipment, and because the burner is a steady-state noise source, maximum (Lmax), and average (Leq), noise levels associated with the operation of the asphalt plant equipment are not appreciably different at the nearest residences located over 2,000 feet away.

Figure 3
Scan of Munn & Perkins Asphalt Plant Operating Log
Saturday, September 27, 2008

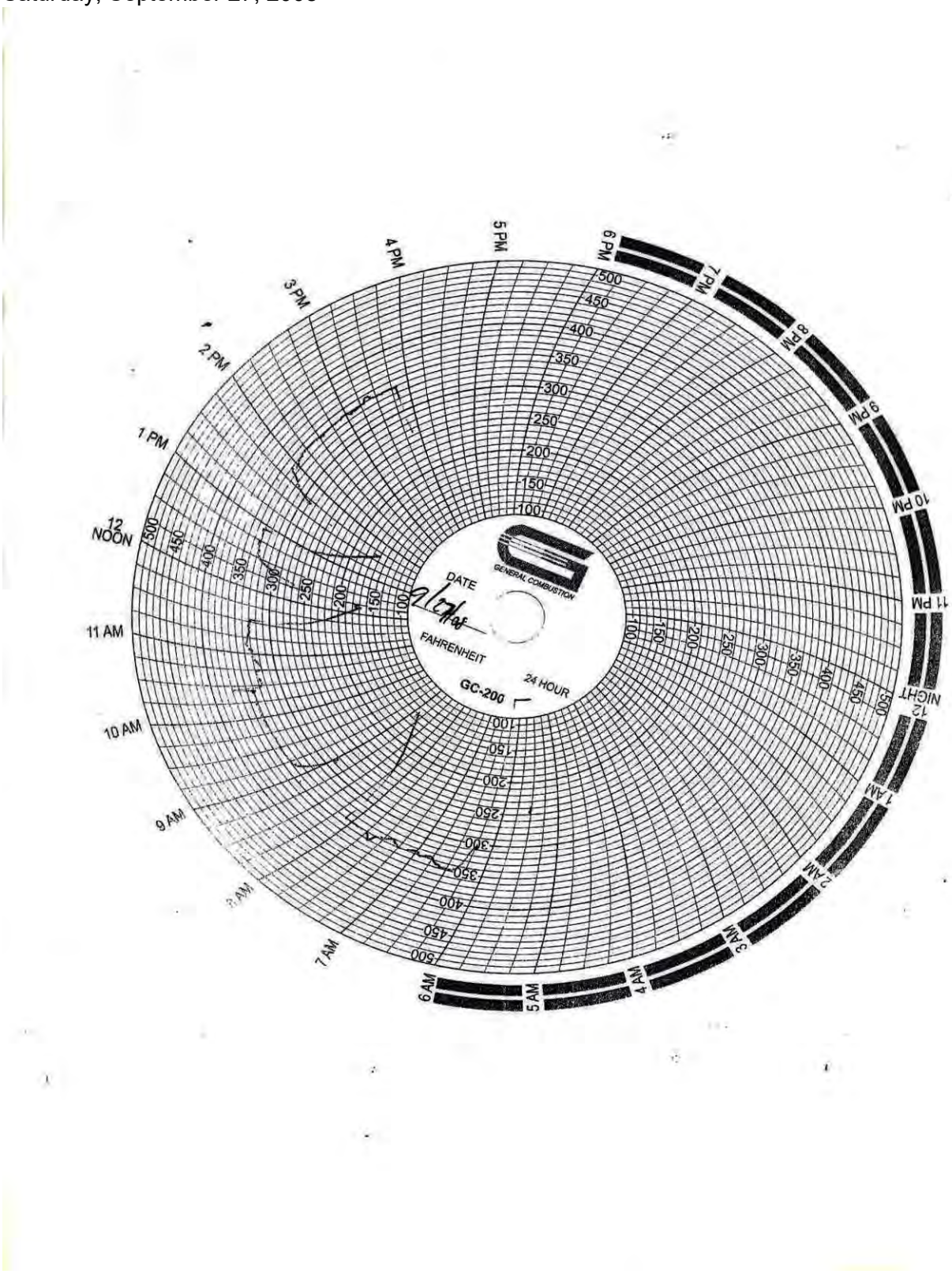


Figure 4
Scan of Munn & Perkins Asphalt Plant Operating Log
Sunday, September 28, 2008

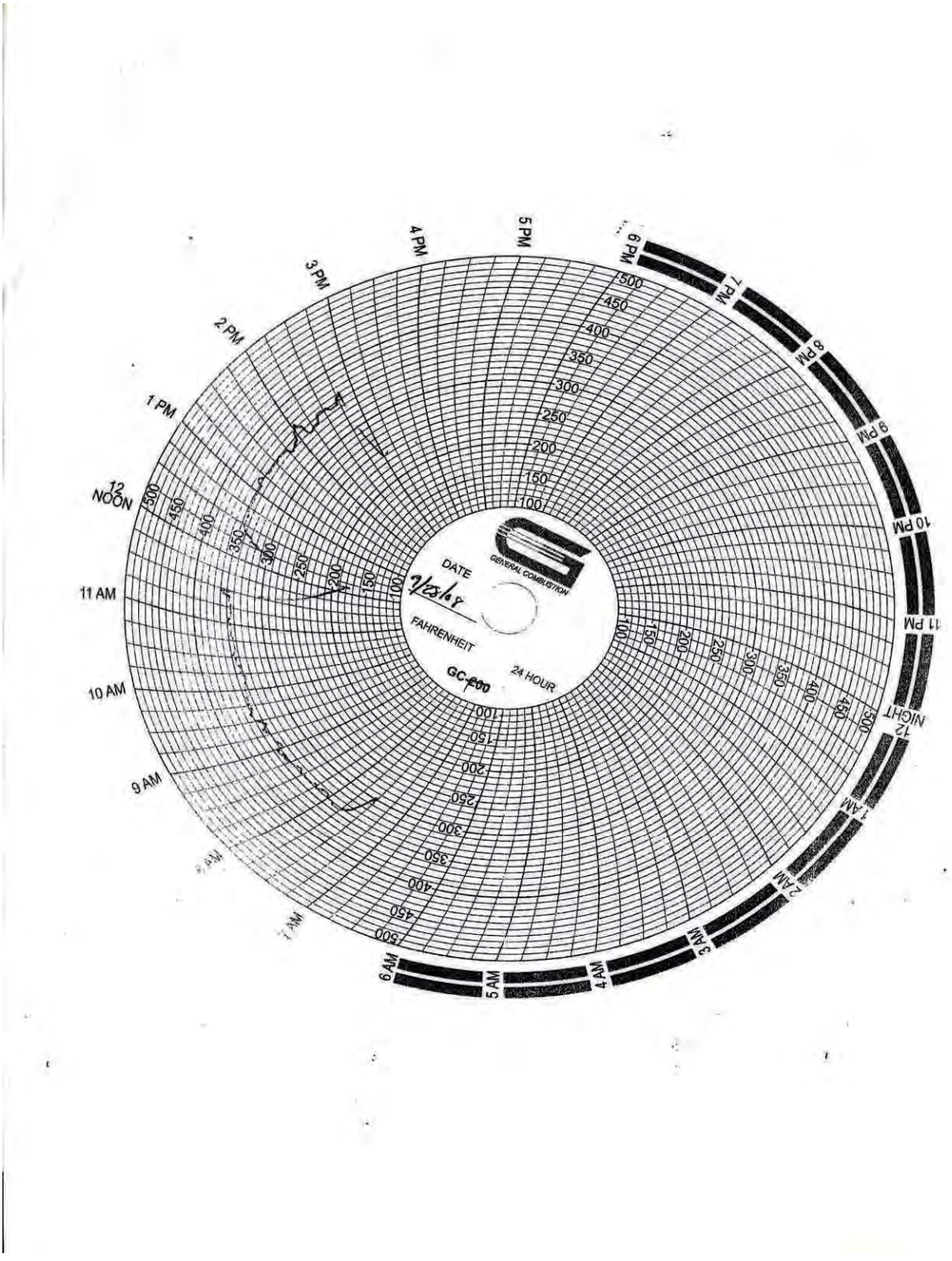


Figure 5
Scan of Munn & Perkins Asphalt Plant Operating Log
Monday, September 29, 2008

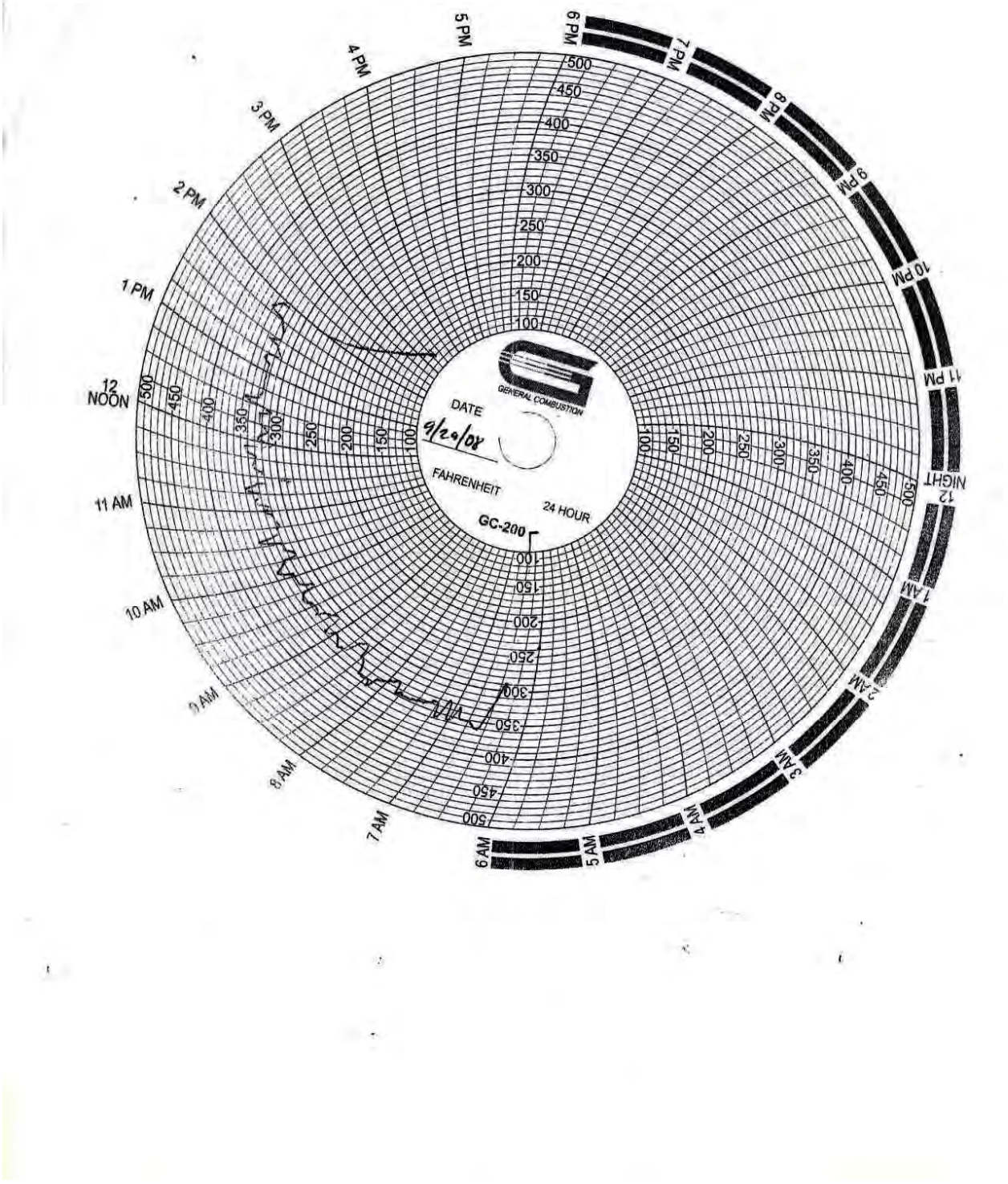


Figure 6
Scan of Munn & Perkins Asphalt Plant Operating Log
Tuesday, September 30, 2008

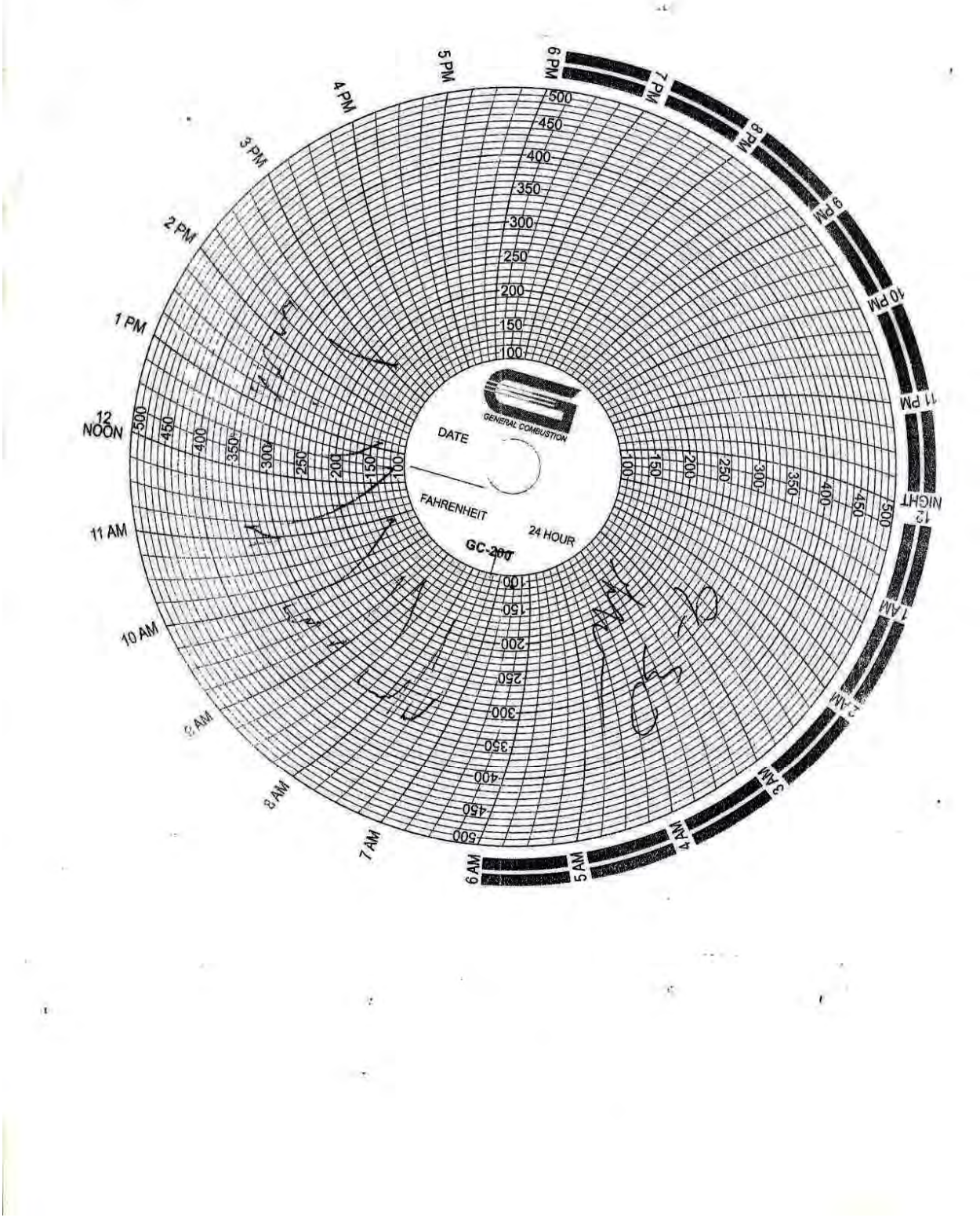


Figure 7
Scan of Munn & Perkins Asphalt Plant Operating Log
Wednesday, October 1, 2008

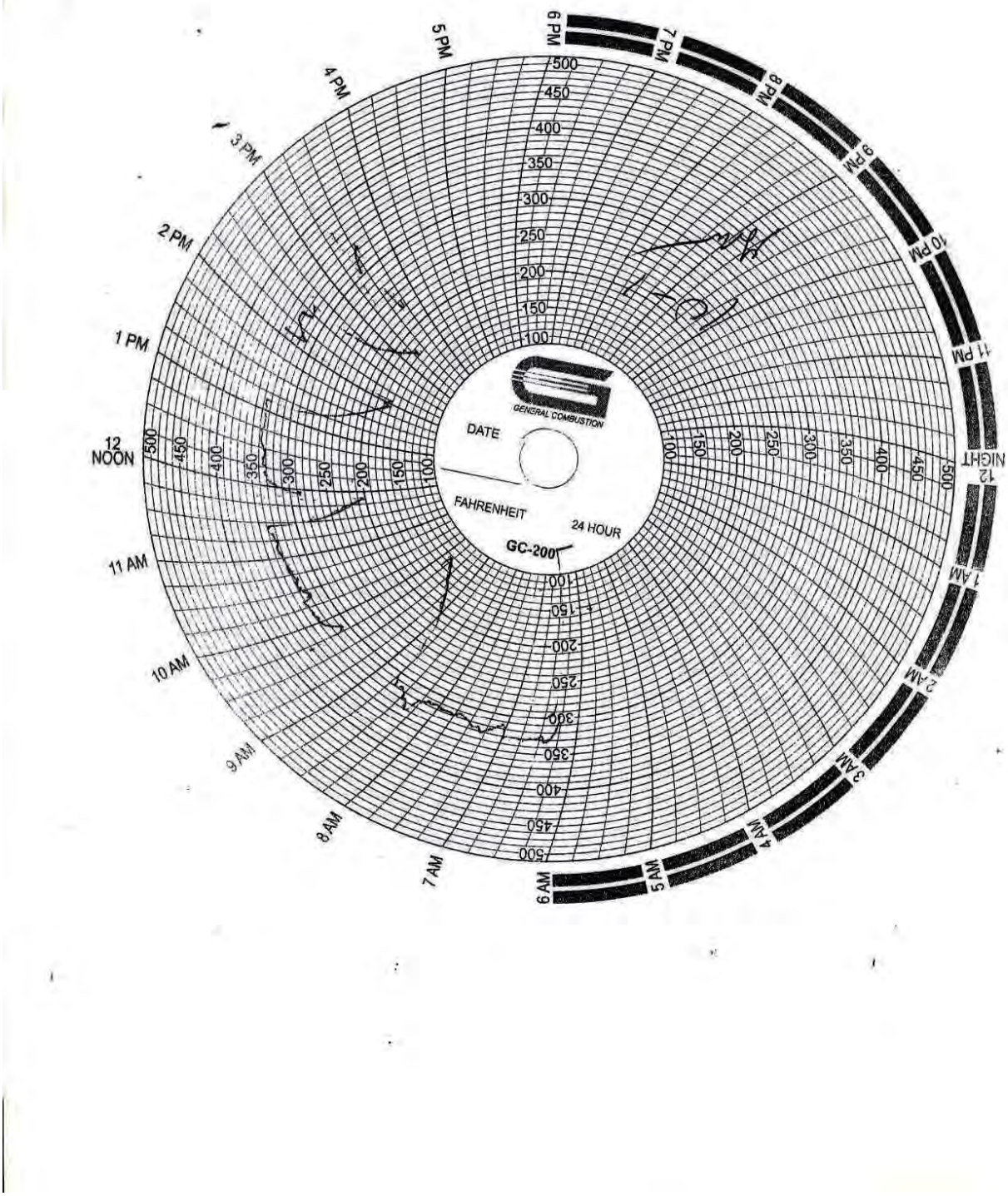
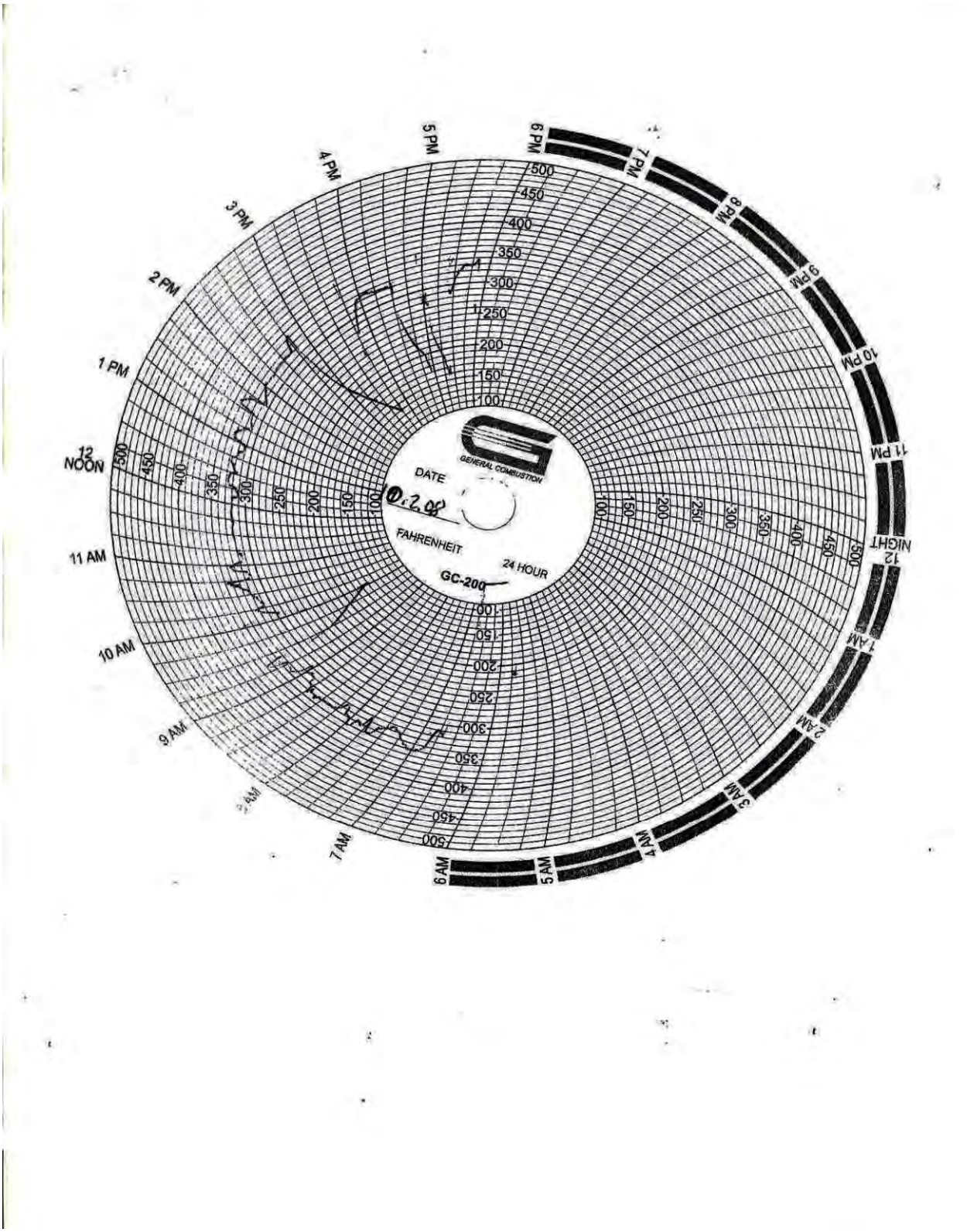


Figure 8
Scan of Munn & Perkins Asphalt Plant Operating Log
Thursday, October 2, 2008



Methodology for Assessing Off-Site Heavy Truck Noise Levels

Project Heavy Truck Trip Generation

According to project representatives, the 325 ton-per-hour capacity of the asphalt plant at the Munn & Perkins facility is capable of filling 13 trucks per hour. In addition, because 500 tons of asphalt products can be stockpiled an hour or two in advance of paving projects in storage silos, an additional 20 truck loads could be generated during the first hour of a nighttime paving project.

Each truck load represents two (2) truck trips, consisting of an empty truck arriving and a loaded truck departing. The theoretical total project truck trip generation during the proposed expanded hours of operations would, therefore, be 66 truck trips during the first hour and 26 truck trips per hour thereafter. Assuming this level of activity was to continue for the entire duration of the night paving project (worst-case assumption), a total of 248 nighttime truck trips would be generated during that period (66 + 7*26).

Noise Generation of Individual Truck Passages and Observations of "Jake Brake" Usage

To quantify the noise generation of individual passages of heavy trucks on East River Road, BAC conducted single-event noise monitoring at locations X and Y (shown on Figure 2), on the morning of October 23, 2008. The measurements, which were conducted between 5:45 a.m. and 8 a.m., were intended to specifically quantify noise levels generated by individual truck passages near the existing residences to East River Road, and to observe the frequency of engine brake usage (Jake Brakes) as the trucks slowed approaching McHenry Avenue.

A total of 46 and 52 individual heavy truck passages were monitored at Sites X and Y, respectively, which were located approximately 900 and 1,500 feet from the McHenry Avenue intersection. There was no discernible difference between the truck passby noise generation between the two locations, with the average noise level at both locations computed to be 86 dB SEL at the reference measurement distance of 40 feet from the centerline.

Regarding Jake Brake usage, five (5) of the 46 trucks monitored at Site X (the site nearest the intersection of McHenry) utilized Jake Brakes for slowing as they approached the intersection, whereas only one (1) of the 52 passages observed at Site Y utilized Jake Brakes for slowing as it approached McHenry Avenue. This represents a very low percentage of Jake Brake usage as the trucks approach McHenry Avenue. The noise level of the trucks observed to be using Jake Brakes was computed to be 88 dB SEL, which is 2 dB higher than those not using Jake Brakes.

The low percentage of observed Jake Brake usage as the truck slowed approaching the intersection of McHenry Avenue is expected since there are no sharp turns or hills which would obstruct the drivers view as they approach the intersection, thereby necessitating a heavier application of brakes than normal. Given the roadway geometry and observed Jake Brake usage by existing heavy trucks, there is no reason to expect the percentages of Jake Brake usage would increase with the proposed expanded hours of operation.

Optimization of Heavy Truck Operating Parameters to Minimize Passby Noise

The Sound Exposure Level (SEL) of 86 dB at the reference passby distance of 40 feet cited above represents the mean noise level associated with a variety of truck operating parameters, including variations in truck speed, gear usage, engine RPM, direction, load, and acceleration/deceleration. As such, individual passby noise levels ranged from 7 dB below the mean to 4 dB above the mean.

In an attempt to isolate the heavy truck operating parameters which result in the lowest passby noise levels, a subsequent heavy truck passby test was conducted on June 26, 2009 between 11 a.m. and 1 p.m. The test was conducted at four positions along the western boundary of the Munn & Perkins project site at locations set back from the roadway distances of 50, 100, 200, and 300 feet. The nearest passby noise measurement site corresponds to Site 3 shown on Figure 2, with the other three passby test sites located due south of Site 3 at the distances described above.

During the test period, only trucks arriving or departing the Munn & Perkins facility were monitored, with the truck drivers reporting their speed, RPM, and gear by radio as they passed the noise test locations. Data on truck travel direction and load were also recorded for each passby. Only passby noise level data which was not contaminated by the presence of other vehicles were utilized for this analysis, resulting in 32 acoustically clean heavy truck passby noise samples monitored simultaneously at four distances from the roadway.

One of the trucks monitored during the supplemental noise survey was a “control” truck, with the driver instructed to make passes by the test location using distinct values of speed, rpm, and gear usage. After several passbys of the control truck with the truck empty, the trailer was loaded and the tests were repeated. In addition to the control truck, all other trucks entering or leaving the site during the test period were asked to report their operating parameters without being instructed to operate their truck in a particular fashion.

The results of the additional passby tests were analyzed to identify those combinations of speed, rpm, and gear that resulted in the lowest passby noise levels. That analysis resulted in the following conclusions:

- Truck speeds ranged from 30 to 55 mph during the passby tests, with a mean speed of 40 mph.

- Truck gear usage ranged from 6^{th} gear to 9^{th} gear during the passby tests, with a mean of 7^{th} gear.

- Truck engine speed ranged from 700 to 1900 rpm during the passby tests, with a mean of 1200 rpm.

- For empty (eastbound) trucks, the lowest passby noise levels were measured at speeds of 38-43 mph, with engines in 8th gear at 700-800 rpm. The mean SEL under such conditions was computed to be 81 dB SEL at 40 feet.

- For loaded (westbound) trucks, the lowest passby noise levels were measured at speeds of 33-35 mph, with engines in 6th or 7th gear at 1400-1600 rpm. The mean SEL under such conditions was computed to be 83 dB SEL at 40 feet.

The noise level results cited above for the optimized heavy truck operating parameters are 5 dB and 3 dB lower than the previous mean heavy truck passby test results for empty and loaded trucks, respectively. Therefore, by instructing the truck operators to utilize the combinations of speed, rpm, and gear cited above, an average reduction of 4 dB can be realized over non-optimized operating procedures. This 4 dB reduction results in a reference heavy truck passby SEL of 82 dB at a distance of 40 feet from the centerline of the roadway.

The truck passby noise optimization tests also revealed that noise due to the truck passbys decreased at a rate of approximately 4.5 dB per doubling of distance from the roadway, which is the expected theoretical value based on analysis of moving point sources. The remainder of this analysis assumes project truck drivers will be instructed to operate their vehicles in the quietest manner possible, thereby generating SEL values of approximately 82 dB at a distance of 40 feet from the truck passby. It was further assumed that sound radiating away from the truck passby would decrease at a rate of 4.5 dB per doubling of distance from the source.

ANALYSIS OF POTENTIAL PROJECT NOISE IMPACTS

As noted previously, the project would continue the historic practice of allowing nighttime processing and transporting of aggregate products (primarily asphalt) as needed when contracts specifically require nighttime deliveries of such materials. Relative to those historic operations, the ongoing practice of providing paving materials at night would not represent a change in noise levels and, therefore, no new noise impact would be identified. However, noise generated during previous nighttime asphalt plant operations was not included in the assessment of baseline conditions for this study. That information is provided strictly for historical context.

Relative to nights when no paving activities are taking place, nighttime operations of the Munn & Perkins facility will generate noise by operation of the asphalt plant and by increased traffic on East River Road. As a result, an assessment of the potential noise impacts of both on-site equipment operations and off-site truck traffic passbys relative to those quieter ambient conditions is provided in this analysis.

Impact Evaluation Relative to County Noise Standards

Impacts of Nighttime Asphalt Plant Operation Relative to County Exterior Noise Standards for Stationary Sources

Even under atmospheric conditions which are favorable to propagation of sound over large distances, asphalt plant noise levels are predicted to be at or below the County's 45 dB Leq noise criteria outside of the nearest existing residences, and well below the County's 65 dB Lmax nighttime standard.

The Appendix B data indicate that background nighttime ambient noise levels (levels measured during which the plant was not operating), varied considerably. For example, the measured ambient noise level at Site A during the 2 am hour of Monday, September 29th was 36 dB Leq (Appendix B-3), whereas at 11 pm on that same night it was measured to be 44 dB Leq. Because the asphalt plant was not operating during either of these hours, and because it is reasonable to assume that agricultural harvesting operations were not taking place during these late night/early morning hours, it is clear that other local sources of ambient noise contributed to the affected the measurement results. Because of this variability in ambient noise conditions, it is difficult to predict which ambient noise environment would be present on nights during which nighttime paving projects would require operation of the Munn & Perkins asphalt plant. Regardless, the analysis of isolated Munn & Perkins asphalt plant noise generation provided earlier in this report indicates that, because the asphalt plant noise levels are below the County noise standards at the nearest residences to the east, and because the County noise standards are currently exceeded by sources of noise other than the asphalt plant, future exceedances of the County noise level standards during nighttime operations of the Munn & Perkins asphalt plant would not be driven by the noise generation of that plant equipment. ***As a result, noise impacts associated with expanded hours of asphalt plant equipment operation are predicted to be less than significant relative to County standards.***

Off-Site Project Heavy Truck Traffic Noise Impacts Relative to the County's 65 dB Ldn Exterior Noise Standard

In the computation of Ldn, each nighttime truck passby is multiplied by 10 to account for the greater sensitivity of noise during nighttime hours. Based on 1 daytime and 7 nighttime hours of heavy truck traffic generation at maximum plant capacity, the Ldn at the nearest existing residence located 60 feet from the roadway centerline due to the project traffic alone would be approximately 63 dB Ldn. This level is below the County's 65 dB Ldn exterior noise level criteria applied to residential uses. Provided the nighttime truck operations can effectively utilize the optimized noise reduction operating parameters, project noise levels will be below 65 dB Ldn at the nearest residences. If, however, those parameters cannot be followed, the predicted noise level at the nearest residences would be 4 dB higher, or approximately 67 dB Ldn, which would exceed the County's 65 dB Ldn exterior noise standard. Because the applicant is proposing to utilize the optimized operating procedures, ***project traffic noise impacts at the outdoor activity areas of the residences located along East River Road are considered less than significant relative to the County's 65 dB Ldn exterior noise level standard.***

Off-Site Project Heavy Truck Traffic Noise Impacts Relative to the County's 45 dB Ldn Interior Noise Standard

As noted previously, standard construction typically results in a traffic noise reduction of approximately 25 dB with windows closed. When windows are open, a building façade noise reduction of approximately 10 dB can be expected, but the County's 45 dB Ldn interior noise level standard is applied with windows closed.

The project is predicted to generate a noise level of approximately 63 dB Ldn at the nearest residential building facades. After subtracting the typical noise reduction provided by the residential building facades with windows closed (25 dB), the project by itself would generate interior noise levels during nighttime project operations of 38 dB Ldn within the nearest residences to East River Road. If the optimized operating procedures are not followed, interior noise levels would be 4 dB higher on average, or approximately 42 dB Ldn, which wqould still satisfy the County's 45 dB Ldn interior noise level standard. ***Because these levels are below the County's 45 dB Ldn standard, noise impacts of the project are predicted to be less than significant relative to the County's interior Ldn-based noise standard.***

Summary of impacts Relative to San Joaquin County Noise Standards

This analysis concludes that, provided the optimized heavy truck operating procedures can be utilized during nighttime operations, project-generated noise levels are not expected to exceed adopted San Joaquin County noise standards applicable to residential uses at either interior or exterior locations. Therefore, relative to the adopted County noise standards, impacts of this project are considered to be less than significant.

Impact Evaluation Relative to CEQA Guidelines, Sleep Disturbance & Single Event Criteria

Nighttime Asphalt Plant Operations Relative to Potential Sleep Disturbance

As noted previously, the focus of this analysis is on noise levels within sleeping rooms of project-area residences. Asphalt plant noise generation at the nearest residences to the project site is predicted to average approximately 40 dB Leq, with variations of approximately +/- 5 dB depending on normal variations in atmospheric conditions. Also as noted previously, average and maximum noise levels associated with the asphalt plant operations are not appreciably different at the nearest residences located approximately 2,000+ feet from that equipment.

Within the nearest residences, asphalt plant noise levels are predicted to be approximately 10 to 25 dB lower than noise levels outside the residence with windows in the open and closed positions, respectively. Given an exterior noise level of approximately 45 dB Leq or less, resulting interior levels with windows closed and open would be approximately 20 to 35 dB.

As shown in Table 2, a typical background level within residences is approximately 40 dB, with a level of 30 dB equivalent to a soft whisper two feet away. Even when added to existing ambient noise levels without the asphalt plant in operation, the range noise levels predicted within the nearest residences during nighttime asphalt production is not expected to change significantly within those nearest residences. Since there is no appreciable change in noise levels predicted within the nearest residences to the Munn & Perkins asphalt plant equipment during nighttime operation of that equipment, the probability of this aspect of the project resulting in sleep disturbance is very low. ***Therefore, noise impacts associated with nighttime operation of the asphalt plant associated with sleep disturbance at the nearest neighbors are predicted to be less than significant.***

Sleep Disturbance Impacts due to Nighttime Project-Related Truck Traffic – Bedroom Windows Closed

As discussed earlier, incidents of sleep disturbance are predicted to be relatively low at interior SEL values of less than 65 dB. Given an optimized SEL value of 82 dB at 40 feet, the SEL at the nearest residential building facades located 60 feet from the centerline would be approximately 79 dB. To reduce an exterior SEL value of 79 dB outside the residence to a level of 65 dB SEL inside, a building facade noise reduction of 14 dB would be required.

Typical residential construction can be expected to provide approximately 25 dB of noise reduction with windows in the closed position. Based on this degree of building façade noise reduction the interior SEL during individual truck passages at the closest residences to the roadway would be approximately 54 dB (79 – 25 = 54) when residences have their windows in the closed position. At more distant residences (i.e. beyond 60 feet from the East River Road centerline), interior SEL values would be even lower due to normal decreases in noise with increasing distance.

Because fewer than 5% of the population would typically be awakened by an interior SEL of less than 65 dB, the computed worst-case level of 55 dB SEL for windows in the closed positions is not anticipated to result in adverse noise impacts relative to sleep disturbance, even with the relatively infrequent usage of Jake Brakes along the project corridor. ***As a result, noise impacts associated with nighttime passages of project-related truck traffic on residents sleeping with windows closed are predicted to be less than significant.***

Sleep Disturbance Impacts due to Nighttime Project-Related Truck Traffic – Bedroom Windows Open

With windows of the nearest residences along the project corridor in the open position, the project will present a higher probability of sleep disturbance. As noted previously, where interior SEL values exceed 65 dB, the potential for sleep disturbance has been shown to be approximately 5%. The probability of interior noise levels within open-window bedrooms of residences along East River Road actually exceeding 65 dB SEL during nighttime passages of heavy trucks depends on several factors. Those factors include the typical SEL value generated by the truck passage, the distance between the exterior building façade of the bedroom and the roadway, the orientation of the façade(s) upon which the open bedroom window(s) are located relative to the roadway, and the degree of shielding of the roadway by intervening orchards, structures or barriers.

Typical residential construction can be expected to provide approximately 10 dB of noise reduction with windows in the open position, assuming the open window faces the noise source in question. However, open windows with side and rear-facing exposure to the noise source can be expected to provide approximately 15 and 20 dB exterior to interior noise reduction, respectively. This is because the windows with side-facing exposure to the noise source have a much more limited “view” of the noise source (approximately 50%), and windows facing away from the source have no view of the source at all. As a result, sound entering the bedroom through such open window orientations must do so by a more circuitous route than sound entering through a window which directly faces the noise source (East River Road in this case).

Given an exterior SEL of 79 dB at a distance of 60 feet from the centerline of East River Road with project trucks operating with the optimized noise-reduction procedures discussed previously, the interior SELs within the nearest residences were calculated. The results of those calculations are shown in Table 8 for a range of distances from the roadway and window configurations.

Table 8
Predicted Nighttime Project Truck Passby Interior SEL Values within Bedrooms of Nearest Residences to East River Road with Bedroom Windows Open

Side of Road	Residence	Façade Dist. (ft.)	Exterior SEL at Building Façade, dB	Interior SEL, dB		
				Direct Window Exposure	Side Window Exposure	Rear Window Exposure
North	1	60	79	69	64	59
North	2	60	79	69	64	59
North	3	140	74	64	59	54
North	4	225	71	61	56	51
North	5	100	76	66	61	56
North	6	120	75	65	60	55
North	7	260	70	60	55	50
North	8	175	72	62	57	52
North	9	150	73	63	58	53
North	10	135	74	64	59	54
North	11	80	77	67	62	57
North	12	110	75	65	60	55
North	13	110	75	65	60	55
South	1	340	68	58	53	48
South	2	70	73	63	58	53
South	3	55	75	65	60	55
South	4	60	79	69	64	59
South	5	350	68	58	53	48
South	6	165	73	63	58	53
South	7	90	77	67	62	57
South	8	100	76	66	61	56
South	9	135	74	64	59	54

Note: Interior SEL values computed using reference level of 82 dB SEL at a distance of 40 feet, a 4.5 dB decrease in SEL value per doubling of distance, and building façade attenuation rates of 10, 15, and 20 dB for open windows with direct, side, and rear exposure to East River Road, respectively. Shaded entries indicate potential exceedance of interior 65 SEL objective. The SEL values for Receivers 2 & 3 on the South Side of the road were reduced by 5 dB to account for the presence of existing noise barriers at those locations.

Source: BAC

The Table 8 data indicate that the potential exists for interior SEL values to exceed 65 dB SEL at 7 of the residences located along East River Road provided bedroom windows are open during truck passbys and provided those open windows directly face East River Road.

Given the combination of conditions which must be present in order for the 65 dB SEL objective to be exceeded within bedrooms located along East River Road, the probability of such exceedances is considered very low. Furthermore, Table 8 indicates that, at the 7 residences where such exceedances could occur if the required conditions are satisfied, the interior SEL values would exceed the 65 dB SEL objective by 1-4 dB, which is considered a relatively small exceedance. Nonetheless, ***because the potential exists for interior noise levels to exceed 65 dB SEL within bedrooms located within 115 feet of the centerline of East River Road with windows open (and directly-facing the roadway) during nighttime passages of project heavy trucks, this impact is considered potentially significant.***

Traffic Noise Impacts Relative to Existing Ldn Noise Levels without the Project

As noted in Table 3, a significant project-related noise impact would result if the project related-increase in traffic noise levels exceeds 1.5 dB in noise environments above 65 dB Ldn, and 3 dB in noise environments between 60 and 65 dB Ldn. In terms of increases in traffic noise levels as defined by Ldn, the project is estimated to result in a traffic noise increase of approximately 1 dB (worst-case project traffic noise level of approximately 64 dB Ldn at 60 feet from the centerline added to existing levels of 69-72 dB Ldn as reported in Table 6).

Given the elevated background traffic noise environment, the project-related increase of approximately 1 dB Ldn would not be considered significant at either interior or exterior locations. ***As a result, the 1 dB project-related increase in Ldn is not anticipated to result in adverse noise impacts at either outdoor activity areas or interior of existing residences located along East River Road. This impact is considered less than significant.***

Traffic Noise Impacts Relative to Existing Nighttime Hourly Noise Levels without the Project

Appendix D shows the averaged hourly noise levels (Leq) at each of the five traffic noise measurement locations for both weekend and weekday periods. These data are shown as black lines in Appendix D, with averaged weekday noise levels denoted with solid triangles and averaged weekend noise levels denoted with solid squares.

Appendix D also shows predicted hourly noise levels associated with varying numbers of heavy truck passbys, ranging from 10 per hour to the maximum of 66 per hour. During hours in which the red line representing noise generated by project truck traffic would be below the existing hourly average noise level shown in Black, the project would not be expected to result in noticeable increases in hourly average noise levels. However, during hours in which the opposite it true, where red line representing project truck traffic noise generation is above the black line representing ambient conditions without the project, the project-related change in hourly average noise levels would be clearly noticeable.

The magnitude of project-related traffic noise level increases in any given hour would depend on the number of project truck trips generated during that hour and the ambient noise level present without the project during the same hour. Appendix D illustrates that, during most hours of the

night, noise generated by the maximum project truck generation (26 hourly trucks) would not significantly exceed existing ambient noise levels. However, Appendix D also illustrates the generation of 20 project heavy truck trips in an hour would result in exceedance of measured ambient noise levels during the 1 a.m. hour for typical weekday conditions at three of the five locations monitored. Therefore, it is likely that during the quietest hours of the night the changes in hourly average noise levels due to project-generated truck traffic would be clearly noticeable outdoors.

Although the project will occasionally result in clearly noticeable increases in average noise levels during the quietest hours of the night, those increases would not necessarily translate to adverse noise impacts. As described previously, the noise generation of the project would occur primarily during sleeping hours, so residents along East River Road would not likely be outdoors during those hours affected by the project. It is more likely those residents would affected by noise generated inside their bedrooms by individual passages of heavy trucks than by changes in outdoor average noise levels associated with several such passages. Impacts associated with sleep disturbance were evaluated previously in this report. ***Although the project may result in clearly noticeable increases in average exterior noise levels during the quietest hours of the night (midnight – 2 am), given the reduced noise-sensitivity at outdoor locations during those hours this impact is considered less than significant.***

Summary of Potential Project-Related Noise Impacts *Not* Related to Adopted County Noise Standards

The following bullet list summarizes the findings of this analysis with respect to the potential significance of project-related noise impacts:

- **Jake Brake Usage:** Due to the low percentage of observed Jake Brake usage and a relatively small increase associated with the trucks which were observed using Jake Brakes (2 dB SEL increase), noise impacts associated with Jake Brake usage during nighttime truck passages associated with this project are not expected. ***Less than significant.***

- **Sleep Disturbance During Individual Truck Passages - Bedroom Windows Closed:** With bedroom windows closed, SEL values within residences located along East River Road are predicted to be below levels which pose a significant probability of sleep disturbance. ***Less than significant.***

- **Sleep Disturbance During Individual Truck Passages - Bedroom Windows Open:** With bedroom windows open, SEL values within residences located along East River Road could exceed levels which pose a significant probability of sleep disturbance. ***Potentially Significant at 7 Residences.***

- **Project Truck Traffic Ldn Values Within Bedrooms - Windows Closed:** With bedroom windows closed, Ldn values associated with the project alone are predicted to be below the 45 db Ldn County interior noise level standard within residences located along East River Road. ***Less than significant.***

- **Project Truck Traffic Increase in Ldn at Outdoor Activity Areas:** The project-related increase of approximately 2 dB Ldn at outdoor activity areas due to nighttime passages of project trucks is not considered meaningful as it would not correlate to impacts received by persons within their residences during the hours or project noise generation. ***Less than significant.***

- **Project Truck Traffic Increase in Hourly Noise Levels:** Although the project will occasionally result in substantial increases in average noise levels during the quietest hours of the night, those increases at outdoor areas would not necessarily translate to adverse noise impacts. Due to the very low anticipated use of outdoor activity areas between the hours of midnight and 2 a.m., the noticeable project-related noise increase during those hours is not expected to adversely affect those outdoor activity areas. ***Less than Significant.***

NOISE MITIGATION OPTIONS

As noted above, noise impacts associated with nighttime asphalt plant equipment usage is not anticipated to result in adverse noise impacts. However, project-related heavy truck passages on East River Road may result in adverse noise impacts relative to sleep disturbance should bedroom windows of the nearest residences be open and facing the roadway during nighttime operations. Due to the potential for project-related noise impacts associated with nighttime heavy truck usage on East River Road, consideration of noise mitigation options is recommended for this project.

There are three general options for noise mitigation, consisting of treatment of the noise source, the sensitive receiver, or the path in between. A discussion of each general type of noise mitigation and options for implementation of such measures follows:

Noise Mitigation for the Source

For this project, treatment of the noise source would involve reducing the noise generation of the predominant noise source, which is heavy truck passbys. The following source noise mitigation options are offered for consideration:

1. **Limitations on the number of nights per year expanded hours of operations would occur.** Historical data from 1999 to 2005 pertaining to nighttime operations at the Munn & Perkins facility indicate that the greatest number of nighttime operations occurred in 2004, when there were 26 nights of asphalt plant operation and heavy truck load-out. The average number of night operations between 1999 and 2005 was 11 nights, or approximately 3% of the total number of nights per year. While nighttime operations have varied in the past, these data indicate that such operations have historically been very low. Although the number of nighttime paving projects may increase in the future as a greater emphasis is placed on safety, even a tripling of night paving projects over historic averages would result in night paving activities during fewer than 10% of the nights per year (1 in 36). Because the number of nights per year which have been and which likely will be affected by this application are statistically very low, placing a limitation on the number of nights available for such operations would not yield a meaningful benefit and ***is not recommended.***

2. **Minimize the noise generation of individual truck passbys.** This measure would involve utilizing the optimized heavy truck operating procedures identified earlier in this report to minimize the noise of each individual truck passage on East River Road. Munn & Perkins drivers should be educated to utilize the optimized procedures any time they approach or depart the site, and independent drivers should be informed of the noise-control driving procedures prior to commencement of nighttime operations. In addition, signs could be posted along East River Road and at the project site exit notifying drivers of the procedures to follow to minimize truck passby noise. ***This measure is recommended.***

3. **Limitation on the number of truck trips per hour:** Because project paving contracts specify the amount of material to be supplied to the project site and the frequency at which that material is to arrive, the applicant does not have the ability to dictate the rate at which they will deliver material to the project site, or the hours in which that material will arrive. As a result, the placement of limitations on the number of truck trips per hour arriving and departing the project site would be infeasible and ***is not recommended.***

Noise Mitigation for the Receiver

Treatment of the receiver would involve options for reducing noise levels within the potentially impacted residences located along East River Road. The following receiver noise mitigation options are offered for consideration:

4. **Notification:** Notice could be provided to the residences located along East River Road of upcoming projects which would require expanded hours of nighttime operations. The notice should be provided as early as possible so that residents can be advised in advance of the potential for increases in nighttime noise levels. Although this measure would not physically reduce noise levels within residences, it would prevent residents from being surprised by nighttime operations, and would allow them to opportunity to close windows in advance if desired, to achieve maximum acoustical isolation, or take other steps as appropriate for their degree of sensitivity. If such notice is currently being given to residents for early morning start times, an evaluation of the effectiveness of such measures could be performed and improvements made as appropriate. ***This measure is recommended.***

5. **Upgrades to Building Facades:** The noise impact analysis prepared for this project concluded that, with windows closed, noise impacts associated with sleep disturbance or compliance with the County's 45 dB Ldn interior noise level standard were not expected. As a result, providing upgrades to windows or exterior walls would not be necessary if windows were closed, and such upgrades would be ineffective with windows open. As a result, the replacement of windows or upgrades to exterior walls is ***not recommended for this project.***

Noise Mitigation for the Noise Path

The final option for noise mitigation involves treating the sound transmission path through the introduction of noise barriers between the noise source and path. However, due to the wide range of exposures, orientation of residences, and other constraints, the construction of solid noise barriers at existing residences located along East River Road would not be a viable option for this project, ***and is not recommended.***

CONCLUSIONS

Relative to nighttime operations which have historically occurred at the Munn & Perkins site, the proposed continuation of those operations during nighttime hours as needed to service night paving projects would not constitute any appreciable change in nighttime noise environments. In addition, existing nighttime heavy truck usage along East River Road which is not associated with the Munn & Perkins operation currently presents the potential for noise impacts within residences located along that roadway. Nonetheless, this analysis concludes that, without mitigation, the potential for noise impacts associated with the production and delivery of asphalt paving materials from the Munn & Perkins facility on East River Road during nighttime hours would be present at some existing residences located along East River Road for a relatively small number of nights per year.

Because historic data pertaining to nighttime operations indicates an average of 11 nights per year of night operations between 1999 and 2005 (a total of 3% of the nights in the year), with a high of 26 nights of operation in 2004 (a total of 7% of the nights that year), it is important to note that night operations have been very infrequent.

Relative to ambient noise conditions present on nights when there are no nighttime operations at the Munn & Perkins facility, nighttime operations would result in higher noise levels. This analysis concludes that such operations could result in noticeable noise increases at the exterior areas of existing residences located along East River Road, between McHenry Avenue and Santa Fe Road. However, increased noise levels during the relatively few nights per year that night-paving contracts require the production and delivery of materials during nighttime hours do not necessarily translate to adverse noise impacts at those outdoor locations as most people are not outside during those quietest hours of midnight to 2 a.m.

The potential for adverse noise impacts due to the project would be present primarily within residences within 115 feet of East River Road with bedroom windows open and facing the roadway (please see Table 8). The likelihood of the potential sleep disturbance impact is a function of several variables. Those variables include whether or not residents were pre-notified of the nighttime operations, the number and distribution of heavy trucks during nighttime paving projects, the manner in which those trucks are operated, the distance from the potentially impacted residences to the roadway, the exposure of the bedroom windows of those residences to the roadway, the degree by which bedroom windows are screened from view of the roadway by intervening noise barriers, topography, structures, and orchards, and the position of the windows (open or closed).

As a result of the following conditions and implementation of the recommended noise mitigation measures, noise impacts associated with occasional nighttime operation of the Munn & Perkins asphalt plant and heavy-truck load-out of asphalt materials are predicted to be ***less than significant.***

- Night truck operations associated with Munn & Perkins operations have historically occurred in the area so the proposed action represents a continuation of those occasional nighttime operations, rather than the introduction of new nighttime operations.

- Residences located along East River Road are located within an Agriculturally Zoned area where the County's right to farm ordinance indicates that occasional nuisance noise should be expected and does not constitute a noise impact.

- Residences located along East River Road are already exposed to occasional nighttime truck passbys that are not related to Munn & Perkins operations, so the project would not be introducing nighttime truck noise into an area where it does not already exist.

- Historic data pertaining to previous Munn & Perkins nighttime operations indicate that such operations have been very infrequent.

- Extensive testing of heavy truck passby noise has resulted in the identification of truck operating parameters which are optimized to reduce noise at residences along East River Road. All truck drivers accessing the Munn & Perkins facility will be notified of the reduced noise procedures.

- Residences located along East River Road will be notified in advance of upcoming night paving projects, thereby providing them the choice to close bedroom windows if desired based on their individual sensitivity to noise.

- The recommended project standard of significance for interior noise levels during truck passbys (65 dB SEL within bedrooms) would result in only 5% of the population potentially being awakened. The maximum exceedance of the 65 dB objective is 4 dB, which would still result in less than 10% of the population being awakened.

- For the 65 dB SEL interior objective to be exceeded by project trucks using the optimized operating parameters, residences must be located within 115 feet of the roadway centerline and bedroom windows of those residences must be open and must face that roadway. Of the 7 unshielded residences which satisfy the distance requirement, it is unknown if the bedroom windows of those residences have direct exposure to the roadway.